Wichita MSA Ozone Advance
Path Forward Update
April 2016

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Executive Summary

The Wichita Metropolitan Statistical Area (MSA) represented by the South Central Kansas Air Quality Improvement Task Force (AQITF) submits this Ozone Advance Path Forward Update as a report to the EPA and the public on the actions being taken in the region to reduce ozone forming emissions. The Wichita MSA includes Butler, Harvey, Sedgwick and Sumner Counties. The Path Forward is a living document that will result in ozone reductions while increasing community awareness of air quality issues and continuing to meet the needs of health, the environment and the economy.

The AQITF is a regional partnership whose mission is to develop strategies that improve air quality and reduce ozone by advising and encouraging agencies and businesses to voluntarily implement projects that reduce air pollution to benefit the health of the people, economy, and environment of South Central Kansas.

Over the past year, the AQITF has been providing the region with information about ozone issues and is promoting that local governments and businesses in the region submit organizational Ozone Action Plans that list projects, activities or programs that the business, agency or organization is currently doing or intends to do to decrease ozone-forming emissions. The current Ozone Action Plan projects are represented in this report and future Ozone Action Plan projects and programs will be included in future updates.

1. Introduction

As participants in the EPA Ozone Advance Program, the Air Quality Improvement Task Force is asked to submit annual updates of measures and programs in their Path Forward. These documents are intended to describe the measures and/or programs that South Central Kansas is taking to reduce ozone forming emissions.

1.1 BACKGROUND

The Wichita Air Quality Control program began in 1971 in cooperation with the Kansas Department of Health and Environment, Bureau of Air. The program consists of air monitoring activities; inspection of air pollution sources; and investigation of complaints. City of Wichita monitors ambient air for the criteria pollutants ozone (ground-level), nitrogen oxides, sulfur dioxide and particulate matter in accordance with regulations set forth in the federal Clean Air Act. Lead and carbon monoxide are no longer monitored in the Wichita area, on a continuous basis, due to significant decreases in these pollutants since the 1970s. Wichita has been in compliance with all six criteria pollutants since 1989. The Wichita Metropolitan Statistical Area (MSA), which includes Butler, Harvey, Sedgwick and Sumner Counties, is close to exceeding the National Ambient Air Quality Standard (NAAQS) for ozone.

Ozone is an air pollutant that can cause lung damage in healthy people and can have severe effects on sensitive groups like children, the elderly and people with respiratory diseases, like asthma and emphysema. The ozone standard is designed to protect the most sensitive groups in our population.

Wichita MSA residents most Susceptible to health impacts of high ozone:

- Children (<18): 168,315 people (27% of the population)
- Seniors (65+): 77,109 people (12% of the population)
- Adults (18-64) with asthma: 52,772 (8.4% of the population)
- ~298,196 people in the Wichita MSA (47% of the total population) are vulnerable to elevated ozone levels

Ozone is formed when the nitrogen oxides (NOx) and volatile organic compounds (VOCs) from vehicle exhaust, paint, solvents, gasoline vapors and industrial processes react with heat and sunlight.

$$NOx + VOCs + Heat + Sunlight = Ozone$$

The Wichita MSA is taking proactive steps to avoid exceeding the 8-hour ozone standard and protect the physical health of residents by participating in the voluntary EPA program called Ozone Advance. This collaborative effort between EPA, the Kansas Department of Health and Environment (KDHE) and the Wichita MSA encourages expeditious reductions in ozone levels in order to ensure protection of human health, remain in attainment of the federal ozone standard and efficiently direct resources towards actions that address ozone precursors.

The City of Wichita submitted a "sign-up letter" to the EPA in August 2012 on behalf of the Wichita MSA. This Path Forward lists actions steps, strategies and programs that the Wichita MSA will work to voluntarily implement to reduce ozone precursors. Creation of the Path Forward included community engagement that helped formulate the list of action steps that will result in reduction of ozone-forming emissions for public health and quality of life. Implementation of the Path Forward action steps will be led by the Air Quality Improvement Task Force, a regional partnership for clean air in South Central Kansas. A list of AQITF stakeholders can be found in Appendix A. Find out more about the AQITF and their work at www.aqtaskforce.wordpress.com.

2. Air Quality in the Wichita MSA

2.1 Current Ozone Status

In 2015, in order to protect human health and the environment, the Environmental Protection Agency (EPA) revised the federal ozone standard to 0.070 parts per million (ppm). As of spring 2016, the Wichita area is in compliance, or *in attainment* with the federal standard for ozone with a 3-year rolling average of 0.067ppm. The EPA may designate the Wichita MSA as *nonattainment* if the "design value," a three year rolling average of the fourth highest daily 8-hour average, at any one of the ozone monitors (see Map 1 for monitor locations) exceeds the 0.070ppm limit during ozone season (April 1 – October 31.)

Monitoring Sites	**08-10**	**09-11**	**10-12**	**11-13**	**12-14**	**13-15**	**14-16**
National Ambient Air Quality Standard (NAAQS) in parts per million (ppm)	**0.075**	**0.075**	**0.075**	**0.075**	**0.075**	**0.075**	**0.070**
Critical Value							0.082
Peck, KS	0.072	0.075	0.077	0.076	0.073	0.067	
1900 E. 9th Street Wichita, KS	0.071	0.074	0.077	0.075	0.073	0.067	
Sedgwick, KS		0.073	0.077	0.077	0.072	0.067	

Table 2. Summary of 4th Highest 8-Hour Ozone Values (ppm). Highlighted values indicate exceedance of the NAAQS.

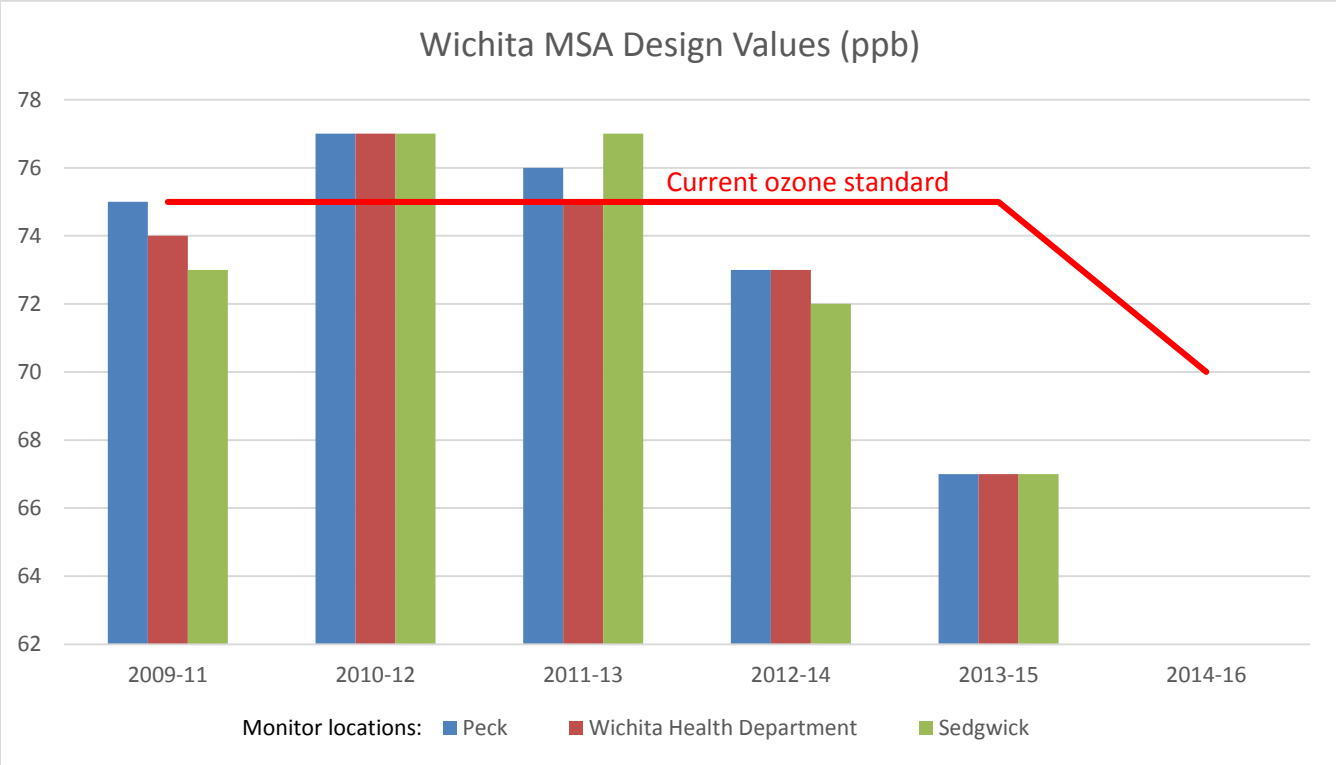

Figure 2. 3-year average of the fourth highest 8-hour ozone reading, in ppm, at each of the three ozone monitors in the Wichita MSA.

South Central Kansas is known for having hot, dry summers. High temperatures and sunlight are the perfect weather conditions for the chemical reaction that forms ozone from NOx and VOC emissions. As a result, elevated ozone levels were measured in 2011 and 2012, increasing the 3-year average during that time. In 2014 and 2015, a combination of community efforts, cooler temperatures and increased rainfall dramatically decreased ozone levels, lowering the 3-year average to below the newly revised National Ambient Air Quality Standard of 0.070 parts per million.

Currently, the Wichita area is in compliance with the federal standard for ozone with a 3-year average of 0.067ppm. However, the EPA plans to make new designations at the end of the current promulgation period, October 2016. The EPA will review the 3-year average for 14-2016, and in October 2017 make designations based on that value. Although the Wichita area is currently in attainment, it is very close to exceeding the federal standard and could receive a non-attainment designation in October 2017 should the area experience particularly high ozone levels in the current season.

A nonattainment designation may result in more stringent regulatory requirements, increased fuel costs, loss of federal highway or transit funding, restrictive permitting and mandatory emissions offsetting, all of which reduce economic development opportunities and increase the cost of living in the Wichita MSA.

2.2 Sources of Ozone Precursors

The National Emissions Inventory (NEI) is a comprehensive and detailed estimate of air emissions of both Criteria and Hazardous air pollutants from all air emissions sources. The NEI is prepared every three years by the EPA based primarily upon emission estimates and emission model inputs provided by State, Local and Tribal air agencies for sources in their jurisdictions, and supplemented by data developed by the EPA. The NEI contains much data, however the following will focus on nitrogen oxides (NOx) and volatile organic compound (VOC) emissions; the two main precursors of ozone formation.

NOx and VOC emissions are described according to source categories.

- **Onroad Mobile Sources** include motorized vehicles that are normally operated on public roadways for transportation of passengers or freight. This includes passenger cars, motorcycles, minivans, sport-utility vehicles, light-duty trucks, heavy-duty trucks and buses.
- **Nonroad Mobile Sources** include aircraft, locomotives and other nonroad engines and equipment such as lawn and garden equipment, construction equipment, engines used in recreational activities and portable industrial, commercial and agricultural engines.
- **Nonpoint Sources** include any stationary sources not required to have emission permits. The term refers to smaller and more diffuse sources within a relatively small geographic area.
- **Point Sources** include large, stationary emissions sources that can be located on a map.

1,500 WICHITANS IDENTIFIED **MOBILE SOURCE AIR POLLUTION AS THE 4TH MOST IMPORTANT ENVIRONMENTAL CONCERN**, OUT OF 19 – ONLY TRASH DISPOSAL, THE ARKANSAS RIVER & GROUNDWATER RANKED HIGHER.

Wichita Initiative to Renew the Environment, Public Engagement 2008

Wichita MSA NOx and VOC emissions:

- Ozone forms through reactions between NOX and VOC emissions.
  - Local NOX emissions: about 70 tons per day.
  - Local VOC emissions: about 75 tons per day.
- Sources of NOX and VOC emissions are on-road, non-road, point and area sources.
  - On-road mobile sources (cars, buses, trucks) account for 47% of NOX and 20% of VOC emissions;
  - Non-road mobile sources (construction equipment, farm equipment, trains and airplanes) account for 17% of NOX and 9% of VOC emissions.
  - Point (large stationary/permitted) sources account for 15% of NOX and 13% of VOC emissions.
  - Area (small stationary) sources account for 20% of NO_x and 58% of VOC emissions.

3. Ozone Advance Project Update

There are a number of programs and projects currently in progress in the Wichita MSA that focus on reducing ozone-forming emissions. Some projects are led by the AQITF in cooperation with local governments, businesses and nonprofits. Other projects are implemented by local governments, businesses or nonprofits and reported to the AQITF for inclusion in the Ozone Advance data collection.

3.1 Outreach and Education Projects

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status and Outcomes
Ozone Alert Day Education Program - Education and outreach campaigns for Ozone Alert Days throughout the Wichita MSA.	Increased awareness that promotes behavior change that reduces ozone-forming emissions. Expanding the program to incorporate all cooperating city and county governments within the MSA will maximize ozone reduction opportunities.	Number of self-selected recipients of Ozone Alert Day emails Number of acres not mowed on Ozone Alert Days as reported by local governments	Ongoing	AQITF, City of Wichita Environ-mental Health (EH)	**251 individuals** registered to receive Ozone Alert Day emails as of 4/25/15. **354 individuals** are registered to receive Ozone Alert Day emails as of 02/29/16.
Ozone Outreach to MSA Stakeholders – Engaging local government and business stakeholders throughout the Wichita MSA or South Central Kansas is key to region-wide awareness and implementing as many ozone reduction projects as possible to keep ozone levels low and the region in attainment.	Educate and engaged jurisdictions and businesses about the importance of ozone reduction efforts in order to decrease local ozone forming emissions. Goal: Region-wide participation in creation and implementation of Ozone Action Plans	Number of Ozone Action Plans. Number of businesses with Ozone Action Plans. Number of local governments/jurisdictions with Ozone Action Plans.	Ongoing	AQITF, MSA local governments, businesses	In March 2015, the AQITF held the **Air Quality Leadership Summit. 79 attendees from 46 industries, businesses and nonprofits** learned about ozone nonattainment and the importance of engaging early in regional ozone efforts. The Summit was well received by all and more networking and educational efforts were requested by all who attended. In April of 2014, the AQITF held a Spring Ozone Workshop as a

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status and Outcomes
					follow up to the AQ Leadership Summit. The workshop targeted local governments and provided more detailed information about current ozone issues and potential nonattainment concerns. Then, the group worked on developing organizational Ozone Action Plans for their jurisdictions. **3 jurisdictions attended this event.** A second Spring Ozone Workshop was held in May 2015 and targeted local businesses and industry. **7 area businesses attended** to discuss potential impacts of nonattainment and develop Ozone Action Plans for their respective company. **2 Ozone Action Plans** **1 Business** **1 Government** As of 02/29/16

3.2 On Road Projects

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
Clean Air Car Clinics – Personal vehicle emissions and gas cap testing. Information provided on car emission performance and air quality.	Increased public awareness of mobile source impacts on air quality and Ozone Alert Day information. Increased public awareness of personal vehicle condition, and potential fuel and cost savings if problems are remedied. Decrease in ozone-forming emissions due to car condition improvement.	Number of cars and gas caps checked Number of emission and gas cap failures	Ongoing	City of Wichita EH, AQITF	In 2013 and 2014 the City of Wichita's Clean Air Car Clinic project completed **81 vehicle emission and gas cap tests** and provided ozone education and Ozone Alert Day sign-up information to participants at the Car Clinics. Of the 81 vehicles tested**, 11 emissions tests (14%) failed** and information was shared with the vehicle's owners about maintenance improvements to remedy the problems. **Four gas caps failed (5%),** and owners were encouraged to purchase new caps to improve air quality and reduce fuel loss. In 2015 the City of Wichita's Clean Air Car Clinic project completed **73 vehicle emission and gas cap tests** and provided ozone education and Ozone Alert Day sign-up information to participants at the Car

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
					Clinics. Of the 73 vehicles tested**, 7 emissions tests failed** and information was shared with the vehicle's owners about maintenance improvements to remedy the problem(s). **10 gas caps failed,** and owners were encouraged to purchase new caps to improve air quality and reduce fuel loss.
Free Fares Week & Free Fares on Ozone Alert Days - Increase awareness and use of Wichita Transit with a week of Free Fares, and the Free Fares on Ozone Alert Days. Free Fares provide incentives to reduce on-road traffic on potentially high ozone days. Travel Trainings provide knowledge so new riders can easily participate in Free Fares opportunities.	Every city bus rider equals one less on-road vehicle, which reduces ozone-forming emissions. The goal is to create new "regular riders" by providing a free opportunity to ride the bus and break down barriers often associated with riding the bus.	Number of attendees at Travel Training events Number of bus riders during Free Fares Week NOx reduced due to increased bus ridership Number of individuals riding the bus overall Number of bus riders on Free Fares Ozone Alert Days	2014	City of Wichita EH, Wichita Transit, AQITF	2014 Free Fares Week was a huge success. -**4 travel trainings held** -**81 travel training participants** **-58,415 riders participated in Free Fares Week, which showed a 57% increase in ridership from the same week in 2013** **-700,980 vehicle miles avoided due to bus ridership** **-1,597lbs of VOC and 1,070lbs of NOx avoided during Free Fares Week** - Wichita Transit experienced a **sustained 9% uptick in ridership** over 2013 after Free Fares Week in 2014.

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
			2015		There were no Ozone Alert Days during the 2014 ozone season. 1,098,204 Wichita Transit rides provided during 2014 Ozone Season. -**15 tons of VOC and 1 ton of NOx avoided** during 2014 Ozone Season due to bus ridership. 2015 Free Fares Week was a huge success. **-60,411 riders participated in Free Fares Week, which showed a 3% increase in ridership from the same week in 2014** **-17,000 new rides provided in 2015, a 2,000 ride increase from 2014.** **-434,800 vehicle miles avoided due to bus ridership** **-22,000 gallon reduction of gas consumption during Free Fares week.** **-650 lbs. of NOx avoided during Free Fares Week**

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
					There was one Ozone Alert Day during the 2015 ozone season and free rides were available that day.
Wichita Bicycle Master Plan - The Wichita Bicycle Master Plan guides City of Wichita projects to make it easier, safer and more convenient to get around on a bicycle. The plan guides the provision of bicycle related infrastructure, policies and programs.	Increased ease and convenience of bike routes will increase the number of bike riders and decrease the number of vehicle users.	Miles of new bikeways (on- and off-street) Number of riders counted in annual bike count Bicyclist safety	Ongoing	Wichita-Sedgwick Co WAMPO, City of Wichita EH, Wichita Bicycle & Pedestrian Advisory Board	2013 & 2014 – **5 miles of new bicycle facilities** were installed. There are 77 miles of bikeways in Wichita to date. **Designs are completed for 9 new projects** that include bike parking, shared-use paths, on-street lanes and shared lane markings. **76 bike rack projects were installed** in 2014. Bike counts show that biking in Wichita is relatively stable at **22 people biking/hr/count location**. Results are below the target of 27 people biking/hr/count location. **34 schools participated in the Bike to School Day** events. In 2013 and 2014 **2,930 Wichitans participated in public bicycling events.**

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
					Wichita City Council approved resolution 14-341 endorsing the Wichita Multi-Modal Policy which directs City staff to consider multiple forms of transportation (walking, biking, transit) during construction and maintenance activities. Includes Street Design Guidelines for implementation of the Multi-Modal Policy.
Campaigns for No Idling –Promote and establish no idling policies and educational programs for local governments, businesses, school districts, individuals and agriculture.	No idling programs reduce vehicle emissions that contribute to ozone formation and negatively affect human health.	Number of businesses and agencies that adopt no idling policies Number of cars affected by no idling policies	Ongoing	Wichita Initiative to Renew the Environment (WIRE), AQITF, local gov'ts, Businesses	In the City of Wichita 1,550 vehicles and equipment are subject to the idling policy. No idling educational trainings were provided to **46 City of Wichita employees in 2014 and 19 City of Wichita departments in 2015**. Spirit Aerosystems has implemented a business-wide no idling policy. Spirit's policy affects 100 combustion engine scooters,

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
					utility vehicles, cars and trucks. Westar Energy has implemented a business-wide no idling policy that affects 562 light-duty gasoline vehicles and 387 heavy-duty diesel trucks. Beech Aircraft Corp (now Textron/Beechcraft) implemented a No Idling policy on 5/14/12. Coleman, Co. has implemented a business-wide no idling policy, effective summer 2015.
School Zone No Idling Campaigns - Provide templates and promote no idling policies for all schools and school districts in the Wichita MSA.	Student exposure to vehicle exhaust, even at low levels, is a serious health hazard. Diesel emissions are a well-documented asthma trigger. Asthma is currently the number one cause of missed schools days for American children. No idling programs prohibit bus idling through policies at the school or through the bus company. Parent education and school zone no idling rules prohibit or	Number of schools or school districts that adopt no idling policies Number of school buses affected by no idling policies School bus fuel cost savings	Ongoing	WIRE, AQITF, School Districts	Wichita Public Schools (USD 259), in partnership with First Student (transportation provider), began their no idling program in 2012 with a few participating schools and quickly expanded the policy to 87 schools in the district. The no-idling policy is signed by all First Student employees and affects 540 buses.

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
	encourage no idling by parents picking up their students. No idling policies keep buses and cars from emitting air pollutants that cause negative health effects, and the NOx that forms ozone, another good health inhibitor. The overall goal is to have every school district within the Wichita MSA to have a School Zone No Idling Program.				
Diesel Fleet Improvements – Encourage businesses and agencies to partner with KDHE Bureau of Air to take part in the Kansas Clean Diesel Program to fund strategic diesel emission reduction projects using EPA's National Clean Diesel funding as available.	The Clean Diesel Program reduces capital costs for fleet improvements and reduces fuel use (Diesel Emission Quantifier).	Number of Clean Diesel Program projects Tons of NOx and VOCs saved due to new equipment or technology Gallons of fuel saved	Ongoing	City and County governments, businesses, etc.	In 2014 KDHE awarded two subgrants to public school districts in the Wichita MSA through an allocation to KDHE from the EPA. Both projects were for early replacement of school buses and the purchase and installation of idling reduction technology. USD 373 Newton replaced an older bus, engine model year 1998, with a new school bus, engine model year 2014. The bus was equipped with idling reduction technology. **83 gallons of fuel saved** during the first year. **Reduced an**

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
					estimated 1.25 tons of emissions during the first year (**0.2198 tons of NOx & 0.0177 tons of VOC**). USD 470 Arkansas City replaced an older bus, engine model year 1999, with a new school bus, engine model year 2014. The bus was equipped with idling reduction technology. **305 gallons of fuel saved during the first year**. The district purchased and installed idling reduction technology for the new bus and for 5 other fleet pieces. The project reduced an estimated **3.60 tons of emissions** during the first year (**0.1560 tons of NOx & 0.0070 tons of VOC**). Waste Connections replaced 25 pre-2007 diesel waste hauling trucks with new, more efficient trucks and retrofitted 54 trucks with EPA/CARB-verified emissions-control equipment. This project

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
					reduced NOx emissions by an estimated 389 tons and CO emissions by 91 tons for the replacements alone.
Fleet Improvements– Fleet updates of newer, hybrid or alternative fuel vehicles increase fuel efficiency and decrease ozone forming emissions.	Fleet improvements reduce fuel costs, fuel usage, and emissions that form ozone.	Gallons of fuel saved Dollars saved on fuel costs (assume $3/gallon of gasoline) Tons of NOx saved	Ongoing through 2018 2015	City of El Dorado, USD 259	<u>City of Wichita Improvements</u> 13 light duty hybrids: Fuel reduction - 1,045 g/yr Fuel savings - $3,135/yr **Estimated NOx saved – 80.23 lbs/yr** **Estimated VOC saved – 53.77lbs/yr** 21 heavy duty hybrids: Fuel reduction - 1,382g/yr Fuel savings - $4,491.50/yr In 2015 the City of Wichita performed an analysis of Tier IV Interim and Tier IV Final engine emissions to determine which engine would provide the greatest emission reduction. This type of analysis will be provided and utilized on new equipment purchases moving forward. <u>City of El Dorado Improvements</u> Introduced 7 CNG vehicles to the fleet, with a

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
					commitment to deploy 25 through 2018. CNG vehicles emit approx. 25% less greenhouse gas emissions than gasoline vehicles. Wichita USD 259 and their transportation provider (First Student) replaced 100 buses that are older than 2010 with new buses in 2015. Maize USD266 received an EPA School Bus Replacement and Retrofit Rebate of $120,000 to replace or retrofit six school buses in 2016.
Fleet Improvements, Wichita Transit– Wichita Transit bus fleet improvements to newer cleaner diesel buses provide substantial emission reductions and MPG increases.	Fleet improvements reduce fuel costs, fuel usage, and emissions that form ozone.	Gallons of fuel saved Dollars saved on fuel costs Tons of NOx saved	2013 – ongoing	Wichita Transit	Wichita Transit **added four 2013 buses, ten 2014 buses and ten 2015 buses**. Newer buses emit 50% fewer hydrocarbons and carbon monoxides and **90% less NOx and PM** than the older buses. **Fuel reduction - 84,277g/yr** **Fuel savings - $274,225/yr**
Vanpool Plan Study - Assess the feasibility, cost effectiveness and	Vanpooling can reduce the number of individual cars on the road by combining employees who live near each other and	Number of vanpooling programs	2015	Wichita Transit, City of	The WAMPO Vanpool Study began late 2014. Preliminary work was completed and 11

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
potential participation for a regional employer vanpool program for Wichita Transit.	drive to the same employer for work each day. Vanpooling reduces NOx and VOC emissions due to fewer vehicles on the road.	Number of individual participants in the program Number of vehicle miles saved Tons of NOx and VOCs saved		Wichita EH, WAMPO, Local Employers	employers were contacted to be potential pilot projects. However, the study discovered that there is little or no interest for vanpooling at these major employers because of relatively short commute distances, low fuel prices at this time, and overtime practices at manufacturing employers. The project will terminate at this point. Currently **1 business** in the Wichita area utilizes vanpooling.
Alternative Fuel Vehicle Facilities – Alternative fuel vehicles and facilities to support the purchase and use of these vehicles reduce the NOx and VOC emissions from traditional gasoline and diesel vehicles.	Increasing facilities that support alternative fuel vehicles (compressed natural gas, electric, solar, etc) increase the use of these vehicles by private industry and the public. Increased use of alternative fuel vehicles, decreases use of fossil fuel vehicles and the NOx and VOC pollution they emit.	Number of alternative fuel vehicles. Number of alternative fuel facilities installed.	Ongoing	All Stakeholders	The City of Derby installed two public electric vehicle charging station in cooperation with Westar Energy and a local church. Westar Energy installed three public electric vehicle charging stations at their downtown Wichita business location.

3.3 Air Pollution Control Technologies

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
Small- to Medium-Sized Business VOC Reduction Education Project - The Air Emission Reduction Opportunity (AERO) program through the Kansas Small Business Environmental Assistance Program (SBEAP), promotes VOC reduction strategies to area small and medium-sized businesses that use solvents and coating in their process.	Increased skills of employees who do painting and coating at small to medium sized businesses. Reduced solvent use. Changes in process or technology at businesses that do painting and coating.	Number of AERO program participants Number of those trained in the virtual paint booth Gallons of solvent saved	Ongoing	K-State Pollution Prevention Institute, AQITF	
VOC Reduction Devices – Installation of air pollution control devices that reduce VOC emissions	Increased use of VOC reduction devices reduces ozone forming emissions; ozone forming potential is decreased.	Number of devices installed. Tons of VOCs reduced.	Ongoing	Local Businesses	Spirit Aerosystems installed three (3) 7.3 MMBtu/hr gas-fired Regenerative Thermal Oxidizers to reduce VOC at their facilities by 50 tons per year.
NOx Reduction Project – Boiler upgrades	Replacing boilers with more efficient units reduces NOx emissions, decreasing ozone forming potential.	Number of boilers replaced. Tons of NOx reduced.	2015	Local businesses	Textron/Beechcraft is removing a boiler rated at 20.72 MMBtu/hr and replacing it with a boiler rated at 8.4 MMBtu/hr.

3.4 Open Burn Projects

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
Open Burn Education and Restrictions - Provide information and education regarding regulations and air quality Best Management Practices for open burning. Burn restrictions are put into place to off-set large scale pasture burning in the early spring.	Currently, the City of Wichita Air Quality Program provides State of Kansas Open Burn Approvals for Sedgwick County. Education and information is provided to individuals or commercial businesses during burn site inspections in order to increase fire safety and decrease air pollution, which includes ozone forming emissions. Kansas Administrative Regulation (KAR) 28-19-645a, Open Burning Restrictions for Certain Counties During the Month of April restricts burning in 16 Kansas counties to only range, pasture or CRP management. Open burns restricted in April when pasture burns are prevalent in order to offset ozone precursors generated during pasture burning in the Flint Hills. Throughout Ozone Season, Sedgwick County burn permits are suspended on Ozone Alert Days.	Number of open burn applications approved Number of burn sites inspected Number of burning violations Number of other jurisdictions that implement burn restrictions during April.	Ongoing	Sedgwick County, City of Wichita EH, KS Smoke Management	In Sedgwick County there were **64 burn permits approved** for the time period that includes ozone season, Ap 1 – Oct 31, 2014. **131 burns were inspected** during 2014's ozone season. **86 were in compliance**, 11 had no permit, 15 had unattended fires, 35 were burning unapproved materials and 2 were burning in high winds. In Sedgwick County there were **67 burn permits approved** for the time period that includes ozone season, April 1 – Oct 31, 2015. **109 burns were inspected** during 2015's ozone season. **86 were in compliance**, 14 had no permit, 22 had unattended fires and 28 were burning unapproved materials.

					In response to air quality concerns and the Flint Hills Smoke Management Plan, the **City of Hesston voluntarily suspended burning** at their licensed burn site during April and, the **Hesston Emergency Services restricted all non-essential, non-agricultural burn authorizations in their district during April**.

3.5 Energy Conservation Projects

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
Water Wise Plant Education - Low water landscape & drought tolerant tree education for homeowners & landscapers.	Decreased water use for trees and landscape plants reduces energy consumption for treating and pumping water for irrigation. Increasing the number of appropriate trees in strategic locations can decrease home or business energy use as well.	Number of attendees at water wise education programs.	Ongoing	Kansas State Research & Extension, Sedgwick County	Water Wise Plants program given to **over 600 homeowners and business owners/managers** through Sedgwick County Extension events. At least two businesses and one subdivision are using the Water Wise method for landscaping.
Water Conservation Programs – water conservation leads to reduced energy	Decreased water consumption, decreases energy usage, which decreases ozone forming emissions.	Number of residential water conservation projects Number of gallons saved	Ongoing	COW, AQITF	In 2013 the City of Wichita created the *Save Wichita Water* program, a water conservation incentive

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
consumption and fewer ozone forming emissions.					program. In 2014, the City approved **1,877 water conservation rebate applications** for an **estimated savings of more than 36.44 million gallons of water**. Residents installed the following water efficient devices: 647 washing machines, 782 toilets, 8 smart irrigations controllers, 12 dual flush kits, 32 rain sensors and 218 rain barrels. In 2015, the City approved **793 water conservation rebate applications** for an **estimated savings of more than 3.5 million gallons of water**. In 2015 residents installed the following water efficient devices: 167 washing machines, 336 toilets, 7 smart irrigations controllers, 2 dual flush kits, 3 rain sensors and 232 rain barrels.
Energy Conservation Technologies – when new or innovative technologies are installed energy consumption is	When energy efficient technologies and installed, the energy demand is decreased.	Number of energy conservation technologies installed Watts saved	Ongoing	All stakeholders	The City of Augusta replaced traditional streetlights with LED streetlights. LED streetlights provide 40-80%

Strategy	Impact	Performance Measure	Target Date	Lead Agency	Current Status
reduced, fewer fossil fuels are required to provide energy and, in turn, the air pollutants from that energy production are reduced.	When the energy demand is decreased, ozone forming emissions, like NOx, from power plants is decreased.	Tons of NOx saved			energy savings and 50-75% maintenance savings. Via Christi has spent nearly $500,000 since May 2012 to retrofit exterior lighting with high-efficiency LEDs at their two largest hospital campuses in Wichita (St. Francis and St. Joseph). Expected savings of $90,000 per year. Learjet saved over 800 MWh of electrical consumption in the first 4 months of 2015 over the same time in 2014 due to closing portions of the plant and putting parking lot lighting on a timer. Equivalent to 552 metric tons CO2 emissions avoided. The Sierra Club partnered with the Sunflower Community Action Group to audit low-income homes and provide free CFLs and weatherization supplies.