Ozarks Clean Air ALLIANCE

Clean Air Action Plan for Southwest Missouri

Serving as the Southwest Missouri Area Path Forward for Ozone and PM Advance Programs

Update Approved by OCAA May 9, 2014

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Acknowledgements

The Ozarks Clean Air Alliance (OCAA) would like to thank the following members for their participation in developing the Clean Air Action Plan for Southwest Missouri. The OCAA members and other stakeholders reviewed the draft plan prior to completion of the final version.

CAAP Workgroup (OCAA Members)

- **Barbara Lucks, City of Springfield (Chair)**
- **Natasha Longpine, Ozarks Transportation Organization (Vice-Chair)**
- Brian Adams, City of Springfield
- Richard Barnes, Missouri Department of Natural Resources
- J. Howard Fisk, Fisk Transportation
- Dave Fraley, City Utilities of Springfield
- Sara Garretson, City of Springfield
- Daniel Hedrick, City Utilities of Springfield
- Becky Heffren, Empire District Electric Company
- David Hutchison, City of Springfield
- Zach Miller, Murney Associates, REALTORS
- Suzan Morang, Joplin Health Department
- Doug Neidigh, Mercy Health System
- Tana Pulles, City of Springfield
- Jeff Seifried, Springfield Area Chamber of Commerce
- Andrew Seiler, Missouri Department of Transportation
- Trent Sims, Community Partnership of the Ozarks
- Paul Vitzthum, Missouri Department of Natural Resources
- Ann Wallenmeyer, Springfield Public Schools
- Todd Wiesehan, Christian County

OCAA Member Organizations

- American Lung Association
- Associated Electric Cooperative
- City of Battlefield
- City of Rogersville
- City of Springfield
- City of Strafford
- City of Willard
- City Utilities of Springfield
- Christian County Commission
- Choose Environmental Excellence
- Drury University
- Empire District Electric
- Environmental Task Force of Jasper & Newton Counties
- Greater Springfield Board of REALTORS®
- Greene County Commission
- Greene County Highway Department
- J. Howard Fisk Transportation Group
- Missouri Department of Natural Resources
- Missouri State University
- Murney Associates, REALTORS
- Ozarks Green Building Council
- Ozarks Technical Community College
- Partnership for Sustainability
- Rick's Automotive
- Show Me Yards and Neighborhoods
- Southwest Area Manufacturers Association
- Springfield Area Chamber of Commerce
- Springfield-Greene County Health Department
- Springfield Public Schools
- University of Missouri Extension

Other Stakeholder Organizations

- City of Branson
- City of Hollister
- City of Ozark
- City of Nixa
- City of Monett
- City of Joplin Health Department

- College of the Ozarks
- Environmental Advisory Board of Springfield and Greene County
- Environmental Protection Agency
- Jasper County Health Department
- Stone County Commission
- Taney County Health Department
- Taney County Commission

Introduction

Ozarks Clean Air Alliance

The Ozarks Clean Air Alliance (OCAA) was created as a response to the needs and issues identified in an environmental health assessment conducted in 2002. The result of this assessment project by the Springfield-Greene County Health Department was the creation of "The State of the Environment for Springfield and Greene County: A Report and Recommendations." This comprehensive report was coordinated through the Community Partnership's Environmental Collaborative and the Environmental Advisory Board.

The data and information used in this assessment were compiled through research of both electronic and standard published materials. A great deal of information was also obtained through personal interviews with contacts in many environmental disciplines. These disciplines include: population growth and urban sprawl, water quality/quantity, air quality, solid waste management, community health, environmental education and environmental justice. The full report can be viewed at http://www.ozarksenvironment.com.

For air quality, it became clear from the beginning that a community educational initiative needed to occur before opinion information could be collected from residents. Appropriately, the primary recommendations coming out of the Air Quality workgroup were centered on community education through the establishment of an ongoing regional committee. Like other natural resources, the quality of air does not begin or end at the city or county line. Therefore a regional committee was created to address air quality issues in the Ozarks region.

The Ozarks Clean Air Alliance now guides the region's education and outreach efforts to reduce the negative effects of air pollution. OCAA brings together vested individuals and both public and private representatives who are dedicated to raising awareness and understanding of today's air quality issues. OCAA will work to create opportunities to voluntarily reduce the emissions that cause air pollution. Additional information can be found on the OCAA website – http://www.showmecleanair.com.

Clean Air Action Plan

The first task of the Ozarks Clean Air Alliance was the development of a Clean Air Action Plan (CAAP). This was modeled after the Ozone Flex Program in place with the Environmental Protection Agency (EPA) at the time. The initial CAAP sought to capture all the activities taking place throughout the region that contributed to improving air quality. The previous accomplishments listed throughout this document capture the efforts highlighted in the original CAAP. The CAAP was adopted in 2009 and updated in 2010. This update of the Clean Air Action Plan coincides with the timing for the initial goals of the CAAP and will serve as the Path Forward document required as part of the EPA Ozone Advance and PM Advance programs.

Ozone Advance

Ozone Advance is a program that helps areas continue to meet the National Ambient Air Quality Standards (NAAQS) for ground-level ozone. EPA lists these goals for the Ozone Advance program:

- Help attainment areas reduce emissions in order to ensure continued health protection,
- Better position areas to remain in attainment, and
- Efficiently direct available resources toward actions to address ozone problems quickly.

In addition to receiving help and guidance from EPA in implementing emission-reduction measures, participants may also receive additional benefits through the program:

- Early reductions can generally be accounted for either (1) within an eventual SIP baseline, with regard to reductions achieved before the baseline year, or (2) as a control measure, with regard to reductions achieved after the baseline year.
- EPA's Diesel Emissions Reduction Act (DERA) program may provide preferred status to Ozone Advance areas, as well.

In May of 2012, the Ozarks Clean Air Alliance, in partnership with the City of Springfield, and the Ozarks Transportation Organization, requested to participate in the Ozone Advance program. As stated in the participation request letter, the benefits of participating were described as:

- Reducing air pollution in terms of ozone as well as other air pollutants
- Ensuring continued healthy ozone levels
- Maintaining the ozone NAAQS
- Helping avoid violations of the ozone NAAQS that could lead to a future non-attainment designation
- Increasing public awareness about ground-level ozone as an air pollutant
- Targeting limited resources toward actions to address ozone problems quickly

Within one year of the letter date, May 29, 2012, OCAA is expected to create a Path Forward letter, which describes the measures and programs an area will implement, along with a schedule for implementation, of each measure and program selected. An action plan can be submitted in place of the Path Forward letter. This Clean Air Action Plan serves as this document for the southwest Missouri region. The action plan should, at a minimum, include the following sections:

- Introduction
- Description of the measures and programs to be implemented, responsible parties, how the measure will be implemented
- Implementation schedule for each measure and program
- Provisions for public and stakeholder involvement

Participation in Ozone Advance is for a period of five years or longer. The program does not create or avoid any regulatory requirements. More about the EPA Ozone Advance program can be found on the Ozone Advance website - http://www.epa.gov/ozonepmadvance/.

PM Advance

PM Advance is a new program that accomplishes similar goals as the Ozone Advance Program, promoting local actions to reduce fine particulate pollution ($PM_{2.5}$), and its precursors, in attainment areas, helping these areas maintain the $PM_{2.5}$ National Ambient Air Quality Standards.

Improvements in air quality could:

- Help ensure continued health protection over the long term,
- Provide state, tribal, and local governments with a cushion against potential future violations of the $PM_{2.5}$ NAAQS,
- Better position an area to achieve air quality concentrations that enable it to avoid a nonattainment designation with respect to any future revised NAAQS,
- Allow for greater ability to choose from control measures and programs that make the most sense for the area and that are cost-effective,
- Result in multi-pollutant benefits; for example, reductions of nitrogen oxides can lead to lower ambient fine particulate matter levels as well as lower ambient ozone levels.

The Ozarks Clean Air Alliance, with the City of Springfield and the Ozarks Transportation Organization, is submitting a letter requesting participation in the PM Advance Program. Like Ozone Advance, the PM Advance program does not create or remove any existing statutory or regulatory requirements and participants are encouraged to commit for at least one 5-year term.

National Ambient Air Quality Standards

The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. EPA has set National Ambient Air Quality Standards for six principal pollutants, including carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide (http://www.epa.gov/air/criteria.html).

Ground-Level Ozone

Ozone is a gas composed of three atoms of oxygen. Ozone occurs both in the Earth's upper atmosphere and at ground level. Ozone can be beneficial or detrimental, depending on where it is found. Ozone is beneficial in the upper atmosphere as it provides protection from the sun's ultraviolet rays. Ozone is harmful at ground level and can cause significant adverse health and environmental effects.

Ground-level ozone is not emitted directly into the air. It is formed by a chemical reaction between volatile organic compounds (VOCs) and oxides of nitrogen (NOx) in the presence of sunlight. Emissions from industrial facilities, electric utilities, motor vehicle exhaust, gasoline vapors, and chemical solvents are some of the major sources of NOx and VOCs. Ozone pollution is of greater concern during the summer months because strong sunlight and hot weather result in high ozone concentrations. For the Springfield region, Ozone Season is considered to be between March and October.

Fine Particulate Matter ($PM_{2.5}$)

As described by the EPA, particulate matter is a complex mixture of extremely small particles and liquid droplets, comprised of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Fine Particles, such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries, and automobiles react in the air.

The guidance memo from EPA about the PM Advance program states that fine particle concentrations in many cities are affected by a combination of regional and local emissions. While the sources for the Ozone precursors

NOX and VOCs are more easily identifiable, the sources for PM precursors can be much more varied. Participants in both programs are encouraged to implement strategies that address both pollutants.

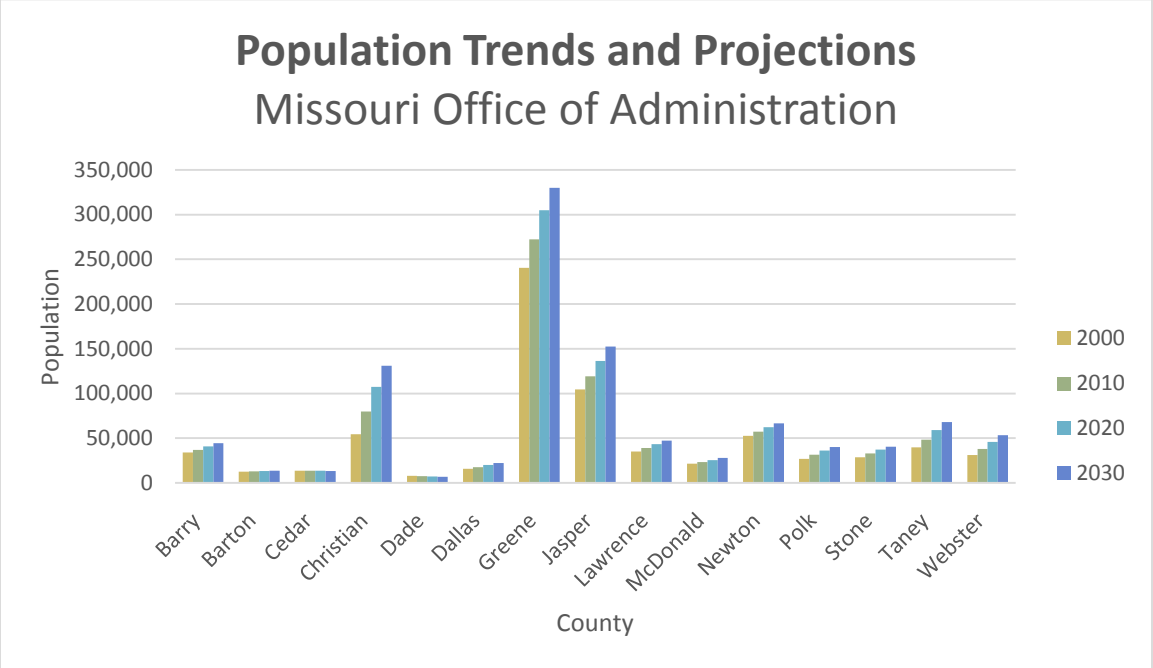
Southwest Missouri Region

The Ozarks Clean Air Alliance currently serves a 15 county region:

1. Barry
2. Barton
3. Cedar
4. Christian
5. Dade
6. Dallas
7. Greene
8. Jasper
9. Lawrence
10. McDonald
11. Newton
12. Polk
13. Stone
14. Taney
15. Webster

This region was chosen based on existing planning boundaries while also taking into consideration the location of the air quality monitors for the region. Fourteen of the counties are included within two regional planning commissions, the Southwest Missouri Council of Governments and the Harry S Truman Coordinating Council. The fifteenth county, Cedar County, was included because of its ozone monitor. This monitor is considered to be a background monitor, yet it has days that read higher than the Springfield region. A map of the southwest Missouri region can be seen in Appendix A.

The focus of most strategies in this Plan is in the Springfield metropolitan area. One, because the Joplin region is in the process of developing their own Alliance and Plan, and two, because initial modeling indicates that just four counties could be part of the potential non-attainment area. These are Christian, Greene, Stone, and Taney Counties. Even though this is the case, the OCAA is still dedicated to providing education and information to the entire 15-county area. This is evidenced through the DERA program funding which has been made available through OCAA for entities in all fifteen counties.



Southwest Missouri continues to experience substantial growth. Although growth benefits the region in many ways, it is important to recognize the negative aspects, such as air pollution, that need to be managed. The goal of the CAAP is to implement proactive and feasible voluntary strategies to protect public health and the environment while sustaining growth in the region.

Emissions

Ozone Forming Emissions in Southwest Missouri

Emissions of NOx and VOC's that can contribute to the formation of ground-level ozone in Southwest Missouri are generated from various sources including motor vehicle emissions, gasoline vapors, chemical solvents, businesses/industrial emissions, power plant emissions, gas-powered off-road equipment and natural sources. These emissions are typically placed into categories of Area Sources, Mobile, Non-Road, Natural, and Point Sources. Point Sources can be broken down into two subcategories called Electric Generating Units (EGU) and Non-Electric Generating Units (Non-EGU). Here are some common examples of different air pollution sources per category:

Electric Generating Units (EGU):

- Power plants

Non-Electric Generating Units (Non-EGU):

- Factories
- Industrial and commercial boilers
- Chemical processing
- Large petroleum storage facilities

Area:

- Small businesses (dry cleaners, autobody shops, printers, painting operations, gas stations, etc.)
- Homes (wood combustion, furnaces, paint and solvent use, etc.)
- Office buildings (heating sources, etc.)
- Wildfires
- Waste disposal (landfills)
- Agricultural sources (open burning, pesticide application, tilling, feedlots, etc.)

Mobile:

- Cars
- Motorcycles
- Trucks
- Heavy-duty trucks (Semi-tractor trailers, dump trucks, etc.)

Nonroad:

- Construction equipment (excavators, bull dozers, skid steers, etc.)
- Lawn and garden gasoline-powered equipment (lawn mowers, grass trimmers, chain saws, leaf blowers, chippers, etc.)
- Off-road motorcycles and ATV's
- Golf carts
- Snowmobiles
- Boats
- Farm equipment (tractors, sprayers, balers, etc)

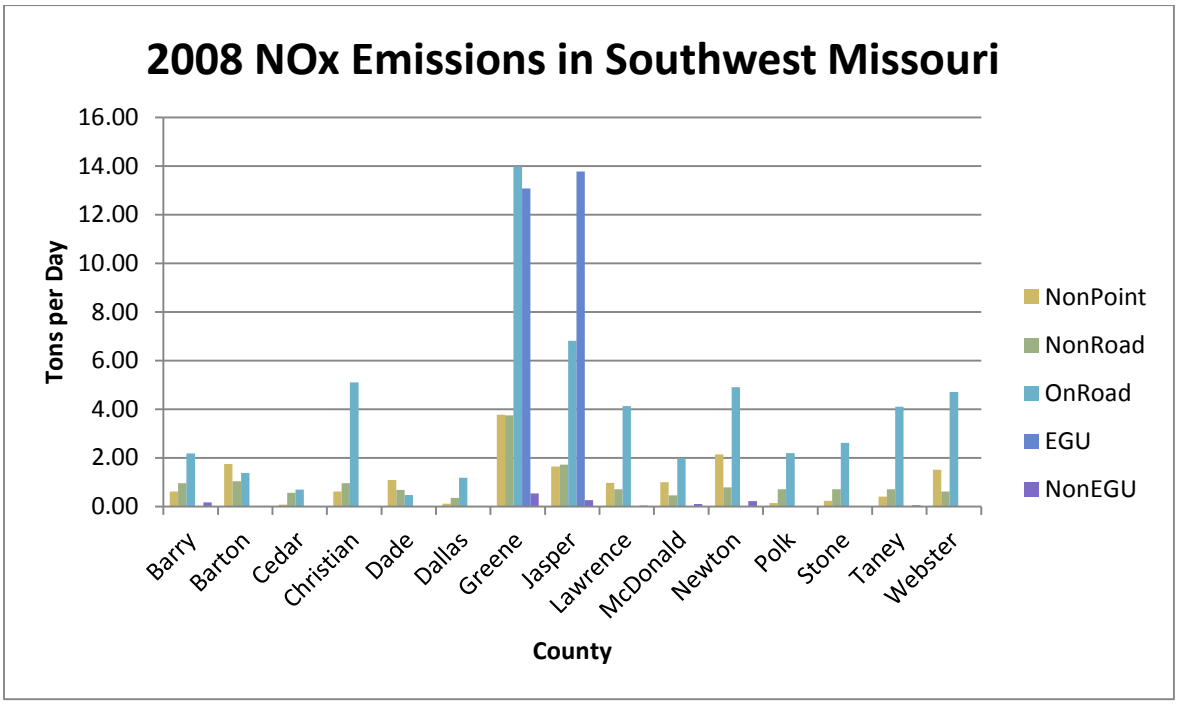
- Aircrafts

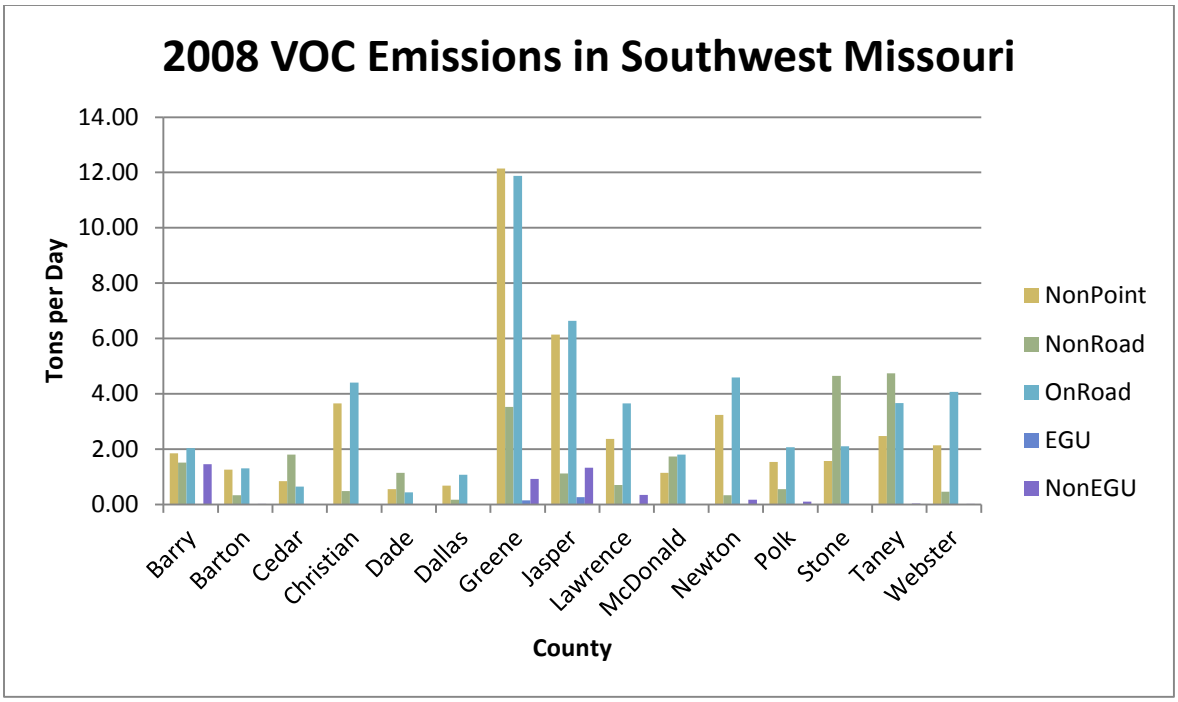
Natural:

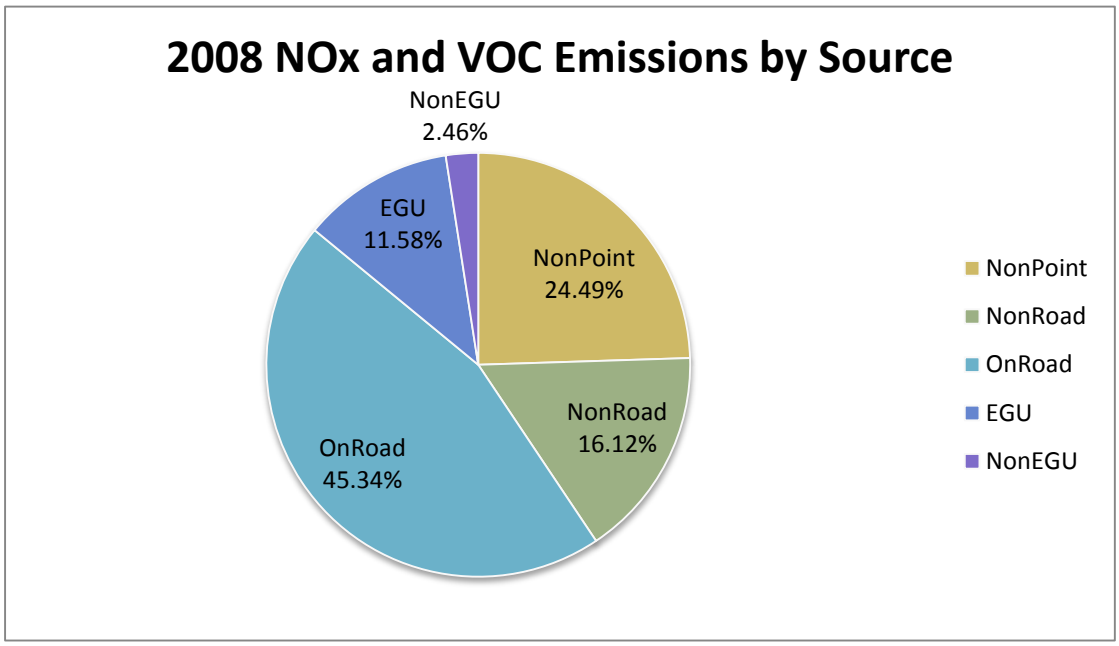
- Plants and trees emit VOC's (biogenic sources)
- Biologic decay emits NOx

Plants and trees provide tremendous resources including air pollutant removal, oxygen production and cooling benefits. The CAAP does not include strategies to reduce natural sources of air pollution. The CAAP only focuses on strategies to reduce emissions from man-made sources of air pollution.

The following graphs show the amount (tons per day) of NOx & VOC emissions from man-made source categories by county. This data was provided by Missouri DNR. Note: Graph data are from 2008 base year.

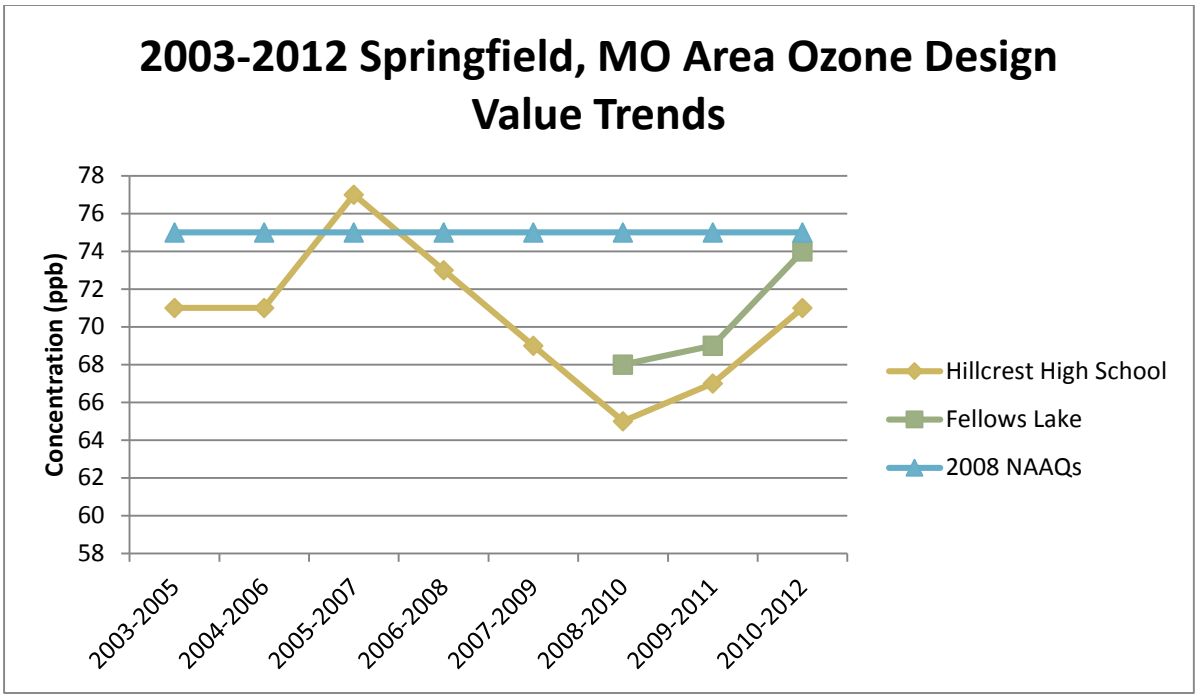






Ozone Design Values

The following chart shows the design values for ozone monitoring conducted in Greene County since 2003. The ozone design value is the 3-year average of the fourth highest 8-hour ozone level for each year. A violation occurs if an area's ozone design value exceeds the 8-hour ambient air quality standard established by the EPA. In March 2008, EPA lowered the 8-hour standard from 84 parts per billion to 75 parts per billion.



$PM_{2.5}$ Forming Emissions in Southwest Missouri

Particulate matter emissions in southwest Missouri can come from a variety of sources. Emissions of sulfur dioxide, oxides of nitrogen, and volatile organic compounds are precursors for particulate matter formation, in addition to other natural sources, though their presence cannot be directly correlated to a PM value. Other chemical components to PM include ammonia, organic carbon, and elemental carbon.

Dust:

- Road and soil dust
- Biomass burning
    - Agricultural burning
    - Residential wood combustion
- Construction dust
- Natural source wind erosion

Fuel Combustion:

- Electric utility combustion
- Industrial fuel combustion

Mobile:

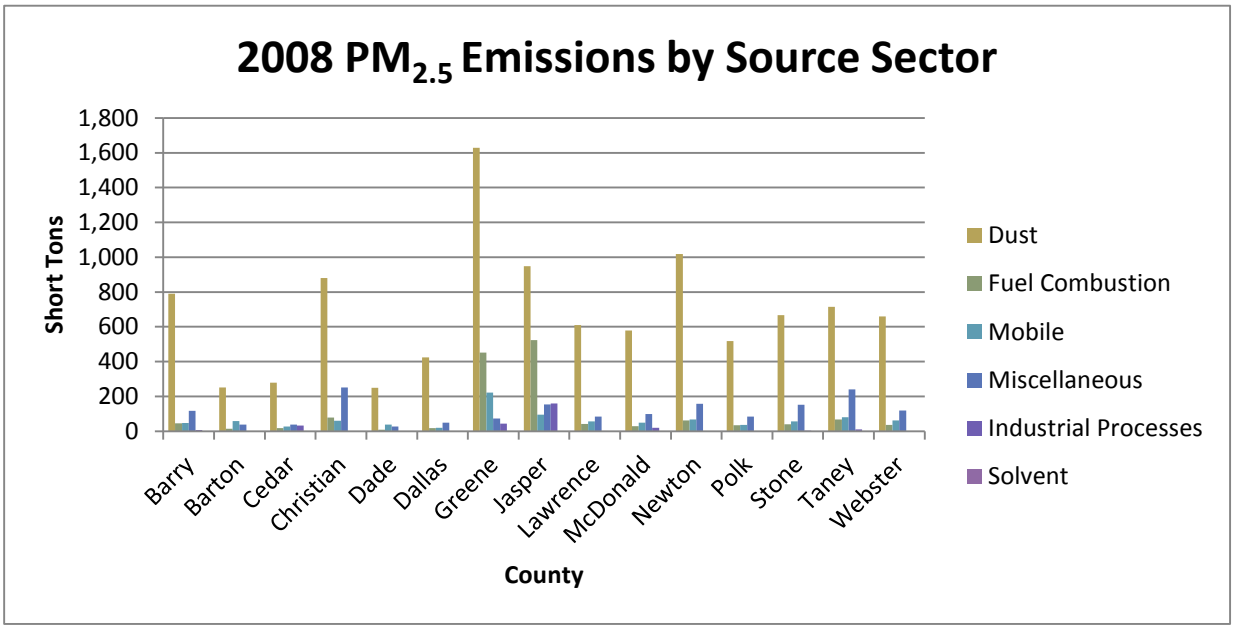
- Diesel and gasoline fueled vehicles
- Friction from components such as tires and brakes

Industrial Processes

Solvent

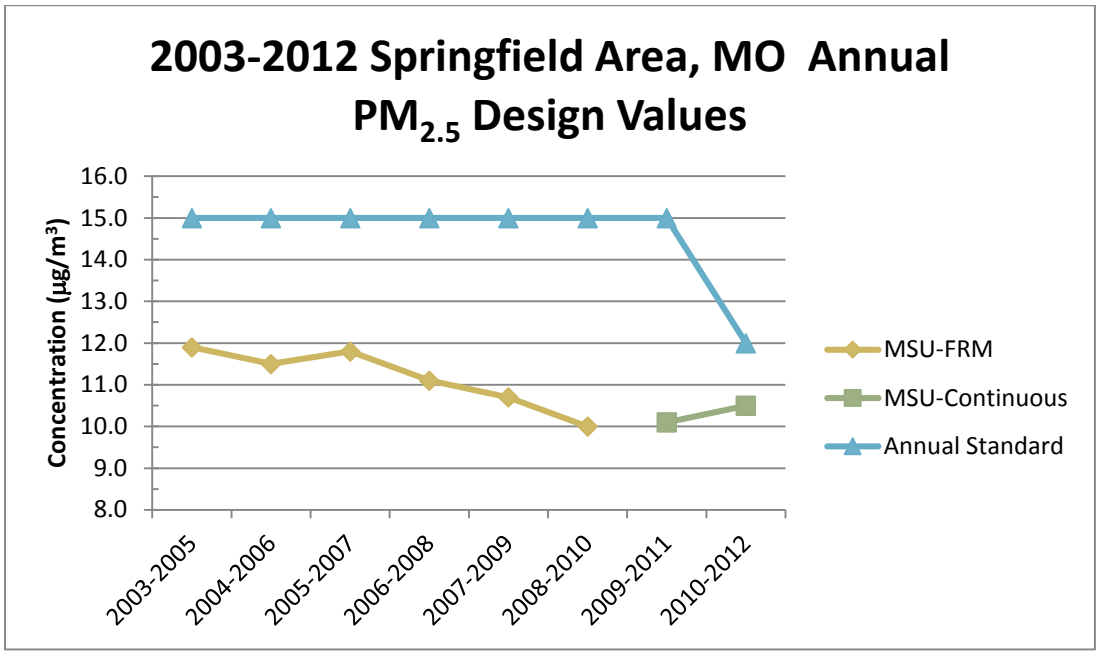
Miscellaneous

The southwest Missouri region experiences some seasonality with its $PM_{2.5}$ emissions, especially in the winter with residential wood burning, however, values are beginning to peak during the summer months as well.



$PM_{2.5}$ Design Values

The following chart shows the design values for $PM_{2.5}$ monitoring conducted in Greene County since 2003. The $PM_{2.5}$ design value is based on the average of three consecutive years. A violation occurs if an area's $PM_{2.5}$ design value exceeds the annual average standard established by the EPA. In 2012, EPA lowered the annual $PM_{2.5}$ standard from 15 $\mu g/m^3$ to 12 $\mu g/m^3$.



Emissions Reduction Strategies

The strategies identified in the Clean Air Action Plan can be implemented by organizations and individuals in the region to reduce air pollution. The unavailability of photochemical modeling data, however, prevents the region from quantifying the impacts of various strategies. Many of these strategies, though, have been shown effective in other communities, providing numerous benefits such as protection of the public health and environment and the following community benefits: reducing air pollutants from contaminating surface water; improving community health by encouraging bicycling and walking; conserving natural resources; reducing dependency on foreign oil; and fiscal savings for individuals, businesses, local governments, and other organizations. Appendix C includes worksheets for each strategy showing key milestones and desired results. These worksheets are updated on an ongoing basis by the OCAA and as each strategy is better defined, more information will be completed on these sheets.

The purpose of the Clean Air Action Plan is to implement viable voluntary strategies that can reduce the formation of ground-level ozone and fine particulate matter. There must be strong support and participation by local governments, industries, organizations, and the public for the program to be successful. Appendix B includes a list of those organizations in the region that support the efforts of the Ozarks Clean Air Alliance. In addition to this general support, OCAA is also working with organizations in the region to provide letters of commitment for specific strategies relevant to their operations (i.e., idle reduction program, Ozone Workplace Network, etc.).

Education

Description

Air quality awareness applies to both the general public and businesses. Increasing this awareness allows people to understand and make decisions based upon the air quality forecasts. Businesses can make changes based upon their understanding of the broader environmental impacts of everyday activities. Educating and informing citizens using the local media and area schools on ways to reduce ozone and fine particulate formation is the main focus of this section. A long term goal for educating the region is recognition that there is value in these activities and to help others own the process of air quality education as well.

Additional Benefits

Besides Ozone, additional air pollutants such as SO2, particulates, toxic pollutants, CO, and greenhouse gases would be reduced. There would be reduced consumption of natural resources and reduced costs to individuals, businesses, and the community. Additional expenses which would arise from regulations related to non-attainment could be avoided as well.

Strategies	Short-Term	Long-Term
Educational Tools for Schools	School-based Green Program – Social Media, Science Based (Find supportive curriculum, make links available), WOLF	Incorporate air quality into conservation education
Scouts and other Youth Conservation	Promote badges and sponsor	Awareness for air quality programs

Programs	curriculum at camps	throughout scouting
Public Service Announcements	Work with Springfield PIO and CityView to develop PSAs	Marketing Plan
Ozone Alert Messages on DMSs	Display Ozone alert messages on MoDOT Springfield's 17 roadside message boards (DMS) for commuters for the next day air quality forecast when ground-level ozone is anticipated at Orange or Red Levels	
Speaker's Bureau	Develop and promote speakers and topics	
ShowMeCleanAir.com Website	Promote and continue to update with current air quality information	Connection through partner agencies
Ozone Workplace Network Program	Continue to sign-up new workplaces	
Social Media	Facebook, YouTube, Twitter, RSS	Connection through partner agencies
Agricultural Education Program		Develop a program to educate the agricultural community on specific strategies

Previous Accomplishments

OCAA members give periodic presentations to various community groups about air quality issues and the Clean Air Action Plan. The ShowMeCleanAir.com website is already in place. The Ozone Workplace Network Program was implemented in 2008 to improve the awareness level of individuals and companies about ozone pollution and to call area employers and employees to action to reduce ozone levels on forecasted high ozone days. In April of 2010, OCAA, Springfield Public Schools and Missouri DNR partnered to implement the "school-zone no-idle" program.

Energy Conservation/Utility

Description

This program will include the review, promotion, and implementation of energy conservation programs that can be adopted by utility providers and be made available for individuals, businesses, municipalities, and other utility users.

Additional Benefits

Besides NOx and the resulting Ozone reductions, additional air pollutants such as SO2, particulates, toxic pollutants, CO, greenhouse gases would be reduced. Energy conservation would also reduce consumption of natural resources (coal and natural gas), reduce demand for electricity, and reduce costs for individuals, businesses, and jurisdictions.

Strategies	Short-Term	Long-Term
NOx reductions from power plants	In practice using low-NOx boilers	Lowering of NOx air pollutant
Energy Conservation Programs	Use of Energy Star appliances is promoted	Reduced energy consumption
Pilot an innovative program		Work with area utilities to find innovative ways to reduce energy consumption

Previous Accomplishments

City Utilities of Springfield and Empire District Electric have already taken steps to significantly reduce NOx emissions from their plants. Since base year 1998, City Utilities has reduced 1,848 tons/year of NOx from the James River Power Station and 264 tons/year of NOx from the Southwest Power Station. Since 2009, Empire District has reduced an average of 518 NOx tons/year from the Riverton Plant, 4,617 NOx tons/year from the Asbury Plant, and 820 tons/year of NOx from the Iatan 1 Plant. Empire expects they will continue to produce 15 percent to 17 percent of their total net system input with their hydro facility at Ozark Beach, Missouri and through power purchase agreements with Elk River Wind Farm, LLC and Meridian Way Wind Farm, LLC. Empire anticipates they will sell the majority of the environmental attributes associated with the wind farm generation.

In 2012, City Utilities experienced NOx emissions that were 68 percent (3,173 tons) below 2008 levels. A portion of these reductions were due to anomalous fuel market conditions that may not be reproducible in the future. City Utilities remains committed, however, to NOx control programs at its electric generating stations. In 2011, Empire District reduced 838 tons of NOx from the Riverton Plant, 4,283 tons of NOx from the Asbury Plant, and 876 tons of NOx from the Iatan 1 Plant. Improvements at the Asbury and Iatan 1 Plants are due to the installation of Selective Catalytic Reduction NOx Systems. Empire District produced 15.7 percent of their total net system input in 2011 with their hydro facility at Ozark Beach, Missouri, and through power purchase agreements with Elk River Wind Farm, LLC and Meridian Way Wind Farm LLC. Empire District has sold the majority of the environmental attributes associated with the wind farm generation.

Since October 2006, City Utilities has had an aggressive energy management and conservation effort that includes the implementation of over 17 individual programs for customers. After the sixth year, these programs have resulted in the following accumulated annual savings: the electric usage of 5,508 homes (63,453 Megawatt-hours), the natural gas usage of 3,956 homes (312,500 deca Therms), and the water usage of 2,278 homes (141,398 thousand Gallons) in the City Utilities service area. Since 2006, Empire District has implemented 19 different energy conservation incentive programs, saving its customers across four states the electric usage of 4,000 homes (47,000 MWh) and one state with lower natural gas usage. Associated Electric and Missouri Cooperatives have implemented the "Take Control and Save" program (http://www.takecontrolandsave.coop/).

Transportation

Description

Mobile sources are a significant contributor to emissions in the region. Many approaches can be taken to minimize the emissions from transportation-related sources. Actions can be taken at the individual level, by business, and through engineering and traffic management.

Additional Benefits

Besides ozone, additional air pollutants such as SO2, particulates, toxic pollutants, CO, and greenhouse gases would be reduced. Also, businesses and individuals can save money on fuel costs and benefit from the healthy aspects of an alternate commute. The benefits of these measures would also be felt daily through congestion reductions.

Strategies	Short-Term	Long-Term
Idle Reduction Program	Schools, Businesses, Government, Utilities Focus on local deliveries Use schools to educate why on no-idle (at open house) Green Score for Schools After school programs Walking school bus	
Diesel Emissions Reduction	Continue to seek funding No-idle on local delivery trucks Best practices from UPS and FED EX for locals	Find out what incentives would work
Rideshare Program	More portals for local employers Increased individual participation Provide information with GreenScore Assessments	
Alternative Transportation and Commute Projects	More sidewalks and trails Employee commuter transportation programs The Link Additional dedicated funding through sales taxes Improved peak hour transit service	Connected, regional bicycle and pedestrian system More park and ride lots Improved peak hour transit service
Stage One Vapor Recovery	Survey gas stations and distributors on readiness Pilot program to encourage participation	Standard at all gas stations
Intelligent Transportation Systems	Additional technologies installed – signs, adaptive signals, cameras Support TMC Advertise benefits of projects Educate about ITS OzarksTraffic.info	
Congestion Management Projects	Access management, dual left turn lanes, DDIs	

Previous Accomplishments

Idle reduction policies are in place with many OCAA partners. A number of area school districts already have implemented diesel emissions reductions on their school buses. Chadwick School District has completed a propane conversion on their school bus fleet. The City of Springfield continues to increase the amount of funding included in the 1/8-cent transportation sales tax and the 1/4-cent capital improvements sales tax for alternative transportation projects. The Transportation Management Center is now completed for Springfield and MoDOT. Dynamic message signs, as well as the accompanying cameras and infrastructure, have been erected to inform motorists of traffic issues. These and a number of completed road projects contribute to less congestion on area roadways. The rideshare program continues to add new users and generate interest with employers.

Technical Assistance

Description

The Ozarks GreenScore Program is a joint project between Drury University Students in Free Enterprise (SIFE), Drury University's Ozark Center for Sustainable Solutions, Choose Environmental Excellence and the Partnership for Sustainability. The voluntary program provides a tool for businesses and organizations to evaluate their environmental performance and recognize those that are working to reduce the environmental impacts of their operations. The program also provides the businesses and organizations with technical assistance to continually reduce pollution beyond regulatory requirements to benefit the local air quality.

Additional Benefits

Besides Ozone reductions, additional pollutants such as greenhouse gases, solid waste, hazardous waste, and wastewater would be reduced. Energy conservation would also reduce consumption of natural resources, reduce energy consumption, and reduce costs for businesses and jurisdictions. Several organizations certified by GreenScore programs are reporting significant energy and waste reductions resulting in thousands of dollars of cost savings.

Strategies	Short-Term	Long-Term
Educate counties on the role they can play	Promote energy conservation at homes and businesses	
Regulatory Issues	Voluntary measures to lower air pollutants to reduce health impact	Follow regulations long term impact on local industries and businesses
DNR-specific technical assistance	Funding sources through EPA programs	

Previous Accomplishments

In 2008, Drury University opened the Ozarks Center for Sustainable Solutions to provide smaller businesses and organizations in the region with the region with technical assistance to identify and implement pollution prevention programs to reduce pollution and operational costs. Since 2008, OCSS has helped businesses reduce waste and conserve energy through on-site technical assistance and training classes offered through community colleges. OCSS has also facilitated the acquisition of over $1.5 million in clean diesel funding for businesses, schools, and local governments in the region. The Ozone Workplace Network Program was implemented in 2008

Citizen Initiatives

Description

Due to the previous designs of gasoline powered lawnmowers, grass trimmers, etc., these devices can emit large amount of air pollutants such as NOx and VOC's. The OCAA will work with existing programs such as Ozark Greenways, Show Me Yards and Neighborhoods, and local lawn and garden equipment dealers to promote alternative equipment and practices that reduce these air pollutants.

Additional Benefits

Lowers the ground-level ozone formation in the ambient air by operating alternative lawn and garden equipment is the goal.

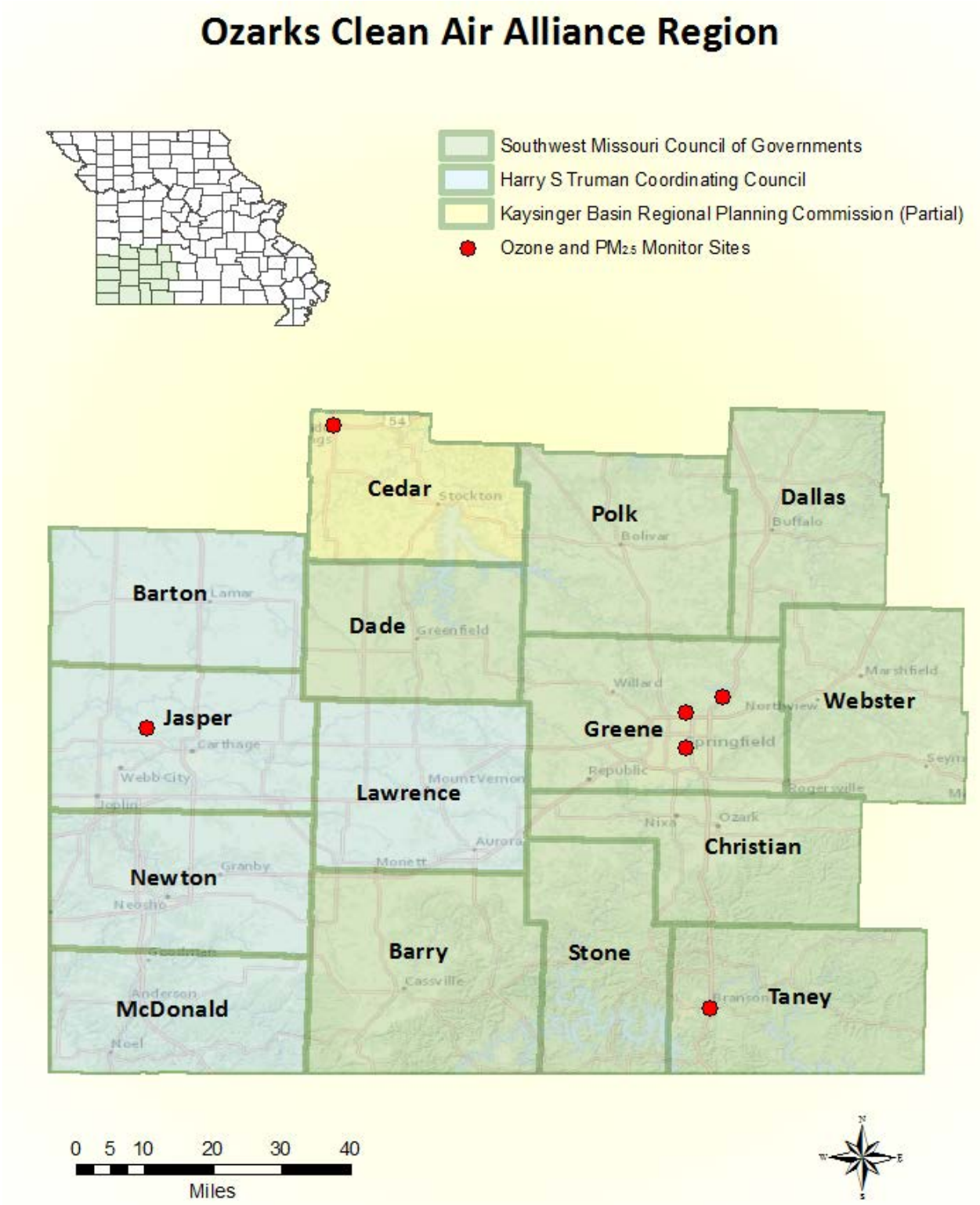
Strategies	Short-Term	Long-Term	
Lawn mower change-out program	Funding through federal grants	Rebate availability	
Gasoline-powered equipment to be replaced with manual devices	Provide education to reduce use of gasoline-powered equipment		
Composting yard waste		Compost education programs and how-to clinics, partnering with local lawn and garden stores Promotion of area yard waste drop-off sites Commercially available local compost	Success of local compost program with participation by local restaurants and lawn companies Use of local compost by area companies and jurisdictions

Previous Accomplishments

OCAA is still searching for available funding through grants to support the implementation of an annual lawnmower exchange program and educational information. This program will provide rebates to individuals that recycle older gasoline powered equipment and purchase new electric or manual equipment.

Appendix A

Appendix A – Map of Ozarks Clean Air Alliance Region



Appendix B

Appendix B – Letters of Support

Letters of support for the activities of the Ozarks Clean Air Alliance have been received from:

- Christian County Commission
- City of Battlefield, Missouri
- City of Ozark, Missouri
- City of Rogersville, Missouri
- City of Springfield, Missouri
- City of Strafford, Missouri
- City of Willard, Missouri
- Department of Natural Resources' Air Pollution Control Program
- Drury University
- Empire District Electric
- Environmental Task Force of Jasper and Newton Counties
- Greene County Highway Department
- Missouri Department of Transportation
- Ozark Greenways, Incorporated
- Ozarks Transportation Organization
- Partnership for Sustainability
- Southwest Area Manufacturers Association
- Springfield Area Chamber of Commerce
- Springfield-Greene County Environmental Advisory Board
- Springfield-Greene County Health Department
- Springfield-Greene County Health Department, Air Quality Division
- Taney County Health Department
- Taney County, Missouri
- URS Corporation

Appendix C

Appendix C – Strategy Worksheets

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
EDUCATION					
Educational Tools for Schools (Formal)					
Short Term					
School-based Green Program – Social Media, identify methods for providing instructional materials into the classroom	Representation on Missouri Green Schools Committee	Ongoing			Springfield Department of Environmental Services
	Develop Comprehensive Instructional Materials for Schools (K-5) (6-8)	11/2013 - placed in all SPS elementary and middle school teacher resource libraries	Entire School Involvement		Springfield Department of Environmental Services
	Instructional Materials Workshops for Educators	7/2013, 7/2014, ongoing	Entire School Involvement		Springfield Department of Environmental Services
Long Term					
Incorporate air quality into conservation education	Materials Educator in Classroom	Ongoing	Entire District Involvement		Springfield Public Schools
	Green School	Ongoing	Entire District Involvement		Springfield Public Schools
	Citizen Science Project - Lichen Survey	11 Surveys to Date			
	Flag Program	Work in Progress	Entire District Involvement		Springfield Public Schools
Scouts and other Youth Conservation Programs (Informal)					
Short Term					
Promote badges and sponsor curriculum at camps	Boy Scouts - Merit Badge Support	4/14, 11/14			Springfield Department of Environmental Services
	4-H	Work in Progress			Springfield Department of Environmental Services
Home School Community	Develop mini-air quality unit of study	Distributed at regional home school conference and Environmental History Day Regional Event (reaching over 1000 families)	Reach regional homeschool community		Springfield Department of Environmental Services
	Incorporate air quality learning stations for homeschool co-op events	1/14			
	Deliver air quality lesson leading to citizen science lichen survey	8/14			
Long Term					
Awareness for air quality programs throughout scouting	Participate in large scale scouting events	Ongoing			Springfield Department of Environmental Services
Awareness for air quality programs throughout homeschool community	Continued participation at conferences and co-op events	Ongoing			Springfield Department of Environmental Services
Public Service Announcements					
Short Term					
Work with Springfield PIO and CityView to develop PSAs					Springfield Department of Environmental Services
Paid Advertising	Radio, Print, TV, with ads also as flyers		Include Air Quality with all environmental messages; Promotion of Environmental Resouce Center		Springfield Department of Environmental Services
Long Term					
Marketing Plan	In place	Ongoing/living document; Current implementation through KOLR 10 (local CBS affiliate)	Increase in Citizen Awareness over time		Springfield Department of Environmental Services
Track Awareness	Include Air Quality in Citizen Survey (happened for first time in 2014)		Increase in Citizen Awareness over time		Springfield Department of Environmental Services
Ozone Alert Messages on DMSs					
Short Term					
Display Ozone alert messages on MoDOT Springfield's 17 roadside message boards (DMS) for commuters for the next day air quality forecast when ground-level ozone is anticipated at Orange or Red Levels	Agreement in place with a library of available messages for display before and on alert days	2013 Ozone Season; ongoing during annual ozone season	Reduction in actual ozone on anticipated orange and red level days	Minimal - infrastructure is in place and process exists to run a variety of messages	MoDOT/City of Springfield
Speaker's Bureau					
Short Term					
Develop and promote speakers and topics		Spring 2015	A referenced/utilized selection of speakers and shareable presentations for air quality education throughout the region		OCAA and members

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
ShowMeCleanAir.com Website					
Short Term					
Promote and continue to update with current air quality information	Revised website with ability to update internally; Linked to City Website	Ongoing	Resource for those seeking air quality information and education in OCAA region		Community Partnership of the Ozarks
Long Term					
Connection through partner agencies	The website is promoted through MoDOT, the City of Springfield, the Community Partnership of the Ozarks, and the Ozarks Transportation Organization	In place, Ongoing	Continued promotion and access of site through partner agencies		OCAA and members
Ozone Workplace Network Program					
Short Term					
Continue to sign-up new workplaces					
Social Media					
Short Term					
Facebook, YouTube, Twitter, RSS					
Long Term					
Connection through partner agencies					
Agricultural Education Program					
Long Term					
Develop a program to educate the agricultural community on specific strategies					

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
ENERGY CONSERVATION/ UTILITY					
NOx Reductions from Power Plants					
Short Term					
In practice using low-NOx Boilers					
Long Term					
Lowering of NOx air pollutant					
Energy Conservation Programs					
Short Term					
Use of Energy Star appliances is promoted					
Long Term					
Reduced Energy Consumption					
Pilot an Innovative Program					
Short Term					
Long Term					
Work with Area Utilities to Find Innovative Ways to Reduce Energy Consumption					

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
TRANSPORTATION					
Idle Reduction Program					
Short Term					
Schools, Businesses, Government, Utilities - Focus on local deliveries	Model Idle Reduction Policy	2008	Local agency adoption	N/A	OCAA
Use schools to educate why on no-idle (at open house)					
Green Score for Schools					
After School Programs					
Walking School Bus	Pilot program at several schools	2013	More kids walking to school		Healthy Living Alliance
Long Term					
Disel Emissions Reduction					
Short Term					
Continue to seek funding					
No-idle on local delivery Trucks					
Best practices from UPS and FedEx for locals					
Long Term					

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
Find out what incentives would work					
Rideshare Program					
Short Term					
More portals for local employers					
Increased individual participation					
GreenScore Assessments					
Long Term					
Alternative Transportation and Commute Projects					
Short Term					
More sidewalks and trails					
Employee commuter transportation programs	Promote Rideshare to Employers - several agencies and local businesses use the program; Web-based matching program with employer portals.	2009-Present	More local businesses promoting rideshare to employees		
The Link					
Additional dedicated funding through sales taxes	Continued renewal of 1/8-cent and 1/4-cent sales taxes for infrastructure improvements				
Long Term					

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
Connected, regional bicycle and pedestrian system					
More Park and Ride Lots					
Improved Peak Hour Transit Service					
Stage One Vapor Recovery					
Short Term					
Survey gas stations and distributors on readiness	Using City of Springfield business license tracking the number of gasoline dispensing stations, then asking station owners about whether VRS is installed and/or is it being used when getting a fuel delivery	2/6/2013	Out of 30 stations required to have vapor recovery system installed, only 20 of those stations were using them. There are a total of 88 stations in Springfield, but only 38 have vapor recovery systems installed at this time.		
Pilot program to wncourage participation	Stations that volunteer to use their vapor recovery systems can help reduce ozone formation	Spring of 2015	Full participation by all required and capable stations to use their vapor recovery systems.		
Long Term					
Standard at all gas stations	GACT for area sources: (40 CFR 63, subpart CCCCCC) National Emission Standards for Hazardous Air Pollutants for Source Categories: Gasoline Dispensing Facilities	1/24/2011	Stations dispensing 100,000 gallons or more per month on average shall operate a vapor recovery system to reduce their VOC emissions to help lower ground-level ozone formation		
Intelligent Transportation Systems					
Short Term					
Additional technologies installed - signs, adaptive signals, cameras	Revised website with ability to update internally	Ongoing	Resource for those seeking air quality information and education in OCAA region		Community Partnership of the Ozarks
Support TMC					
Advertise benefits of projects					
Educate about ITS					

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
OzarksTraffic.info					
Congestion Management Projects *Short Term*					
Access management, dual left turn lanes, DDIs					
Long Term					

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
Technical Assistamce					
Educate Counties on the Role they can Play					
Short Term					
Promote Energy Conservation at Homes and businesses					
Long Term					
Regulatory Issues					
Short Term					
Voluntary measures to lower air pollutants to reduce health impact					
Long Term					
Follow regulations long term impact on local industries and businesses					
DNR-Specific Technical Assistance					
Short Term					
Funding sources through EPA Programs					
Long Term					

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
Citizen Initiatives					
Lawn-Mower Change-Out Program					
Short Term					
Funding through Federal Grants					
Long Term					
Rebate Availability					
Gasoline-Powered Equipment to be Replaced with Manual Devices					
Short Term					
Provide Education to Reduce Use of Gasoline-Powered Equipment					
Long Term					
Composting Yard Waste					
Short Term					
Long Term					
Compost education programs and how-to clinics, partnering with local lawn and garden stores					
Promotion of area yard waste drop-off sites					
Commercially available local compost					

Strategies	Key Milestones	Completion Date	Desired Results	Cost	Responsible Party
Success of local cpmpost program with participation by local restaurants and lawn companies					
Use of local compost by area companies and jurisdictions					

Air Quality Marketing/Education Plan

Ozarks Clean Air Alliance

	Message/ Campaign	Program			Target Market				Medium										Special Promotion	
		Ozone	PM	General	Business	General	Specific Business	Youth	Electronic Signs	Trade Show	One on One	Website	Social Media**	KSMU	KOLR 10	SBJ	Greene Magazine	E-Mail	Direct Mail	CU Bill Stuffer	Special Promo	Other
	General Awareness	X	X	X	X	X	X	X	X	X		X	X	X	X	Business	X	X		X	Sunbelt Environment "Big Picture=Air / Water // Rick's Automotive	
Business	Commuting (RideShare)	X			X	X	X			X	X	X	X			X	Ads with List of Part		X				Bump up Green Score
Business	Fleet Management, No Idle	X	Idle		X		X			X	X	X	X			X	X		X				Schools-No Idle / P4S=Fleet Management= Share Wording of Policy
Business	Ozark Workplace	X	X							X	X	X	X			X		Enviro-flash			"Year of Clean Air"		P4 Sust., Enviroflash, show names on website
Business	Stage I Vapor Recovery	X			X		X			X	X	X				X		X	X				Recognize for Early Adopters / "Seal of Approval"
Individual Auto	Top Off Gas Tank	X			X	X		X	X			X	X	X	X		X	X		X	Recognize Program w/ Gas Station		Target Wal-Mart w/ stickers on pumps; Rapid Roberts w/TVs
Individual Auto	Trip Chaining, Tire Inflation, No Idle, Commuting (General)	X	Tire / Idle			X		X	X	X		X	X	Community	X		X	X		X	Tire Gauges / Ozark Commute		Bikes / Trails Health Connection
	Lawn Care (Pro/Individual) (Include Trees)	X			X	X	X	X		Lawn / Garden Show		SMYN	X	X	X		Individual	X	X		SMYN	
	Marine	X			X	X	X	X				X	X		X		X	X	X		Branson Area	
	Wood Burning/Fireplaces		X			X		Open Burning		Home / Remodeling Shows		X	X	X	X		X	X	X		Maschino's, Etc. / HMI		Area Fire Departments Safety / Health = Burning Chemicals
	Energy Conservation = CU (Include wind, etc.)	X	X	X	X	X	X	X		X		X	X	X	X					X	Rebates		Energy Audits
	Agriculture = SWMCOG											(to be determined)											

**Social Media=Twitter, Facebook, Linked In

General Comments:
Our overall goal is to improve/protect the air quality in our community/region.
We will accomplish this by identifying actions (campaign) required to meet that goal. We will also identify the decision makers (target market) that control those actions that influence the reaching of that goal.
We will then convince our **target market** to take the desired action by delivering a convincing message to them via a medium they are familiar with, use frequently, and which has credibility to them.
In addition to the media efforts, we will also target specific promotions or other activities that will either carry or reinforce the message.

Specifically:
Campaign -- This is the desired action or group of action steps we wish to cause to happen through our efforts. These steps, when taken by the targeted decision makers, will improve/protect the air quality of our community/region. Within each campaign area, the specific messages will be developed.
Program -- Since we are required to track and report our efforts, we need to know which pollutant the campaign targets or if it is toward general air quality awareness
Target Market -- These are the decision makers that cause our desired action to take place when convinced to do so
Medium -- This is the specific vehicle by which we carry the message that convinces the target market to take our desired action
Special Promotions -- These are other activities besides the paid media, social/electronic media, trade shows, one-on-one appointments that support our overall efforts
Cost -- To be determined

Other Media

Chamber
- Article
- Workshop

Video messaging
- 3M, Bass Pro, Universities
- Ex: MSU Student Union & Dorms

Speakers Bureau
- Advertise (web, socia
- Canned presentation- 20 min, 40 min (F

Web Section
- "Who Cares?" w/ lists participants

Greater Springfield Board of Realtors

Key:
Peach: activities currently in progress or completed
Green: activities to be carried out by Ozarks Transportation

7/12/2013