Wichita MSA Ozone Advance
Path Forward

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Executive Summary

This document meets the guidelines set forth by the Environmental Protection Agency (EPA) for participation in the Ozone Advance program. This Ozone Advance Path Forward lists strategies and first steps in an effort to reduce ozone-forming emissions for the health and quality of life of residents in the Wichita Metropolitan Statistical Area (MSA). 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, environment and the economy.

The City of Wichita has designated the Air Quality Improvement Task Force (AQITF) to lead the creation and implementation of the Path Forward. 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 the Wichita MSA. The Air Quality Improvement Task Force will facilitate discussion, cooperation and actions of stakeholders, the Kansas Department of Health and Environment (KDHE) and the EPA. The Air Quality Improvement Task Force will provide regular communication and updates on progress to the EPA.

1. Introduction

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. There are more than 52,700 adult asthma sufferers in the Wichita MSA. Children and the elderly make up 20% (124,961 individuals) of the overall population in the four county region. The ozone standard is designed to protect the most sensitive groups in our population.

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 Wichita 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.

1.2 GEOGRAPHICAL BOUNDARIES

The EPA may designate all or part of the Wichita MSA as a nonattainment area, even if only one monitor in the MSA violates the National Ambient Air Quality Standards (NAAQS). The entire Wichita MSA includes Butler, Harvey, Sedgwick and Sumner Counties. Ozone is monitored at three locations in the Wichita MSA:

1. **Peck** at the Sedgwick and Sumner County line
2. **Wichita Health Department** in central Wichita
3. **Sedgwick** in northwest Sedgwick County

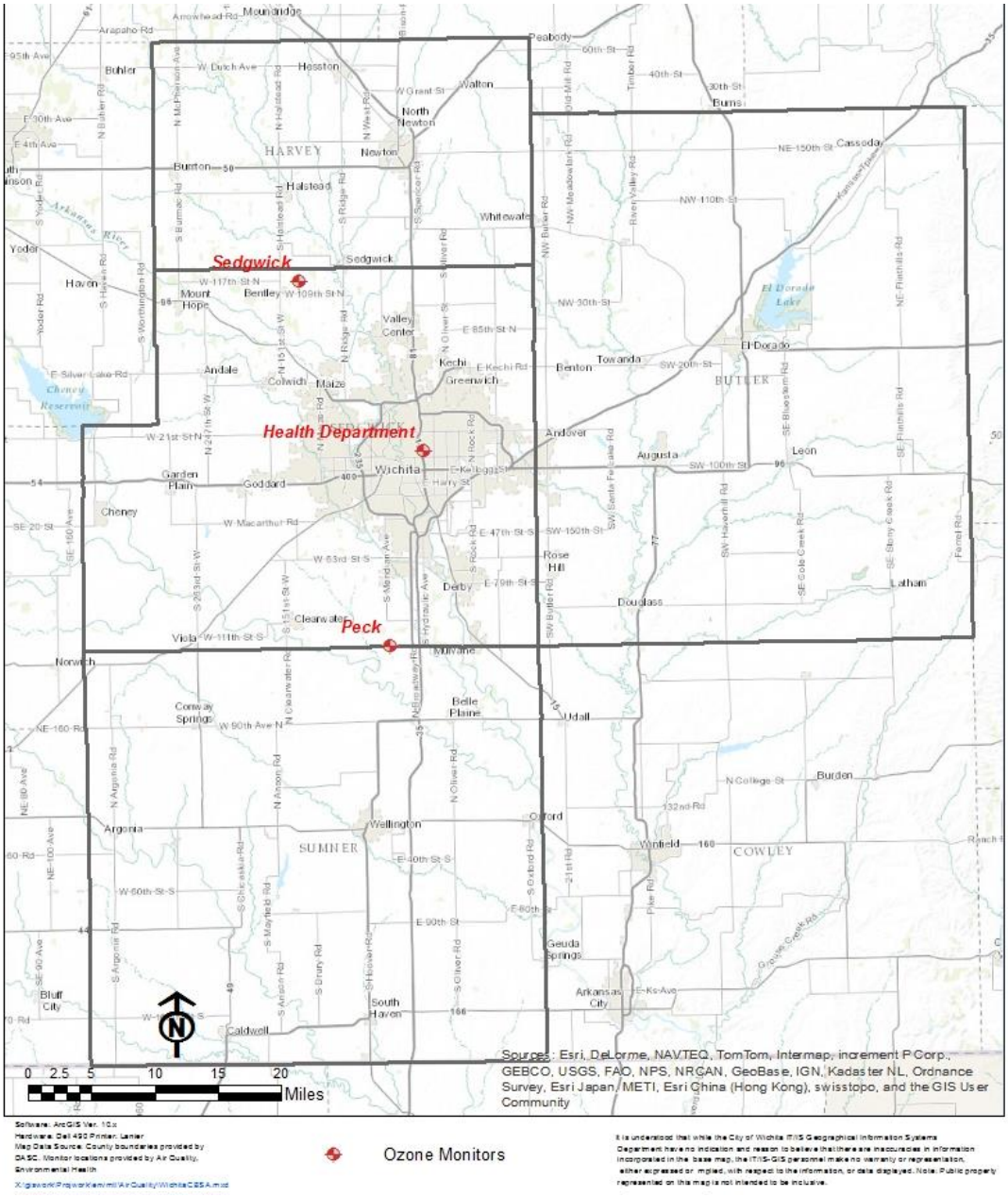


Figure 1. Map of the ozone monitor locations in the Wichita MSA; Butler, Harvey, Sedgwick and Sumner Counties.

The four counties of the Wichita MSA are home to 628,242 residents (Table 1). The largest city is Wichita, 382,368 residents, who enjoy overall cost-of-living below the national urban average and grade "A" public education (US Chamber of Commerce). Wichita is known as the "Air Capital of the World" because of the more than 350 aerospace companies and 54,000 manufacturing employees, twice the national average in manufacturing workers per capita.

Table 1: 2012 US Census Bureau Population Estimates for the four counties within the Wichita MSA.

2012 Population Estimates from the U.S Census Bureau	
Sedgwick	503,889
Butler	65,827
Harvey	34,852
Sumner	23,674
Wichita MSA	**628,242**

In the Wichita MSA, 80% of the population lives in Sedgwick County. 22,606 residents travel from Butler, Harvey or Sumner County each day to work in Sedgwick County. These three counties make up 9% of the total Sedgwick County workforce, and contribute to the total number of vehicle miles traveled throughout the Wichita MSA.

1.3 STAKEHOLDER ENGAGEMENT

In order to complete the Ozone Advance Path Forward, stakeholders were asked to provide feedback about which emission reduction activities they would be willing to support and adopt. During the summer of 2013, in focus groups and online, 253 stakeholders participated in the engagement opportunity. Participants were given a list of proposed ozone-forming emission reduction strategies and were asked to prioritize and indicate their willingness to adopt or support each strategy.

Road projects that increased traffic flow and reduced idling times for motor vehicles was voted the "Most Important" action that will decrease ozone-forming emissions, out-ranking the next most popular, Public No Idling Campaigns, by 56%.

52% WERE WILLING TO IMPLEMENT ENERGY EFFICIENT PRACTICES LIKE CAULKING TO SEAL LEAKS, INSTALLING ENERGY EFFICIENT WINDOWS, AUTOMATED THERMOSTATS, ENERGY STAR APPLIANCES, PROPER INSULATION, AND CFLs .

VESA Survey, 2011

The three most popular strategies that participants indicated as important and that they were willing to take action on were:

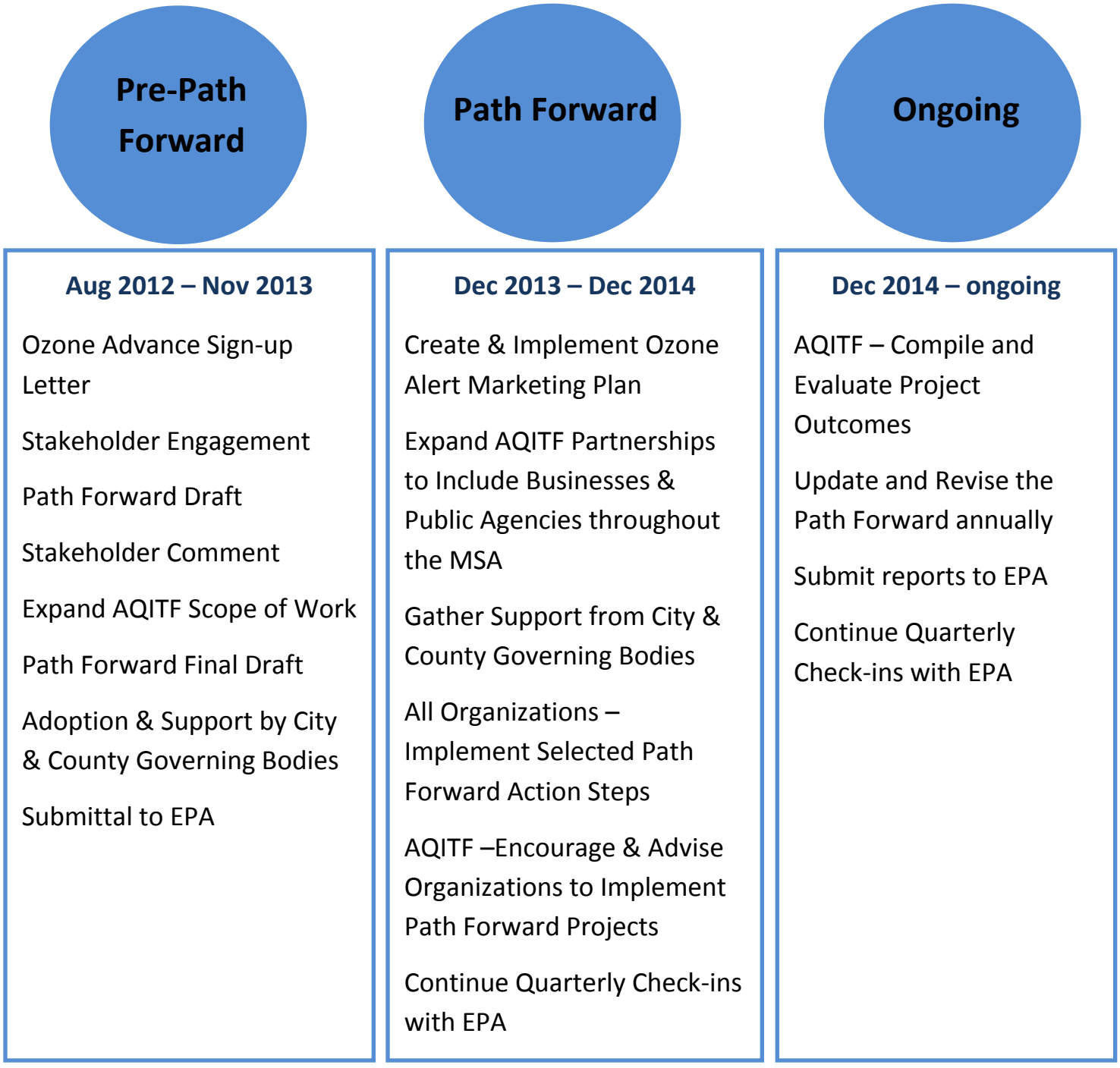
1. **Public No Idling Campaigns.**
2. **Public Participation in Ozone Alert Day Activities.** (Ozone Alert Day Activities include no mowing, fueling early or late, reduced trips in the car, etc.)
3. **Development or Support of Alternative Fuels Infrastructure.**

Although, not deemed "most important," some strategies received high marks for willingness to participate.

- Support biking and walking infrastructor in our region.
- Plant native grasses and support natives being planted in public areas for reduced watering and mowing.
- Implement energy efficiency projects at home and at work.
- Implement a School No Idling Campaign.

A detailed report on the Stakeholder Engagement Process can be found in Appendix B of this document.

1.4 Project Timeline



2. Air Quality in the Wichita MSA

2.1 Current Ozone Status

In 2008, in order to protect human health and the environment, the Environmental Protection Agency (EPA) revised the federal ozone standard to 0.075ppm. In spring of 2013, the Wichita area was in compliance, or *in attainment* with the federal standard for ozone. 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 0.075ppm limit during ozone season (April 1 – October 31.)

Table 2 and Figure 2 show design values from 2007 through 2013 at each ozone monitor. The 3-year averages for 2010-2012 and 2011-2013 each exceed the 0.075ppm standard. However, during this time the EPA is reassessing the 8-hour ozone standard to determine if it is adequate to protect human health. While the assessment is in progress no nonattainment designations are being determined.

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

Wichita MSA Monitoring Sites	07-09	08-10	09-11	10-12	11-13	Critical Value 2014
Peck	0.070	0.072	0.075	0.077	0.076	0.076
Health Dept.	0.066	0.071	0.074	0.077	0.075	0.077
Sedgwick			0.073	0.077	0.077	0.077

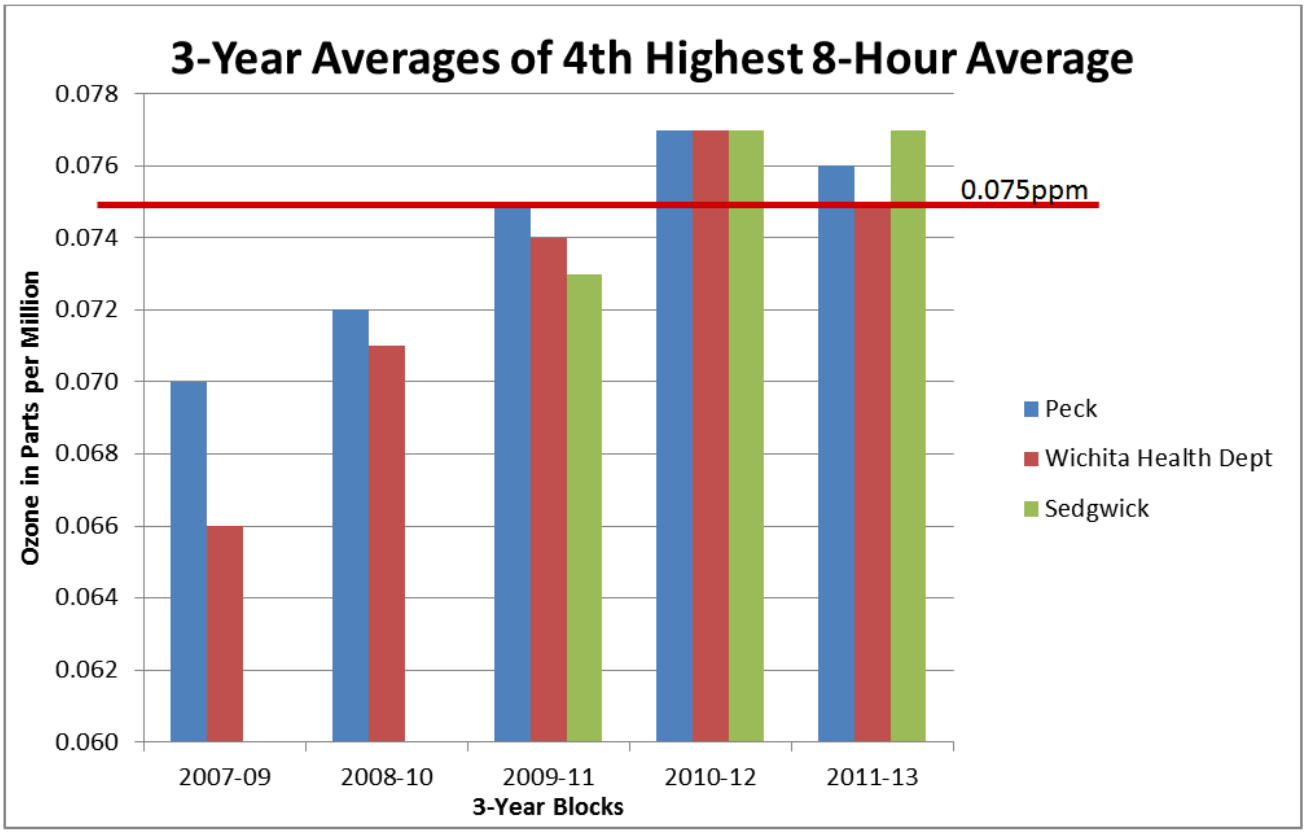


Figure 2. 3-year average of the fourth highest 8-hour ozone reading, in ppm, at each of the three ozone monitors in the Wichita MSA.

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, which increased the 3-year averages in which the measurements are a part. The critical values that, if exceeded in 2014, will push the 3-year average over the 0.075ppm standard are 0.076ppm at Peck and 0.077ppm at the Health Department and Sedgwick.

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

2.3 NOx Emissions

The majority of NOx emissions in all four Wichita MSA counties come from onroad sources, which are the cars, trucks and motorcycles that drive on the roadways every day for business and personal trips (Figure 2).

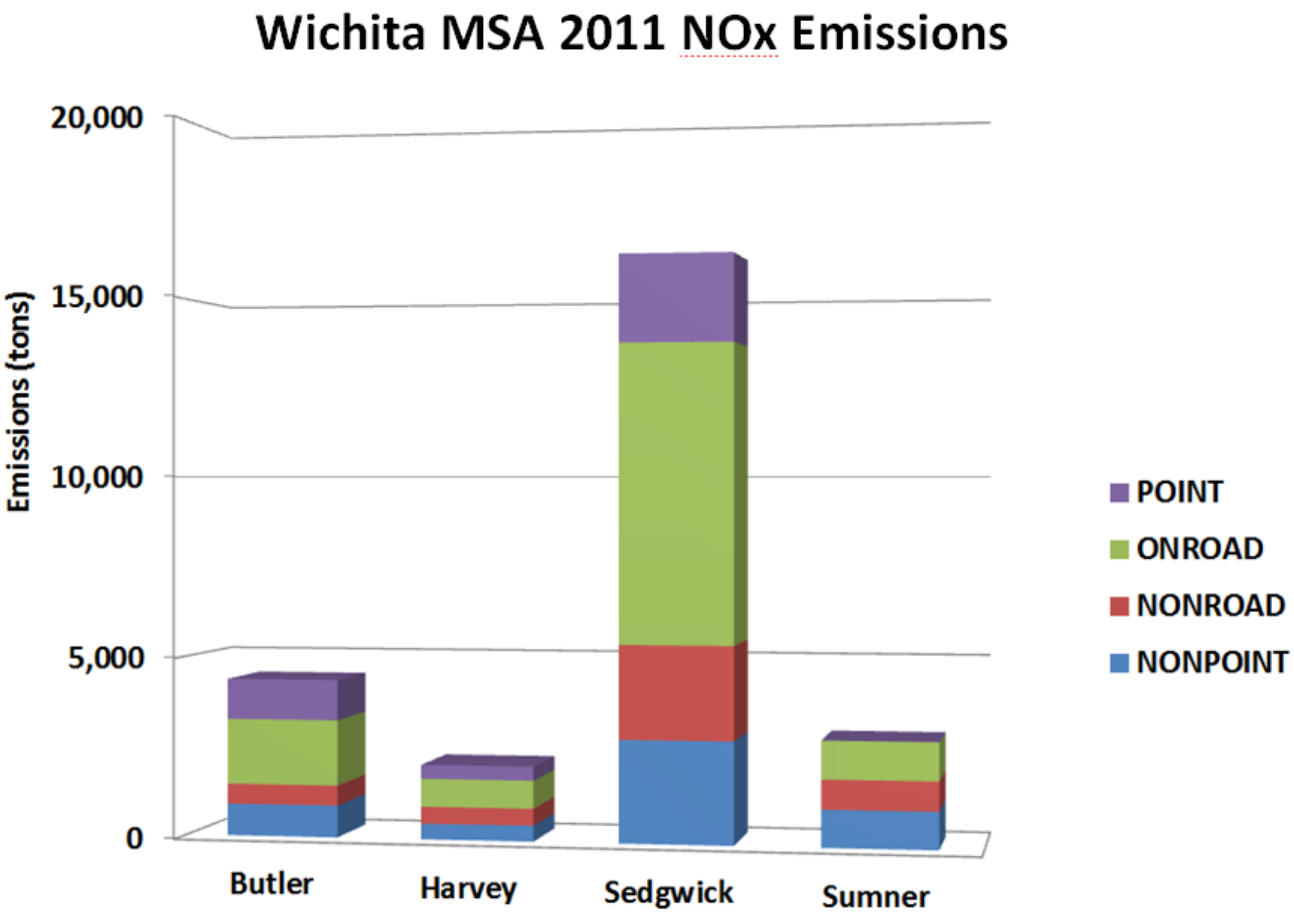


Figure 2. Source: 2011 Kansas Emissions Inventory and Draft NEI Mobile Source Emissions. NOx emissions in tons by county.

Point source NOx emissions come from a variety of sources. Utilities and Petroleum and Coal Manufacturing are the largest point source contributors, followed by chemical manufacturing, pipeline transportation and transportation equipment manufacturing (Figure 3).

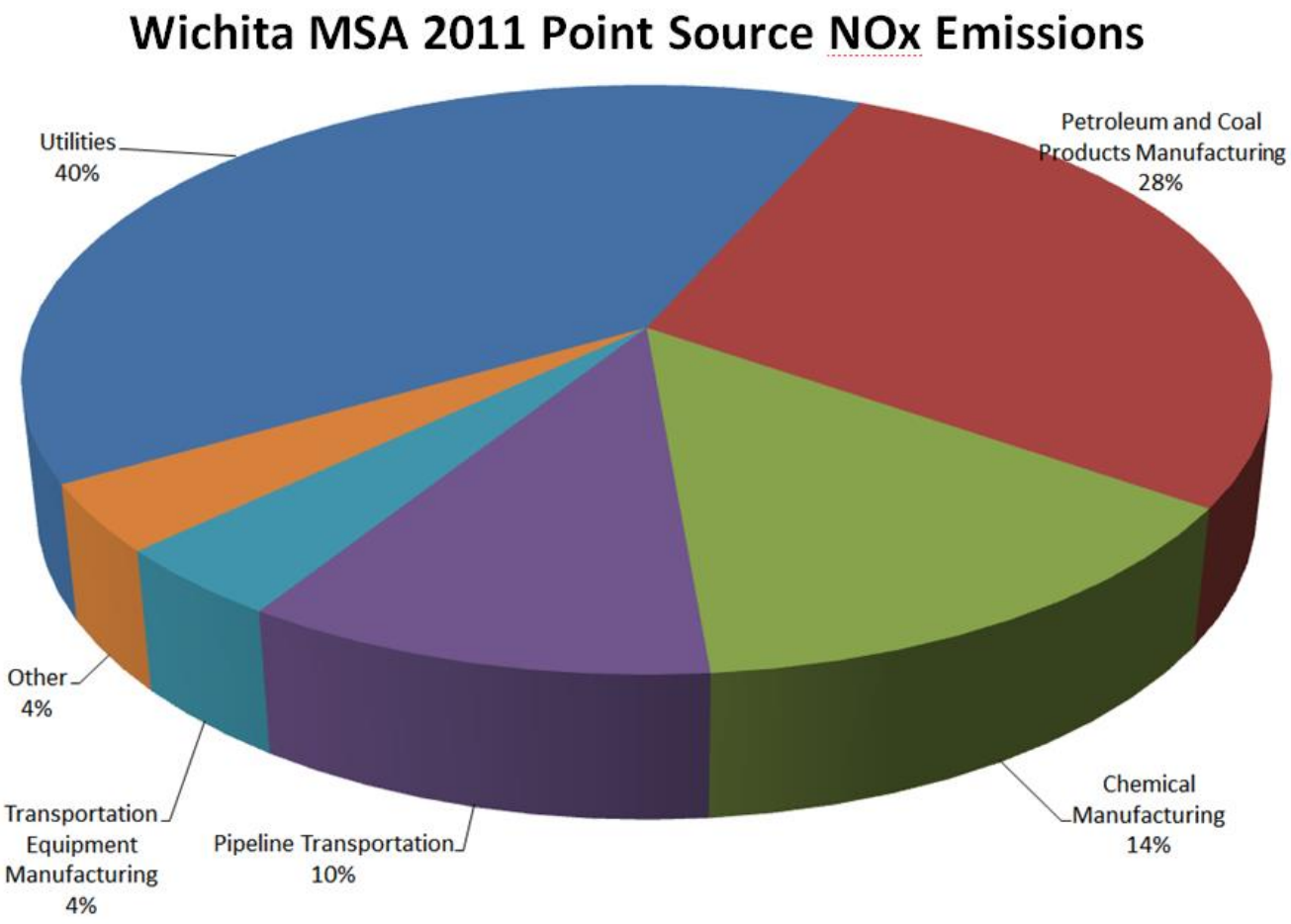


Figure 3. Source: 2011 Kansas Emissions Inventory and Draft NEI Mobile Source Emissions. NOx emissions from Point Sources in the Wichita MSA.

2.3 VOC Emissions

The majority of VOC emissions in all four Wichita MSA counties come from stationary nonpoint sources that are not required to file an operation permit with KDHE (Figure 4).

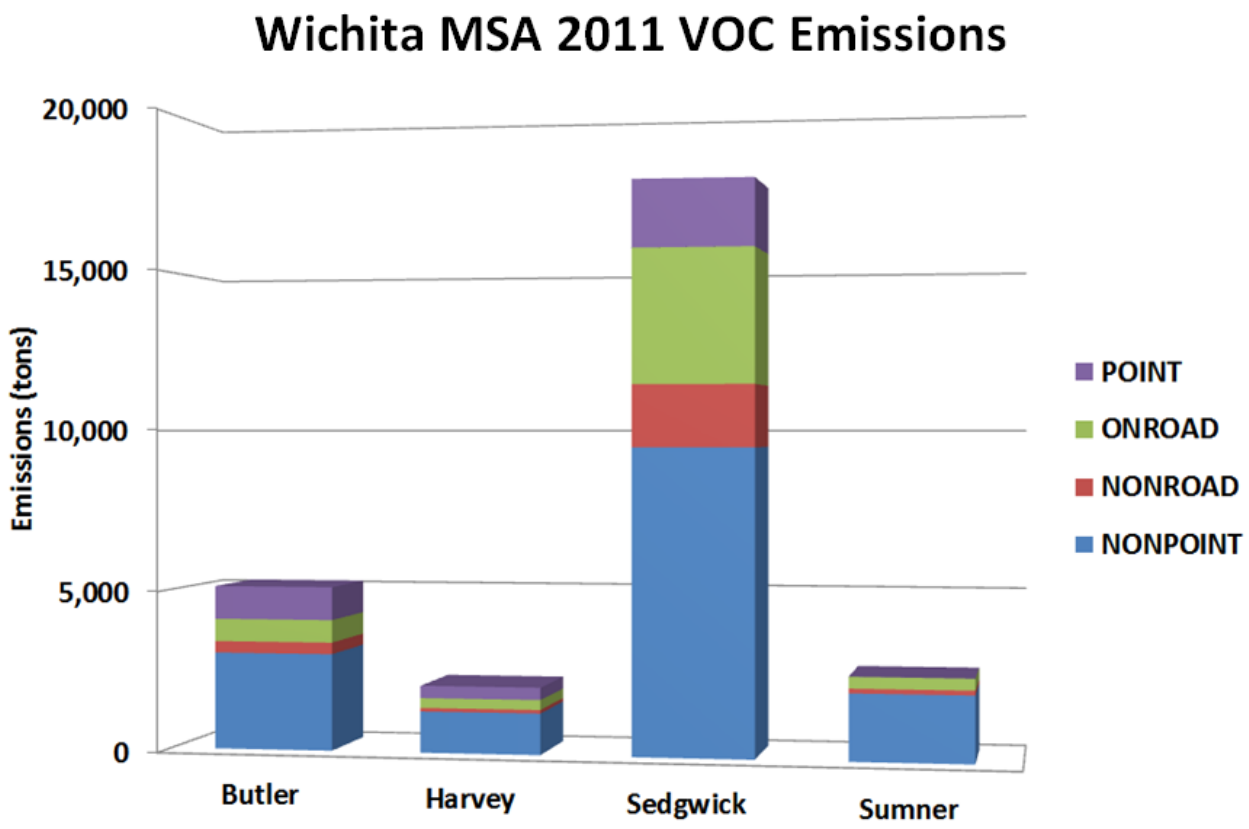


Figure 4. Source: 2011 Kansas Emissions Inventory and Draft NEI Mobile Source Emissions. VOC emissions in tons by county.

Solvent use at facilities that are not regulated by an emissions permit make up 43% of the VOC emissions in the Wichita MSA (Figure 5).

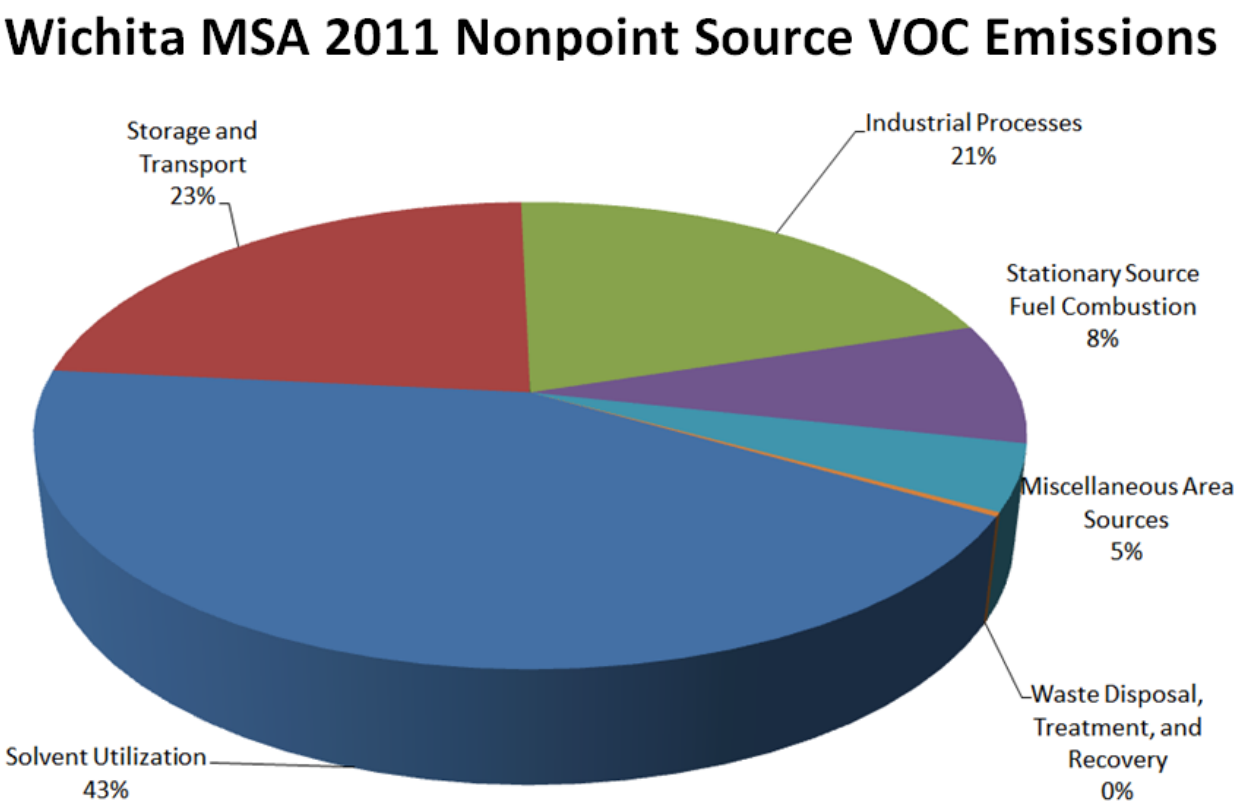


Figure 5. Source: 2011 Kansas Emissions Inventory and Draft NEI Mobile Source Emissions. VOC emissions from Nonpoint Sources in the Wichita MSA.

3. Voluntary Control Measures

3.1 Past Voluntary Control Measures

There are a number of projects that reduce ozone-forming emissions that entities in the Wichita MSA have completed or that were established and are ongoing.

- **Railroad bridges** were built over five arterial streets, and five existing at-grade street crossings were permanently closed. The resulting structures allow traffic to pass beneath the tracks eliminating 4.2 million hours per year of waiting on trains, the equivalent of seven lifetimes. In addition, the reduced idling saves 3.8 million gallons of fuel per year, also reducing vehicle emissions.
- **Synchronization** of 412 traffic lights throughout Wichita reduce ozone precursors and alleviate traffic congestion by reducing the time that vehicles are forced to idle at stops.
- Installation of **Intelligent Transportation System** (ITS) equipment has been completed on 31 miles of Wichita's highway system. Advanced sensor, computer, electronics, and communications technologies provide travelers up-to-the-moment information to improve the flow of traffic. Ozone alert messages are broadcast on appropriate days. Drivers can check up to the moment highway traffic status at **WICHway**. WICHway provides information about incidents, congestion and other Wichita metro highway problems thus allowing drivers to make informed decisions regarding their travel plans. This reduces vehicle emissions by creating a more efficient transportation system.
- In 2008, 2009 and 2010 the following improvements were made through the **Kansas Clean Diesel Program**: 103 DOC/CCV, 184 FOHs, 25 vehicle replacements, 25 APUs, and 2 repowers.
- **No idling policies and idle reduction zones** have been established at numerous MSA businesses and agencies: The City of Wichita, Wichita Public Schools, Westar, Spirit, Beechcraft, WSU, OxyChem, K-State Extension and the PPI, City of ElDorado, Clean Cities, Ryan Lawn and Tree, Tornado Transit, and more.

  All Wichita Public Schools are using signage, awareness and education tools. "No Idle Zone" signs have been posted at bus loading and unloading areas. Wichita Public Schools, USD#259, the largest school district in Kansas, provides transportation to 16,500 students in 540 buses daily. USD #259 began their no idling program in 2012 with a few participating schools and quickly expanded its policy to all 83 schools in the district. The overall goal is to have every school district within the Wichita MSA in the School Zone No Idling Program. Using the EPA's "**Fuel Saving Calculator**", if 550 buses reduced idling by 30 minutes each day USD #259, alone, would save 24,750 gallons of fuel each year and $99,000 (estimated $4 per gallon fuel cost).Air quality data analysis is planned to determine the effectiveness of the project.

- City and County government have added and continue to add **hybrid replacement vehicles** that are more fuel efficient to their fleets. The City of Wichita and Sedgwick County have decreased their budgets for gasoline for 2013.
- The **Wichita Bicycle Master Plan** was developed with input from more than 2,000 individuals. The Plan includes a network of 123 miles of paths. 123 miles of commuter paths would save 0.759 pounds of hydrocarbons and 0.377 pounds of NOx per day per cyclist. The Wichita Bicycle Master Plan guides City 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.
- The Wichita Visioneering Environmental Sustainability Alliance (VESA) focuses on efforts that bring the community together to discuss sustainability initiatives. VESA has developed a **Sustainability Action Plan** that emphasizes responsible growth and conservation as well as education, involvement, and coordination. Six priority environmental issues were identified by the VESA committee, including Air Quality. The Committee developed the following as a preferred future for Air Quality; "Assure optimum air quality that has no negative impact on the health of humans, natural ecosystems, and economic development." To achieve this preferred future the VESA Air Quality focus group developed the following benchmarks to measure successful implementation:
    - Personal Vehicle Miles Traveled
    - Ambient Air Quality Measurements
    - Asthma and/or respiratory illness statistics
- The Wichita Area Metropolitan Planning Organization (WAMPO) **Metropolitan Transportation Plan 2035** includes a commitment to **Complete Streets**, a roadway design that keeps all users in mind so that the road network is safe for all types of transportation – including bicycles, public transportation, and pedestrians of all ages and abilities.
- One **public electric vehicle charging station** was installed in 2011 at the Westar Energy Operations Center, 100 N. Broadway, Wichita, KS.
- **Clean Air Car Clinics** are voluntary vehicle emissions testing and gas cap seal checks. Since 60% of the ozone forming emissions come from onroad vehicles, Car Clinics help car and truck owners monitor vehicle performance in order to reduce pollution sources. Clean Air Car Clinics have been held every summer since beginning in 1998. In 2013, 85 cars were checked for potential pollutant and car maintenance concerns. Each driver's results help them make vehicle maintenance choices that increase mileage and reduce emissions. Less than 5% of vehicles fail testing. In the gas cap replacement program to reduce vapor emissions from vehicles, less than 5% of vehicles fail testing.

53% of VESA Survey responders indicated that smart growth was a key action step for the Wichita Community. This includes accommodations for transit, bicycles and pedestrians while promoting compact neighborhood development.

VESA Survey, 2011

3.2 Current Voluntary Control Measures

There are a number of programs and projects currently in progress in the Wichita MSA that focus on reducing ozone-forming emissions. Many projects are led by the AQITF in cooperation with the City of Wichita. The next phase of the Ozone Advance project is to increase the reach of current projects where applicable to the entire Wichita MSA.

Strategy	Impact	Performance Measure	Target Date	Lead Agency
Ozone Alert Education Program - Education and outreach campaigns for Ozone Alerts throughout the Wichita MSA. Utilize EnviroFlash tool for public notifications.	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 users of the Ozone Alert (EnviroFlash) system Number of acres not mowed on Ozone Alert Days as reported by local governments Number of Ozone Alert (EnviroFlash) sign-ups	Ongoing	AQITF, City of Wichita Environ-mental Health (EH)
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
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 mass transit incentives to reduce on-road traffic on potentially high ozone days. Travel Trainings will provide knowledge and skills to new riders so that they are able to 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 Travel Training bus passes used throughout ozone season Number of bus riders during Free Fares Week 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

Wichita Bicycle Master Plan - The Wichita Bicycle Master Plan guides City 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	Ongoing	Wichita-Sedgwick Co WAMPO, City of Wichita EH, Wichita Bicycle & Pedestrian Advisory Board
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, Extension
School Zone No Idling Campaigns - Provide templates and promote no idling policies for all schools and school districts in the Wichita MSA.	USD #259 began their no idling program in 2012 with a few participating schools and quickly expanded its policy to all 83 schools in the district. The overall goal is to have every school district within the Wichita MSA in the School Zone No Idling Program.	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
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	Ongoing	City and County governments, businesses, etc.

Vanpool Plan Study - Assess the feasibility, cost effectiveness and potential participation for a regional employer vanpool program for Wichita Transit.	Vanpooling can reduce the number of individual cars on the road by combining employees who live near each other and drive to the same employer for work each day. Vanpooling reduces NOx and VOC emissions due to fewer vehicles on the road.	Number of vanpooling programs Number of individual participants in the program Number of vehicle miles saved Tons of NOx and VOCs saved	2014	Wichita Transit, City of Wichita EH, WAMPO, Local Employers
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	Kansas State Pollution Prevention Institute, AQITF
Open Burn Education and Restrictions - Provide information and education regarding regulations and air quality Best Management Practices for open burning.	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. Non-agricultural open burns are prohibited in April when agriculture burns are prevalent in order to decrease ozone precursors. Ozone Alert Days are also considered no burn days.	Number of open burn applications approved Number of burn sites inspected Number of burning violations	Ongoing	Sedgwick County, City of Wichita EH, KS Smoke Management

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
Local Food Program - Education community on benefit of sourcing food locally, reducing miles traveled by food and consumers.	Decreased emissions from decreased food miles traveled for consumers who shop at local farmers markets. Decrease food miles traveled due to growing food at home.	Number of farmers market shoppers. Number of miles saved by shopping at farmers markets or growing food at home.	Ongoing	Kansas Grown Farmer's Market

3.3 Potential Voluntary Control Measures

These action steps are projects, programs and strategic plans that may be established after additional partnerships, community engagement, research, and funding are completed. The guidance and promotion of these steps will be led by the Air Quality Improvement Task Force.

Workplace Partnership

Impact:
Increased adoption of ozone best practices by employees through workplace education and incentive programs.

Type of Initiative: Nonpoint Source and Onroad Emission Reduction; Education and Outreach

Description: Using the Mid-America Regional Council's Workplace Partnership model, the AQITF will create a program that engages top emitters, medium- and small-size businesses in the Wichita MSA to establish a network of employers and employees who care about clean air and take action to reduce NOx and VOC emissions.

Through the leadership of the AQITF, this network of business and industries will aim to change the corporate culture within our area to be air aware and active. This program may include car- or van-pool programs, awards, free access to workshops and trainings, preferred status for City job bids, an air quality flag program, educational materials for employees and recognition.

Through the workforce initiative the AQITF will be able to engage, educate and enlist businesses to partner in the overall mission and work of the Path Forward. Specific and strategic goals can be met as local government and industry work together.

Potential Implementers: Air Quality Improvement Task Force, Local Employers, Local Health Agencies

Co-benefits:

- Increased public awareness
- Buy-in from large employers
- Pressure from knowledgeable employees on employers to make changes for clean air
- Increased participation in other air initiatives
- Increased awareness and engagement in other environmental concerns (water, soil, etc)

Model Contracts for Public Projects – including landscape services

Impact:
Reduced air quality impacts due to model contracts that include low emissions specifications for contractors, including landscape services.

Type of Initiative: Nonpoint and Onroad Emission Source Reductions, Model Contract or Policy (Voluntary Adoption); Education and Outreach

Description: Develop model contracts for use by public agencies or private business containing emissions performance specifications for projects above a certain size/cost threshold. Model contracts could include specifications such as: emissions limits, equipment & vehicle performance requirements, a points system that rewards clean diesel equipment & vehicles (which could include alternative fuel options) while remaining consistent with the requirements of best-value contracting.

Model landscape services guidelines will reduce air quality impacts of landscaping services. The model would include best practices such as age or type of equipment (lawnmowers, leaf blowers, etc.), limiting usage times, no mowing on Ozone Alert days, and preferred landscape plans that include low water use plants.

Potential Implementers: Local Governments, Businesses, Industry

Co-benefits:

- Reduced fuel and energy costs for contractors
- Improved worker health and safety
- Agencies "practicing what they preach," which increases public satisfaction
- Reduced water use

Promote and Support the Wichita Pedestrian Master Plan

Impact:
Increased number of citizens who walk to work, errands, school, etc. due to increased accessibility and safety of walking infrastructure.

Type of Initiative: Onroad Emissions Source Reduction; Infrastructure Investment, Policy and Programs

Description: The Wichita Pedestrian Master Plan is in the development phase as of April, 2014. The Plan is a guide for how the City can make it easier, safer and more convenient to get around on foot. The plan guides the provision of walking related infrastructure, policies and programs. Increased ease and convenience of walking routes will increase the number of walkers and decrease the number of vehicle users.

Potential Implementers: City of Wichita, Local Businesses, Community

Co-benefits:

- Increased health for those who walk to work, school or on errands
- Reduced road traffic
- Fuel cost savings

Road Improvement Projects and Policies

Impact:
Decreased idle times that result from bottlenecks will decrease ozone-forming emissions from onroad vehicles.

Type of Initiative: Onroad Emission Source Reduction; Road Policy and Congestion Mitigation Projects

Description: Alleviating congestion that increases drive-time and fuel consumption will decrease ozone formative emissions. The early phase of the MOVE 2040 long-range transportation plan indicates that air quality and reducing congestion will be an important part of the long-range plan. The final plan is scheduled to be completed by spring of 2015.

Potential Implementers: Local City and County Governments, Wichita Area Metropolitan Planning Organization, Transportation Boards

Co-benefits:

- Fuel cost savings
- Reduced stop and go traffic, which reduces car accidents and pavement wear

Travel Systems Management

Impact:
Decreased idle times that result from traffic signals.

Type of Initiative: Onroad Emission Source Reduction, Public Works & Utilities Project

Description: Well-timed traffic lights reduce vehicle idling time, which decreases ozone-forming emissions. Traffic lights adjusted so traffic flows efficiently with limited idling for the greatest number of cars decreases onroad emissions.

Potential Implementers: Local City and County Governments, Wichita Area Metropolitan Planning Organization, Transportation Boards

Co-benefits:

- Fuel cost savings
- Safe onroad environment
- Reduced pavement wear from stop and go traffic

Expansion & Update to the Wichita Transit System

Impact:
System –wide improvements, increase Wichita Transit riders, decrease number of onroad vehicles.

Type of Initiative: Onroad Emission Source Reduction, Research, Planning and Services Development

Description: As of 2014, the City of Wichita Transit System has 49 buses in its fleet and 1.95 million riders annually. Wichita Transit has developed a comprehensive plan to update and expand the current transit offerings. This Plan is for an improved base system linking fixed routes to suburbs or improving commuter services to the suburbs. There is also a planned increase in operating hours and some Sunday service. Phase 1 of the plan anticipates a 10% increase in ridership, and a total of 35% after the Final Phase is complete. Increased ridership for Wichita Transit will take individual cars off the road.

Potential Implementers: Wichita Transit

Co-benefits:

- Increased bus ridership
- Decreased number of cars on the road
- Decreased fossil fuel consumption
- Reduced fuel costs

Wichita Transit Switch to Alternative Fuel

Impact:
Increase transit availability and convenience increases ridership, and for every transit rider there is one less driver on the road.

Type of Initiative: Onroad Emissions Reduction, Planning and Services Development

Description: Based on the results of the Mass Transit Alternative Fuels feasibility study, the City of Wichita Transit will take cost effectiveness, air quality, fuel efficiency and maintenance into consideration to determine whether the purchase of CNG buses, retrofitting the current fleet or continuing with traditional diesel buses is the most environmentally beneficial and cost effective choice. Purchase and use of alternative fuel busses will take place if cost and environmental effectiveness is determined as positive.

Potential Implementers: Wichita Transit

Co-benefits:

- Decreased fuel costs
- Decreased maintenance costs
- Reduced pollution in high traffic centers and high population areas where buses frequently travel

Air Quality Partnership Program

Impact:
Increased cooperation and partnerships with top emitters, and voluntary actions by large emitters.

Type of Initiative: Point and Nonpoint Source Emission Reduction, Outreach and Education, Policies and Guidelines, Public and Private Cooperation

Description: Using the foundation laid by the Air Quality Improvement Task Force, the Workplace Partnership Program and the Path Forward action steps, top ozone-precursor emitters will be identified and approached to join the partnership for clean air. The industries and businesses will be invited to join and work on projects that reduce ozone-forming emissions in their own products and processes. All initiatives will be voluntary, but will create a spirit of collective effort that can be creatively implemented and celebrated throughout the Wichita MSA.

Potential Implementers: Air Quality Improvement Task Force, Industry, Business

Co-benefits:

- Increased public and private communication and trust
- Increased health for those living near participating industries and businesses

Alternative Fuels Infrastructure

Impact:
Increased cooperation and partnerships with top emitters, and voluntary actions by large emitters.

Type of Initiative: Onroad and Nonroad Emission Reductions, Policy Guidelines

Description: Promote and develop alternative fuel vehicles and infrastructure. Support the addition of alternative fuel vehicles to fleet and private use of compressed natural gas, electric, propane, solar, etc. Currently, there is one public CNG station in Sedgwick County.

Wichita has a newly established Clean Cities Coalition. Clean Cities advances the economic, environmental, and energy security by supporting local actions to reduce petroleum consumption in transportation. Clean Cities has a local annual petroleum consumption reduction goal of 17%. Clean Cities will strive to achieve this by assisting businesses in implementation of idle reduction programs and deployment of alternatively fueled/electric vehicles into their fleets.

Potential Implementers: Local City and County Governments, Wichita Area Metropolitan Planning Organization, Clean Cities, Business, Industry

Co-benefits:

- Diversified energy system
- Increased health of citizens living near high traffic roadways

Energy Efficiency Programs

Impact:
Decreased energy usage decreases ozone-forming emissions from energy production.

Type of Initiative: Nonpoint Source Emissions Reduction, Education and Outreach

Description: Promote and demonstrate energy efficiency programs and technologies for agencies, business and private homes. Promote and support energy efficiency assessments at local businesses. A partnership may be developed with the Climate + Energy Project in summer 2014.

Potential Implementers: Air Quality Improvement Task Force, Local Governments, Business, Energy Suppliers, Community, Climate + Energy Project

Co-benefits:

- Decreased energy use
- Energy cost savings

Modeling Technologies

Impact:
Increased technologies allow increased forecasting accuracy and the ability to identify and target emission sources.

Type of Initiative: Research, study

Description: Ozone Forecast modeling technologies would allow the Wichita MSA to employ advance notification systems and increase public alert opportunities.

Emission source modeling would allow the Wichita MSA to identify impacts of local emissions sources and potential control measures that would effectively reduce emissions and improve air quality at the source.

Potential Implementers: Air Quality Improvement Task Force, City of Wichita, Wichita MSA

Co-benefits:

- Increased data for project background or research

Appendix A

Air Quality Improvement Task Force Participant List, 2014

Stakeholder Affiliation
American Lung Association
Beechcraft Corporation
Boeing
Central Kansas Clean Cities/MACNG
Cessna Aircraft
Citizen Advocate
City of Derby
City of Newton
City of Wichita
Coleman Company
Environ
Environmental Protection Agency
ICM Inc.
Kansas Department of Health and Environment
Kansas Department of Transportation
Kansas State University Pollution Prevention Institute, SBEAP
Kansas University School of Medicine
KWCH, Channel 12
Newman University
OxyChem
Sedgwick County
Sierra Club
Spirit Aerosystems
Sumner County
Tram Co Inc.
Westar Energy
Wichita Area Metropolitan Planning Organization
Wichita Chamber of Commerce
Wichita Public Schools, USD 259
Wichita State University

Appendix B
Stakeholder Engagement for Ozone Advance Path Forward

In order to complete the Ozone Advance Path Forward, air quality stakeholders were asked to provide feedback as to which programs and actions they are willing and able to undertake in order to reduce ozone-forming emissions.

Prior to the Ozone Advance Engagement, great work was completed by multiple organizations and agencies that provided community input regarding air quality.

Organization/Agency	Engagement Method	Number Engaged	Year
Wichita Initiative to Renew the Environment (WIRE)	95 discussion groups in community	2,300	2009
Wichita Visioneering Environmental Sustainability Alliance (VESA)	Educational forums, regional public online survey	250	2011
Community Investments Plan	Statistically valid community-wide survey	4,100	2013

That information was combined with the feedback gathered by the Ozone Advance team from local stakeholder groups: American Lung Association's Better Breather's Club, Wichita Initiative to Renew the Environment (WIRE), Visioneering Environmental Sustainability Alliance (VESA), the Air Quality Improvement Task Force (AQITF), South Central Kansas Prosperity Natural Resources Work Team, the Consortium Leadership Team Meeting for the Prosperity Plan, agency personnel from CMSA counties and cities, Wichita Independent Neighborhoods and Senior Wednesday.

At stakeholder meetings an educational presentation was given on ozone health effects, monitoring and economic concerns of a nonattainment designation by EPA. Then, stakeholders were asked to participate in a prioritization exercise. Potential ozone reduction actions were listed and stakeholders were asked to indicate actions they supported. Feedback was also gathered via online public surveys through www.ActivateWichita.com and strategically emailed surveys. A total of 253 respondents voiced their thoughts, opinions and concerns for the Ozone Advance Path Forward Action Steps.

74.3% OF WICHITANS RESPONDING TO THE VESA SURVEY INDICATED THAT **PUBLIC EDUCATION IS IMPORTANT**. THIS INCLUDES PUBLIC ALERTS FOR POOR AIR QUALITY DAYS AND CAMPAIGNS TO INCREASE AWARENESS OF THE CONNECTION BETWEEN PERSONAL ACTIONS AND AIR QUALITY.

VESA Survey, 2011

During the summer of 2013, 253 stakeholders were given a list of proposed ozone-forming emission reduction strategies or actions and were asked to choose two or three actions for each of the questions below:

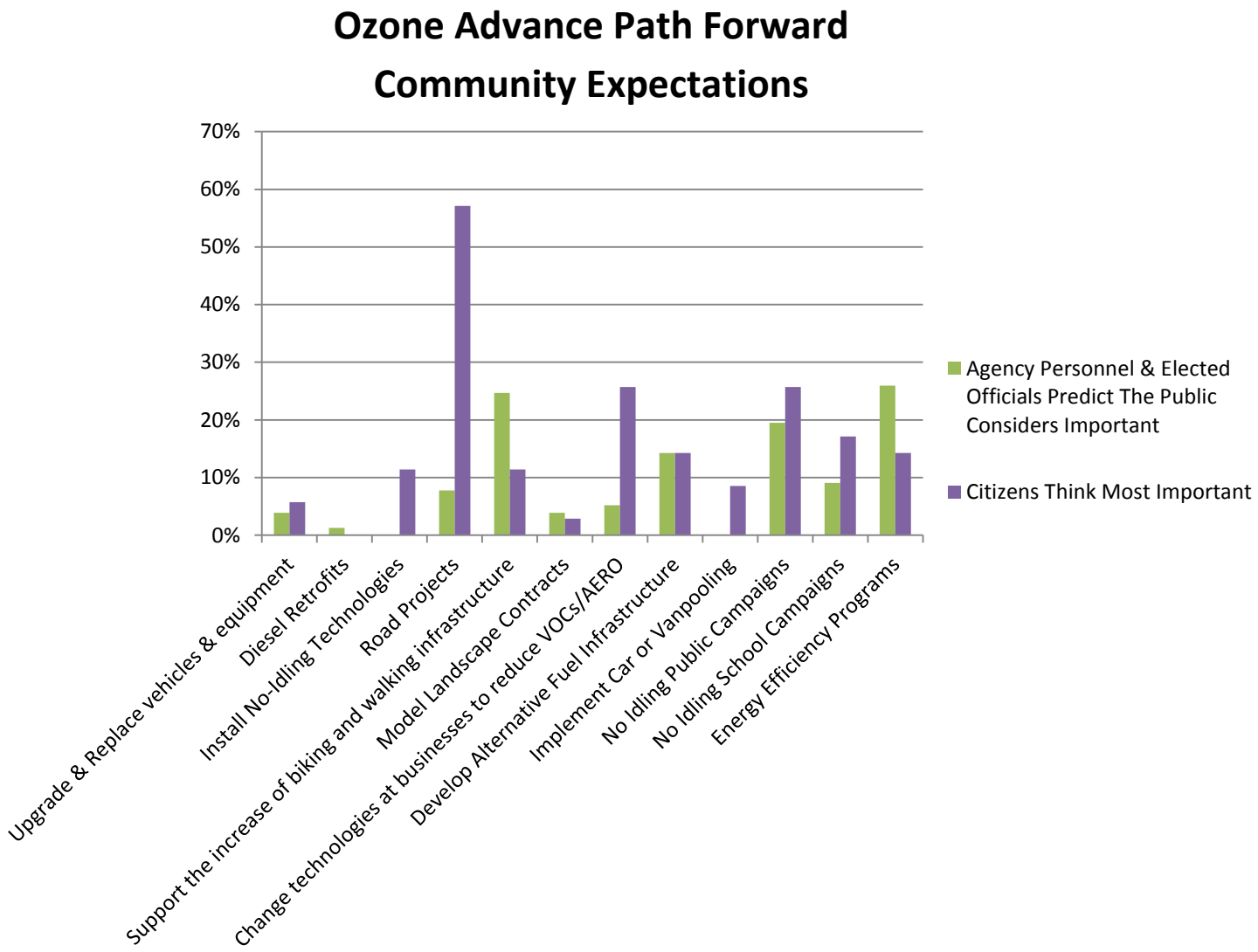
1) Which 2 actions do you feel are most important? Even if you do not have the ability to implement that action, which action would make the most difference in our community?
2) Which 3 actions are you, personally, willing to do or implement in your own life?
3) Which 2 actions do you find least important, consider impossible or "un-doable"?

The actions or strategies that the stakeholders voted on were:

- Upgrade & Replace vehicles & equipment
- Diesel Retrofits
- Install No-Idling Technologies
- Road Projects that decrease traffic
- Support biking and walking infrastructure
- Model Landscape Contracts
- Encourage businesses to reduce VOCs through educational programs
- Develop Alternative Fuel Infrastructure
- Implement Car or Vanpooling
- No Idling Public Campaigns
- No Idling School Campaigns
- Energy Efficiency Programs
- Expand Ozone Alert Days to entire CMSA
- Encourage homeowners to replace old lawn equipment
- Increase voluntary car emission and gas cap testing events
- Ozone Alert Day Actions (no mowing, refuel when cool)
- Plant native plants - reduced watering & mowing
- Develop more mass transit options

One additional question was asked to community leaders (representatives) and staff of local or state agencies. The question was: *What do you think the people you represent would consider most important for reducing ozone?* The purpose of this question was to compare expectations of what the community thought to what the community actually felt was important. See the "Ozone Advance Path Forward Community Expectations" graph on the next page.

RESULTS

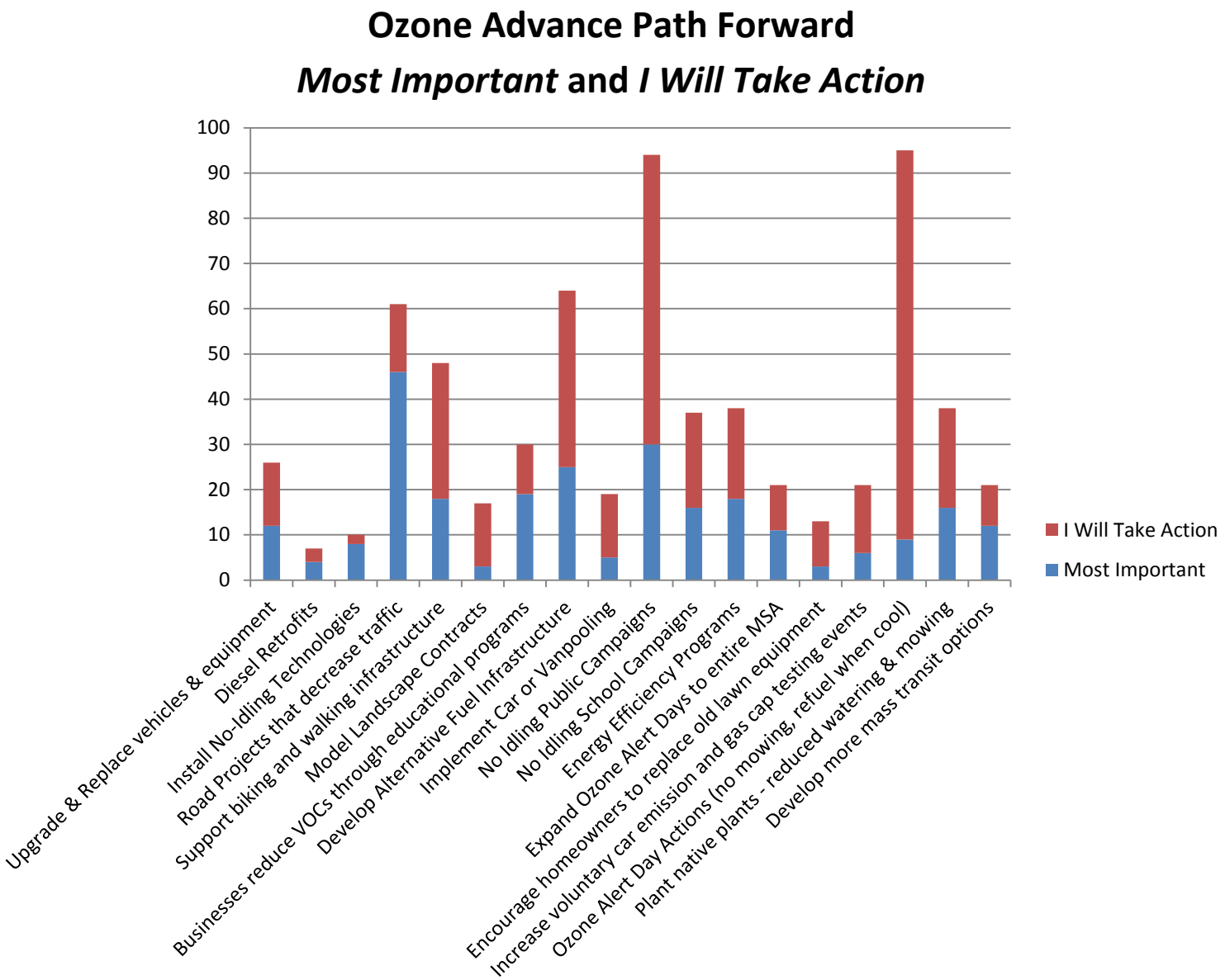


Results indicate that community leaders and staff significantly underestimated the community's interest in road projects and working with local businesses to implement technologies that reduce volatile organic compounds. At the same time the leaders and city/county staff overestimated the community's interest in energy efficiency programs and biking and walking infrastructure.

These results demonstrate why stakeholder engagement is important for getting community buy-in and participation. Since many of the action steps in this Path Forward Plan require the public to adopt or change their behavior to combat the non-point sources of ozone precursors, it is beneficial to find out the community's level of interest in these actions. Lack of community support at this time does not rule out implementation of public projects to reduce ozone, but it may indicate a need for increased awareness and educational efforts.

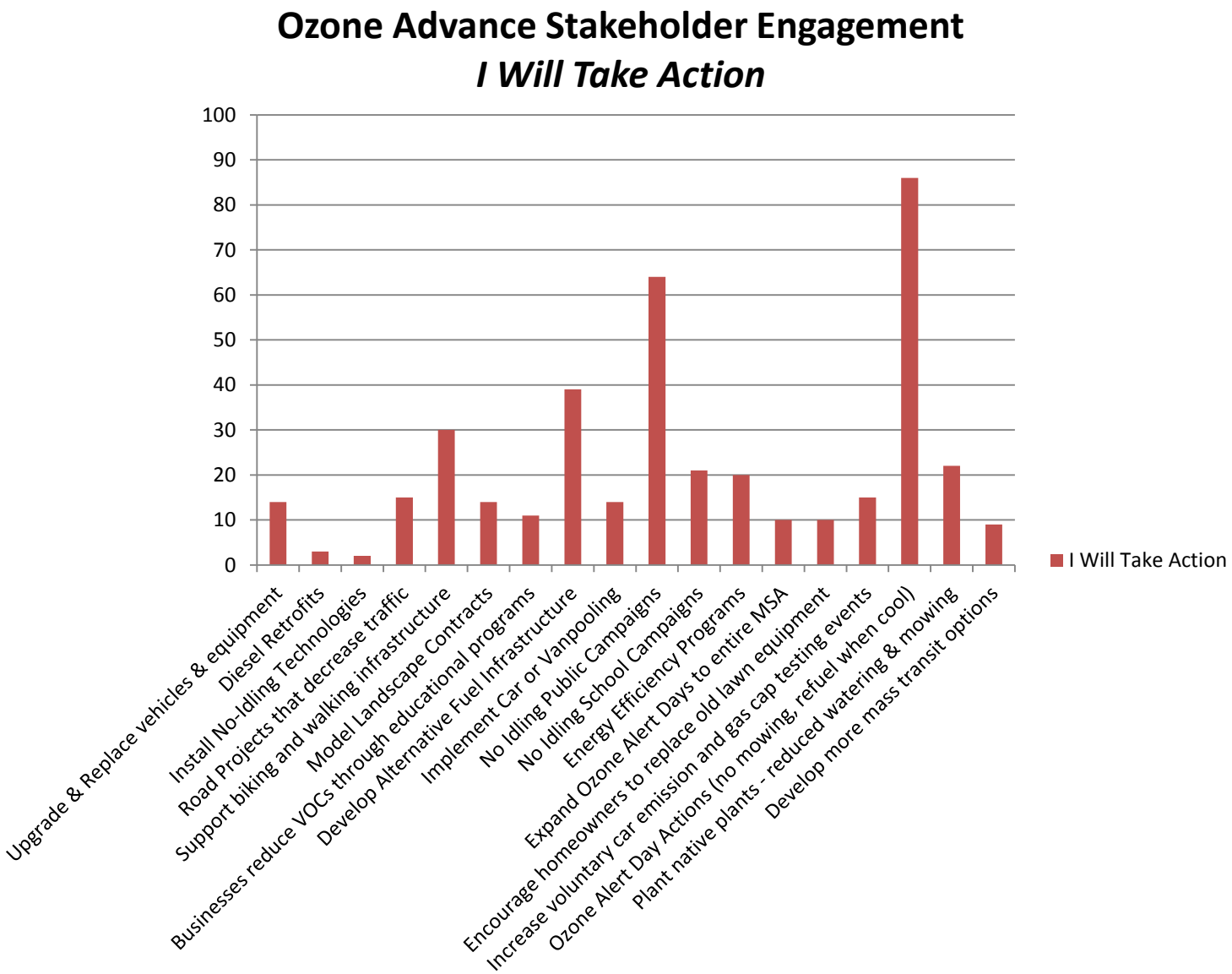
Overall, the data show that for many ozone reduction strategies the community is supportive and willing to participate in ozone actions. The three action steps below are favored by 38% of the votes as **"Most Important"** or because the individual believes that **"I Will Take Action**."

- 14% of the votes indicated that **Public No Idling Campaigns** are "Most Important" or the individual is "Willing to Do" this action.
- 14% of the votes indicated that **Public Participation in Ozone Alert Day Activities** is "Most Important" or individual is "Willing to Do" this action. Ozone Alert Day Activities include no mowing, fueling early or late, reduced trips in the car, etc.
- 10 % of the votes indicated that **Development or Support of Alternative Fuels Infrastructure** is "Most Important" or individual is "Willing to Do" this action.

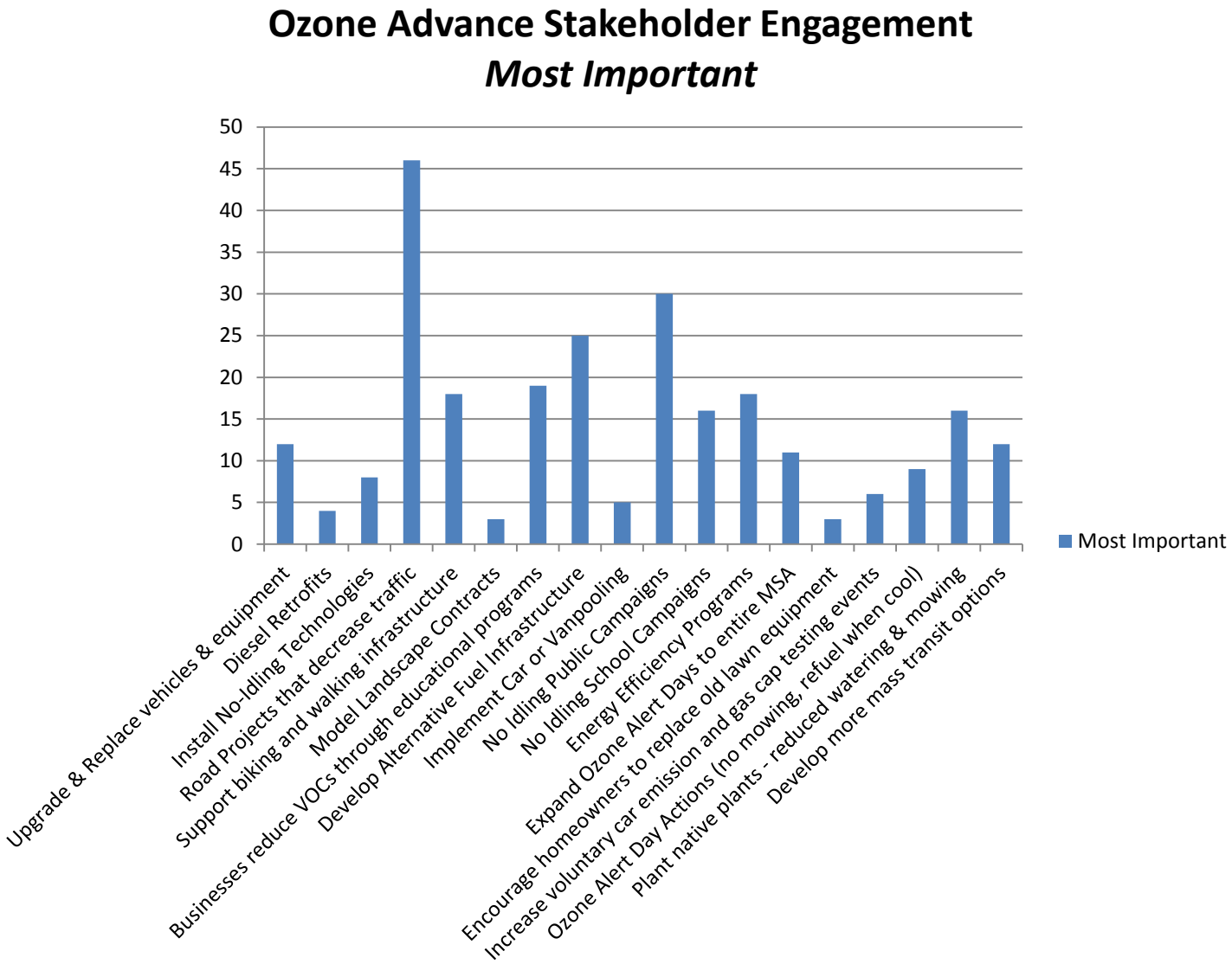


Although, not deemed "most important," some action steps received high marks for participation. The three actions listed above received 47% of the votes for "willingness to do." The next highest four action steps individuals were **"willing to do"** comprised 23% of the votes and were:

- Support biking and walking infrastructor in our region.
- Plant native grasses and support natives being planted in public areas for reduced watering and mowing.
- Implement a School No Idling Campaign.
- Implement energy efficiency projects at home and at work.



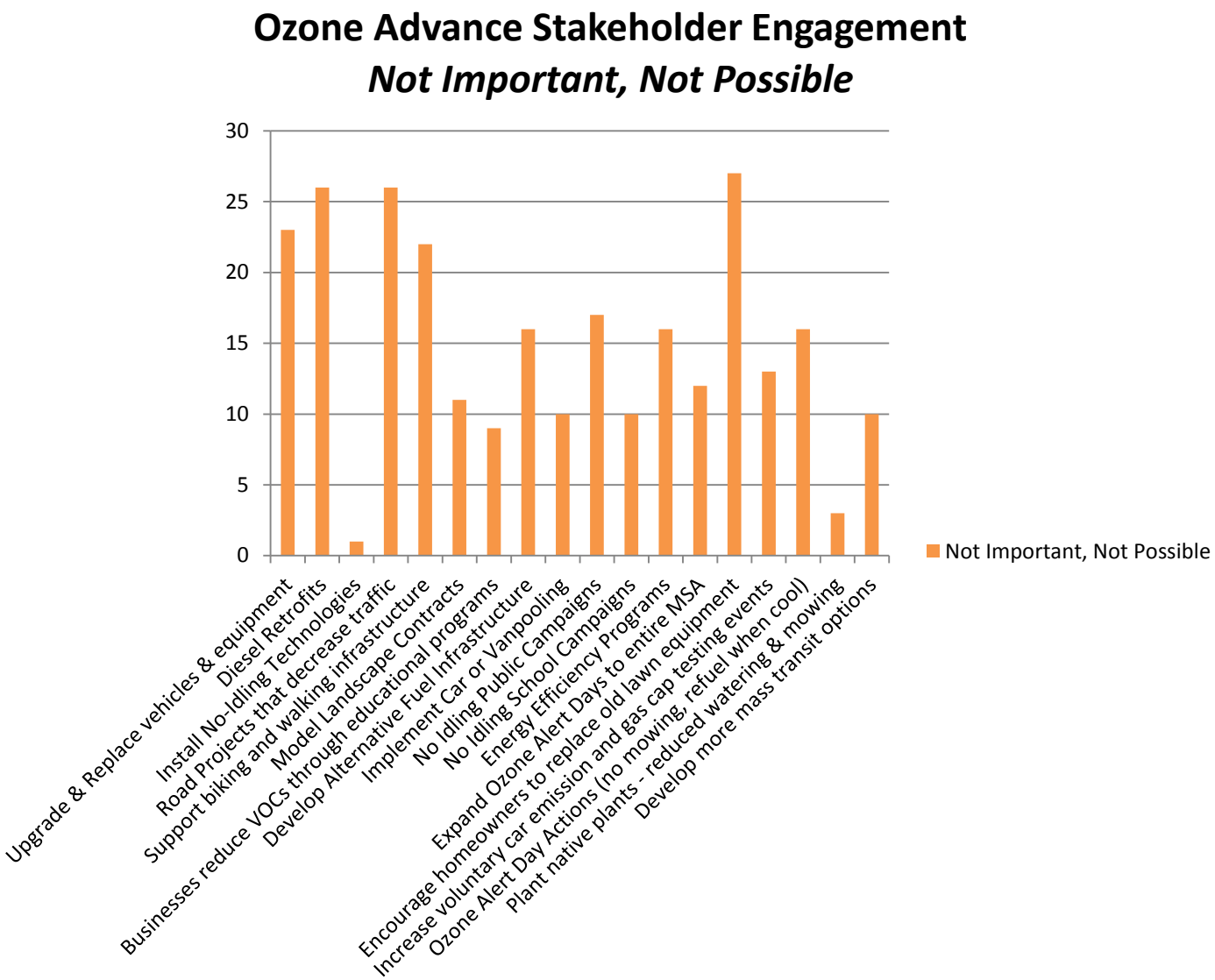
Some ozone reduction strategies were considered important, but did not receive high marks in participation, likely due to the fact that the general public lacks the ability to implement these actions. Road projects that increased traffic flow and reduced idling were voted "**Most Important"** overall, out ranking the next most popular (Public No Idling Campaigns) by 56%.



A few of the ozone reduction strategies were considered **"not important"** or **"not possible**." During conversations with stakeholders the top four "not important" or "not possible" strategies were:

- Encouraging homeowners to replace old lawn equipment, 10% of the votes
- Diesel retrofits, 10% of the votes

- Road projects, 10% of the votes
- Vehicle or equipment upgrades or replacements, 9% of the votes



During the stakeholder engagement meetings and in the online survey tools there were opportunities for additional suggestions and comments. Below are a few of the suggestions heard most often:

- Adjust the traffic lights so that they are better timed for reduced idling.
- Mandate car emissions testing.
- Increase public education efforts.
- Improve the public transit system (increase services to outlying areas, make riding less confusing, change public perception of poor quality transit service, etc.)
- Provide tax incentives or rebates for low emission vehicles or home energy efficient products.