



SCOTT A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN
Governor

November 21, 2018

Laura Bunte, Mail Code C304-01
U.S. EPA, OAQPS
109 TW Alexander Drive
Research Triangle Park, NC 27709

RE: 2018 Ozone Advance Program Update for the Tulsa Metropolitan Statistical Area

Dear Ms. Bunte:

The Oklahoma Department of Environmental Quality (DEQ), Air Quality Division, in collaboration with the Indian Nations Council of Governments (INCOG) is pleased to formally submit the Tulsa Metropolitan area 2018 update to our Ozone Advance program. This is a "living" document and will continue to be updated as programs are added or evolve. The Tulsa Metropolitan Statistical Area (MSA) has participated in EPA's Ozone Advance program since October 30, 2012 and comprises Creek, Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner counties. The enclosed document describes Ozone Advance initiatives and ongoing programs, and provides status updates to many of the programs listed in the 2017 submittal, along with several new programs.

The ground-level ozone reduction programs include voluntary and mandatory measures, as allowed in the EPA Ozone Advance Guidance Document. This mix of programs will allow for more expeditious implementation and provide flexibility for program stakeholders.

The EPA designated each of the counties in the Tulsa MSA as attainment/nonclassifiable in November 2017 for the 2015 ozone standard. It is our conclusion that participation in the Ozone Advance program has had a positive impact on ozone levels.

We look forward to continued participation in the Ozone Advance program. If you have any questions after review of this update, please contact Nancy O'Brien or Melanie Foster at 405-702-4100.

Sincerely,

A handwritten signature in black ink, appearing to read "Eddie Terrill".

Eddie Terrill
Division Director
Air Quality Division

cc: Ken Boyce, EPA
Randy Pitre, EPA
Nancy Graham, INCOG

Enclosures



2018 - Tulsa Area Ozone Advance Program Annual Update - New and Ongoing Projects

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and - /or Completion Date
Energy Efficiency	Alternative Fuel Vehicle (AFV) Tax Credit	State of Oklahoma	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) 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. 2018 Update: The tax credit remains in place through 2019 with ongoing legislative discussion regarding whether to either let it expire or to substantially amend and extend it.	Ongoing	1990 -
	Alternative Fueling Infrastructure Tax Credit	State of Oklahoma	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. 2018 Update: The tax credit remains in place through 2019 with current ongoing legislative discussion to either let it expire or to substantially amend and extend it.	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.	Ongoing	2010 -

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	CNG Fleet Conversion	Oklahoma Department of Transportation/ Oklahoma Turnpike Authority	As of 2016, ODOT had replaced 675 of its approximately 1190 light duty vehicle fleet with CNG vehicles. 2018 Update: OTA currently has 170 passenger vehicles with 85% of them being CNG. No update available for ODOT.	Ongoing	2016 -
	Alternative Fuels Incentive	Oklahoma Natural Gas Company	ONG offers rebates of \$2,000 for the purchase of a dedicated or bi-fueled vehicle and \$3,000 for the purchase of a residential home-fueling system. The program is expected to continue, with no set cut-off or termination date.	Ongoing	2012 -
	CNG Fleet Conversion	Metropolitan Tulsa Transit Authority (MTTA)	MTTA maintains a fleet of approximately 100 vehicles. These include full size fixed route passenger and smaller lift program buses. 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. 2016 Update: MTTA currently owns and operates 26 full-size CNG Transit buses, 44 CNG Para-Transit buses, and one hybrid electric bus. MTTA's current CNG vehicle count remains at 2016 levels, however, eleven full sized CNG transit buses have been ordered for the Peoria Avenue Bus Rapid Transit Project (BRT). Addressed below in the table and in Appendix D, the Peoria Avenue BRT project timeline has moved up by 2 years and is now planned to be operational in the spring of 2019.	Ongoing	2011 -

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	CNG Fleet Conversion	City of Owasso	In 2010, the City of Owasso chose to incorporate CNG vehicles into their city fleet. By 2011, they had opened their first public-private CNG station in their downtown area and are now well on the way to converting the fleet. 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). The City of Owasso now has one heavy-duty CNG truck and 13 light-duty vehicles, and continues to maintain their downtown Owasso public CNG fueling station.	Ongoing	2010 -
	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 buses 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 to CNG by 2020. In 2014, TPS fully upgraded a compressor station at the fleet's McBirney bus lot, operates nearly 150 CNG school buses and implemented a fleet Idle Reduction Program.	Ongoing	1988 -
	Electric Vehicles and Charging Infrastructure Strategic BuildOut	INCOG/ Tulsa Area Clean Cities/ Public Service Company of Oklahoma	Strategic Planning for Accelerated Deployment of Electric Vehicles and Charging Infrastructure in the Tulsa Area. 2018 Update: Two new City of Tulsa locations will have level 2 charging stations installed within the year. Additionally, the Tulsa Zoo and Gilcrease Museum will each have 2-4 level two chargers installed in their parking lots to allow patrons to charge. And finally, in September, INCOG's Board of Directors approved \$300,000 for EV Charging Infrastructure and locations are currently being determined for 2 or 3 DC Fast charging stations strategically located at highway interchanges around the city.	Ongoing	2016 -

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		Cherokee Nation	Announced August 2018, Oklahoma's Cherokee Nation has been awarded \$1,318,600 from the Department of Transportation under the Low No-Emission (Low-No) Bus Program. They will be purchasing two Proterra electric buses and four new charging stations to transport employees and tribal citizens to work and health centers across eastern Oklahoma. The award makes Cherokee Nation the first tribal government to purchase electric transit buses, the first tribal nation to receive Low-No funding from USDOT, and places them among the first operators of electric buses in rural applications in the nation. Cherokee Nation anticipates the buses and equipment to be serving the region within the next two years.	NEW/ Ongoing	2018-
		Electrify America	Electrify America funding will be placing DC Fast EV Charging Station Equipment at public Walmart parking lot locations in Bristow and Vinita.	NEW	
		City of Tulsa/ Strategic Mobility Plan	City of Tulsa Urban Mobility Innovation Team Purpose: To develop a policy and technical action plan to lower barriers for emerging transportation technology adoption in Tulsa. Outcomes: Tulsa will be among leading cities around the world embracing innovation in transportation technology. Create a team of informed business and government leaders to advise on policy and technical issues. Develop key components of Tulsa's Strategic Mobility Plan.	NEW/ ongoing	2018

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Energy Efficiency	Mandated Energy Efficiency Requirements	State of Oklahoma	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.	Ongoing	2008 -
	The Oklahoma Energy Security Act	State of Oklahoma	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. <u>2017 Update:</u> In response to a proposal by Tulsa Area Clean Cities, INCOG, ACOG, and ODOT, the Federal Highway Administration designated all of the interstates in Oklahoma as Alternative Fuel Corridors. Under this designation, there are two categories, "signage ready," meaning the fueling infrastructure exists in sufficient quality and intervals to denote the corridor; and "signage is pending," meaning corridor is prioritized for future fueling infrastructure development. Oklahoma was the only state to have all of its interstates designated as "signage ready" for CNG. OK also received a "signage pending" designation for EVs, paving the way to prioritize and coordinate EV infrastructure projects along those routes.	Ongoing	2010 - 2025

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	Oklahoma First Energy Plan	State of Oklahoma	The 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. https://www.ok.gov/governor/documents/Governor%20Fallin's%20Energy%20Plan%20-%20Jan%202012.pdf	Ongoing	2011 -
	Oklahoma State Facilities Energy Conservation Program	State of Oklahoma	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. Oklahoma's energy reporting and resulting savings occur through the Energy CAP calculation and reporting software system. The energy savings database can be accessed from the 20x2020.ok.gov/resources website, the Energy Database menu; then https://web.energycap.com . Login access information for each of the three (Username, Password, and Data source) is the word: Oklahoma. The software tracking system was initiated in 2014 and each reporting year reflects greater state building energy savings. September 2015 - August 2016 reflects a 34.7% daily average cost savings over the previous year with 69.4% of those occurring from reductions in electricity usage.	Ongoing	2012-2020

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	Demand Response Energy Performance Reduction Program – Residential and Commercial	Public Service Company of Oklahoma	Public Service Company of Oklahoma's (PSO) Energy Efficiency and Demand Response portfolio is multi-faceted portfolio of programs for residential and business customers encouraging and incentivizing the reduction in energy usage and peak energy demand. Since 2010, PSO has successfully implemented programs to help customers save energy, reduce peak demand and make the most efficient use of electricity. The programs attempt to successfully reach all demographics including limited income, hard to reach, new construction, existing construction, non-profit, state and local governments and business customers of all sizes. PSO continues to refine and update offerings for customers to enhance energy efficiency and demand response opportunities. 2018 Update: PSO's most recent 2017 Annual Report indicates an annual net EE Lifetime Energy Savings total of 1,406,447,000 kWh. Since 2010, PSO estimates net EE Lifetime Energy Savings total more than 7,000,000,000 kWh. Using the eGRID annual emission rates for the SPP South (SPSO) sub region, lifetime emission reduction estimates are: 1,060,026 tons of CO2, 77 tons of CH4, and 12 tons of N2O.	Ongoing	2012 -

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	Oklahoma Natural Gas (ONG) Energy Efficiency Program	Oklahoma Natural Gas (ONG)	<p>ONG's energy efficiency programs provide incentives for residential and commercial customers.</p> <p>2018 Update: ONG's latest Energy Efficiency Program Portfolio's reporting (dated March 2018) reflects a total cumulative energy savings from all programs of 23,460,739 Dth, with 17,570,944 Dth from Residential Sector Programs, 537,030 Dth from Small Commercial Sector Programs, and 5,352,765 Dth from Large Commercial Sector Programs.</p> <p>Annual energy savings by program and the resulting **estimated emissions reductions are:</p> <p>1) Low Income Heating System Checkup: 321,611 therms saved resulting in 4,346.17 CO2e, 1000 lbs and 5,074.96 lbs of NOx reductions;</p> <p>2) Water Heater Replacement Program: 57,364 therms saved resulting in 775.19 17 CO2e, 1000 lbs and 905.19 lbs of NOx reductions;</p> <p>3) Heating System Replacement Program: 1,522,511 therms saved resulting in 20,574.85 CO2e, 1000 lbs and 24,024.94 lbs of NOx reductions;</p> <p>4) Clothes Dryer Replacement Program: 93,151 therms saved resulting in 1,258.83 CO2e, 1000 lbs and 1,469.91 lbs of NOx reductions;</p> <p>5) Range Replacement Program: 31,901 therms saved resulting in 431.10 CO2e, 1000 lbs and 503.39 lbs of NOx reductions;</p> <p>6) New Homes Program: 1,213,218 therms saved resulting in 16,395.00 CO2e, 1000 lbs and 19,144.36 lbs of NOx reductions;</p> <p>7) Commercial Custom EE Program: 1,581,400 therms saved resulting in 21,370.66 CO2e, 1000 lbs and 24,954.20 lbs of NOx reductions;</p> <p>**Reduced emissions estimates use the Source Energy and Emissions Analysis Tool (SEET), developed by the Gas Technology Institute</p>	Ongoing	2012 - 2019

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	OG&E Energy Efficiency Programs- Commercial	OGE Energy Corp.	<p>System wide, OG&E currently projects energy efficiency and demand reductions of up to 549 MW and 1,130 MWh through 2024.</p> <p>2018 Update: In 2017 Commercial Energy Efficiency Program (CEEP) - total savings of 71,541,185 kWh. Includes:</p> <ul style="list-style-type: none"> 1) Commercial HVAC Tune-up and Plenum Seal 2) C&I HVAC Equipment, Chillers, Air Compressor, motor rebates 3) Midstream LED lighting discounts at commercial distributors 4) Schools and Government, HVAC & Lighting rebates and assessments 5) Small Business direct install measures 	Ongoing	2016 through 2018

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	OG&E Energy Efficiency Programs- Residential	OGE Energy Corp.	<p>Oklahoma Gas and Electric Company (OG&E) has the most widespread Smart Grid technology in the country, which offers variable pricing through their Smart Hours program.</p> <p>2018 Update: In 2017 OG&E offered the following energy efficiency programs targeting Residential Customers:</p> <p>2017 Home Energy Efficiency Program (HEEP)</p> <ul style="list-style-type: none"> 1) Residential Free HVAC Tune-up and Plenum Seal 2) OK Schools outreach; Educational Kit including install items for 5th grade students 3) Upstream LED lighting discounts in select stores 4) Insulation and HVAC equipment rebates; <p>Estimated savings -- 51,270,492 kWh.</p> <p>Weatherization—free energy efficiency improvements for lower-income customers which includes ceiling insulation, general air infiltration improvements, LED lighting installations and performance testing; 2017 savings of 12,519,108 kWh.</p> <p>Positive Energy Home—certification for homes that are shown to be 50% more efficient than code; 2017 savings of 3,673,856 kWh.</p>	Ongoing	2013 -

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	State Energy Program American Recovery & Reinvestment Act Revolving Loan Funds	Tulsa Area Clean Cities Program / INCOG	<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. The project entails replacing the inefficient controls with computerized direct digital control systems thereby dramatically improving the energy efficiency of the buildings. TACC/INCOG announced solicitation for the remaining \$652,000 loan program dollars in November 2015. 2016 Update: The Tulsa County EE retrofits are completed. Energy savings are being tracked by total reduced energy cost compared to the 3-year (2014-2015) energy usage average. The 2016 9-month (Jan. - Sept.) cost savings from the combined projects is \$123,811.00. In November 2015, two new EE loan program projects were awarded: \$310,000 to Rogers County to restore the County Courthouse Depression Era building; and \$320,000 to Tulsa County for HVAC and lighting replacements and upgrades critically needed at the O'Brian Park Recreation Center. The Rogers County project has experienced multiple delays due to staffing turnover and is not yet complete. The Tulsa County Parks project is complete and the energy savings data reporting will begin in Quarter 1 of 2018. The Tulsa County Courthouse project has yielded the following energy savings: 78753.33 therms of steam saved, representing a 25.5% reduction in steam used; and 380,620 kWh of electricity saved, representing an 8.1% reduction in electricity usage.</p>	Ongoing	2013 -

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	Tulsa International Airport Energy Efficiencies	Tulsa Airport Authority (TAA)	<p>Tulsa International Airport (TIA) is a modest facility located approximately five miles northeast of downtown Tulsa. Facility operations for this 1961 era building are handled by the Tulsa Airport Improvement Trust (TAIT). In conjunction with the planning for major building renovations, TAIT took the opportunity to turn the Airport into a clean energy and environmentally resourceful model for the Tulsa region. Tulsa's attainment status precludes many funding opportunities intended to encourage voluntary emission reductions projects, such as the Federal Aviation Administration's Voluntary Aviation Low Emissions (VALE) Program which is only available to areas that are in non-attainment or maintenance of the NAAQS. However, even without funding incentive, TAIT's renovation efforts strategically included unique projects and achievements to reduce ground-level air emissions during the renovations and build clean air efficiencies into the Airport's future.</p> <p>2018 Update:</p> <ul style="list-style-type: none"> • While TAIT is not eligible for Oklahoma Volkswagen Beneficiary Mitigation Plan funding, TAA continues to monitor the progress on Plan implementation and promote Category 7, Airport Ground Support Equipment, opportunities to the Commercial Airlines' local and corporate contacts. • TAA participates in the Sustainable Tulsa's Scor3card program. • In 2018, the Taxiway Juliet reconstruction project generated approximately 52,000 tons (65,600 square yards) of base material and concrete that was crushed on site and used as fill material to elevate airport property that would otherwise be unfit for business development. The same amount of weight and volume of base material and concrete used to rebuild the taxiway is being produced on site at the mobile concrete batch plant. Both activities are preventing vehicle emission pollutants from trucks. • TAA's ongoing LED retrofit projects include 184 pole lights in various locations, 535 can light fixtures throughout the airport facility, and retrofit 60 canopy light fixtures on the 2nd level of the parking garage for an estimated yearly savings of 	Ongoing	2012 -

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Energy Efficiency	Tulsa Area Ozone Alert! Program	INCOG	The Ozone Alert! Program 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. 2018 Update: The 28th Ozone Alert! Season was kicked off with its annual business, government and media partner event on May 21st, 2018. 2,976 Email subscribers and 956 Text Alert! subscribers received Alert! Day notifications. Additionally, real-time automated Ozone Alert! Day Widgets on community and partner websites were active throughout the season. This year's \$50,000 public education and outreach campaign encouraged actions to reduce ground-level ozone throughout Tulsa and surrounding communities. Developed by the Ozone Alert! Public Relations Team, the 2018 campaign "Let's KEEP Our Air Clear" promoted ozone-reducing actions and summer activities in our region's beautiful, clean and green outdoors. Five new x15 second and two new x30 second commercial spots were produced and placed on traditional TV, Radio, Print; digital banners, video, targeted and re-targeted digital; and Ozone Alert! Program Facebook/Twitter social media advertising venues. The season completed with a total of 9 Ozone Alert! Days issued and 11 Exceedance Days.	Ongoing	1991 -

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	Tulsa Area Clean Cities Coalition (TACC)	Tulsa Area Clean Cities Coalition / INCOG	<p>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.</p> <p>2018 Update: The Tulsa Area Clean Cities coalition experienced a 15% improvement in petroleum displacement last year, from the previous year. Their 2017 Annual Report (dated March 2018) captured local alternative fuel projects and actions reducing more than five million gallons of gasoline (5,375,030), 98% of which is directly attributed to alternative fuel vehicles (AFVs). The AFVs also contributed in large part to 8,047 tons of Greenhouse Gas Emissions reduced in 2017. TACC expanded its work with local utilities and property owners to increase the number of EV charging ports in the region, and formed a partnership to develop an initial phase of a DC Fast charging network to facilitate long-distance EV travel. Finally, TACC continued to develop the Tulsa EV Coalition to advance the use of electric vehicles in the Tulsa region. The goal of the group is to provide a place for advocates, industry, and utilities to discuss EVs and strategically work together to ensure the Tulsa area is ready for the growing number of EVs available to local consumers.</p>	Ongoing	1997 -

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	Public Outreach	Department of Environmental Quality	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. 2018 Update: In 2018, DEQ has utilized its social media sites of Facebook, Instagram, and Twitter to issue Ozone Health Advisories in addition to its list of subscriber emails and text messaging.	Ongoing	2006 -
	Scor3Card	Sustainable Tulsa	Sustainable Tulsa's Scor3Card Program is helping Tulsa area businesses assess, track, and expand their sustainability efforts. Patterned from studied successes in other regions, Tulsa's unique Scor3Card program is a proprietary sustainability framework developed by Sustainable Tulsa. Member businesses log into the Scor3Card online tool to identify and complete sustainable efficiency practices in materials management, energy, transportation, air quality, water conservation, a healthy work environment, and community stewardship. A Verification Board certifies completed Scor3Card items for Participation, Bronze, Silver, Gold, and Platinum Award Levels. The program just completed its second year with more than forty local business participants.	NEW	2016-

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Energy Efficiency	Peoria Ave. Bus Rapid Transit	City of Tulsa/MTTA/ INCOG	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. The AERO Bus Rapid Transit's new CNG buses have been ordered and the grand-opening launch date is now August 2019. 2018 Update: Transit's AERO project remains on track for the August 2019 launch. OK/Metropolitan Tulsa Transit Authority Grant Award: FY17 Grants for Buses and Bus Facilities Competition Project Selections D2017-BUSC-087 Tulsa Transit Bus Replacement Program. \$4,202,870	Ongoing	2019
	Tulsa Bike Share System	INCOG/Tulsa Tough/Tulsa Bike Share This Machine	Tulsa's New Bike Share System, Tulsa Bike Share, www.TulsaBikeShare.com , is a new 501c3 missioned to transform Tulsa by providing a high quality, convenient, and affordable bicycle transit system connecting people to more places where they live, work, and play in the region. And since the Tulsa Regional Comprehensive GO Plan was made final in 2015, progress to this end has continued. 2018 Update: This Machine (https://thismachine.bcycle.com/) officially launched in July 2018 and was enthusiastically welcomed by the Tulsa community. The bike share system uses BCycle Dash Smart Bike Technology System also currently found in 43 other locations around the U.S. (including OKC Spokies). Combined This Machine users have currently logged 9,430 trip miles with an estimated carbon offset of 8,966 lbs. Phase I places bikes and stations throughout downtown Tulsa and continues over the next several months for a total of 160 Bikes and 24 stations. This Machine dramatically compliments the small yet still operational Tulsa Townies bikeshare program along the Tulsa River Parks Trail. This Machine Phase II planning will include an additional 300+ bikes and 40+ stations.	Ongoing	2016 -

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	OKC – Tulsa Commuter Rail Program Initiative	ODOT	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. Planning for this long-term project continues.	Ongoing	Continuous
	Transportation Management System Considerations	INCOG	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. 2016 Update: Numerous specific intersection spot improvement projects were implemented over the past year. Additionally, real-time traffic flow detection has been added to Tulsa's dynamic overhead message boards - including alerts for traffic incidents and real-time destination travel times. Additional information about the Tulsa Metro Traffic Information System is found on the website: www.OKTraffic.org . 2018 Update: TSM projects continue to be implemented throughout the Tulsa Transportation Management Area.	Ongoing	2013 - 2018

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	Transportation Alternative Program	INCOG	Transportation Alternatives Program: INCOG will be administering approximately \$2.7 million for FFY 2017-2018 Urbanized Area Transportation Alternatives Program (TAP), as allocated through the FAST Act. Eligible projects include diverse types of on and off-road bicycle and pedestrian projects such as recreational trails, safe routes to school programs, and environmental mitigation relating to stormwater and habitat connectivity. The funding was awarded to the communities of Broken Arrow, Collinsville, Sand Springs, and Tulsa for Transportation Alternative projects all which fully align with the Tulsa Regional Bicycle & Pedestrian Master GO Plan.	NEW/ Ongoing	2014-

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	Bus & Bus Facilities Infrastructure Investment Program	ODOT	<p>Federal Transit Administration (FTA) Bus & Bus Facilities Infrastructure Investment Program: On September 25, 2018, FTA announced approximately \$366.2 million in project selections to improve the safety and reliability of America's bus systems and enhance mobility for transit riders across the country. A total of 107 projects in 50 states and territories will receive funding from FTA's Buses and Bus Facilities Infrastructure Investment Program. OKLAHOMA TOTAL: \$4,281,796</p> <p>Of that total, the Oklahoma Department of Transportation (ODOT) will receive \$3,874,200 to purchase replacement and expansion vehicles throughout the state. The new vehicles will help replace existing vehicles that have exceeded their useful life and help expand service to rural and tribal areas in 51 of Oklahoma's 77 counties. The remainder of the funds, \$407,596, will be used by ODOT to rehabilitate bus facilities throughout the state. The project will improve transit accessibility in rural areas. The Bus & Bus Facilities Infrastructure Investment Program (49 U.S.C. 5339) makes federal resources available to states and direct recipients to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities including technological changes or innovations to modify low or no emission vehicles or facilities. Funding is provided through formula allocations and competitive grants. A sub-program, the Low- or No-Emission Vehicle Program, provides competitive grants for bus and bus facility projects that support low and zero-emission vehicles.</p>	NEW	2018-
	Electric Scooters	City of Tulsa	City of Tulsa's ordinance established rules for the many new Lime and Bird electric scooters that have been introduced all over the City since summer 2018.	NEW/ Ongoing	2018-

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2018 - Tulsa Area Ozone Advance Program Annual Update - COMPLETED PROJECTS

Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
Energy Efficiency	City of Tulsa Energy Efficiency Conservation Block Grant (EECBG)	City of Tulsa	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.	Complete	2013
	Building Efficiency Improvements	Tulsa City-County Library	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. The completely renovated Downtown Tulsa Central Library held its grand opening October 1, 2016. Building LEED Silver Certification is in progress. Please refer to Appendix B for details about the Library's renovation achievements and energy efficiencies.	Complete	2010-2016
	Energy Efficiency and Conservation Block Grants	Tulsa County	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.	Complete	2010 - 2013
	Project Green Arm	City of Tulsa	The City of Tulsa has secured funding for an aggressive LED traffic light retrofit project totaling \$2,344,030. Expected to initiate in the Spring 2017, a significant number of old technology traffic lights will be replaced throughout the City. Additional information will be provided in future Ozone Advance annual updates. 2018 Update: This project was significantly modified and funding reallocated to incorporate the development of a new City of Tulsa GIS traffic assets database and conditional analysis system. LED traffic signal retrofits continue throughout the City of Tulsa and the originally intended project is no longer planned.	Complete	2016 - 2018

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	Wind Catcher Energy Connection	Public Service Company of Oklahoma	Public Service Company of Oklahoma (PSO) and Southwestern Electric Power Company (SWEPCO) are embarking on an unprecedented \$4.5 billion project to bring 2,000 megawatts (MW) of renewable energy from the nation's largest wind farm in the Oklahoma panhandle to customers in Oklahoma, Arkansas, Louisiana, and Texas. The Wind Catcher Energy Connection project involves 800 GE wind turbines at an under-construction partner wind farm in the panhandle, building approximately 360-miles of dedicated extra high-voltage 765 kilovolt (kV) power line to connect the renewable energy to two new substations, one located at the wind facility and a second near Tulsa. PSO currently has 1,137 MW of wind energy (22%) and the additional capacity will make up 40% of PSO's generating capacity by 2021. 2018 Update: This 5-state project was cancelled in July 2018 primarily due to the Public Utility Commission of Texas' decision to deny approval.	Cancelled	2017-2018
CNG/Alternati ve Fueled Vehicle & Infrastructure Projects	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

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	Tulsa Area Clean Cities I-40 Grant Projects	Tulsa Clean Cities/ INCOG	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. 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 was completed 12/2015.	Complete	2012 - 2015

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Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Tulsa Region Bicycle/Pedestrian Master Plan	INCOG	INCOG is working to prepare a Bicycle and Pedestrian Master Plan for the Tulsa Region. INCOG proposes the development of 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. The Bicycle and Pedestrian 'GO Plan' master plan for the Tulsa Region was completed, released at a Public Forum on September 15th, and 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) have also been incorporated into the GO Plan. During 2016, numerous sections and components of the GO Plan (Tulsa Regional Bicycle and Pedestrian Master Plan) were initiated - some are described as stand-alone projects within this Ozone Advance annual update. Additionally, Collinsville, Broken Arrow and Owasso have each adopted their own community sections of the comprehensive regional GO Plan.	Complete	2015

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Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Tulsa Area Clean Cities Vehicle and Infrastructure Grant Program	Tulsa Clean Cities/ INCOG	<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). 2016 Update: A new round of Clean Vehicle and Infrastructure Project funding totaling \$239,162.00 was issued for the following projects: City of Broken Arrow - Idle Reduction equipment on 1 ambulance (Stealth Power Smart Mobile Systems, \$32K); City of Owasso - Purchase of 3 new CNG/Bi-Fuel fleet vehicles (\$55,114); City of Sapulpa - Purchase of 2 new CNG/BiFuel 3/4 ton trucks (\$52,048); City of Tulsa - Purchase and installation of Level 2 public access EV Charging stations around the Tulsa metro (\$50K); Tulsa City County Central Downtown Library - Purchase and installation of Level 2 EV chargers in downtown library garage (\$50K). <u>2017 Update:</u> With some exceptions, the 2016 CMAQ funded projects generally remain in progress and will be reported on in a future update. The Downtown Central Library's Level 2 EV chargers have been installed, are operational and are regularly used by patrons. Because the EV chargers were completed significantly (and surprisingly) under budget, the Library intends to purchase its own electric vehicle with the excess funding.</p> <p>2018 Update: All 2016 CMAQ-funded projects have been completed and Tulsa's Central</p>	Completed	1997 - 2018

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Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Bike share Feasibility Study	INCOG	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 was retained to determine the long-term feasibility of a bike share program and implementation plan. Funding options and liability are focus areas of the plan. The Bikeshare Feasibility study was completed 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.	Complete	2014
	Public-fill CNG Station	Sparq Natural Gas, Timmons Oil Company, Dericks Leasing & Financial Company, and J-W Power	2018 Update: This Tulsa area CNG Station was completed and opened on May 18, 2018, marking Oklahoma's 121st public-fill CNG station.	Completed	2018
Department of Environmental Quality Programs and Rulemakings	Open Burning Rule	Department of Environmental Quality	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.	Complete	Eff. 7/1/2013

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Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Oil & Natural Gas Permit By Rule (O&NG PBR)	Department of Environmental Quality	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.	Complete	Sep-13
	Low NOx Burner Install	Oklahoma Gas and Electric	OG&E Muskogee Power Plant – Low NOx burner installation. 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. As of the fall 2015, all Low NOx burner systems have been installed on Units 4 and 5 at the Muskogee Power Plant. This equipment reduces average lb/mmBtu NOx rates by over 50%.	Complete	2016

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Path Forward Action Plan Category	Emission Reduction Project	Administrative Entity	Description	Status	Implementati on Schedule and/or Completion Date
	Low NOx Burner Systems, and other Air Pollution Control Systems	American Electric Power (AEP) - Public Service Company of Oklahoma (PSO)	<p>AEP-PSO Northeastern Power Station - Low NOx Burner Systems, and other Air Pollution Control Systems.</p> <p>2017 revisions - Unit retirement, and air pollution control projects:</p> <ul style="list-style-type: none"> • After the installation of the Low-NOx Concentric Firing System (LNCFS) in both the Unit 3 and the Unit 4 coal-fired boilers in 2012, the Unit 4 boiler was retired-in-place in April 2016, eliminating all air emissions from that unit • Also, the completion of the Refined Tuning project for the LNCFS has resulted in the Unit 3 boiler meeting the NOx limit of 0.15 lb/MMBtu since June 2015 (the project completion date was originally scheduled for April 2016) • Additionally, the Activated Carbon Injection, Dry Sorbent Injection, and Fabric Filter (ACI/DSI/FF) systems have been in operation on Unit 3 since April 2016, lowering the air emissions of mercury, sulfur dioxide, acid gases, and particulate matter • Furthermore, the Unit 2 natural gas-fired boiler has been meeting the NOx limit of 0.28 lb/MMBtu since the Low-NOx Burner/Overfire Air (LNB/OFA) installation in March 2014 	Complete	2012-2016
Green Infrastructure and Sustainable Development	Tulsa Urban Forest Master Plan	Up with Trees	<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. <u>2017 Update:</u> Tulsa's Urban Forest Master Plan has officially completed and its resulting resources, strategies and recommendations will help to assure a resilient, safe and connected urban forest for Tulsa's generations. The complete Master Plan is online at: https://www.upwithtrees.org/about-trees/master-plan/ Additionally, plan highlights, goals and recommendations are provided in Appendix ___ of this update.</p>	Complete	2015-2017

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Major Tulsa Area Facility Industrial Retrofits	Reduced Coal Generation NOx Reduction	Grand River Dam Authority	2018 Update: Grand River Dam Authority's 60-hertz natural gas and steam turbine went online in October 2017, replacing a coal-fired unit. The 495-megawatt capacity unit is one of the most efficient and cleanest in the world with a 62 percent combined cycle efficiency. The \$500 million project, in conjunction with emission control equipment retrofits on their Unit 2 coal-generator and newly completed wind generation capacity, fully diversifies GRDA's renewable energy portfolio using natural resources found within Oklahoma's borders: natural gas, coal, hydro, and wind.	Completed	2017
Enhanced Public Outreach and Education Programs	Tulsa Transportation Resource Center	INCOG	The Tulsa Transportation Resource Center (TRC) is a dynamic program designed to connect people to available transportation options. The website, www.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. 2018 Update: To effectively assess how best to manage the outreach efforts of Tulsa's rapidly emerging transportation resources, INCOG will be ending the TRC Program within the upcoming year. INCOG will determine next steps for possible revamping of this program and future initiatives in partnership with Tulsa Regional Bicycle and Pedestrian planning groups, Metropolitan Tulsa Transit Agency, Tulsa Bike Share, and other regional alternative transportation agencies.	Completed	2013 - 2018