



Tulsa Area Ozone Advance Annual Update



2015



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Executive Summary

Much is happening across the Tulsa Metropolitan Area – and it’s all good news! As the economy charges forward with new development and exciting programs, clean and sustainable momentum remains front and center. And Tulsa's air quality improvement proves it.

With the Oklahoma Department of Environmental Quality in the Fall of 2013, the Tulsa region submitted its Path Forward to Environmental Protection Agency (EPA) thereby formally entering into the Ozone Advance Program.

Ozone Advance guidance states “Each year from the time the path forward is sent to EPA, a participating area should briefly summarize the status of the area’s measures and programs undertaken under Ozone Advance (including a comparison between current status for each measure/program as compared with the schedule laid out in the path forward letter), current air quality, stakeholder meetings/events, and any other information the area would like to highlight.”

This document provides the Tulsa Area’s 2015 Annual Ozone Advance Program Update. Within it, find the area's ozone status, a summary of the emission reduction programs identified in the Path Forward, many new initiatives begun over the past twelve months and more exciting air-improving programs looking forward to the coming year.

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Ozone Trend and Monitoring Status

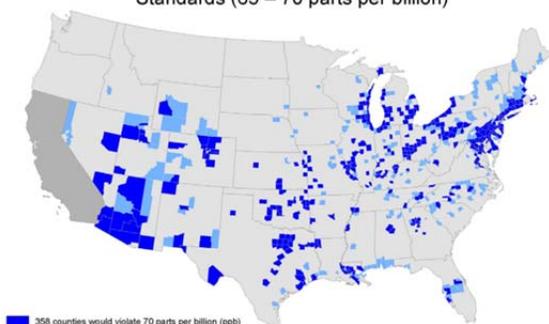
The Tulsa area has a long proven history of air quality improvement at a local level. In 1991, shortly after the revision to the Clean Air Act and Tulsa’s regaining attainment, area ozone monitors began to register exceedances of the ozone standard. Faced with the prospect of going back into nonattainment, area officials turned to the Indian Nations Council of Governments (INCOG) who formed an Air Quality Committee composed of local public agencies, the business community, environmental interest groups, and interested citizens. In just two weeks’ time, the Air Quality Committee developed and implemented the first voluntary episodic ozone prevention program of its kind – Tulsa’s Ozone Alert! Program. This exemplary coalition of local stakeholders committed to improving air quality and maintaining the ozone standard remains strong today.

Since the early 1990’s, ozone levels in the Tulsa area have dramatically improved. Voluntary and common-sense initiatives through exemplary business and community partnership are foundational to our air quality success. The Tulsa region with DEQ has participated in the Flexible Attainment Region Program, the 1-hour Ozone Flex Program, the Early Action Compact initiative, the 8-hour Ozone Flex Program and currently the Ozone Advance Program.

Although Tulsa’s ozone improvement trend was interrupted by the two record-breaking hot summers of 2011 and 2012, the region remained committed to improving air quality. Clean and sustainable remained at the forefront of nearly every initiative and with active determination the goals of the ozone trend dramatically recovered.

November 2014 EPA Proposed Ozone Standard

Counties Where Measured Ozone is Above Proposed Range of Standards (65 – 70 parts per billion)

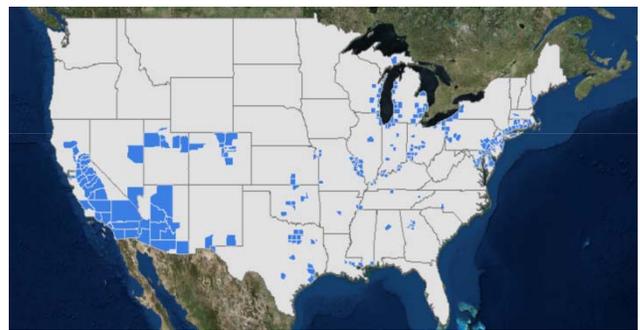


358 counties would violate 70 parts per billion (ppb)
 200 additional counties would violate 65 ppb for a total of 558

Based on 2011 – 2013 monitoring data

EPA map; 16 counties in Oklahoma, including Tulsa, recorded ozone levels greater than 70 ppb at end of 2013 ozone season.

October 2015 EPA Final Ozone Standard



EPA map; 7 counties in Oklahoma, including Tulsa, recorded ozone levels greater than 70 ppb at end of 2014 ozone season.

As the ozone scorecard on the following page indicates, at the end of the 2015 ozone season (pending data QA/QC), Tulsa’s ozone level is in compliance of the 70 ppb ozone standard.

2015 Tulsa Area Ozone ScoreCard *

*As of 12/31/15 and Pending ODEQ QA/QC and data certification

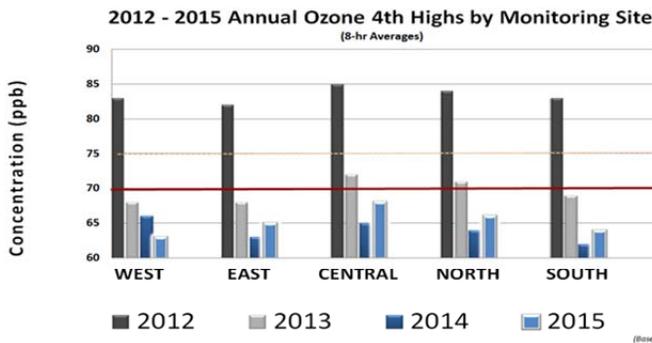
Monitor Site			2015 Highest 8-Hr Ozone Averages(ppb)* (1st through 4th Highest Daily Readings)				DESIGN VALUE 3-Year Average OF THE 4TH HIGHEST READINGS	
			1st High	2nd High	3rd High	4th Highest	2012-2014 3-Yr Avg	2013-2015 3-Yr Average
2012 4th High	2013 4th High	2014 4th High						
West (#144 Mannford)			70	70	68	63	72	65
83	68	66						
East (#178 Lynn Lane)			76	69	67	65	71	65
82	68	63						
Central (#1127 Tulsa)			84	70	69	68	74	68
85	72	65						
North (#137 Skiatook)			75	70	66	66	73	67
84	71	65						
South (#174 Glenpool)			67	64	64	61	71	64
83	69	62						

2 exceedance days > 75 ppb (August 7th and October 15th).
 Also 2 exceedance days > 70 ppb (Central & North Monitor's 84 and 75 both on same August 7th day)

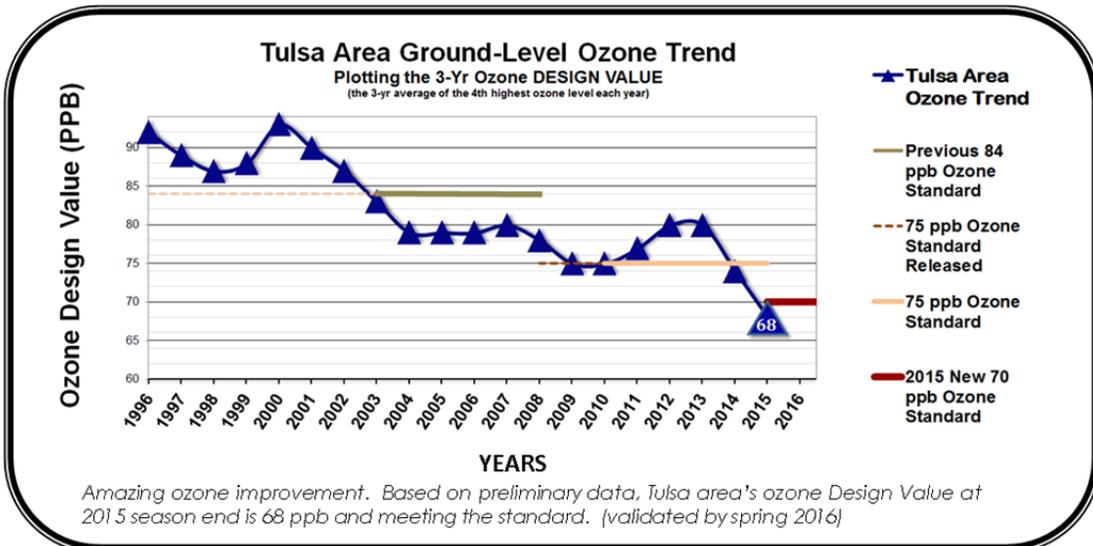
The new standard uses the same calculating methodology as the 2008 75 ppb standard. Concerned with ground-level ozone over an extended period of time, it uses the highest consecutive 'rolling' 8-hour average each day. A daily 8-hour average higher than the EPA standard is considered an unhealthy exceedance day. It is important to note however, that compliance with the ozone standard is not determined by the number of exceedance days. The standard uses the 4th highest daily (8-hour average) ozone reading at each monitor. The 4th highest daily reading for each monitor is averaged with the 4th highest reading from each of the two prior years, and a three year rolling average for each monitor is calculated. The highest of these three year averages becomes the area's ozone Design Value. Compliance with the new ozone standard occurs when an area's Design Value (3-year average of the 4th highest reading) is 70 ppb or lower.

Tulsa's Ozone Trend

November 2015



The Tulsa Area is in compliance with the new 2015 EPA national ozone standard occurring when the 3-year average (of 4th highs) at all monitors is not greater than 70 ppb.



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Air Quality Stakeholders

Improving our air quality essentially began twenty-five years ago with the establishment of the first INCOG Air Quality Committee. Since that time, the INCOG stakeholder group has grown stronger, added a public relations team and many public and private business partners. The 2015 INCOG Air Quality Stakeholder core membership list is provided below.

**CoChairman

First Name	Last Name	Organization
Austin	Embry	AAON
Ken	Ruffin	AEP
J.T.	Davis	AEP-PSO
Jim	Evers	AEP-PSO
Thelma	Norman	American Airlines, Inc.
Don	Pugh	American Airlines, Inc.
Patrick	Hattaway	American Lung Association
Keith	Sorrells	Arkansas Valley Companies
Wayne	Thomas	Buzzi Unicem USA
Kyle	Arthur	Chesapeake Energy Corporation
Mark	Stout	Chesapeake Energy Corporation
Lee	Zirk	City of Broken Arrow
Brett	Fidler	City of Tulsa
Dewey	Bartlett	City of Tulsa, Mayor's Office
Matt	Newman	Covanta Energy
Kirk	Meinershagen	Dal-Tile
Angie	Burckhalter	Devon Energy Corporation
Michelle	Barnett	ENERCON
Bryan	Jewett	ENERCON
Ryan	Moore	Explorer Pipeline
Isaac	Akem	Federal Highway Administration
Stephen	Landers	Georgia-Pacific Consumer
Charles	Barney	GRDA
Mike	Bednar	GRDA
Michael	Graves	Hall Estill Law Firm
Jarrett	Keck	HollyFrontier Corporation
Andrew	Haar	HollyFrontier Corporation
Rich	Brierre	INCOG, Executive Director
Ann	Domin	INCOG, Deputy Director
Nancy	Graham	INCOG
Viplava	Putta	Tulsa MPO/INCOG
Vernon	Seaman	INCOG
Michael	Patton	Land Legacy
Lee	Paden	Law Office of Lee W. Paden, PC
Graham	Brannin	M.e.t
Thomas	Byers	Magellan Midstream Partners,
Bruce	Heine**	Magellan Midstream Partners,
Michael	Henk	Michael Henk, Concerned Citizen
Craig	Bernheimer	Miratech Corp.

First Name	Last Name	Organization
Liann	Alfaro	MTTA (Tulsa Transit)
Bill	Cartwright	MTTA (Tulsa Transit)
Randy	Cloud	MTTA (Tulsa Transit)
Steve	Amburn	National Weather Service
Beverly	Botchlet-Smith	ODEQ
Eddie	Terrill	ODEQ
Montelle	Clark	ODEQ Air Quality Advisory Council
Rhonda	Jeffries	ODEQ Regional Office at Tulsa
Laura	Chaney	ODOT
Randle	White	ODOT
Brian	McQuown	OG & E
Ford	Benham	OG&E Utility Operations
Usha	Turner	OGE Energy Corp
Coy	Pyle	ONEOK
Deborah	Perry	ONEOK, Inc.
Lydia	Patitsas	Oklahoma Sustainability Network
Bill	Geubelle	Phillips66
Marla	Benyshek	Phillips66
Bruce	Morgan	QuikTrip Corporation
Mike	Thornbrugh	QuikTrip Corporation
Whitney	Pearson	Sierra Club
Barbara	VanHanken	Sierra Club
Mark	Lawson	Spirit Aerosystems
Gay	Campbell	St. Francis Hospital
Gary	Collins	Terra Nitrogen, LP - Verdigris
Jeremy	Jewell	Trinity Consultants
Jeff	Mulder	Tulsa Airport Authority
Adrian	Jaynes	Tulsa Area Clean Cities
Daniel	Jeffries	Tulsa Area Clean Cities
Karen	Keith**	Tulsa County
Nick	Doctor	Tulsa Regional Chamber
Skye	McNiel	Tulsa Regional Chamber
Mike	Neal	Tulsa Regional Chamber
Bill	Potter	University of Tulsa
Mike	Shepard	Veolia Energy Tulsa

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Ozone Advance Emission Reduction Project Table

This section includes the strategic emission project table provided in our original Path Forward. As intended and when available, the table identifies when projects are implemented, modified and completed. 2015 updates are provided in the violet color font. In few cases, project updates are unavailable at this time. These will however be reported on in the 2016 annual update. Additionally, the table identifies various new regional emission reduction projects.

It is recognized that table format cannot fully demonstrate the magnitude of regional projects especially significant to our air quality improvement. Consequently, the Support Documentation section following the table has been included to expand on the information within this update.

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October 2015 - Tulsa Area Ozone Advance Program Annual Update

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementation Schedule and - /or Completion Date
Enhanced Public Outreach and Education Programs	Tulsa Transportation Resource Center	INCOG	<p>The Tulsa Transportation Resource Center (TRC) is a dynamic and newly launched program designed to connect people to available transportation options. The website, tulsatrc.org, highlights resources for Tulsa Metro Area biking, walking, and riding (transit and rideshare). Tulsa TRC outreach efforts include working at community events, local company partnership and training, organizational meetings to present information, and more. 2015 UPDATE: Tulsa TRC's website continues to be renewed and enhanced spotlighting numerous transportation alternatives through the year including the successful 'Bike to Work Week ' (May 11 - 15) activities which included a KickOff, Bike Crawls, Commuter Trains, and a Corporate Challenge. Additionally, the website's resources now include the recently completed Bike Share Feasibility Study and Strategic Business Plan and the Tulsa Regional Bicycle and Pedestrian Master Plan. These and other related TRC documentation are provided in the Support Documentation section of this annual update.</p>	Ongoing	2013 -



	<p>Tulsa Area Ozone Alert! Program</p>	<p>INCOG</p>	<p>The <i>Ozone Alert! Program</i> takes a voluntary episodic approach to ozone pollution reduction and healthy air quality. The Tulsa region's award-winning website, ozonealert.com, continues to provide hourly ozone data, AQI information, daily allergy reporting, and much more information. 2015 UPDATE: New radio and television education and awareness commercials and many other enhancements were incorporated into the Tulsa Area's 25th season of the Ozone Alert! Program. Additional Tulsa Area Ozone Alert! Program successes and updates are provided in the Support Documentation section of this annual update.</p>	<p>Ongoing</p>	<p>1991 -</p>
	<p>Tulsa Area Clean Cities Coalition (TACC)</p>	<p>Tulsa Area Clean Cities Coalition / INCOG</p>	<p>The U.S. Department of Energy's Clean Cities program's mission is to advance the energy, economic, and environmental security of the United States by supporting local decisions to adopt practices that reduce the use of petroleum in the transportation sector. Designated in 1997, the Tulsa Area Clean Cities Coalition (TACC) works with local businesses and governments through outreach and education, to promote alternative fuel vehicles. TACC works to advance alternative fuels, idle reduction, and to promote the education of alternative fuel fleets, vehicle availability, and refueling options. www.tulsacleancities.com. 2015 UPDATE: The coalition experienced significant growth and improvement in all areas this past year. The 2014 Annual Survey reported 4,184,404 gallons of gasoline equivalent was reduced - more than one million gallons over the previous year's reduction - with 93% being directly attributed to alternative fueled vehicles.</p>	<p>Ongoing</p>	<p>1997 -</p>



	<p>Public Outreach</p>	<p>Department of Environmental Quality</p>	<p>The Oklahoma Department of Environmental Quality (DEQ) participates in multiple public outreach and education programs, which emphasize the importance of informing individuals about the effects of ozone on citizens' health. This includes producing/supplying ozone education materials, creating online videos encouraging energy efficiency and issuing ozone watches for the Tulsa MSA. DEQ began its Air Quality Health Advisory Program in 2006, issuing real time email notifications of unhealthy concentrations of ozone. In 2014 the Air Quality Division added an infographics gallery featuring original infographics with a local focus on the relationship between air quality and weather.</p>	<p>Ongoing</p>	<p>2006 -</p>
<p>Energy Efficiency Strategies and Programs</p>	<p>Mandated Energy Efficiency Requirements</p>	<p>State of Oklahoma</p>	<p>61 O.S. § 213, Enacted 6/3/2008, requires the state to develop a high-performance building certification program for state construction and renovation projects; program must meet the certification guidelines of either the LEED system or the Green Globes rating system. The requirement applies to new construction or substantial renovation projects that begin the design phase after July 1, 2008 in buildings larger than 10,000 square feet. “Substantial renovations” is defined as projects that cost in excess of 50% of the value of the facility. In order to be considered a “state project” for purposes of the requirements, state funds or state-insured funds must constitute at least 50% of the project cost. State agencies are directed to meet the highest level of certification attainable under a payback period of 5 years or less. Public schools (K-12) and state archive buildings are exempted from the requirements.</p>	<p>Ongoing</p>	<p>2008 - Continuous</p>

	<p>The Oklahoma Energy Security Act</p>	<p>State of Oklahoma</p>	<p>The Oklahoma Energy Security Act (17 O.S., Section 801.2 et seq.), which became effective in 2010, set statewide goals for alternative and domestically produced energy, including 15% of energy from renewables by 2015, and CNG fueling stations every 100 miles by 2015 and every 50 miles by 2025. The 100 mile goal will be met this fall with the soon to open Billings, Oklahoma CNG station, and the State remains on track for the 2025 goal. The most recent annual progress report indicates that Oklahoma's total renewable energy generation is at 20.85%, which is a 2.43% increase from the previous year's 18.42%. This increase in renewable energy generation is due to four new wind farms coming online in 2014 for a total of 648 MW and a 23.60% increase in demand side measures. Oklahoma continues to be number one in CNG fueling stations per capita and currently has 89 (up from 75 last year) public stations.</p>	<p>Ongoing</p>	<p>2010 - 2025</p>
	<p>Oklahoma First Energy Plan</p>	<p>State of Oklahoma</p>	<p>Oklahoma First Energy Plan lays out policy guidance for a diverse energy portfolio that includes energy efficiency and encourages technologies such as combined heat and power (CHP) and geothermal.</p>	<p>Ongoing</p>	<p>2011 -</p>



	<p>Oklahoma State Facilities Energy Conservation Program</p>	<p>State of Oklahoma</p>	<p>The Oklahoma State Facilities Energy Conservation Program, established in 2012 (27A O.S. Section 3-4-106.1), directs all state agencies and higher education institutions to achieve an energy and conservation improvement target of at least 20% by 2020 when compared with 2012 utility expenditures. Using Energy CAP calculation and reporting software, the state facilities tracking website, www.ok.gov/20x2020/ has been in use since January 2014. The most recent annual summary of state building energy savings (Oct 2014 - Sep 2015) indicates a 21.5% daily average cost savings over the previous year with 66.7% of those occurring from reductions in electricity usage.</p>	<p>Ongoing</p>	<p>2012-2020</p>
	<p>City of Tulsa Energy Efficiency Conservation Block Grant (EECBG)</p>	<p>City of Tulsa</p>	<p>The Energy Efficiency Conservation Block Grant (EECBG) program is administered by the U.S. Dept. of Energy. The City of Tulsa has received over \$3.8 million in EECBG funding for programs that increase energy efficiency, reduce dependence on foreign energy and create or retain jobs. Projects include long term energy & sustainability plan development, OSU medical center retrofit project, Brady Village geothermal project, building LED lighting upgrades, and energy efficient LED traffic and pedestrian lighting.</p>	<p>COMPLETE</p>	<p>2013</p>



	<p>Building Efficiency Improvements</p>	<p>Tulsa City-County Library</p>	<p>The Tulsa City-County Library system's Central Library is undergoing a renovation aimed at improving functionality, safety and energy efficiency. The new building is expected to reduce energy consumption by 40%, enough energy to power 56 Oklahoma homes, and reduce water consumption by 91,000 gallons. The final building is expected to meet LEED Silver certification. <u>2015 UPDATE: Improvements and efficiency renovations continue however completion date is now into 2016.</u></p>	<p>2010-</p>	<p>2010-2016</p>
	<p>Energy Efficiency and Conservation Block Grants</p>	<p>Tulsa County</p>	<p>Tulsa County, with the assistance of INCOG, has created an integrated energy strategy to provide actions that will reduce annual energy consumption by 15-25%. This energy strategy will utilize funds from a Department of Energy Block grant.</p>	<p>Ongoing</p>	<p>2010 -</p>



	<p>Demand Response Energy Performance Reduction Program – Residential and Commercial</p>	<p>Public Service Company of Oklahoma</p>	<p>PSO’s Power Forward energy efficiency and demand-response is a multi-faceted program providing significant and targeted incentives to business and residential customers for reducing their energy usage. Over the next three years, PSO’s Energy Efficiency/Demand Response Program is expected to reduce energy consumption by 191 GWh hours, and achieve 244 MW of demand savings. 2015 UPDATE: The Tulsa area and PSO's successful Demand Side Management EE Program was recently featured by the European Lux Magazine (Sept. 2015 video can be viewed at: https://youtu.be/Yn4aFmXYkmc) lauding their energy efficiency reductions of 300 million kWh since 2010 - more than 50% coming from LED lighting projects. A new "PowerHours" program to manage home heating and cooling remotely using a Wi-Fi thermostat, and assist PSO in demand management, was recently initiated in addition to numerous EE business programs. Building and expanding on success, PSO will continue the program and implementation contractor(s) firms are currently being selected for program years 2016, 2017, and 2018.</p>	<p>Ongoing</p>	<p>2012 -</p>
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	<p>Oklahoma Natural Gas (ONG) Energy Efficiency Program</p>	<p>Oklahoma Natural Gas (ONG)</p>	<p>ONG's energy efficiency programs provide incentives for residential and commercial customers encouraging new energy-efficient natural gas appliance choices, and even provides a homeowner rebate for having gas-heating systems checked and tuned-up. 2015 Update: ONG Energy Efficiency programs recently launched its fourth year, continuing the goal to educate customers about the benefits of natural gas and helping consumers make smart energy choices, specifically by providing rebates on the purchase of new, efficient natural gas appliances.</p>	<p>Ongoing</p>	<p>2012 -</p>
	<p>OG&E Energy Efficiency Programs-Commercial</p>	<p>OGE Energy Corp.</p>	<p>Systemwide, OG&E currently projects energy efficiency and demand reductions of up to 549 MW and 1,130 MWh through 2024. OG&E offers the following energy efficiency programs targeting commercial and industrial customers: Commercial Lighting Rebates—rebates for lighting and lighting control improvements; in 2014 OG&E provided rebates to 713 customers saving 27,607,405 kWh. Commercial Energy Efficiency Program (CEEP)—rebates for efficiency improvements for more efficient motors, HVAC systems and chillers; in 2014 OG&E provided rebates to 363 customers saving 10,791,427 kWh. Industrial Energy Efficiency Program (IEEP)—rebates for efficiency improvements for more efficient motors, HVAC systems and chillers; in 2014 OG&E provided rebates to 14 customers saving 662,610 kWh.</p>	<p>Ongoing</p>	<p>2013 thru 2016</p>



	<p>OG&E Energy Efficiency Programs- Residential</p>	<p>OGE Energy Corp.</p>	<p>OG&E has the most widespread Smart Grid technology in the country, which offers variable pricing through their Smart Hours program.</p> <p>OG&E offers the following energy efficiency programs targeting residential customers:</p> <p>HEEP—a free on-line energy audit, free A/C tune-up, duct inspection and plenum seal and ceiling insulation rebate; in 2014 OG&E provided services to 11,717 customers saving 28,988,770 kWh.</p> <p>Weatherization—free energy efficiency improvements for lower-income customers which includes ceiling insulation, general air infiltration improvements, CFL lighting installations and performance testing; 3,065 homes were weatherized saving customers 10,445,946 kWh in 2014.</p> <p>Geothermal Rebates—rebates for the installation of geothermal HVAC systems; in 2014 OG&E provided services to 325 customers saving 1,537,497 kWh.</p> <p>Positive Energy Home—rebates, inspections and strict construction standards for new homes; in 2014 OG&E provided services to 1,200 homes saving 2,153,932 kWh.</p>	<p>Ongoing</p>	<p>2013 thru 2015</p>
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	<p>State Energy Program American Recovery & Reinvestment Act Revolving Loan Funds</p>	<p>Tulsa Area Clean Cities Program / INCOG</p>	<p>In November 2013, a State Energy program - American Recovery and Reinvestment Act (SEP ARRA) revolving loan program previously administered by the Oklahoma Department of Commerce was transferred to INCOG for administration. This loan program consists of \$1,600,000 in funding to provide the capital necessary for the implementation of building energy efficiency retrofits, renewable energy and demand management projects, and alternative fuel infrastructure or fleet conversion. A 1% interest rate for public entities and 2% private interest rate applies. In July 2014, Tulsa County was awarded \$1,055,000 in cooperation with the county's Energy Efficiency and Conservation Strategy (EECS) for the purpose of updating the HVAC systems throughout the County Courthouse, Annex and Administration buildings. At the time, all three county buildings contained outdated pneumatic control systems. The project entails replacing the inefficient controls with computerized direct digital control systems thereby dramatically improving the energy efficiency of the buildings. The project is expected to decrease Tulsa County's energy consumption by approximately 574,200 kWh, 191,400 ton hours of chilled water and 4,147 klb of steam per year. This project is approximately 90% completed. TACC/INCOG announced solicitation for the remaining \$652,000 loan program dollars in November 2015.</p>	<p>New</p>	<p>2013 -</p>
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CNG/Alternative Fueled Vehicle & Infrastructure Projects	Alternative Fuel Vehicle (AFV) Tax Credit	State of Oklahoma	<p>For tax years beginning before January 1, 2015, a one-time income tax credit is available for 50% of the incremental cost of a new AFV or converting a vehicle to operate on an alternative fuel. The state also provides a tax credit for 10% of the total vehicle cost, up to \$1,500, if the incremental cost of a new AFV cannot be determined or when an AFV is resold, as long as a tax credit has not been previously taken on the vehicle. Equipment used for conversions must be new. The alternative fuels eligible for the credit are compressed natural gas, liquefied natural gas, hydrogen, and liquefied petroleum gas (propane). Tax credits may be carried forward for up to five years. (68 O.S. §2357.22) 2015 UPDATE: In 2014, this credit was extended to tax years beginning before January 1, 2020 and the credit was changed to up to 45% (from 50%) of incremental cost.</p>	Ongoing	1990 -
	Alternative Fueling Infrastructure Tax Credit	State of Oklahoma	<p>For tax years beginning before January 1, 2015, a tax credit is available for up to 75% of the cost of alternative fueling infrastructure. Eligible alternative fuels include compressed natural gas (CNG), liquefied natural gas, liquefied petroleum gas (propane), hydrogen, and electricity. The infrastructure must be new. A tax credit is also available for up to 50% of the cost of installing a residential CNG fueling system, for up to \$2,500. The tax credit may be carried forward for up to five years. (68 O.S. §2357.22) In 2014, this credit was extended to tax years beginning before Jan 1, 2020.</p>	Ongoing	1990 -

	Private Alternative Fuel Vehicle (AFV) Loans	State of Oklahoma	Private loan program with a 3% interest rate for the cost of converting private fleets to operate on alternative fuels, for the cost of purchasing an original equipment manufacturer AFV, and for the installation of AFV fueling infrastructure. Maximum repayment six-years. 2015 UPDATE: State loan program remains ongoing although is now managed by the Oklahoma Department of Commerce's State Energy Office.	Ongoing	2010 -
	CNG Fleet Conversion	Oklahoma Department of Transportation	ODOT will be replacing more than 90 percent of the fleet at ODOT and the Oklahoma Turnpike Authority with CNG vehicles in the next three years. 2015 UPDATE: In Spring 2014, ODOT purchased 295 CNG vehicles- 265 half-ton Ford 150 trucks, 16 one-ton Dodge Ram trucks and 4 Honda Civics • ODOT plans to save more money and further reduce carbon emissions by replacing more of the high-mileage cars and trucks in its 1,085 vehicle fleet with CNG vehicles in the future. Could potentially save \$20,000 over the useful life of each vehicle.	2012-2016	2016
	Alternative Fuels Incentive	Oklahoma Natural Gas Company	ONG is currently offering rebates of \$1,000 for the purchase of a dedicated CNG vehicle, \$500 for the purchase of a bi-fueled vehicle and \$1,000 for the purchase of a residential home-fueling system. This program is expected to continue, with no set cut-off or termination date. 2015 UPDATE: In 2014, ONG processed 248 total NGV rebates, which included 158 bi-fuel NGV rebates, 70 dedicated NGV rebates, and 20 home refueling rebates.	Ongoing	2012 -



	<p>CNG Fleet Conversion</p>	<p>Metropolitan Tulsa Transit Authority (MTTA)</p>	<p>MTTA maintains a fleet of approximately 100 vehicles. These include full size fixed route passenger and smaller lift program busses. In 2011, MTTA made the commitment to move toward a 100% CNG fleet and began a concentrated effort to locate and secure funding to do so. In 2012, they completed a \$1.7 million dollar CNG filling station on the property. Within the next several years, funding is being sought to complete the fixed route transition to 100% CNG. 2015 UPDATE: MTTA currently operates 42 of their 49 (86%) of their lift program busses and 42% of their fixed route (full size) busses on dedicated CNG. An additional 10 fixed route busses will be going into service in 2016.</p>	<p>Ongoing</p>	<p>2011 -</p>
	<p>CNG Fleet Conversion</p>	<p>City of Owasso</p>	<p>In 2010, the city of Owasso chose to incorporate CNG vehicles in their city fleet. By 2011, they had opened their first public-private CNG station in their downtown area and are well on the way to converting the fleet. 2015 UPDATE: The City of Owasso remains committed to CNG and purchased their first fully dedicated CNG Refuse Truck in 2013. In 2014, the City's Public Works Department added three dedicated CNG Ford Pickup Trucks to their fleet (one F250 and two F350s).</p>	<p>Ongoing</p>	<p>2010 -</p>

	CNG Fleet Conversion	Tulsa Public Schools	Currently, 140 of the 300 full-size school bus fleet are operating on 100% CNG fuel. 8 new 2013 BlueBird CNG busses have been ordered and the district continues to seek funding to upgrade their four compressor filling stations. Tulsa Public Schools (TPS) plans to convert 100% of their bus and car fleet running by 2020. In 2014, TPS fully upgraded a compressor station at the fleet's McBirney bus lot, operates nearly 150 CNG school busses and implemented a fleet Idle Reduction Program.	Ongoing	1988 -
	CNG Fleet Conversion	Tulsa Authority for the Recovery of Energy (TARE)	The Tulsa Authority for the Recovery of Energy (TARE) is the agency responsible for establishing and contracting the City of Tulsa's residential refuse. The City of Tulsa, home to nearly 400,000 citizens, requires approximately 50 refuse trucks operating daily through city streets. In 2012, TARE established and awarded a 10-year refuse hauler contract which required 50% of the vehicles to be fueled by CNG upon startup and 100% of Tulsa's trash trucks to be CNG fueled by the summer of 2013.	Complete	2012-2013



	<p>Tulsa Area Clean Cities Vehicle and Infrastructure Grant Program</p>	<p>Tulsa Clean Cities/ INCOG</p>	<p>The Public Fleet Conversion Program, funded by the Congestion Mitigation and Air Quality (CMAQ) Program, provides grants for converting fleets to alternative fuel vehicles, the purchase of original equipment manufactured (OEM) alternative fuel vehicles, and development of the alternative fuel vehicle infrastructure within the Tulsa area. TACC anticipates this grant program will award a total of approximately \$875,000 in project funding for Clean Vehicle and Infrastructure Projects in the Tulsa area. In 2014, AFV and Infrastructure grants totaling \$271,621 were awarded to Tulsa area municipalities including City of Sand Springs, City of Sapulpa, City of Tulsa, Pelivan Transit, Town of Mannford and Tulsa County. Projects include: 9 Alternative Fuel Vehicle purchases (CNG Bi Fuel vehicles for Incident Command, Utility and Code Enforcement, Utility Collections, Engineering and motor pool vehicles, Sheriff's Office, and Para-transit); 5 CNG conversion kits; and Town of Mannford CNG fueling infrastructure equipment. 2015 Update: The 9 projects awarded last year are now completed (with the exception of Mannford's CNG station, currently 90% completed). Solicitation for a new round of local funding is being developed for anticipated announcement in 2016.</p>	<p>Ongoing</p>	<p>1997 -</p>
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	<p>Tulsa Area Clean Cities I-40 Grant Projects</p>	<p>Tulsa Clean Cities/ INCOG</p>	<p>In conjunction with partners at Arkansas Clean Cities, Tulsa Area Clean Cities (TACC) was awarded a grant by the United States Department of Energy titled the I-40 Collaboration. Projects undertaken by the I-40 grant will help to displace the use of fuels, like diesel and petroleum, by addressing pervasive problems in the Oklahoma alternative fuels market. Specifically, the projects funded by this grant will help reduce ozone levels in Tulsa by advancing the use of cleaner alternative fuels, facilitating the construction of alternative fuel stations, and promoting safety in the alternative fuel market. 2015 UPDATE: The educational video covering "CNG Myths" is completed and distributed throughout the DOE Clean Cities national network (https://youtu.be/GzvfQGcsr3A). A 'Planning for Alternative Fuel Infrastructure' resource has been developed, distributed regionally, and is being used to assist local governments with issues relating to zoning code regulations and other development issues accommodating alternative fuel infrastructure. A copy of this document is in the Supplemental Documentation section of this update. Additionally, the national AFV Safety Training curriculum for law enforcement and EMS responders has been completed and the course premiere, a train-the-trainer course, will be presented in Tulsa in December 2015. The grant will be completed 12/2015.</p>	<p>Ongoing</p>	<p>2012 - 2015</p>
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<p>Transportation System Strategies and Projects</p>	<p>Peoria Ave. Bus Rapid Transit</p>	<p>INCOG</p>	<p>The MTTA's board of trustees voted February 26, 2013 to recommend implementation of a plan to replace regular bus service along a 15-mile stretch of Peoria Avenue with rapid transit bus service. The rapid transit system would replace Tulsa Transit's 105 Route, which accounts for 15% of the organization's passenger trips. The \$18.8 million price tag would cover the cost of seven dedicated CNG buses equipped with GPS technology to change traffic signals when the buses are behind schedule. Funding for the project was approved by Tulsa voters in November 2013. <u>2015 UPDATE:</u> Over the past year, the consultant for the project has been changed and development of the management plan recently initiated. The project is still on track with a new 2020 implementation date.</p>	<p>Ongoing</p>	<p>2020</p>
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	<p>Tulsa Region Bicycle/Pedestrian Master Plan</p>	<p>INCOG</p>	<p>INCOG is working to prepare a Bicycle and Pedestrian Master Plan for the Tulsa Region. INCOG proposes developing and delivering a transportation assessment process that will identify and evaluate short-, medium- and long-term transportation system needs to enhance bicycle and pedestrian mobility while considering automobile and bus transit operations. The plan area will include the municipalities of Bixby, Broken Arrow, Catoosa, Claremore, Collinsville, Coweta, Glenpool, Jenks, Owasso, Sand Springs, Sapulpa, Skiatook, and Tulsa. 2015 UPDATE: The Bicycle and Pedestrian 'GO Plan' master plan for the Tulsa Region has been completed, released at a Public Forum on September 15th, and is in its final phase being adopted by the eleven community governments. This exciting initiative is the region's first comprehensive bicycle and pedestrian master plan to equip and connect the region with the vision to make biking and walking convenient for our residents, communities and visitors. The Go Plan is comprehensive and provides bicycle network recommendations, pedestrian design approaches, policy and funding recommendations, design guidance and a clear path toward achieving the vision. The results and recommendations from the recently completed bike share feasibility study (below) has been incorporated into the Go Plan. The support documentation section of this update includes the Go Plan.</p>	<p>Ongoing</p>	<p>2015</p>
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	<p>Bike share Feasibility Study</p>	<p>INCOG</p>	<p>INCOG has committed to fund a feasibility study and business plan for a comprehensive downtown focused bike share system. Using Congestion Mitigation & Air Quality (CMAQ) funding, a consultant will be retained to determine the long-term feasibility of a bike share program and implementation plan. Funding options and liability will be focus areas of the plan. 2015 UPDATE: The Bikeshare Feasibility study is complete and a resulting business plan for a downtown Tulsa bikeshare program has been developed. Additionally, results and recommendations from the study have been incorporated into the Tulsa Regional Bicycle & Pedestrian Master Plan (above).</p>	<p>Complete</p>	<p>2014</p>
	<p>OKC – Tulsa Commuter Rail Program Initiative</p>	<p>ODOT</p>	<p>The Tulsa-Oklahoma City Corridor Investment Plan will identify and evaluate a full range of alternatives (FRA) to meet the region's long-term transportation needs. The study will provide sufficient information to support an FRA decision to fund and implement a major investment, or investment in a series of projects, in a passenger rail corridor. 2015 UPDATE: The project remains underway.</p>	<p>Ongoing</p>	<p>2013-</p>



	<p>Transportation Management System Considerations</p>	<p>INCOG</p>	<p>Over the next five years, the Tulsa Transportation Management Area will research, analyze, select and implement a variety of Transportation System Management (TSM) projects. These may include expressway on-ramp congestion traffic flow system projects, intersection improvement projects, signal improvements, signal coordination efforts, Intelligent Transportation System (ITS) enhancements and more. TSM improves traffic flow, reduces congestion and thereby reduces emissions. As these projects take place, they will be described in our annual Ozone Advance documentation. 2015 UPDATE: Projects ongoing include additional video detection and signal prioritization corridors, and several additions to the overhead ITS Dynamic Message Boards.</p>	<p>Ongoing</p>	<p>2013 - 2018</p>
	<p>CNG Fleet Addition</p>	<p>Department of Environmental Quality</p>	<p>DEQ will be replacing up to 12 gasoline fueled vehicles with CNG fueled vehicles on a rolling basis. 2015 UPDATE: The DEQ statewide fleet currently includes 2 dedicated CNG vehicles and 10 bi-fuel trucks.</p>	<p>Ongoing</p>	<p>2013 -</p>

<p>Department of Environmental Quality Programs and Rulemakings</p>	<p>Open Burning Rule</p>	<p>Department of Environmental Quality</p>	<p>This rule will reduce PM, VOC and NOx emissions within the Tulsa and Oklahoma City Metropolitan Statistical Areas (MSAs) by requiring the use of an air curtain incinerator (ACI) in place of open burning. This will significantly reduce the amount of ozone precursors generated by the burning of wood waste, with an approximate 90% reduction in total air pollutants. Additionally, this rule prohibits open burning of waste in areas for which an ozone or PM alert is in effect. In 2014, DEQ performed outreach to the fire departments in the OKC and Tulsa Metropolitan areas to explain the rule. These fire departments are now assisting in enforcement of this rule, and as a result, many land clearing operations that would have just piled and burned in years past are either using an ACI, chipping, or having the waste removed from their property.</p>	<p>Complete</p>	<p>Eff. 7/1/2013</p>
	<p>Oil & Natural Gas Permit By Rule (O&NG PBR)</p>	<p>Department of Environmental Quality</p>	<p>DEQ has updated its permitting rules (OAR 252:100-7) to include an Oil and Gas permit by rule (O&NG PBR). The main purpose of this rule is to streamline the permitting process for these numerous small sources and reduce associated permitting fees; however, this measure will also provide better emissions data about the oil and natural gas sector which could be used to develop future control strategies. The Department has registered 2,907 O&NG facilities under the PBR, of which 222 were conversions from the Area Source NESHAP and Small NSPS facilities General Permit (GP), 798 were conversions from the Oil and Gas GP and 19 were conversions from individual permits. From those numbers, there are 1868 facilities previously unpermitted that were permitted under the O&NG PBR.</p>	<p>Complete</p>	<p>Sep-13</p>

Major Tulsa Area Facility Industrial Retrofits	Low NOx Burner Install	American Electric Power (AEP) - Public Service Company of Oklahoma (PSO)	AEP-PSO Northeastern Power Station - Low NOx burner installations. 2015 UPDATE: The AEP-PSO Northeastern Power Station Unit 3 and Unit 4 had been emitting nitrogen oxides (NOx) at a reduced rate of 0.23 lb./MMBtu since each installation of the Low-NOx Concentric Firing System (LNCFS) in May 2012. Since then, the completion of the Refined Tuning project has resulted in both Unit 3 and Unit 4 meeting the NOx limit of 0.15 lb./MMBtu as of June 2015 (completion date formerly April 2016 - project complete). Additionally, the AEP-PSO Northeastern Power Station Unit 2 natural gas-fired boiler has been meeting the NOx limit of 0.28 lb./MMBtu since Low-NOx Burner/Overfire Air (LNB/OFA) installation in March 2014.	Ongoing	2015
	Low NOx Burner Install	Oklahoma Gas and Electric	OG&E Muskogee Power Plant – Low NOx burner installation. 2015 UPDATE: Low NOx burners are required on units 4 & 5 to be installed for compliance with the Regional Haze SIP in Jan 2017. OG&E anticipates installation before then.	Ongoing	2017
	Low NOx Burner Install	Grand River Dam Authority	GRDA Chouteau Power Plant – Low NOx burner installation on two units.	Complete	2012 - 2013
	Reduced Coal Generation NOx Reduction	Grand River Dam Authority	GRDA Chouteau Power Plant – Reduced Coal Generation will result in reduction of NOx emissions by replacement of coal fired generating Unit 1 with natural gas combined cycle unit; and additional wind generation. 2015 UPDATE: The project is underway. Detailed engineering is completed, materials and equipment are being procured, and contractors are being selected.	Ongoing	2017

<p>Green Infrastructure and Sustainable Development</p>	<p>Tulsa Urban Forest Master Plan</p>	<p>Up with Trees</p>	<p>A 2-year process beginning in early 2015, the project will engage public and private stakeholders within the greater Tulsa area to plan, build and fund a comprehensive urban forest master plan that will identify the current needs of Tulsa's urban forest, outline potential challenges and opportunities and ultimately define what Tulsa's urban forest will be in the decades to come.</p>	<p>New</p>	<p>2015-2016</p>
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Support Documentation

Public Outreach and Education Programs

Tulsa Transportation Resource Center

As regional transportation options continue to become easier and safer and cleaner, the Tulsa Transportation Resource Center website (www.TulsaTRC.Org) continues to provide valuable a one-stop-shop for biking, walking, riding transit, and rideshare. Over the past year, one especially successful initiative was Tulsa's Job Access Mobility vanpool pilot program.

Vanpooling in Tulsa

Fall 2015

Vanpooling Comes to Tulsa

By Pamela Friedman

Establishing a new vanpool program can be intimidating. Factors such as investment, engagement of potential employers, program management and long-term sustainability can all represent barriers to moving from planning to initiation of a new service. The process by which Tulsa, Oklahoma's Job Access Mobility vanpool program began earlier this year can serve as a frame of reference for other communities seeking to understand the steps necessary in moving forward – ed.

In July, a new regional vanpool program began operating in Tulsa, Okla. Administered by the [Indian Nations Council of Governments](#) (INCOG), the pilot program came about in response to employer concerns about limited transportation options for workers traveling to employment sites located far from public transit routes. The program is expected to operate as a pilot for at least two years, during which time additional business partners will be recruited to participate, significantly increasing the number of vanpools in the area.

The key stakeholders responsible for getting the [Job Access Mobility](#) (JAM) program going considered vanpools the perfect mode of transporting customers to new employ-

ment opportunities. As Shelley Camady, Executive Director of [Workforce Tulsa](#) notes, getting these customers ready for work or training opportunities was the easy part. Getting them to job locations was another story. Transportation is one of the biggest challenges faced by area job seekers. Many, including those transitioning from incarceration and drug and alcohol treatment programs, do not own cars, or lack driver's licenses. Others commute from rural areas outside of Tulsa to work in the city. Fifty mile one-way trips are not uncommon.

"Our mission is to connect job-ready talent to business," says Camady. "Vanpools help ensure area businesses get the skilled, trained, educated workforce they need to create wealth for Tulsa."

JAM is a partnership between INCOG, Workforce Tulsa (the local Workforce Investment Board), the Tulsa Chamber of Commerce, United Way, Kaiser Family Foundation, Tulsa Re-entry One-Stop, Community Employment Opportunities, Family and Children's Services Women in Recovery program, the Oklahoma Department of Career Tech Skills Center, Madison Strategies Group and Good Will.

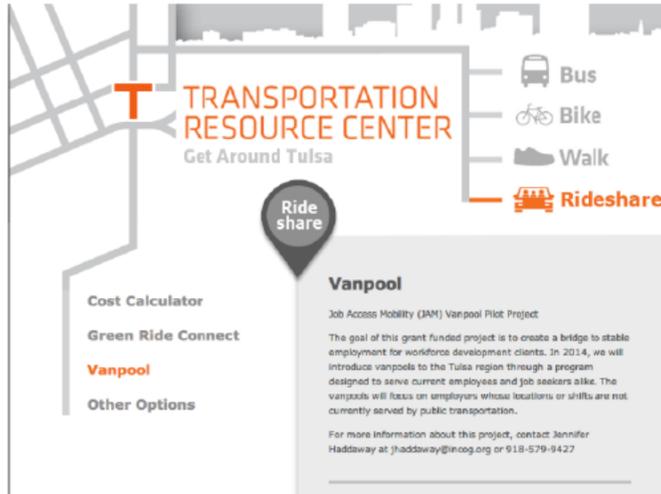
The pilot program significantly improves



The debut of JAM's vanpool this past July.

access to employment hubs not currently served by public transportation. Vanpools also improve access to work for employees working second and third shifts. And they benefit local employers struggling to fill many open positions, by ensuring that employees arrive on-time each day, regardless of which shift they work. Human Resources staff – burdened with meeting recruiting challenges – voiced their support of the pilot early on. However, they could not spare the time needed to advance the concept through

Vanpooling in Tulsa



T TRANSPORTATION RESOURCE CENTER
 Get Around Tulsa

Bus
 Bike
 Walk
 Rideshare

Ride share

Cost Calculator
 Green Ride Connect
Vanpool
 Other Options

Vanpool
 Job Access Mobility (JAM) Vanpool Pilot Project

The goal of this grant funded project is to create a bridge to stable employment for workforce development clients. In 2014, we will introduce vanpools to the Tulsa region through a program designed to serve current employees and job seekers alike. The vanpools will focus on employers whose locations or shifts are not currently served by public transportation.

For more information about this project, contact Jennifer Haddaway at jhaddaway@incoog.org or 918-579-9427

the various review stages required by individual employers. Working with JAM eliminates those hurdles.

Although new to Tulsa, its structure is much like many traditional vanpooling programs, whereby the driver takes possession of the vehicle for daily trips and rides for free. Up to 15 riders split the costs for fuel and maintenance, which varies depending on the miles driven and type of van used. A national provider of vanpooling services manages

the program under contract, covering the cost of vehicle insurance, maintaining vehicles, conducting driver background checks and providing riders with emergency rides home, when needed. Currently, the average monthly cost per rider is \$70, including the cost of fuel.

Marketing the program is now a core component of Workforce Tulsa's outreach efforts. Kyle Smith, Workforce Tulsa's Business

Service Manager, anticipates two more large employers, each requiring multiple vans, will implement vanpools within the next few months. Employers routinely mention transportation as a barrier to recruitment and educating them about the vanpool program has become a key element of the effort. Minimal liability for employers and the opportunity to build worker camaraderie also aid in marketing the vanpools.

Benefits from an Employer Perspective

Currently, there are two vanpools traveling to an oil industry manufacturer and a wireless company with multiple locations throughout Tulsa. Each views the program as essential to worker recruitment and retention. **S&R Compression** was the first employer to opt-in to the project. S&R's facilities – along with those of 12 other employers – are located in a Tulsa-based industrial zone. Employees of any of the companies within the zone can access S&R's vanpool. While only five riders currently participate, Christy Sanders, S&R's Business Manager, expects ridership to increase as employees recognize the advantages of vanpooling. Sanders, who immediately recognized the benefits to company employees, routinely includes vanpooling information with employee paychecks to encourage greater utilization.

"The vanpool program is a fantastic idea," says Sanders. "It has contributed to improved retention even in light of layoffs earlier this year."

Vanpooling in Tulsa

Participating in JAM enables Blue Jay to employ formerly homeless individuals or veterans lacking access to personal vehicles or those who are unable to obtain a drivers license. One vanpool has been operating since September. The van travels multiple times a day, accommodating various work shifts. In total, 17 employees participate. A second vanpool, traveling to additional company retail locations in Tulsa is expected to begin soon. The company currently covers the entire cost per rider (\$75 per month), and is considering participation in the Commuter Tax program.

Diverse and Multiple Funding Supports the Program

INCOG obtained a \$40,000 FTA Job Access and Reverse Commute (JARC) to support the two-year pilot. A \$10,000 local match was provided by the George Kaiser Family Foundation. The funds subsidize the cost of leasing between six and 10 15 passenger vans. Each vanpool receives a \$400 month subsidy for its first 90 days of operation, allowing all passengers to ride free. Employers have effectively used this benefit to inform and recruit workers to the program. Grant funds also subsidize seats for Workforce Tulsa referrals (two seats per van), allowing participants to build income and acclimate to permanent employment.

"A lot of employers understand the vanpool concept and are willing to embrace it," says INCOG's Jennifer Haddaway.

In addition to the federal and local funding provided through INCOG, a United Way Innovation Grant supports marketing efforts for the project. Workforce Tulsa is using the \$50,000 Innovation Grant to support an account representative, tasked with marketing the program to employers and provide customer service to users. Once the funds are expended, Workforce Tulsa will absorb the costs related to the provision of business services.

Project Sustainability

Now that the program has achieved some early success, the collaborative hopes participating companies will help pay future operating costs. INCOG is exploring additional opportunities to sustain the project beyond its pilot phase. Among these are Congestion

Mitigation and Air Quality (CMAQ) funding and ongoing federal funding for local transit programs. Participating employers will also be encouraged to provide financial support to the program.

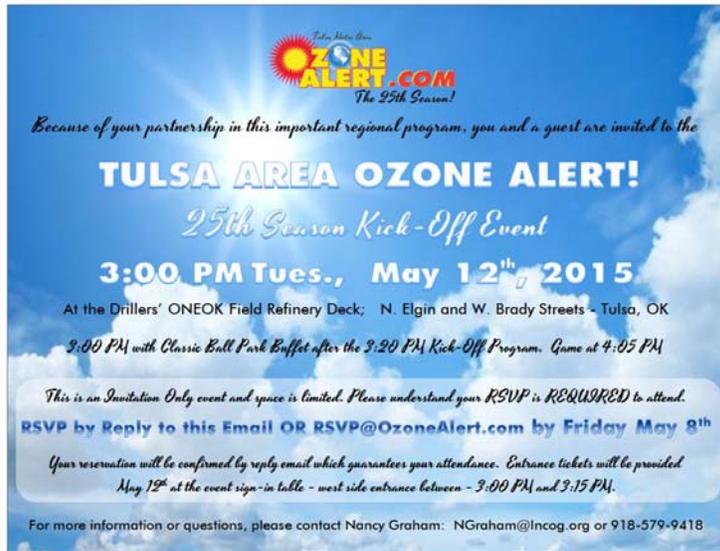
Additional information about vanpooling is available via CTAAs National Center for Mobility Management. To review information about other innovative programs, trainings and webinars, visit <http://nationalcenterformobilitymanagement.org/by-topic-rideshare/>.



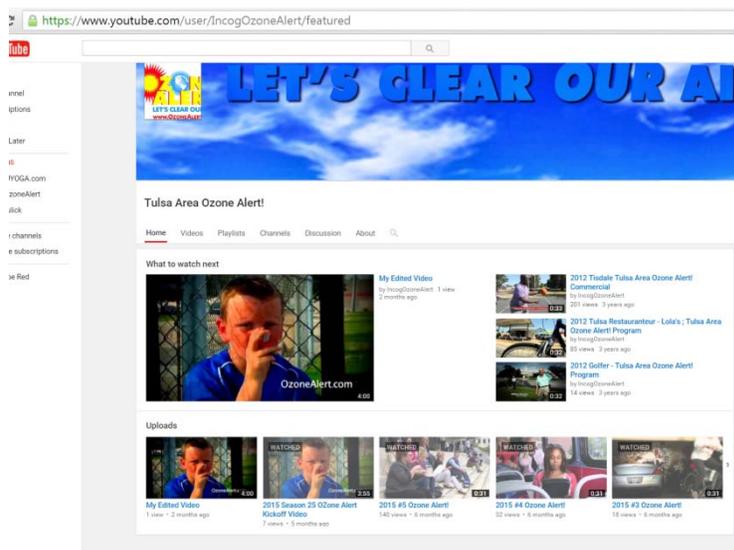
Tulsa Area Ozone Alert! Program

Tulsa Area Ozone Alert! Program 2015 Outreach

The 2015 ozone season spotlighted 25 years of improving the air in the Tulsa region. The season kicked off with an annual event on May 12th.



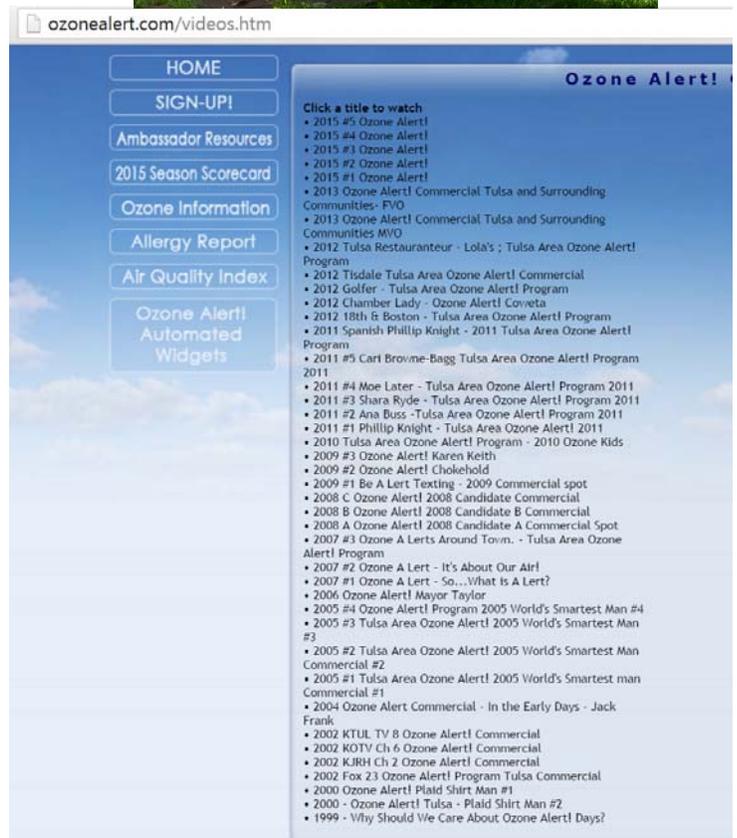
A 4-minute video celebrating 25 years of educating the public was produced for the season kickoff event. This year's public education campaign centered on thanking the community for doing their part over the years – letting them know that “You’ve Made the Difference”. The season kick-off video can be viewed on the Ozone Alert! Program’s Youtube channel: <https://youtu.be/L7VmUaqqWXg> This video pulls excerpts from Ozone Alert! Program commercial spots produced and placed locally over the past twenty years. The spot ends with one of the new 30 second 2015 “Thank You – You’ve Made the Difference” commercials.



Five newly developed and produced commercials for our 2015 ozone season were placed throughout local media with a minimum 20% local station match. The campaign season advertisement budget of \$60,000 resulted in some cases in more than 100% match placement.



The Tulsa Area Ozone Alert YouTube Channel displays the creative video commercials developed by INCOG staff and voluntary Public Relations Team over the years. A directory of the commercials in chronological order, is also located on the OzoneAlert.Com website. The website plays the commercials in an imbedded player however also provides link to program's YouTube Channel: <http://ozonealert.com/videos.htm>



2015 Ozone Alert! Paid Media Scheduling

		June				July			August			September	
		22	29	6	13	20	27	3	10	17	24	31	7
TV													
Cox Media - Cable stations	10,000.00												
KOTV 6 (CBS)	12,000.00												
KTUL 8 (ABC)	6,180.00												
KJRH 2 (NBC)	8,000.00												
Fox23 (FOX)	10,000.00												
RSU-TV (Public TV)	650.00												
RADIO													
CoxMedia - KRMG	1,750.00												
CoxMedia - KRAV	875.00												
CoxMedia - KJSR	875.00												
CoxMedia - KWEN	1,400.00												
Total Traffic & Weather	2,250.00												
Iheart The Twister	1,750.00												
National Public Radio	2,000.00												
Digital													
CoxMedia Mobile Digital	2,000.00												
TulsaNow Digital Ad	270												
	60,000.00												

Ozone Alert! Social Media in 2015



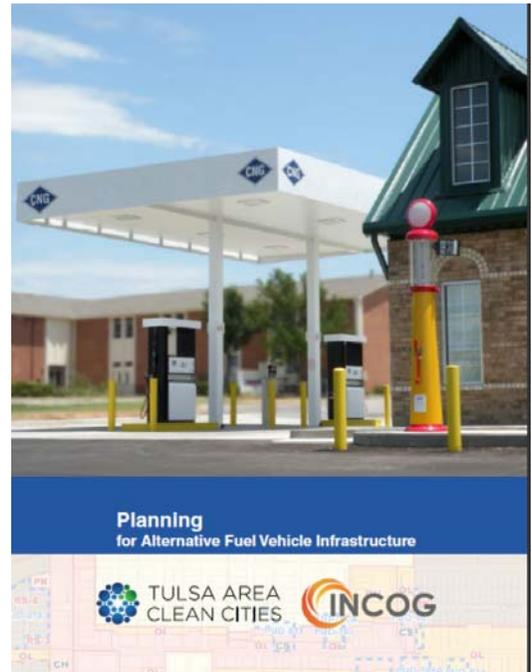
Tulsa Area Clean Cities I-40 Grant Projects

Planning for Alternative Fuel Vehicle Infrastructure

As identified in the project table, the TACC I-40 grant will be completed at the end of the year. One particularly important outcome is the “Planning for Alternative Fuel Vehicle Infrastructure”. In addition to working with the City of Tulsa through an alternative fuel-friendly newly adopted zoning code (<http://www.tmapc.org/>) the grant provides this valuable information resource to communities throughout the Tulsa region and the nation.

A link to the full document:

<http://tulsacleancities.com/projects/planning-for-alternative-fuel-vehicle-infrastructure/>



Transportation System Strategies and Projects

Go Plan



Completed in September 2015, the GO Plan is a Bicycle/Pedestrian Master Plan which will provide a comprehensive regional plan for pedestrian and bicycle improvements; provide connectivity to the existing regional trail network using on-street treatments; improve pedestrian and bicycle safety; provide a more strategic approach to competing for pedestrian and bicycle funding; and identify barriers, with solutions, for

residents to safely access destinations using walking or bicycling modes within the Tulsa region.

The GO Plan somewhat initiated with the PLANiTULSA, the city’s comprehensive plan adopted in 2010 provides for a greater level of connectivity.



The GO Plan includes 11 cities in the Tulsa Metropolitan Area: Bixby, Broken Arrow, Catoosa, Collinsville, Coweta, Glenpool, Jenks, Owasso, Sand Springs, Skiatook, and Tulsa.

The full GO Plan including individual community sections: <http://tulsatrc.org/goplan/#sthash.DtloWZA3.dpuf>

Green Infrastructure and Sustainable Development (New)

Tulsa Urban Forest Master Plan

In the spring of 2015, the Tulsa area through the leadership of Up With Trees, began the process of developing a long-term comprehensive urban forestry master plan. A Master Plan Advisory Committee was established, and a vision born.

Mission Statement: "Engage public and private stakeholders within the greater Tulsa area to plan, build and fund a comprehensive urban forest master plan that will identify the current needs of Tulsa's urban forest, outline potential challenges and opportunities, and ultimately define what Tulsa's urban forest will be in the decades to come."

As a first step to formulating the Urban Forest Master Plan, Up With Trees contracted data

gathering to assess what Tulsa currently has. An iTree Eco Canopy Assessment will be used to determine health and constitution of the trees of Tulsa. The assessment will provide the percentage of canopy coverage, species distribution and health and viability of the current urban forest. It will also identify in real dollar amounts the environmental and economic benefits that Tulsa's trees provide including: Stormwater interception; Ozone mitigation; Carbon sequestration; and aesthetics and beautification within the community. (This study has recently concluded but is not yet available for inclusion in this update.)

The remaining steps for the Urban Forest Master Plan include the development of a full land cover extraction that maps tree canopy and identifies where changes have occurred over time. This canopy extraction will also identify planting opportunities by zoning and political district, and include the development of a canopy goal attainment plan. Finally, a final Urban Forest Master Plan document will be developed. This plan is expected to be completed by the end of 2016.

