



# Path Forward

## 2019 update

December 2019

## TABLE OF CONTENTS

Table of Contents .....	i
Introduction .....	2
Emissions Data.....	6
Emission Reduction Strategies.....	10
Administrative Strategies .....	10
Education Strategies .....	12
Energy Conservation & Utility Strategies.....	14
Transportation Strategies .....	18
Appendix A: Map of FSCAA Area .....	22
Appendix B: City of Joplin Master Trail Plan .....	23
Appendix C: Acknowledgements .....	24
Appendix D: Glossary of Acronyms.....	25

# INTRODUCTION

## *Four States Clean Air Alliance*

Air quality issues, while for years considered a problem for large metropolitan areas, have more recently been identified as a potential issue in mid-sized or smaller communities such as the Joplin Metro area. This is especially true for the air quality parameter of ozone, as federal ozone regulations have become more exacting in recent years as knowledge of the adverse health and environmental effects of ground-level ozone are recognized. With this increased regulation, acceptable ground-level ozone levels have been reduced to the point the Joplin Metro area could be considered in violation of these standards.



To proactively address this issue before it occurs, the Four States Clean Air Alliance (FSCAA) was formed through a joint agreement of the Joplin Area Transportation Study Organization (JATSO) and the Environmental Task Force of Jasper and Newton Counties (ETF).

The FSCAA continues participation in EPA's Advance Program, focusing on ground-level ozone at this time. While the Path Forward deals solely with ground-level ozone, it may be amended in the future to address other air quality parameters (e.g., particulate matter) as necessary. The FSCAA Board voted to join EPA's Advance Program designed to assist communities striving to stay in attainment with current National Ambient Air Quality Standards (NAAQS), after the initial Clean Air Action Plan (CAAP) finalization and implementation. This Path Forward document was developed to guide both FSCAA involvement with the Advance Program as well as ongoing efforts to raise awareness of ground-level ozone concerns in the Four States region. The Governing Board of FSCAA is charged with the primary responsibility for development and implementation of the Path Forward document. The JATSO has final approval of all aspects of this document before it may be considered final.

The area encompassed by FSCAA efforts currently consists of Jasper and Newton Counties in southwest Missouri, Cherokee County in southeast Kansas and the Inter-Tribal Council of North Eastern Oklahoma (9 Tribes) [see Appendix A]. Entities in these geographical areas are more likely to be contributors to the formation of ground-level ozone in the Four States region.



*Community event in Downtown Joplin*

FSCAA goals include:

- Monitor results of designated air quality monitoring stations,
- Increase awareness of local public, governments, and businesses regarding air quality issues,
- Inform local public, governments, and businesses on environmental and health consequences of poor air quality,
- Educate community members about existing and proposed legislation concerning air quality affecting FSCAA area, and
- Promote voluntary participation in implementation of Path Forward strategies.

## *National Ambient Air Quality Standards*

The Clean Air Act, which was last amended in 1990, requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The six principal pollutants EPA has set NAAQS for include:

- Ozone (O<sub>3</sub>)
- Carbon Monoxide (CO)
- Particulate Matter (PM)
- Lead (Pb)
- Nitrogen Dioxide (NO<sub>x</sub>)
- Sulfur Dioxide (SO<sub>2</sub>)

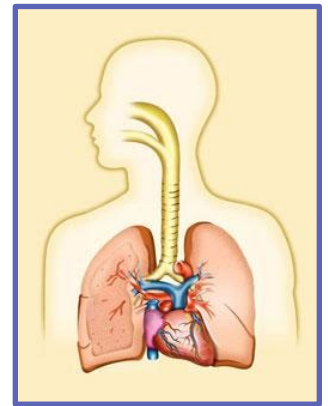
For more information on these pollutants, please visit <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.

## *Ground-Level Ozone*

Ozone is a gas composed of three oxygen atoms. While ozone can be found both in the Earth's upper atmosphere and at ground-level, the location where it is found determines if ozone is considered beneficial or harmful to humans and the environment. When it is found in the upper atmosphere, ozone is beneficial by protecting us from the sun's ultraviolet rays. However, when this same gas occurs at ground-level, it is harmful and causes significant negative effects on human health and the environment.

Ground-level ozone can cause the following health effects even at low concentrations:

- Aggravate asthma or other respiratory illnesses
- Irritate respiratory systems causing coughing and throat irritation
- Inflammation and damage cells that line the lungs
- Reduce lung capacity, making it difficult to take deep breaths
- Increase susceptibility to respiratory illnesses
- Increase hospitalizations by aggravating respiratory illnesses



*Ozone is a powerful oxidant that can irritate the airways.*  
Source: <https://www.epa.gov/ozone-pollution/health-effects-ozone-pollution>

High levels of ground-level ozone can damage plants and other vegetation by making them more susceptible to disease, harsh weather, insects and other pollution. Ground-level ozone is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) react in the atmosphere with sunlight and heat. Since ozone requires the combination of sunlight and heat to form, it is mainly of concern during “Ozone Season” from March through November. Accordingly, FSCAA concentrates the efforts of various education and awareness campaigns immediately before and throughout this period.

## *FSCAA Path Forward*

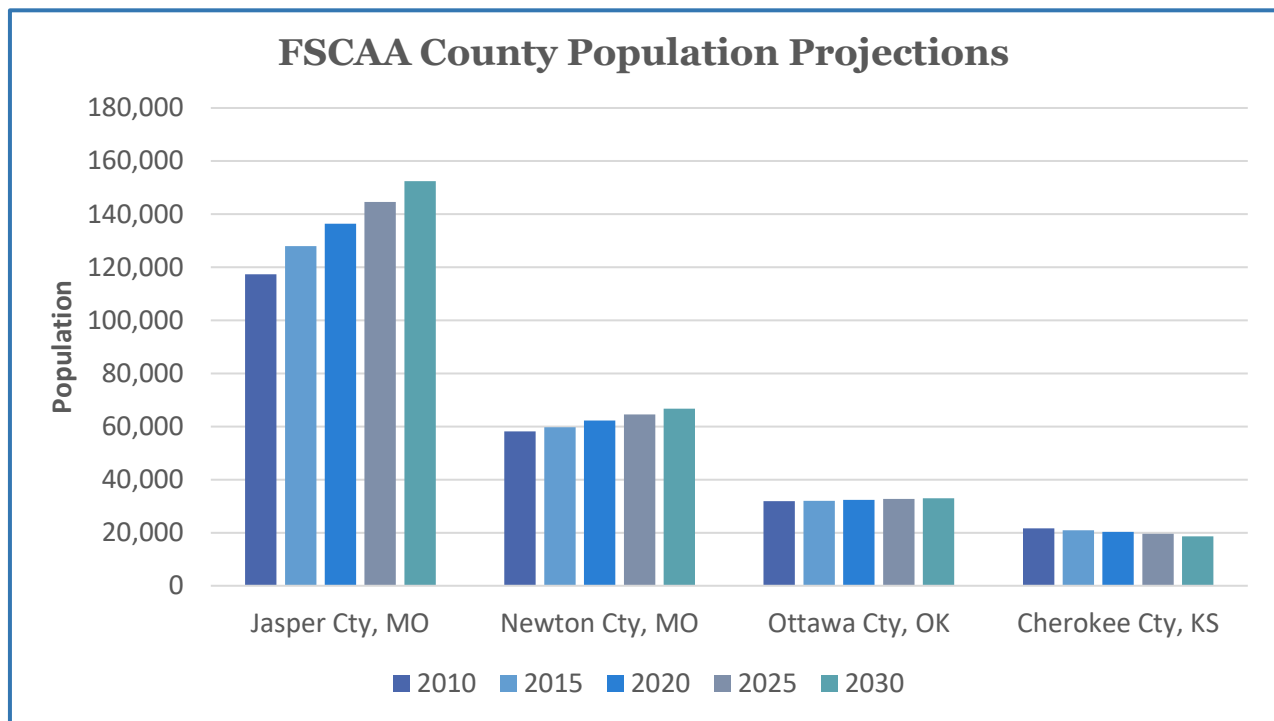
The FSCAA area includes Jasper and Newton Counties in southwest Missouri, Cherokee County in southeast Kansas, and the Inter-Tribal Council of North Eastern Oklahoma (9 Tribes) (ITC) in Ottawa County, Oklahoma. This region was chosen based on existing planning boundaries and the potential sources that affect this area, while also taking into consideration the location of the air quality monitors for the region. There are two ozone monitors in the region, one at Alba in Jasper County, MO operated by MoDNR, and another monitor near Miami in Ottawa County, OK, which is operated by the Quapaw Nation of Indians (who also represents ITC on the governing board of FSCAA). [see Appendix A]



*Air monitoring stations in Alba, MO (left) and Miami, OK (right)*

The majority of the strategies in this Path Forward document are focused towards the FSCAA area. In future developments, it is planned to disseminate additional educational campaign material to other counties outside of this FSCAA area. FSCAA seeks to implement proactive and feasible voluntary strategies to protect public health and the environment while sustaining growth in the region. Some counties in the Four States region are projected to experience population growth in coming years. The fastest growing county, Jasper County, MO, is expected to grow by 30 percent between 2010 and 2030.

Additional areas to the south and to the west of the FSCAA area are considered vital to ozone air quality improvement efforts in the Joplin Metro area due to prevailing wind direction in the spring and summer months. These areas include McDonald County in southwest Missouri and Benton County in northwest Arkansas. These counties are upwind from the FSCAA area and are potentially contributors to FSCAA area's air quality through regional transport. Benton County, AR is also expected to grow significantly, by 56 percent, between 2010 and 2030.



Sources: Wichita State University – Center for Economic Development & Business Research; Missouri Office of Administration – Budget & Planning; Oklahoma Department of Commerce

## ANNUAL UPDATE

### *Changes Made to Path Forward Document*

The Path Forward document is updated annually. Differences between the 2018 and the 2019 Path Forward include:

- Updated list of accomplishments for the 2019 Ozone Season in each of the strategy categories:
  - Administrative: page 10
  - Education: page 12
  - Energy Conservation and Utility: page 14 through 16
  - Transportation: page 18 through 19
- Update from Liberty/Empire and CWEP on each company's energy conservation efforts, including current data from both, and
  - Liberty/Empire's construction of DC charging stations and wind farm turbines; and

- CEWP's installation of catalytic converters, research into lighting rebate program and EV charging stations.

## **EMISSIONS DATA**

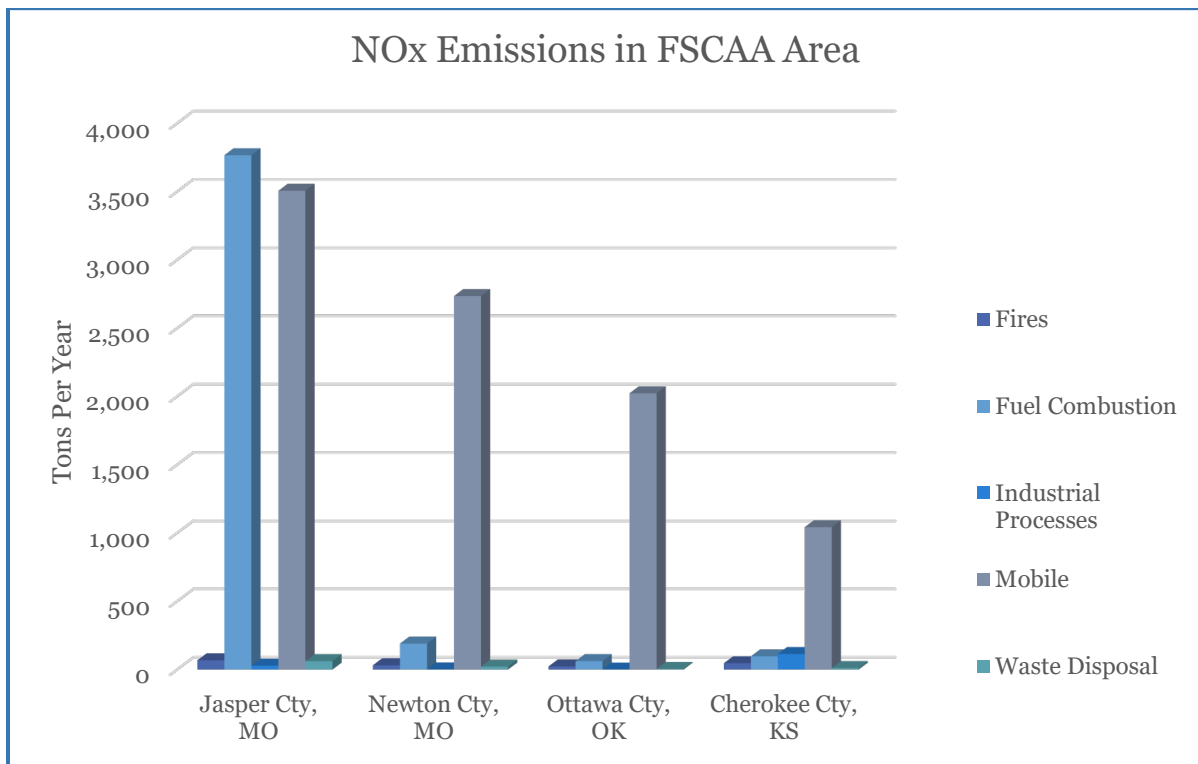
### *Ozone-Forming Emissions within the Four States Area*

Emissions of NO<sub>x</sub> and VOCs that can contribute to the formation of ground-level ozone in the Four States area are generated from various sources. The four major categories of emission sources are: point, non-point, on-road, and non-road. Some examples of specific sources within these categories include fires, motor vehicles, gasoline vapors, chemical solvents, industrial processes, power plants, gas-powered off-road equipment and many more.

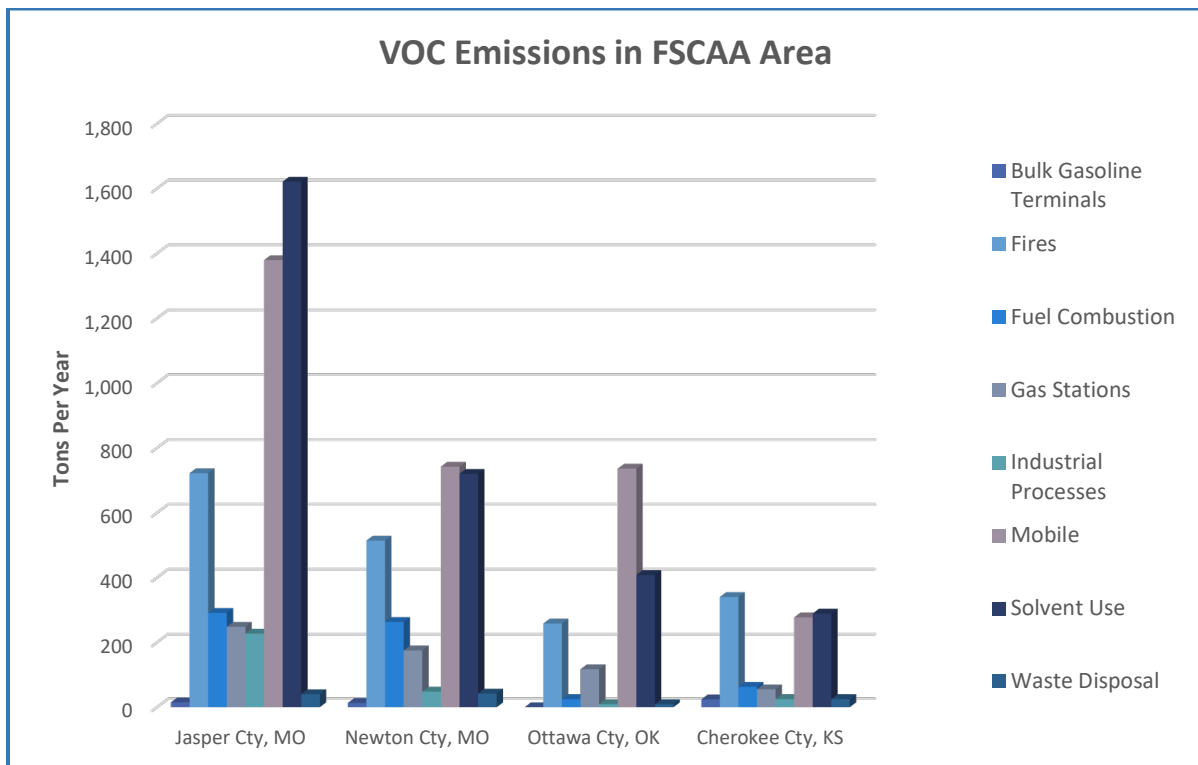
The graphs on the following pages 6 and 7 show the amount of Nitrous Oxides (NO<sub>x</sub>) and Volatile Organic Compounds (VOC) emissions released from man-made sources by county and by source. As can be seen in these graphs, fuel combustion and mobile sources account for most of the NO<sub>x</sub> emissions in the area, while mobile and solvent use account for most of the VOC emissions.

### *Ozone-Forming Emissions outside of the Four States Area*

The Four States area's location at the intersection of four States, and downwind of rapid urban development in one of those States, places the Four States area in the path of potential exposure to air pollutants transported from upwind sources. FSCAA will continue to evaluate and consider the possible contribution of such air pollutants that could be introduced into the Four States area via regional transport in this manner.

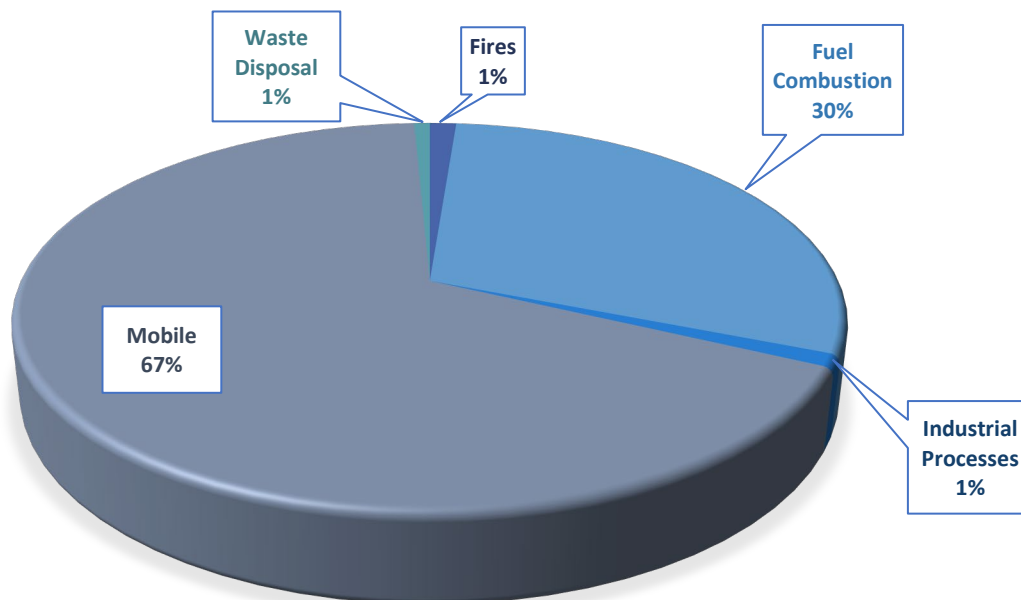


*Source: 2014 EPA National Emissions Inventory (NEI)*



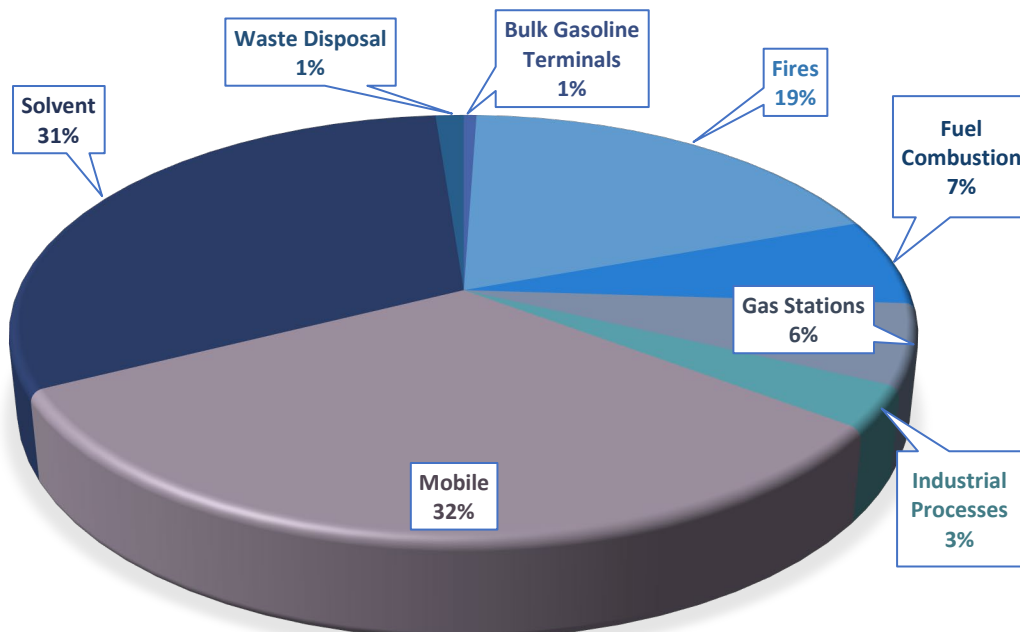


### NOx Emissions by Source in FSCAA Area



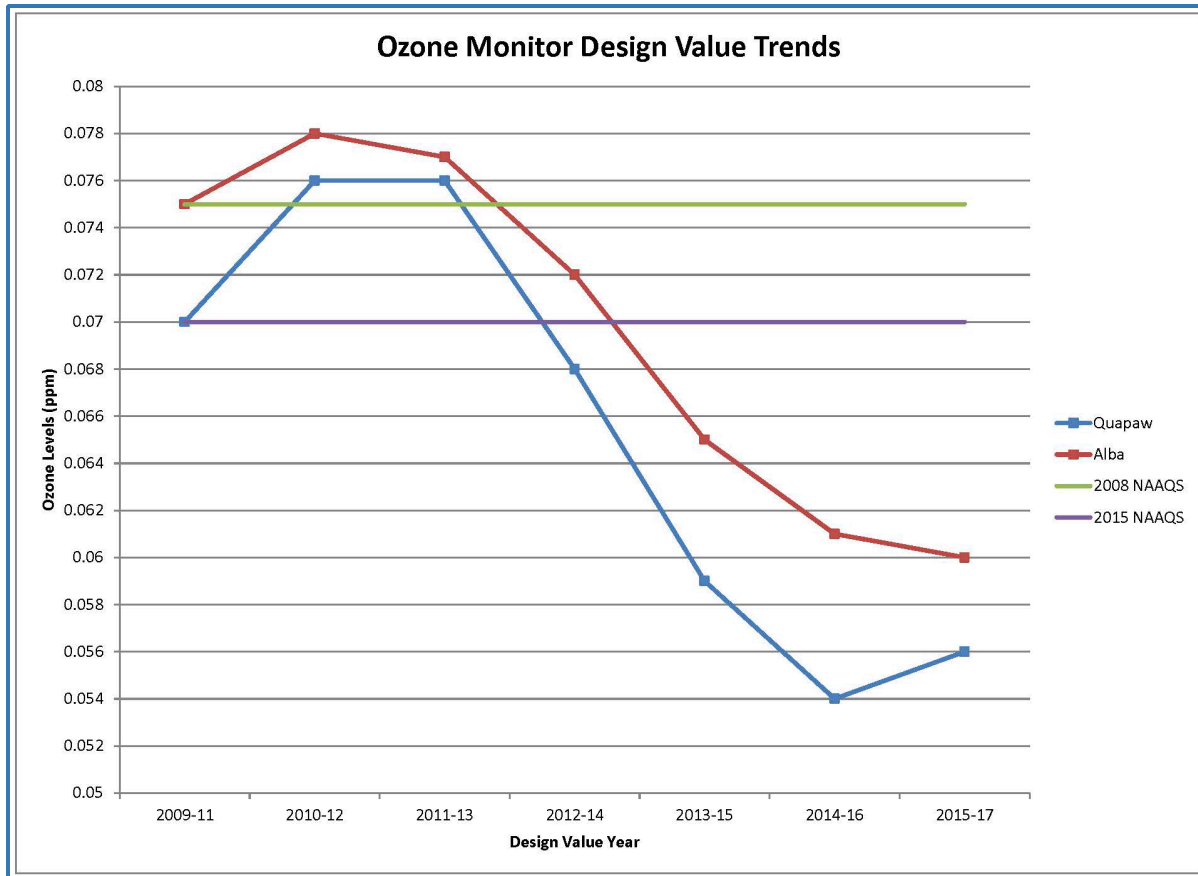
Source: 2014 EPA National Emissions Inventory (NEI)

### VOC Emissions by Source in FSCAA Area



## Ozone Design Values

The following chart shows the design values for ozone monitoring conducted in Jasper County, MO and Ottawa County, OK since 2009. The ozone design value is the annual fourth-highest daily maximum 8-hour ozone concentration, averaged over 3 years. A violation occurs if an area's ozone design value exceeds the 8-hour ambient air quality standard established by the EPA. In October 2015, EPA lowered the 8-hour standard from 0.075 parts per million (75 ppb), shown as the green line in the graph below, to 0.070 parts per million (70 ppb), shown as the purple line in the graph below.



While a decreasing trend was evident for both locations since approximately the 2010-2012 design value period, an increase at the Ottawa County ozone monitor location occurred during the 2015-2017 design value period (0.056 ppm, up from 0.054 ppm for 2014-2016 design value period).

## EMISSION REDUCTION STRATEGIES

Reducing ozone levels in the Joplin Metro area will be difficult due to many sources of ozone precursors that are not located in the area. Ozone generation is dominated by up-wind stationary sources and vehicular traffic on the adjacent throughways. The strategies identified in this document can be implemented by organizations and individuals in the region to reduce air pollution. The unavailability of photochemical modeling data prevents the region from quantifying the impacts of various strategies.

Many of these strategies have been proven effective in other communities, providing numerous benefits including:

- Protection of public health and environment
- Prevention of state and federal regulations following a non-attainment designation
- Reducing air pollutants from contaminating surface water
- Improving community health by encouraging bicycling and walking
- Conserving natural resources
- Reducing dependency on foreign oil
- Fiscal savings for individuals, businesses, local governments, and other organizations

The purpose of this Path Forward document is to implement specific viable voluntary strategies that can reduce the formation of ground-level ozone. There must be strong support and participation by local governments, industries, organizations, and the public for the program to be successful. Four target categories have been identified as specific areas in which to focus to reduce ground-level ozone.

## ADMINISTRATIVE STRATEGIES

*Description:* The following duties and responsibilities to be conducted by the FSCAA board will allow the FSCAA to continue its work of raising awareness and reduction of ground-level ozone in the Four States region.

### Administrative 2019 Accomplishments

- FSCAA continued participation in EPA's Advance Program, with annual updates to the Path Forward document

### Administrative Short-Term Strategies

#### Ozone Advance Program

FSCAA will continue to participate in EPA's Ozone Advance Program including the annual update of this Path Forward document to provide direction for FSCAA efforts to increase awareness and promote reduction strategies of ground-level ozone in this region.

## **Funding**

FSCAA continues to seek additional funding sources, such as local foundations, grants, or other avenues to provide financial support. FSCAA will continue to utilize the limited funds in the Joplin Health Department annual budget for the purchase of promotional items. Also, FSCAA will request another grant from the ETF in 2020 and beyond as monies are available.

## **Staffing**

The City of Joplin Health Department has agreed to allow FSCAA to utilize personnel hired for the summer to perform work related to FSCAA's general education strategy. In addition to this summer hire, FSCAA seeks a long-term intern or volunteer, with experience in scientific, technical, marketing, or public relations, to assist with general campaign efforts. One avenue to pursue this will be to post an internment announcement on the [MSSU Career Services](#) website. The Board members and City of Joplin staff, including Health Department staff, carry out various FSCAA tasks currently.

## **Outreach**

FSCAA re-evaluates the general education strategy before and during the Ozone Season to develop methods of increasing awareness levels in the community. FSCAA will attend public outreach events throughout the Ozone Season to continue distributing the campaign message. Funding from ETF or other sources may provide FSCAA the ability to advertise on local media outlets.

## **Administrative Long-Term Strategies**

These tasks will be evaluated for completion as funding and other resources become available.

### **Outreach**

Awareness efforts continue to reach into the local communities of Jasper and Newton Counties in southwest Missouri, Cherokee County in southeast Kansas, and ITC jurisdiction in northeast Oklahoma. The established media campaign is aired on local broadcast TV, cable and radio throughout the Four States region. As warranted, additional efforts will be made to reach other communities that could potentially impact the Joplin Metro region, such as counties in northwest Arkansas and northeast Oklahoma.

# EDUCATION STRATEGIES

**Description:** Air quality awareness applies to both the public and the business community. Increasing education about air quality will aid in the decision-making process based on an understanding of the broader impacts of everyday activities. The objectives of the tasks in this section are to increase the level of knowledge of individuals and the business community about actions that can be done to reduce ground-level ozone.

## Education 2019 Accomplishments

- December 2018) Review of social media campaign with Ramsey MediaWorks
- January 2019) IdleBox presentation from Patricia Weikersheimer with the Argonne National Laboratory.
- March 2019) FSCAA Chair, Dan Pekarek, was interviewed on the “Faith in Our Four States” interview program about ground-level ozone and the work that FSCAA has conducted to help educate the public about this issue.
- May 2019) FSCAA representatives set up a booth at the annual Earth Day celebration at Missouri Southern State University.
- Spring 2019) Article in City of Joplin “Citizen” newsletter , a community publication sent to all Joplin residents.
- Summer 2019) Review of FSCAA’s marketing strategy with the Senior Manager of Marketing and Communication for Liberty Utilities/Empire District.
- September 2019) A Volkswagen Trust Public Workshop for Diesel Vehicle Replacement was held in Joplin. This workshop, presented by MDNR and hosted by HSTCC and FSCAA was held to provide information and application assistance to local organizations interested in applying for this funding opportunity.



*VW Trust Workshop flyer*

## Education **Short-Term Strategies**

### **Message**

Identify options for communication message delivery methods, such as press releases, newsletters articles, media appearances, etc. Research [IdleBox](#) program on idle reduction for implementation in FSCAA area.

### **Public Service Announcement (PSA)**

Continue to develop additional PSA campaigns on other ground-level related topics, such as Health Impacts, for use in educating the general public.

### **PSA Displays on Community Venues**

Arrange for the existing PSA's to be shown on video scoreboards, Jumbotrons, or similar in the local area, such as school sports venues. Arrange for the existing PSA's to be shown on local TV stations, waiting room areas at public venues such as the Joplin Airport, Joplin Public Library, Government Access Channel, and others as identified.

### **Social Media**

Promote and maintain a presence on social media, including but not limited to, Facebook, Instagram, Twitter and YouTube.

### **Website**

Promote and maintain the FSCAA website at [www.SummerAir.org](http://www.SummerAir.org) to act as a central site to distribute information to the community.

### **Speaker's Bureau**

Continue efforts to familiarize by speaking to community groups. Identify appropriate audiences and secure speaking opportunities to promote ground-level ozone awareness to create an educated population who will take actions to reduce ozone precursors.

## Education **Long-Term Strategies**

These tasks will be evaluated for completion as funding and other resources become available.

### **Public Opinion Survey**

Develop and administer a survey to determine the public's opinion on emission reduction strategies to obtain feedback from stakeholders regarding which specific emission reduction strategies they would be willing to support and adopt. This information would provide additional

direction to future efforts. Survey participants would be provided with a list of proposed ozone-forming emission reduction strategies and asked to prioritize each one, as well as indicate their willingness to adopt or support each strategy. Example strategies to be included on a survey of this type might include a “Public No Idling Campaign”, “School No Idling Campaign”, “Public Participation in Ozone Alert Day Activities”, “Support biking and walking infrastructure” or “Implement energy efficiency projects at home and at work”.

### **Permanent Education Display**

Create and purchase a display like the portable unit but one that can be installed permanently at an appropriate location, such as the Wildcat Glades Conservation and Audubon Center in Joplin, MO; the Southeast Kansas Nature Center at Schermerhorn Park in Galena, KS or at a tribal center in northeast OK.

### **School involvement/participation**

Modify current FSCAA PowerPoint presentation for use in local elementary schools. Develop events to interest school-age groups to participate and learn about ground-level ozone, such as essay contest, art shows, science fairs, or similar. Educate and encourage local schools and other organizations to join the EPA-sponsored Air Quality Flag program to provide visible information about the current air quality forecast using raised colored flags.

[http://airnow.gov/index.cfm?action=flag\\_program.index](http://airnow.gov/index.cfm?action=flag_program.index)

### **Video**

Identify partners to produce a 10- to 15-minute video to be used as part of an educational package.

## **ENERGY CONSERVATION & UTILITY STRATEGIES**

**Description:** The implementation of energy conservation programs by individuals, businesses, and municipalities can have an impact on energy production thus reducing air pollutants.

### **Energy Conservation & Utility 2019 Accomplishments**

- **Liberty Utilities/Empire District**

Liberty/Empire has already taken steps to significantly reduce NOx emissions from their plants. Since 2009, Liberty/Empire has reduced an average of 850 tons of NOx per year from the Riverton Plant, 3,438 tons of NOx per year from the Asbury Plant and 646 tons of NOx per year from the Iatan 1 Plant. Prior to the operation of the new wind farm, Liberty/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. Liberty/Empire anticipates they will sell most of the environmental attributes associated with the wind farm generation.



During 2018, Liberty/Empire reduced 985 tons of NOx from the Riverton Plant, 4,038 tons of NOx from the Asbury Plant, and 699 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. Liberty/Empire produced 13 percent of their total net system input in 2018 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 has sold most of the environmental attributes associated with the wind farm generation.

On March 1, 2020 Liberty/Empire will permanently retire the Asbury Plant. The retirement of Asbury will eliminate NOx emissions from this power plant.

From 2009 to 2018, Liberty/Empire has implemented 21 different energy conservation incentive programs, saving its customers across the four-state region the electric usage of nearly 23,000 homes (275,000 MWh) and two states with lower natural gas usage.

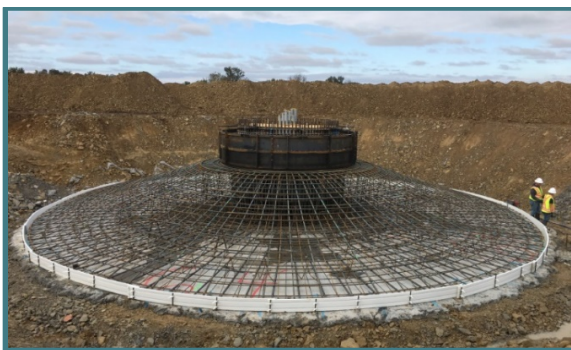


In 2016, Liberty/Empire began partnering with local businesses to install EV charging stations. As of December 2019, this effort has resulted in 18 public charging stations and 36 ports throughout Liberty's service territory. This program will gear up installation of several additional level 2 and DC fast charging stations beginning in 2020.

*Example of a DC charging station, which is the fastest type of charging currently available, providing up to 40 miles of range for every 10 minutes of charging.*

Beginning in December 2016, Liberty/Empire began a program of installing idle mitigation systems (IMS) in its service and bucket trucks. The IMS allows the trucks to maintain cab comfort and bucket truck operations without consuming gasoline fuel, which mitigates VOC and NOx emissions during such operation. Since beginning this program, there have been 13 pick-up trucks and 20 bucket trucks equipped with an IMS.

Beginning in 2019, Liberty/Empire began construction of the 600MW wind farm project. All the wind turbines, approximately 300, are expected to be completed and operational by the end of 2020. A few photos of the ongoing construction are below.



*Forming the base that supports wind turbine approx 600' tall*



*Pouring base of wind turbine*





*Completed base of wind turbine*



*Graded base where wind turbine will attach*

- **Carthage Water & Electric Plant (CWEP)**

**Note:** The Carthage power plant is a peaking facility, meaning the plant only generates power on days when power is in highest demand. Therefore, the amount of generation can fluctuate depending on the weather. Because of these fluctuations, simply stating the amount of reduction in tons per year may not accurately reflect the overall efficiency of reduction. For this reason, reductions are instead shown as percentages.

In the winter of 2011/2012, CWEP installed catalytic converters on four of its engines, which reduce the amount of VOC being emitted from the plant. During 2018, emissions were reduced by an estimated 52.54% compared to pre-catalyst emissions. During the winter of 2018/19, CWEP installed catalytic converters on its remaining five engines. The catalyst manufacturer conservatively estimates a VOC reduction of 60% on the newly installed catalysts.



*CWEP new exhaust stacks housing catalytic converters*

CWEP has experienced growth in its net metered solar customers with just over 200KW of installed solar as of late 2019.

CWEP also has a purchase power agreement with Southwestern Power Administration for hydro power generated at U.S. Army Corps of Engineers reservoirs. During 2018, CWEP received 4.65% percent of its total net system input from hydro resources operated by Southwestern Power Administration.

CWEP continues to explore an energy efficient lighting rebate program. The lighting rebate program would be targeted to local large industrial customers to help with highly efficient lighting upgrades at their facilities. Lighting is a very effective way to let large electric customers lower their energy use and therefore lower their overall electric bill.

CWEP is also gathering information on EV charging stations. Research is being done to determine if CWEP will own the stations or partner with local businesses.

## Energy Conservation & Utility **Short-Term Strategies**

### **Energy Conservation Outreach**

Promote energy conservation and efficiency messaging in conjunction with utility energy conservation efforts for their customers as well as encourage local city and county governments to implement similar energy efficiency programs. Use EPA's [Energy Efficiency in Local Government Operations](#) guide on this topic.

### **NOx reductions from power plants**

Liberty Utilities/Empire District to maintain NOx levels at or below 2007 baseline. In practice using over-fire air and Selective Catalytic Reduction (SCR).

### **VOC reductions from power plants**

Carthage Water & Electric Plant to maintain VOC levels at or below 2011 baseline. CW&EP has a project scheduled to install catalytic converters on 5 additional engines at its power plant. The project is scheduled to be completed by the end of calendar year 2018. Catalyst efficiencies will be determined after installation is complete and added to the next update of the Path Forward document.

## Energy Conservation & Utility **Long-Term Strategies**

### **Wind Farm**

The Missouri Public Service Commission, on July 11, 2018, supported the addition of 600 MW of wind generation to be located within the Southwest Power Pool footprint. Based on the EPA's AVOIDed Emissions and geneRation Tool ([AVERT](#)), this 600 MW wind generation could avoid approximately 1,160 tons of NOx emissions each year.

### **Solar Energy**

Research and determine ways to incorporate [SolSmart](#), a national designation program designed to address local barriers to solar energy, funded by the U.S. Department of Energy Solar Energy Technologies Office, into FSCAA's general education strategy. Advocate for community involvement in solar energy projects.

# TRANSPORTATION STRATEGIES

**Description:** Transportation sources are a significant contributor to emissions in the region. Steps to reduce emissions in this area can be taken by individuals, businesses, and through engineering and traffic management. FSCAA's role is to advocate for transportation improvement projects and help spread news about funding notices and related information as it comes available. FSCAA will communicate with interested stakeholders to give support for initiatives as they arise.

## Transportation 2019 Accomplishments

- November 2018) New road surface, sidewalks, streetlights, and pedestrian crossing with safety enhancements on 20<sup>th</sup> Street in Joplin, a major thoroughfare with high volume of vehicle traffic.
- Spring 2019) A Rectangular Rapid Flashing Beacon (RRFB) installed at 20<sup>th</sup> Street, a busy thoroughfare in Joplin. The RRFB is equipped with a flashing light to alert motorists when pedestrians want to cross the street. Located on both shoulders and along the island in the middle of 20<sup>th</sup> Street between the east and westbound lanes, this provides extra safety measures that aren't offered in basic crosswalks.



*New RRFB pedestrian crossing installed on 20<sup>th</sup> Street, Joplin, MO*

- 2018) Joplin Area Transportation Study Organization (JATSO) updated the Bicycle and Pedestrian Transportation Plan after discussions with numerous stakeholders at several public meetings. <https://www.joplinmo.org/DocumentCenter/View/7549/Joplin-Area-Bicycle-and-Pedestrian-Transportation-Plan-FINAL-5-14-18-with-Attachments>
- Summer 2019) Tri-State Trucking, a local OTR trucking company, finished construction of an electrification project for their drivers. This project allows the cab to be connected to electric for the drivers to continue using A/C or heater, radio, TV, etc without idling their engines. This project was partially funded by
- August 2019) Public open house held for the *Joplin Transit Service Analysis* to obtain transit improvement recommendations for the Joplin area. On that same day, City staff and consultant team members rode the Sunshine Lamp trolley routes to talk with trolley riders about the recommendations.



- Fall 2019) A HAWK pedestrian crosswalk was opened on 26<sup>th</sup> Street, allowing pedestrians to safely cross that busy street between Cunningham Park and Mercy Park. This **H**igh-intensity **A**ctivated **C**ross**W**alk signal provides a safe crossing for pedestrians in busy roadways with flashing lights that are triggered by pedestrians.
- November 2019) City of Joplin opened a new trail in southwest Joplin -- official ribbon cutting with the Joplin Area Chamber of Commerce to celebrate the completion of the Mohaska Trail - event brought many together to enjoy a walk on the Mohaska Trail while visiting with other citizens and some businesses who are active in walking, cycling and running in this area - Joplin Mayor Gary Shaw presented a Proclamation to the community of trail enthusiasts noting that their commitment to healthy living and accessibility for all residents makes Joplin a better place - Mohaska Trail is approximately 1.15 miles long & was funded through the Community Development Block Grant Disaster Recovery (CDBG-DR) program awarded by the U.S. Department of Housing and Urban Development (HUD) following the 2011 disaster.
- Ongoing) Numerous sidewalk and street improvements continue to be made in the Joplin metro area as part of the Complete Streets effort. These improvements include the creation or enhancement of sidewalks and the creation of bicycle lanes in many project areas.



*Sidewalk installation and improvements along Range Line Road, Joplin, MO*



## Transportation **Short-Term Strategies**

### **Volkswagen Trust**

Monitor news releases from MDNR regarding funding opportunities from the VW Trust allocation. MDNR has been designated as Missouri's lead agency for the distribution of the state's share of the VW settlement. Any funding opportunities will be shared with all FSCAA members and any eligible entities in the Four States region. The established network of Harry S. Truman Coordinating Council, a FSCAA partner, will be utilized as one distribution method to disseminate these funding notifications, especially to school districts throughout the region.

### **Sunshine Lamp Trolley**

Promote the use of the [Sunshine Lamp Trolley](#), Joplin's public transportation system. Increase overall awareness and encourage the use of Sunshine Lamp Trolley through social media. Advocate for increased services and additional routes to be added to increase ridership throughout the Joplin metro area.

### **Idle Reduction**

Develop a message to promote and encourage idle reduction efforts. Research DOE's [IdleBox](#) Toolkit for Idling Reduction Projects. Ideally, a 2-pronged approach would be developed to address businesses with fleets as well as the general driving public. A survey will be created to gauge the interest level of businesses with fleets in implementing idle reduction efforts. A separate campaign will also be developed for use with the local school bus fleets and the general driving public. During the development phase, a library of "No Idle" policies from other entities will be compiled as reference tools.

### **Congestion Management Projects**

Advocate the design and construction of congestion management projects targeted at local governments, engineers and others responsible for making improvements to the transportation system that will reduce idle time. Examples of these types of efforts include access management, dual left turn lanes, DDI (Diverging Diamond Interchange), ITS (Intelligent Transportation Systems), and roundabouts.

### **Alternative Transportation and Commute Projects**

Advocate the design, construction and/or implementation of alternative transportation and commute projects such as sidewalks, trails, bike paths and public transit, to encourage the development of a multi-modal system. Encourage employee commuter transportation programs. Support additional dedicated funding for such projects.

### Planned Projects:

- Surface improvement of various city streets in Joplin with new sidewalks, curb and gutters, and asphalt installation.
- Completion of Mohaska & St. John's Trails to improve connectivity from 32<sup>nd</sup> to Main Street.

- Intersections along 32<sup>nd</sup> Street to install ADA-compliant sidewalks and crosswalks at Main St., Indiana Ave., and Connecticut Ave.

### **Educate against overfilling gas tanks**

Develop and promote a “stop at the click” message for use at convenience stores and fleet fueling islands. Provide convenience store operators with decals with appropriate messaging about not overfilling gas tanks. Posting these decals on fuel dispenser islands will keep this message in front of the public on a regular basis.

## **Transportation Long-Term Strategies**

These tasks will be evaluated for completion as funding and other resources become available.

### **Volkswagen Trust**

FSCAA will work with MDNR on utilizing VW Trust funds to mitigate NOx Emissions over the next 6 to 10 years. MDNR has been designated as Missouri’s lead agency for the distribution of the state’s share of the VW settlement over the course of the next 10 years. Funding opportunities will be shared with all FSCAA members and any eligible entities in the Four States region.

### **Diesel Emissions Reduction**

Continue to research and promote funding for the retrofitting or replacement of commercial diesel vehicles or equipment as it becomes available.

### **Transportation Funding**

Continue to seek funding for transportation-specific strategies in this Path Forward document from JATSO.

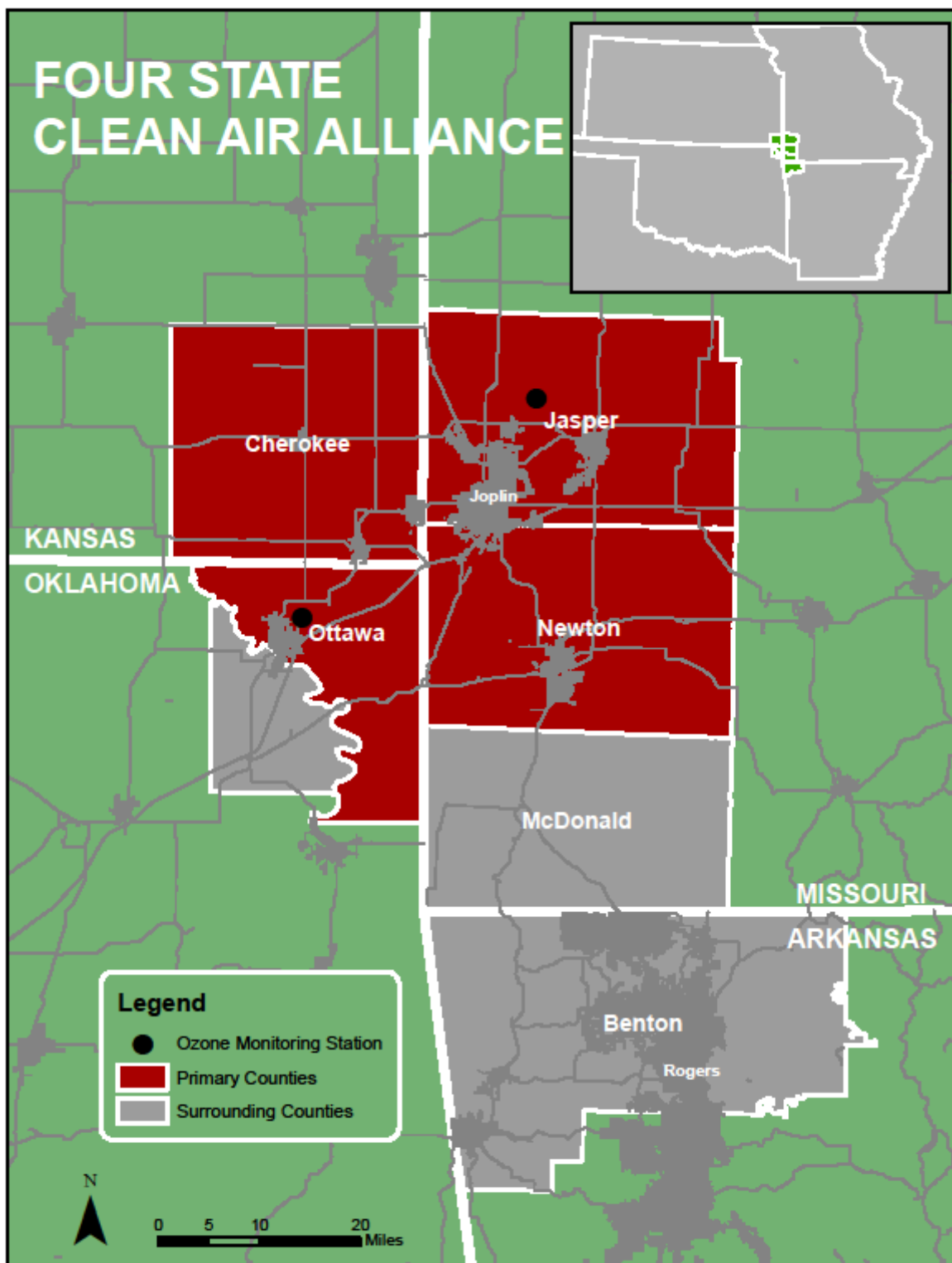
### **Vehicle electrification**

Advocate for research and future transition to electric or hybrid emergency vehicles to be used at area hospitals, emergency transport stations, and similar locations. Emergency vehicles equipped with the ability to connect to electrical charging stations instead of idling can maintain their response-readiness while reducing NOx emissions.

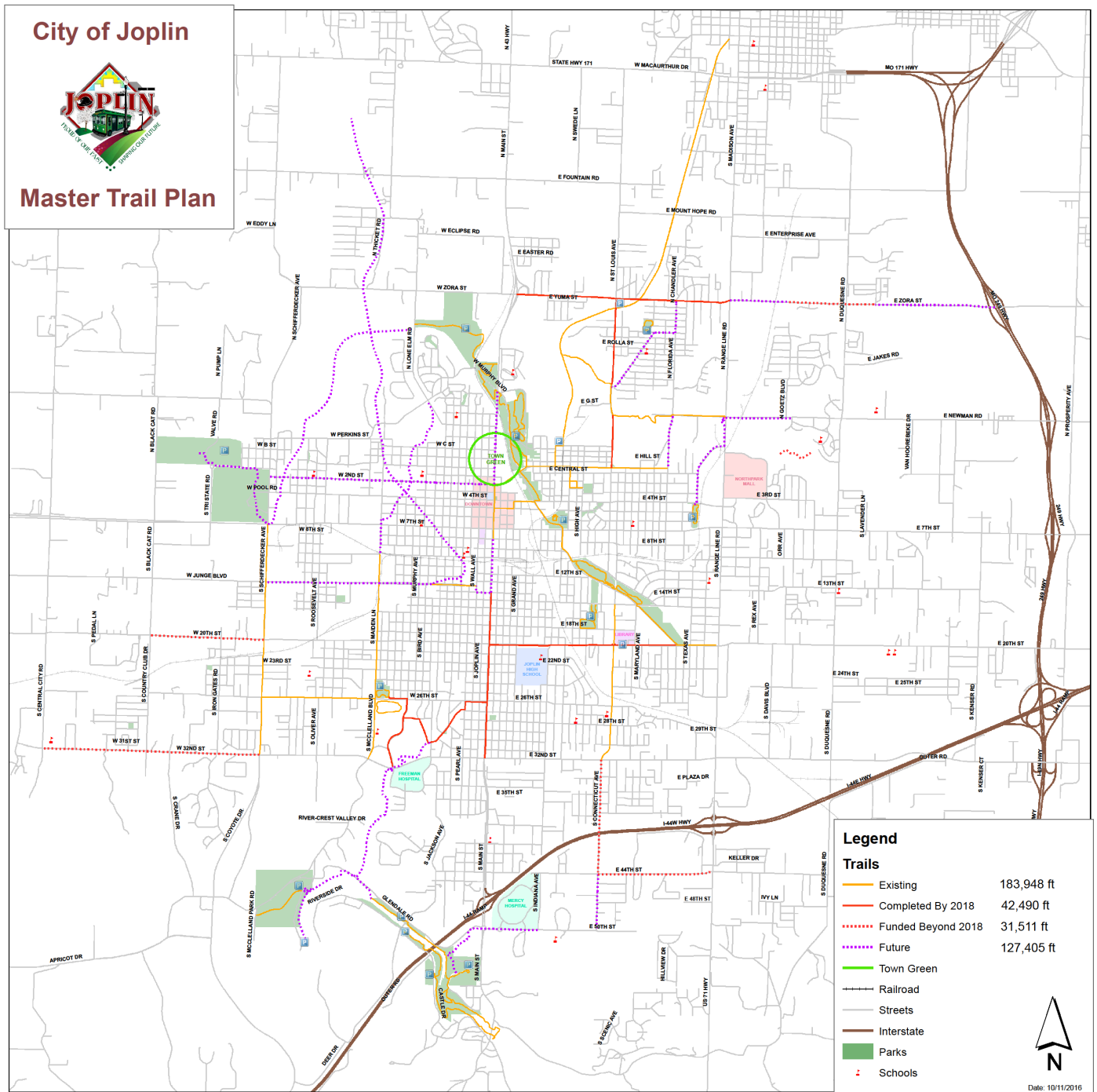
### **Rideshare**

Develop and promote a Rideshare or similar program in the Joplin Metro area. The goal would be to create a pool of vehicular resources for individuals driving into the Joplin Metro area from outlying communities on a regular basis for work, shopping, school or other shared activities.

## APPENDIX A: MAP OF FSCAA AREA



# APPENDIX B: CITY OF JOPLIN MASTER TRAIL PLAN





## APPENDIX C: ACKNOWLEDGEMENTS

The Four States Clean Air Alliance thanks these members and organizations involved with implementation of the Path Forward document for the Joplin Metro area in Missouri, focusing on Jasper and Newton Counties.

### *FSCAA Board Members*

- Environmental Group – *Open*
- Environmental Task Force – Dan Pekarek; City of Joplin Health Department
- Inter-Tribal Council of North Eastern Oklahoma (9 Tribes) – Susie Attocknie, Craig Kreman
- Jasper County City – Cassandra Ludwig, Kevin Emery; Carthage Water & Electric Plant
- Jasper County Government – John Bartosh; Jasper County Commission
- Jasper County Industry – Jeff Burkett; Liberty Utilities/Empire District
- Jasper County Public Member – Heidi Scheffler
- JATSO – *Open*
- MDNR – Emily Wilbur, Mark Leath; Missouri Department of Natural Resources
- MoDOT – Zeke Hall; Missouri Department of Transportation
- Newton County City – John Harrington, City of Neosho
- Newton County Government – Jim Jackson; Newton County Commission
- Newton County Industry – Denise Dugan; Mercy Hospital
- Newton County Public Member – Bob Hockman; TAMKO Building Products, Inc.
- Regional Planning Council – Jill Cornett; Harry S. Truman Coordinating Council

### *Participating Organizations*

- |   |  |
|---|--|
| • Environmental Protection Agency                           | • City of Neosho, MO                                     |
| • Missouri Department of Natural Resources                  | • Environmental Task Force of Jasper and Newton Counties |
| • Missouri Department of Transportation                     | • Joplin Area Transportation Study Organization          |
| • Inter-Tribal Council of North Eastern Oklahoma (9 Tribes) | • Harry S. Truman Coordinating Council                   |
| • Jasper County Commission, MO                              | • Ozarks Clean Air Alliance                              |
| • Newton County Commission, MO                              | • Missouri Southern State University                     |
| • Cherokee County Commission, KS                            | • Mercy Hospital   |
| • City of Carthage, MO                                      | • Liberty Utilities/Empire District                      |
| • City of Joplin, MO  | • Carthage Water & Electric Plant                        |
|   | • TAMKO Building Products, Inc.                          |

## **APPENDIX D: GLOSSARY OF ACRONYMS**

CAAP	Clean Air Action Plan
DDI	Diverging Diamond Interchange
EPA	Environmental Protection Agency
ETF	Environmental Task Force of Jasper and Newton Counties
FSCAA	Four States Clean Air Alliance
HAPs	Hazardous Air Pollutants
HSTCC	Harry S Truman Coordinating Council
ITC	Inter-Tribal Council of North Eastern Oklahoma (9 Tribes)
ITS	Intelligent Transportation System
JATSO	Joplin Area Transportation Study Organization
MDNR	Missouri Department of Natural Resources
MoDOT	Missouri Department of Transportation
NAAQS	National Ambient Air Quality Standards
NO <sub>x</sub>	Nitrous oxides
O <sub>3</sub>	Ozone
VOC	Volatile Organic Compounds