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Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

MARY FALLIN  
Governor

October 25, 2013

Ozone Advance  
Laura Bunte, Mail Code C304-01  
U.S. EPA, OAQPS  
109 TW Alexander Drive  
Research Triangle Park, NC 27711

Dear Ms. Bunte,

The Oklahoma Department of Environmental Quality (DEQ), Air Quality Division, in collaboration with the Indian Nations Council of Governments (INCOG) would like to formally submit the Tulsa Metropolitan area path forward letter as required for participation in the U.S. Environmental Protection Agency's Ozone Advance program. This will be a "living" document and will be updated as programs are added or evolve. The Tulsa Metropolitan Statistical Area (MSA) was accepted into the Ozone Advance program on October 30, 2012 and comprises Creek, Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner counties. A detailed list of Ozone Advance initiatives and ongoing programs for the Tulsa MSA along with a schedule for implementation of each is enclosed.

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.

While the Tulsa MSA is currently designated as an attainment area, the current 2013 design values for all ozone monitoring sites in the Tulsa MSA exceed the 8-hour ozone standard. Given the area's history of successful air quality improvement, we believe previous violations of the 8-hour ozone standard can be mitigated.

The Tulsa MSA has previously participated in the Flexible Attainment Region Program, the 1-hour Ozone Flex Program, the Early Action Compact initiative and the 8-hour Ozone Flex Program. With continued and active determination, the Tulsa area remains committed to reducing emissions of ozone precursors and improving air quality.

We look forward to continued participation in the Ozone Advance program.

Sincerely,

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

Eddie Terrill  
Division Director  
Air Quality Division

cc: Carrie Paige, EPA  
Nancy Graham, INCOG





Regional Partners — Regional Solutions

2 West Second Street Suite 800 | Tulsa, OK 74103 | 918.584.7526 | [www.INCOG.org](http://www.INCOG.org)

# The Tulsa Metropolitan Area Path Forward Action Plan

for

# Ozone Advance

AN ODEQ - INCOG PARTNERSHIP

**2013**

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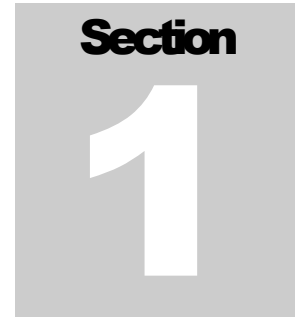
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## 1.0 Introduction

### 1. Executive Summary

The future of the Tulsa metropolitan area holds new business opportunities, existing business expansion, economic prosperity and excellent quality of life for our community. Economic growth however, is joined with the challenge of maintaining clean air quality.

The Tulsa area has a long proven history of air quality improvement at the regional 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 the Oklahoma Department of Environmental Quality (ODEQ) has participated in the Flexible Attainment Region Program, the 1-hour Ozone Flex Program, the Early Action Compact initiative and the 8-hour Ozone Flex Program.

Tulsa's ozone improvement trend however has been interrupted by the two record-breaking summers of 2011 and 2012 and we are now in the precarious position of having technically violated the ozone standard. With continued and active determination, the Tulsa region remains committed to identify and implement further emission reduction strategies to reduce precursors to ozone and improve air quality.

Ozone Advance is a voluntary local approach providing a structure and framework for local actions to improve air quality by reducing ozone forming emissions and thus maintain the 8-hour ozone National Ambient Air Quality Standard (NAAQS). EPA issued Ozone Advance guidance in April 2012

providing a recommended framework for participating areas. Soon thereafter, the INCOG Air Quality Committee with regional stakeholders determined participation in Ozone Advance and authorized ODEQ as the program's lead agency. By letter of intent to EPA on October 30, 2012, ODEQ initiated the Tulsa area's participation in Ozone Advance.

This document is the Tulsa Metropolitan Area's Path Forward Action Plan for Ozone Advance. It includes a carefully developed mix of programs and strategies, identified through collaborative stakeholder efforts, to expeditiously reduce ozone precursor emissions and improve air quality in the Tulsa area.

## **2. Agency Partnerships and Public/Stakeholder Participation**

The coordination of this plan essentially began twenty-three years ago with the establishment of the first INCOG Air Quality Committee. Since that time, the stakeholder group has grown stronger, added technical support groups, a public relations committee and many public and business partners. The 2013 INCOG Air Quality Stakeholder core membership list is provided on the following page.

In early January, 2013, the INCOG Air Quality Chairman initiated a letter of participation and invitation to the Ozone Advance Program planning process. In addition to the well-established stakeholder group, invitation was sent to several hundred locally permitted industries, interested parties, local businesses and the media. This initial and all subsequent Ozone Advance planning meetings were open to the public, with posted meeting times and locations, and the plan's drafting process provided sufficient opportunities for participation and comment from all interested stakeholders.

All components throughout the planning and development of this Action Plan advocated a consensus of support and partnership. The collaborative development process incorporated input from many and diverse air quality stakeholders – long and newly established.

**INCOG Air Quality Committee**  
**2013 Stakeholder Membership**

\*Chairman

Isaac Akem, Federal Highway Administration  
Nadine Barton, CASE  
Mike Bednar, GRDA  
Chris Benge, Tulsa Regional Chamber, Chairman\*  
Julia Bevers, OG & E  
Rich Brierre, INCOG  
Bill Cartwright, MTTA  
Laura Chaney, Oklahoma Department of Transportation  
Montelle Clark, ODEQ Air Quality Council  
Gary Collins, Terra Nitrogen, LP  
Bill Guebelle, ConocoPhillips  
Michael Graves, Hall Estill Law Firm  
Howard Ground, AEP-PSO  
Andrew Haar, HollyFrontier Corporation  
Bruce Heine, Magellan Midstream Partners, L.P.  
Michael Henk, Environmental Citizen  
Jeff Mulder, Tulsa Airport Authority  
Mike Neal, Tulsa Regional Chamber  
Lee Paden, Paden Law Firm  
Michael Patton, M.e.t.  
Steve Piltz, National Weather Service  
Bill Potter, University of Tulsa  
Don Pugh, American Airlines, Inc.  
Ken Ruffin, AEP  
David Streb, Oklahoma Department of Transportation  
Eddie Terrill, Oklahoma Department of Environmental Quality  
Mike Thornbrugh, QuikTrip Corporation  
Barbara VanHanken, Sierra Club  
Bob Wright, American Lung Association  
Dewey Bartlett, Mayor, City of Tulsa





Regional Partners — Regional Solutions

2 West Second Street Suite B00 | Tulsa, OK 74103 | 918.584.7526 | [www.INCOG.org](http://www.INCOG.org)

January 23, 2013

Dear INCOG Air Quality Partner:

The Tulsa area has long enjoyed a continued attainment status of EPA's National Ambient Air Quality Standards. You may be aware that not meeting federal air quality standards can potentially have negative consequences to economic development in our region. EPA most recently declared the Tulsa area in attainment for ozone based upon the 2008-10 averaging period; however, attainment status is now in jeopardy. The summer of 2011 resulted in area violations of the three-year averaged ozone standard. Adding the conditions brought by the 2012 summer, our region now violates the ozone standard with levels not seen since 2007 and earlier.

EPA has offered the Tulsa area the opportunity to participate in its new Ozone Advance Program. The Tulsa area has a long and successful history of industry and government working together to improve local air quality and maintain the ozone standard. We believe that voluntary common-sense initiatives have been the key to our remaining in attainment.

One purpose of this letter is to ask your assistance in developing voluntary emissions reduction strategies for our Ozone Advance Program action plan. Specifically, does your company have any planned emissions reduction initiatives on the drawing board within the next 5 years? Will you consider and evaluate potential ozone-forming emissions reductions to meet our short-term air quality need?

Secondly, this letter requests your attendance at an important upcoming meeting. The Oklahoma Department of Environmental Quality with the INCOG Air Quality Committee will hold an open meeting on **Thursday, February 7, 2013 at 2:00 p.m. at the Williams Tower II 2<sup>nd</sup> Floor Conference Room**, Two West 2nd Street (W. 2nd Street and Boulder Avenue), downtown Tulsa. Representatives from ODEQ and INCOG will present and discuss this important issue. An agenda with meeting location and directions is attached and on the [INCOG website](http://www.INCOG.org).

We value your partnership with this important effort to address our regional clean air status. If you have any questions, please contact Nancy Graham, INCOG's Air Quality Program Manager, at (918) 579-9418 or email [ngraham@incog.org](mailto:ngraham@incog.org).

Sincerely,

A handwritten signature in cursive script that reads "Chris Bengé".

Chris Bengé  
Chairman, INCOG Air Quality Committee

Enclosure

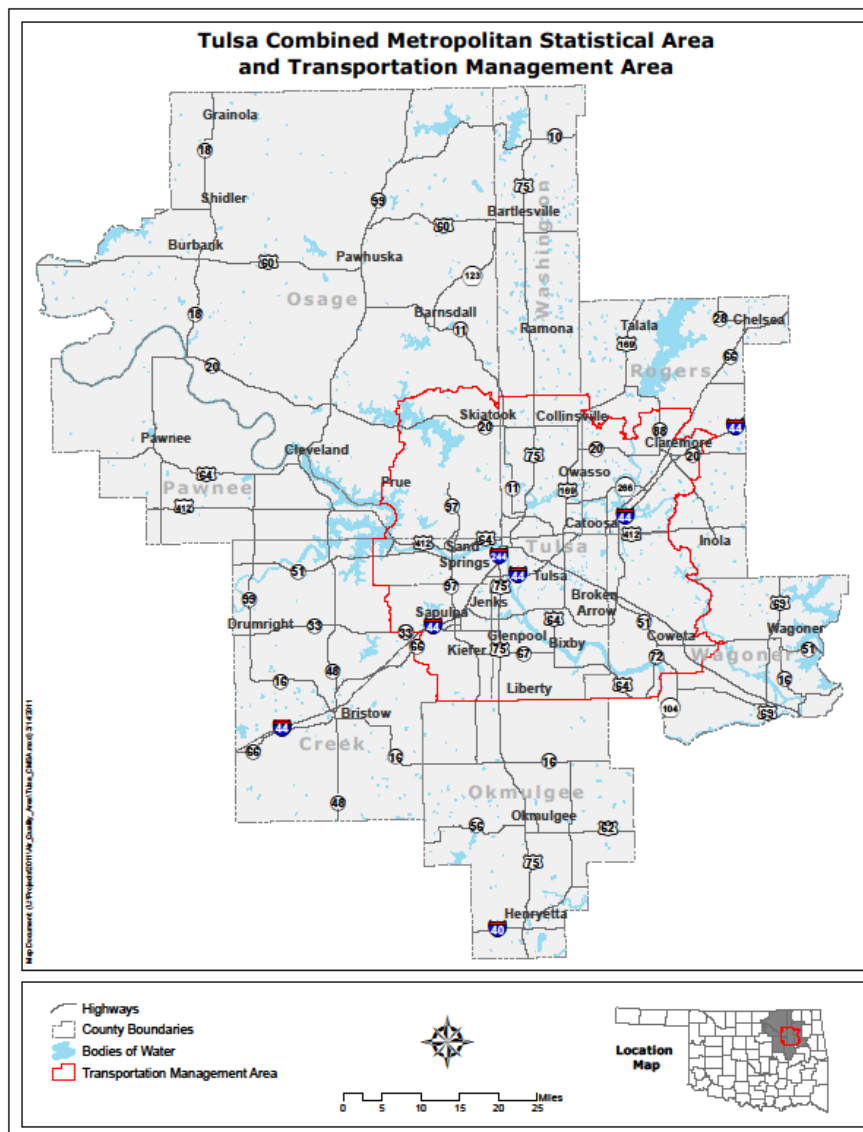
cc: Rich Brierre, INCOG Executive Director  
Dewey Bartlett, Mayor, City of Tulsa  
Eddie Terrill, Oklahoma DEQ  
Mike Neal, Tulsa Regional Chamber

### 3. Geographic Coverage

The Tulsa Transportation Management Area (TTMA), which comprises all of Tulsa County and portions of Creek, Osage, Rogers and Wagoner Counties is the minimum area covered by the Ozone Advance Action Plan. The TTMA is viewed as the boundary most appropriate, supported by the density of development and commuting patterns. The TTMA has been the area used by ODEQ and INCOG for numerous air pollution control planning activities including all prior voluntary agreements with the EPA. The Tulsa Air Shed and the TTMA are used interchangeably in this document. The map below identifies the TTMA in relation to the MSA and the state.

# The Tulsa Air Shed

## Within the Tulsa Metropolitan Statistical Area



4. Current Monitoring Status and Trend

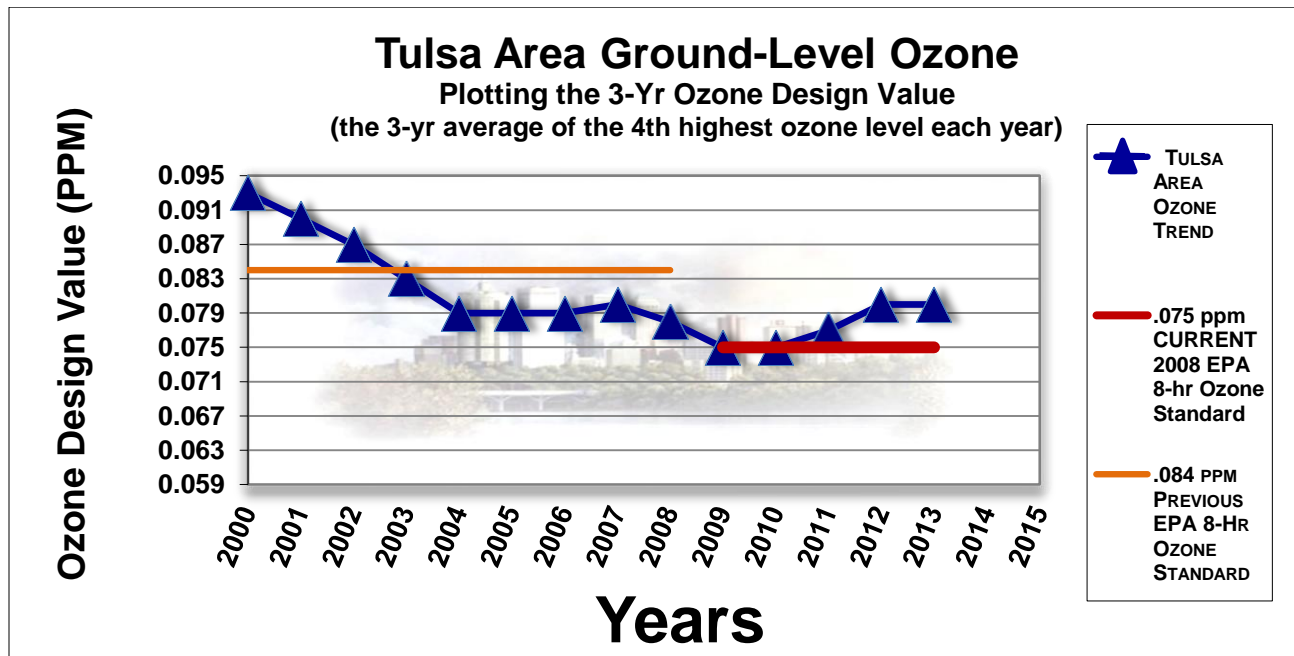
**2013 SEASON OZONE SCORECARD**  
Tulsa Area Ozone Trends Chart

Tulsa Area Ozone Highest 8-Hr Averages\*

Exceedance Days: **June 13; July 10; July 13; Sept 4; Sept 6; Sept 7**

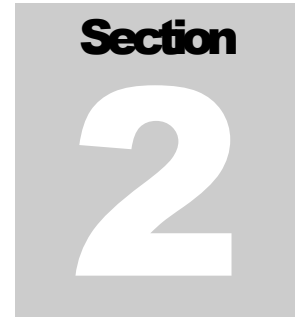
Last Updated: 9:50 AM 09/27/2013

Monitor Site			2013 Highest 8-Hr Ozone Averages (ppm) (1st through 4th highest readings)				DESIGN VALUE 3-Year Average of the 4th highest readings	
2010 4th High	2011 4th High	2012 4th High	1st Highest date	2nd Highest date	3rd Highest date	4th Highest date	2010-2012 Avg	CURRENT 2011-2013 3-Yr Avg
<b>West</b> (#144 Mannford)			0.073 1-Aug	0.071 26-Sept	0.068 14-Mar	0.068 13-Jul	0.078	0.078
0.069	0.083	0.083						
<b>East</b> (#178 Lynn Lane)			0.081 10-Jul	0.070 11-Jul	0.069 14-May	0.068 13-Jul	0.078	0.077
0.071	0.082	0.082						
<b>Central</b> (#1127 Tulsa)			0.076 4-Sept	0.076 7-Sept	0.074 5-Sept	0.072 13-Jul	0.080	0.080
0.070	0.085	0.085						
<b>North</b> (#137 Skiatook)			0.080 6-Sept	0.078 7-Sept	0.077 13-Jul	0.071 5-Sept	0.080	0.080
0.073	0.085	0.084						
<b>South</b> (#174 Glenpool)			0.081 13-Jun	0.072 11-Jul	0.070 7-Sept	0.069 13-Jul	0.077	0.077
0.069	0.080	0.083						



## **5. Plan Duration and Reporting**

The Ozone Advance Path Forward Action Plan is a local, proactive approach to ensure ozone improvement, attainment of the ozone NAAQS, and to protect human health. Importantly, this Plan is a ‘living document’, designed to evolve, grow and even change. As suggested in the EPA Ozone Advance Guidance, this plan has captured designated control measures and strategies over the next 5 years. Some are ongoing indefinitely, and are identified as such. When possible, projects have implementation dates defined. At a minimum of annually, ODEQ with the Tulsa area stakeholders will provide to EPA an update to this Action Plan.

A graphic consisting of a grey square. At the top, the word "Section" is written in a bold, black, sans-serif font. Below it, the number "2" is written in a large, white, sans-serif font.

## **2.0 Ozone Advance - Planning Measures and Emission Reduction Strategies**

INCOG and local entities in the Tulsa area have joined with the ODEQ to create a plan that improves air quality using a common-sense approach. Ozone Advance makes it possible to design significant and practical mobile, business, industrial and public emission reduction strategies through local partnership efforts while protecting the region's economy. This plan is designed to provide for the continued reduction of ozone precursor and particulate emissions using accelerated and reasonable control measures developed at the regional level.

This Ozone Advance Path Forward Action Plan is a starting point from which ongoing and dynamic initiatives are launched. The Tulsa area is committed to continued air quality improvement. These and other programs and initiatives will ensure continued protection of our citizens' health and quality of life.

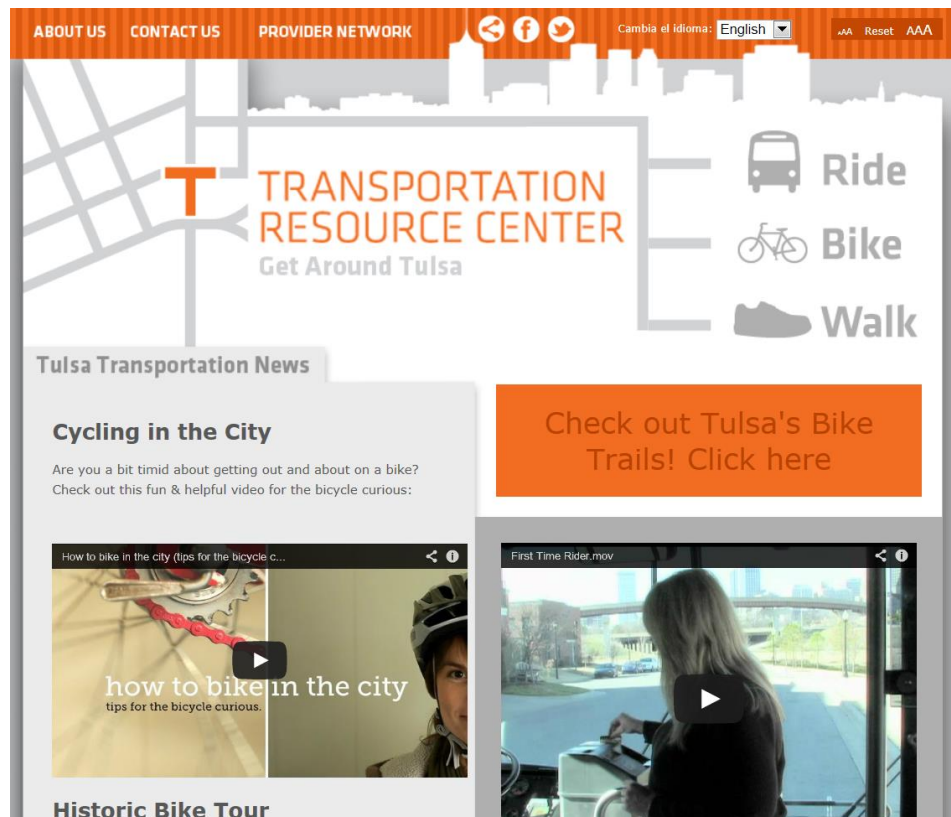
Building on the strength and partnerships already established in the Tulsa Area, the projects and strategies put forth in this Path Forward Action Plan are organized in the following manner:

- 1. Enhanced Public Outreach and Education Programs**
- 2. Energy Efficiency Strategies and Programs**
- 3. Compressed Natural Gas (CNG)/ Alternative Fueled Vehicle and Infrastructure Strategies and Projects**
- 4. Transportation System Strategies and Projects**
- 5. Department of Environmental Quality Programs and Rulemakings**
- 6. Major Tulsa Area Facility Industrial Retrofits**

As suggested in the guidance, a table in the final section identifies each measure and program to be implemented with description, key responsible agency, and implementation schedule.

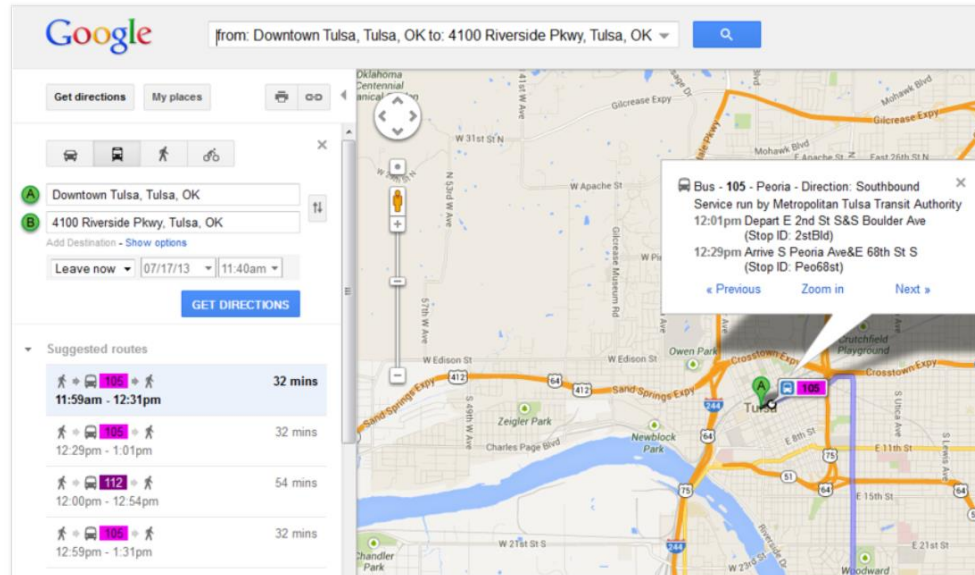
## 1. ENHANCED PUBLIC OUTREACH AND EDUCATION PROGRAMS

**A. Tulsa Transportation Resource Center** - The 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 biking, walking and riding (both transit and rideshare). News and events are displayed prominently on the homepage, and there is a special section for providers and partners to learn about upcoming meetings and funding opportunities. Previously transit, carpool, bicycle and pedestrian information was buried deep within the INCOG website. Transportation Resource Center outreach efforts will include working at community events, local company partnership and training, organizational meetings to present information, and more.



## City bus routes now on Google Maps

By KEVIN CANFIELD World Staff Writer on Jul 17, 2013, at 11:42 AM Updated on 7/17/13 at 11:57 AM



A screenshot of Tulsa Transit bus directions from downtown Tulsa to 41st and Riverside on Google Maps.



Tulsans can now plan their local bus trips on Google Maps.

**B. Tulsa Area Ozone Alert! Program** - The Ozone Alert! Program takes a voluntary, episodic approach to ozone pollution reduction. Twenty-three years strong, Tulsa's unique and regionally-supported program continues to expand in partnership, programs and public awareness. Governments, businesses, industries and individuals are urged to take voluntary action to reduce emissions of ozone. The OzoneAlert.Com website is the hub of the program that during the summer months, extends throughout all major media outlets, weather and news, the Tulsa World, and area communities. The email and text Alert! systems provide awareness to many thousands of subscribers, local news and meteorologist mobile apps send alerts, and ODOT's highway message signs alert commuters.





**Today is NOT an Ozone Alert! Day      Tomorrow IS NOT an Ozone Alert! Day**

**ZONE ALERT.COM**  
LET'S CLEAR OUR AIR

**Sign up for Text Alerts!**  
text "ozone" to #95920

The Ozone Alert! Program brings citizens, business, industry and government in the Tulsa Metropolitan area together to voluntarily reduce ozone-forming emissions on days vulnerable to high ozone levels.

HOME  
SIGN-UP!  
Ambassador Resources  
2013 Season Scorecard  
Ozone Information  
Allergy Report  
Air Quality Index

**Take Action**

- Drive less
- Avoid long idle times
- Bring your lunch to work.
- Trip chain.
- Refuel in the evening
- Do your garden chores gasoline-free.
- Sign up to be an Ozone Alert! Coordinator

[Take Action on Ozone Alert! Days](#)  
[Ozone Alert! Radio and Television](#)

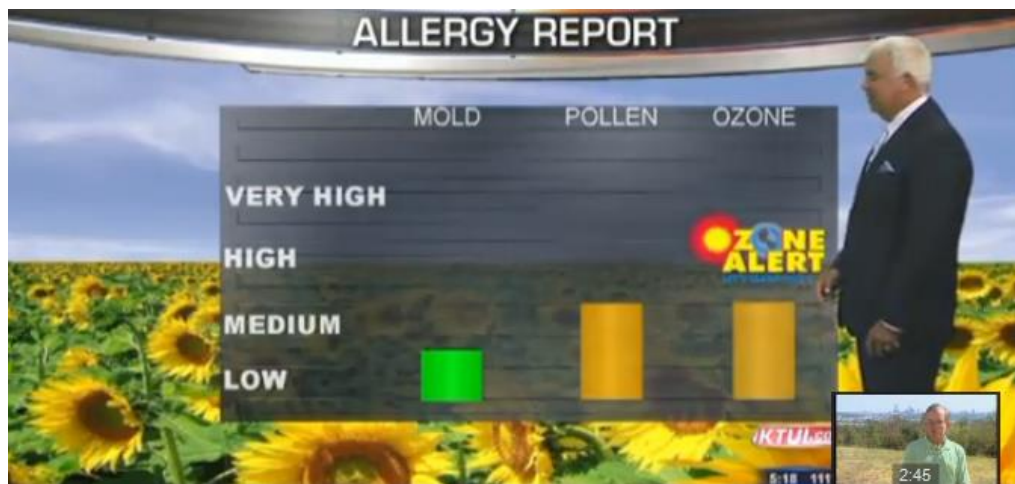
**Current Tulsa Area Ozone Reading (ppm)**  
Last updated: August 16, 2013, 5:36:57 pm

North	.053
Central	.058
West	.053
East	.051
South	.050

Today's high 8-hour Average: .047  
Have we exceeded the 8-hour standard today? NO  
Did we exceed yesterday? NO  
Today's high 1-hour average? .058

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*Tulsa's Ozone Alert! Program won the Henry Bellmon 2012 Award for Quality of Life for All ([http://youtu.be/YgdSp1\\_e9E](http://youtu.be/YgdSp1_e9E))*



**C. Tulsa Area Clean Cities** - Tulsa Area Clean Cities (TACC) is a local government-industry partnership tasked to reduce petroleum consumption in the transportation sector by advancing the use of alternative fuels and vehicles, idle reduction strategies, hybrid and electric vehicles, and fuel economy measures. TACC's vision is to engage Northeastern Oklahoma municipal, county and state fleet managers, as well as private industry fleet managers to build on Oklahoma's rich history of oil production by harnessing the power of other abundant natural resources in our great state; natural gas, vast crop land, wind, and sun to create new energy for a new tomorrow. Designated in 1997, the Tulsa Area Clean Cities Coalition consists of 120 local partners and stakeholders today.

**TULSA AREA CLEAN CITIES**  
a new energy for a new tomorrow

HOME ABOUT US » ALTERNATIVE FUELS & TECHNOLOGIES » INCENTIVES & FUNDING » go

## Welcome



Welcome to Tulsa Area Clean Cities. The Clean Cities mission is to reduce the use of petroleum in the transportation sector by utilizing alternative fuels, with a primary emphasis on fleets. Tulsa Area Clean Cities is one of two Oklahoma chapters of the United States Department of Energy [Clean Cities Program](#).

Tulsa Area Clean Cities is a voluntary organization made up of local and state government agencies, private companies, and non-profit organizations. Through our public-private partnerships we help enhance energy security, promote energy independence and advance environmental quality in the state of Oklahoma.

Hosted by  
**INCOG**

**Alternative Fueling Station Locator**

**MEETINGS AND EVENTS**

- Department of Energy Grant Overview: April 16, 2013
- Alternative Fuel Tax Credits and Incentives: May 1, 2013

The TACC 2012 annual survey of stakeholder fleets showed a reduction of 2,020,201 equivalent gallons of petroleum fuel. The survey indicated that 85% of the recorded gasoline reduction can be attributed to alternative fuel vehicles. The TACC's goals and objectives as solidified in the 2013 TACC Annual Operating Plan, directly enhance and benefit Tulsa's Ozone Advance efforts to

improve air quality. The coalition's alternative fuel vehicle and infrastructure development implementation goals include:

#### Fleet Adoptions - One Year Goals

- Promote idle reduction technologies especially to utility and police fleets
- Develop Oklahoma's tax credits to allow school districts and municipalities to take full advantage of the funds
- Target specialized fleets such as pharmaceutical, medical deliveries, and trade organizations
- Work with small business organizations to convert well-established local small fleets
- Continue to build relationship with tribal governments for conversion of their fleets
- Continue to build relationships with Pelivan Transit and KI BOIS Area Transit, two rural transit systems in the process of converting to CNG

#### Fleet Adoptions - Five Year Goals

- Get ten new fleets to commit to converting 50% of their fleet to AFVs
- Assist municipal fleets with their goals of 5% of their fleets to be alternative fuel vehicles

#### Infrastructure Development - One Year Goals

- Electric Vehicle Supply Equipment (EVSE) installations around the Tulsa area and in Stroud, OK. Stroud is the halfway point between Tulsa and Oklahoma City. A level 3 charging station at the travel stop in Stroud would allow cars like the Nissan Leaf to travel between the two cities.
- Get 3 new CNG stations built in our region.
- Build stronger relationships with local gas and electric utilities to have them more involved and engaged as alternative fueling infrastructure grows.
- Continue to educate the region about the need for infrastructure.
- Continue to research and seek funding opportunities toward our long term goals.

- Continue to be a resource for private/public partnerships towards building infrastructure.

#### Infrastructure Development - Five Year Goals

- Rural CNG station development in areas with an emerging demand and along corridors from Tulsa to other cities such as Dallas, TX and Wichita, KS, and Kansas City.
- Increase alternative fuel infrastructure by 15%
- Create a continuous funding source for public/private partnerships to utilize.

## 2. ENERGY EFFICIENCY STRATEGIES AND PROGRAMS

### A. Statewide Efficiency Measures

*a. Oklahoma State Mandated Energy Efficiency Requirements* – H.B. 3394/61 Okl. St. § 213 requires new construction or substantial renovation of buildings that receive 50% or more of their funding from the State of Oklahoma to meet the guidelines of the LEED system or the Green Globes rating system.

*b. The Oklahoma Energy Security Act* – H.B. 3028 set state wide 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.

*c. Oklahoma First Energy Plan* – This plan lays out policy guidance for a diverse energy portfolio that includes energy efficiency and encourages efficiency technologies such as CHP and geothermal. This plan is in line with the Oklahoma Energy Security Act's target of 15% statewide renewable energy use by 2015.

*d. Oklahoma State Facilities Energy Conservation Program* – S.B. 1096 established the Oklahoma State facilities Energy Conservation Program. The program directs all state agencies and higher education institutions to achieve an energy and conservation improvement target of at least 20% by 2020.

### B. Tulsa Region Efficiency Programs

*a. City of Tulsa Energy Efficiency Conservation Block Grant (EECBG)* – 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. Below are some of the City's identified EECBG projects.

- *Long Term Energy & Sustainability Plan Development* – The City of Tulsa used EECBG funds to develop an over-arching energy efficiency and sustainability plan. Produced in the fall of 2011, the City of Tulsa's Sustainability Plan identified methods for tracking internal and external GHG emissions, developing, implementing and quantifying the success of a broad based sustainability education plan, tracking cost and energy savings over time and

measuring progress toward other sustainability goals. Many areas and projects within the plan have begun implementation and will be incorporated into the Ozone Advance Plan, including the Energy Management and Fleet Management portions.

- *OSU Medical Center Retrofit Project* – The OSU Medical Center Retrofit project will allow for selection and replacement of specific medical and building facility equipment (as part of an existing retrofit project) to increase energy efficiency and reduce costs.
- *Brady Village Geothermal Project* – The Brady Village Geothermal Project will develop and implement a shared geothermal system within a revitalized section of downtown Tulsa. This project was begun by an award from the Oklahoma State Energy Program and private funds. The energy produced will be made available to surrounding businesses and residences, and will help in the larger effort to attract investment in this area. The project will have the capacity to produce over 400 tons of heating and cooling capacity, which will allow the conditioning of between 3,000,000 and 4,800,000 sq. ft. of space at about 60% of the cost of operating the most efficient air cooled units.
- *City of Tulsa Building LED lighting upgrades* – The City of Tulsa maintains some 230 buildings. The City plans to use EECBG funding to implement LED lighting efficiencies determined by energy audits on the City’s 5 most energy consumptive facilities. Implementation of these improvements is estimated to reduce energy consumption in the identified facilities by 25%.
- *Energy Efficient LED Traffic and Pedestrian Lighting* – In order to reduce operation and maintenance costs associated with traffic signals and pedestrian lighting, the City of Tulsa will replace much of the existing system lights with more energy efficient, LED technology.

***b. Tulsa City-County Library Efficiency Measures*** - The Tulsa City-County Library system’s main downtown library has begun a two-year renovation, aimed at creating 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. Planned improvements include:

- *HVAC system* - New high-efficiency, state-of-the-art boilers & chillers, chilled beam induction HVAC system, reuse of current cooling tower and cold-plate heat exchanger.
- *Electrical system*- New main distribution panels and subpanels to replace obsolete original equipment, new high-efficiency florescent and LED lighting, lighting controls integrated into building management system, use of daylight harvesting and occupancy sensors, raised-floor access system for electrical and data distribution to offer better flexibility of spaces.
- *Other Systems* - Rainwater harvesting/storage system for use in lawn irrigation, new building energy management system, modern fire alarm system, low water consumption restroom fixtures, new windows featuring insulated glass and thermally broken aluminum frames, additional roof insulation and new roof.

***c. Tulsa County Energy Efficiency and Conservation Block Grants*** – 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. The following completed projects are examples of this successful and ongoing grant program:

- *Chandler Park Solar Project* – Tulsa County installed a rooftop solar array on the Chandler Park Community Center, reducing the buildings operating cost by approximately \$10,000 annually.
- *Led Lighting Replacement* – Tulsa County installed an energy efficient LED lighting system in the county's Emergency Shelter, reducing the shelter's energy consumption by approximately 20%.

***d. Public Service Company of Oklahoma's Demand Response Energy Performance Reduction Program – Residential and Commercial*** -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. Numerous programs provide diverse resources

and incentives to encourage upgrading the energy efficiency of appliances, industrial processes and equipment, and existing structures. The innovative Peak Performer Program provides incentives for business and industries to reduce electric usage for brief peak usage periods during the summer ozone season. Over the next three years, PSO's Energy Efficiency/Demand Response Program is expected to reduce energy consumption by 191 gigawatt hours, and achieve 244 megawatts of demand savings.

*e. Oklahoma Natural Gas (ONG) Energy Efficiency Program* – ONG's Energy Efficiency Program provides robust rebate incentives for residential and commercial customers. The program encourages and awards new energy-efficient natural gas appliances choices and even provides a homeowner rebate for having their gas heating system checked and tuned-up.

ONG offers homeowners up to \$1,950 in rebates for upgrading heating systems; up to \$850 for adding energy-efficient natural gas water heaters; \$750 for building a home that follows ONG energy efficiency guidelines; \$680 for natural gas clothes dryers; and \$30 for a furnace inspection.

*f. Oklahoma Gas & Electric Energy Efficiency Program* - OG & E offers a comprehensive portfolio of Demand-Side Management Programs targeting residential and commercial energy efficiency. Programs include:

- Home Energy Efficiency (HEEP)
- Weatherization Residential Assistance Program
- Commercial Lighting Program
- Positive Energy-New Home Construction
- Geothermal Heating, Cooling and Water Heating Program
- Commercial Energy Efficiency Program
- Education Programs
- Industrial Energy Efficiency Program

O G & E's Energy Efficiency portfolio targets 371 GWh of energy savings by 2015. Additionally, a 'SmartHours' Demand Response program and a new voltage control program are projected to achieve approximately 9,603 MWh of energy savings, also by 2015.

### 3. COMPRESSED NATURAL GAS (CNG)/ ALTERNATIVE FUELED VEHICLE AND INFRASTRUCTURE PROJECTS AND STRATEGIES

#### A. Statewide CNG Strategies, Projects and Incentives

*a. Oklahoma Leadership-* Oklahoma has a proven track record in energy innovation and is leading the way as a model for other states and the nation in practical and affordable energy policy. This Oklahoma initiative is especially true regarding Compressed Natural Gas (CNG) as a transportation fuel. The third largest CNG producer in the nation, Oklahoma leads the way in legislative policy and significant state tax incentives and loan programs promoting and supporting alternative fueled vehicles (AFV) and infrastructure.

- *Alternative Fuel Vehicle (AFV) Tax Credit* – For tax years beginning before January 1, 2015, a one-time income tax credit is available for 50% of the incremental cost of purchasing a new original equipment manufacturer 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 and must not have been previously used to modify or retrofit any vehicle. 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)
- *Alternative Fueling Infrastructure Tax Credit* – 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 and must not have been previously installed or used to fuel alternative fuel vehicles. 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).
- *Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Loans* The Oklahoma Department of Central Services' Alternative Fuels



Conversion Loan program provides 0% interest loans to government fleets for converting vehicles to operate on alternative fuels, the construction of AFV fueling infrastructure, and the incremental cost associated with the purchase of an original equipment manufacturer AFV. The program provides up to \$10,000 per converted or newly purchased AFV and up to \$300,000 for the development or installation of fueling infrastructure. The borrower must repay the loan within a seven-year period. Repayment is collected through a surcharge on alternative fuel the borrower purchased in the amount equivalent to the per gallon fuel cost savings from using an alternative fuel. If the price of the alternative fuel does not remain below the price of the conventional fuel that it replaced, repayment is suspended. Eligible applicants include state and county agencies and divisions, municipalities, school districts, mass transit authorities, and public trust authorities. (74 O.S. §§130.4 through -130.5)

- *Alternative Fuel Vehicle (AFV) Loans* – Oklahoma has a private loan program with a 3% interest rate for the cost of converting private fleets to operate on alternative fuels, for the incremental cost of purchasing an original equipment manufacturer AFV, and for the installation of AFV fueling infrastructure. The repayment of the loan has a maximum six year period.
- *In 2010, the Oklahoma legislature passed a resolution to encourage development of CNG refueling stations* – “It shall be the goal to have at least one public CNG fueling station located approximately every one hundred (100) miles along the entire interstate highway system in the state by the year 2015. The goal shall increase to at least one public CNG fueling station approximately every fifty (50) miles by the year 2025.” (74-78f O.S.)

***b. Oklahoma Department of Transportation*** - ODOT has added 160 CNG vehicles to its fleet since October 2012 and plans to replace more than 90 percent of the ODOT and Oklahoma Turnpike Authority fleet with CNG vehicles in the next three years.

***c. Oklahoma Natural Gas Company*** – ONG currently offers 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.

## **B. Tulsa Region CNG/Alternative Fueled Vehicle and Infrastructure Projects**

*a. Metropolitan Tulsa Transit Authority (MTTA) CNG Fleet Conversion* - 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 and to date have 71% of their 52 lift program buses running on dedicated CNG and approximately 44% of their fixed route fleet. Within the next several years, funding is being sought to complete the fixed route transition and fully be running on CNG.

*b. City of Owasso* - The City of Owasso is located within Tulsa's air shed just north of the City of Tulsa. A community of approximately 30,000, in 2010 Owasso determined to move toward 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 convert the fleet.

*c. Tulsa Public Schools* - Tulsa Public School District (TPS) is the largest in the state of Oklahoma serving over 40,000 students. TPS has been committed to cleaner burning and more economical CNG fuel since the 1980's. Currently, 140 of the 300 full-size school bus fleet are dedicated engines running 100% CNG. 8 new 2013 BlueBird dedicated engines are funded and ordered and the district continues to seek funding to upgrade their four compressor filling stations and to convert 100% of their bus and car fleet running by 2020. TPS has also invested in anti-idling technology and most of the fleet is equipped with devices automatically powering-down and turning off the engine after 5 minutes of idling.

*d. City of Tulsa Refuse Haulers* - The Tulsa Authority for the Recovery of Energy (TARE) is the agency responsible for establishing and contracting the City of Tulsa's residential refuse. Tulsa's former refuse contract allowed for haulers to operate vehicles without discretion to the vehicle's age, fuel type or emissions throughout the air shed. For more than 20 years, this fully economically driven contract resulted in Tulsa's haulers operating the very old and polluting trash trucks that were not authorized in many nonattainment/ near nonattainment areas. 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 required 100% of Tulsa's trash trucks to be CNG fueled by the summer of 2013.

*e. Tulsa Area Clean Cities Vehicle and Infrastructure Grant Program* - The Public Fleet Conversion grant program, funded through a Congestion Mitigation and Air Quality (CMAQ) grant through INCOG, encourages programs that promote the conversion of vehicles to alternative fuel vehicles, the purchase of original equipment manufacturer (OEM) alternative fuel vehicles, and development of the alternative fuel vehicle infrastructure within the Tulsa area. CMAQ grants help ensure expansion of AFVs in the Tulsa area as well as provide incentives, visibility and recognition for public fleets adopting a clean vehicle philosophy in support of the Tulsa Area Clean Cities program. In the last four years, this program has awarded over \$500,000 in grants to area governments. Annually or as funds are available, INCOG awards federal CMAQ funds to public entities for clean projects meeting criteria within the following three categories:

- Projects that promote the conversion of vehicles to Alternative Fuel Vehicles (AFVs)
- Projects that promote the acquisition of AFVs in fleets
- Projects that promote the AFV Refueling Infrastructure Development

Over the next five years, INCOG anticipates this grant program will award approximately \$875,000 in project funding for Clean Vehicle and Infrastructure projects in the Tulsa area.

*f. Tulsa Area Clean Cities I-40 Grant Projects* - In conjunction with partners at Arkansas Clean Cities, INCOG 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 imported oil, by addressing barriers in the Oklahoma alternative fuels market. Specifically, the projects funded by this grant will help reduce ozone levels in the Tulsa area by advancing the use of cleaner burning alternative fuels, facilitating the construction of alternative fuel stations, and promoting safety in the alternative fuel market.

- Advancing the use of alternative fuels:
  - The Oklahoma Department of Commerce will be researching and creating a case study explaining how it may be possible to include alternative fueling stations on highway signs similar to that of gasoline stations.

Alerting consumers to the availability of alternative fuels will provide confidence that they will be able to refuel alternative fuel vehicles in their area.

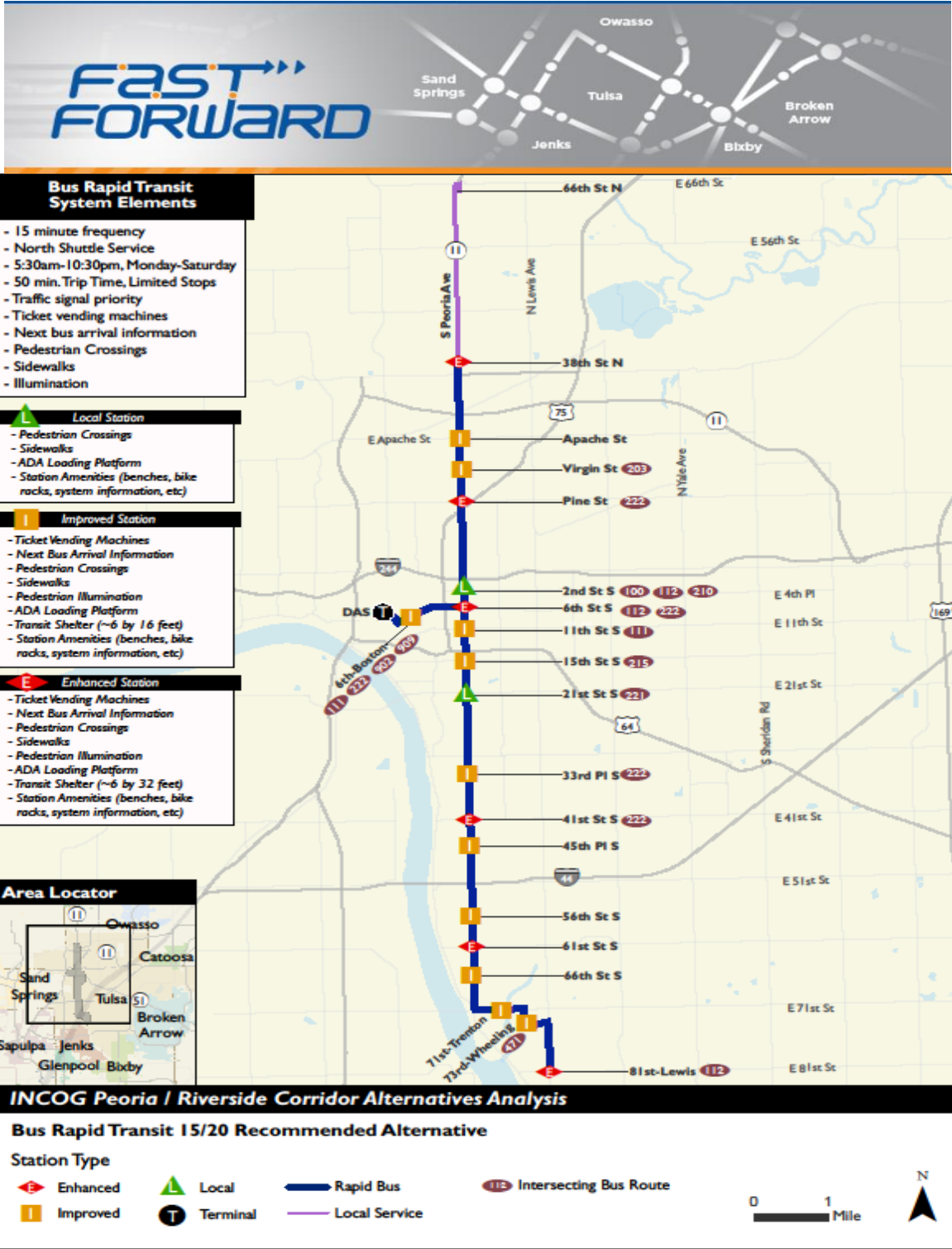
- Revolving Loan Fund Research—in conjunction with the City of Tulsa, TACC will be researching the feasibility of using Qualified Energy Conservation Bonds (QECBs) to fund a loan program for businesses wanting to convert fleets to operate on alternative fuels.
- Facilitating Alternative Fuel Station Construction:
  - Developing CNG Station Building Codes—INCOG has contracted the development of a best practices plan for constructing alternative fueling stations with the City of Tulsa. Upon the completion of the best practices plan for the safe and streamlined construction of alternative fueling stations, Tulsa Area Clean Cities and the City of Tulsa will present the report to parties involved in CNG and EV station construction.
- Promoting Safety in the Alternative Fuels Market:
  - *Alternative Fuels Mechanics Licensure Outreach*—INCOG has contracted the Oklahoma Division of Capital Assets Management to perform workshops targeted at fleet managers and industry groups to help explain the current regulations and safety practices surrounding alternative fuel vehicles.
  - *CNG Conversion Video*—To address the high prevalence of non-EPA certified kits for CNG conversions, TACC will create a video highlighting the dangers of non-EPA certified CNG conversion kits.
  - *Fire Safety Training*—To provide fire inspectors with the training they need to competently inspect alternative fueling stations, INCOG is contracting for the development and instruction of a training curriculum for evaluating CNG stations for compliance with state, federal, and municipal codes.

#### 4. TRANSPORTATION SYSTEM STRATEGIES AND PROJECTS

**A. Peoria Ave. Bus Rapid Transit** - The Metropolitan Tulsa Transit Authority's board of trustees voted unanimously on 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. Bus Rapid Transit systems make fewer stops than traditional local bus systems but stop more frequently at the locations they do serve. The rapid transit system would replace Tulsa Transit's 105 Route, which accounts for 15 percent of the organization's passenger trips. The proposed change calls for reducing the number of bus stops from Peoria Avenue and 38th Street North to Lewis Avenue and 81st Street from approximately 100 to 19. It would decrease wait times from 30 minutes to 15 minutes and reduce the time it takes to travel the entire route from 70 minutes to 50 minutes. The new service also would run to the downtown bus station on Denver Avenue. Stations would be approximately one-half mile apart - except for the bus stops at 33rd Place and 21st Street, which are slightly more than a mile apart.

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. Most of the funding would be spent on major improvements to the bus stops. The Peoria corridor runs within a half-mile of 20 percent of the jobs in the city and one in seven Tulsans lives within a half mile of the corridor. Funding for the project will be before Tulsa voters in November 2013. Expected implementation: 2016. More information at <http://www.fastforwardplan.org/Peoria>

Peoria Ave Bus Rapid Transit Plan



**B. Tulsa Region Bicycle/Pedestrian Master Plan** - The Indian Nations Council of Governments (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. All existing and proposed connecting pedestrian and bicycle paths, transit stops/routes, and activity centers such as schools, businesses and parks/open space should be considered to transform the region's transportation network that balances the needs of all modes and is sensitive to evolving land use and development plans. The Plan also should consider all planning documents created for this area, proposed development, and traffic/transportation studies. Alternative improvement design concepts should be evaluated and high visibility pedestrian safety treatments will be identified. The Plan area will include the municipalities of Bixby, Broken Arrow, Catoosa, Claremore, Collinsville, Glenpool, Jenks, Owasso, Sand Springs, Skiatook, and Tulsa. Expected study completion: 2014

**C. Bikeshare Feasibility Study** - INCOG has committed to fund a feasibility study and business plan for a comprehensive downtown focused bikeshare system. Using Congestion Mitigation & Air Quality (CMAQ) funding, a consultant will be retained to determine the long-term feasibility of a bikeshare program and implementation plan. Funding options and liability will be focus areas of the plan. Expected study completion: 2014

**D. ODOT OKC – Tulsa Commuter Rail Program Initiative**- The Tulsa-Oklahoma City Corridor Investment Plan will identify and evaluate a full range of alternatives 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. The study has two major components:



- A Service Development Plan (SDP) that articulates the overall scope and quantifies the specific benefits and costs for proposed intercity, commuter and freight rail alternatives, and
- An Environmental Impact Statement (EIS) that addresses the broad environmental effects for the entire corridor along the route of the proposed service.

Together, these components form a Passenger Rail Corridor Investment Plan (PRCIP), in accordance with the guidelines established by the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). The PRCIP is a foundation for future project development including engineering design, environmental permitting and construction.

***E. Other Transportation Management System Considerations*** – Within the next five years, the Tulsa Transportation Management Area will research, analyze, select and implement a variety of 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.



## 5. DEPARTMENT OF ENVIRONMENTAL QUALITY PROGRAMS AND RULEMAKINGS

The Oklahoma Department of Environmental Quality, Air Quality Division has undertaken a series of rulemakings and programs that will help to reduce ozone precursors in the Tulsa MSA and throughout the state. Among these are state rule proposals/changes, public outreach initiatives and educational programs.

A. DEQ has amended OAC 252:100-13, Open Burning, to require the use of an “air curtain incinerator” or “ACIs” (also known as “air curtain destructors” and “open-pit incinerators”) in place of open burning for the purpose of disposing of clean wood waste. Air curtain incinerators are combustion units that operate by forcefully projecting a curtain of air across an open, integrated combustion chamber (firebox) or open pit or trench in which the combustion occurs. These units significantly reduce the amount of ozone precursors and particulate matter generated by the burning of wood waste, with an approximate 90% reduction in total air pollutants. The rule requires land clearing operations in current and former nonattainment areas (Tulsa and Oklahoma Counties) and all counties in the Oklahoma City and Tulsa Metropolitan Statistical Areas (MSAs) to use ACIs. The Oklahoma City MSA is comprised of Canadian, Cleveland, Grady, Lincoln, Logan, McClain, and Oklahoma Counties, and the Tulsa MSA is comprised of Creek, Okmulgee, Osage, Pawnee, Rogers, Wagoner and Tulsa Counties. Additionally, the rule prohibits open burning in areas under an Ozone or PM Watch.

B. DEQ is currently reviewing OAC 252:100-33, Control of Emission of Nitrogen Oxides, to determine the feasibility of switching from an input-based emission standard to an output-based emission standard for nitrogen oxides (NO<sub>x</sub>). This measure will provide facilities more technological options for compliance with emission limits and will encourage the use of more efficient processes and equipment. The existing rule requires units to meet specific 3-hour emission averages for glass-melting furnaces and fuel-burning equipment, constructed after 1972 or 1977 depending on unit type, with a heat input greater than or equal to 50 mmBTU/hr. Future amendments would likely transition to a 30-day rolling average for NO<sub>x</sub> emissions and set an output-based emission standard comparable to the current input-based standard in subchapter 33. This proposal is in the early stages of review/development with no definite date for next action.

C. The Department has updated its permitting rules to include an Oil and Gas permit by rule (O&NG PBR). The primary focus of this rule is to streamline the permitting process and reduce associated permitting fees for the numerous small oil and gas production sites in the state; however, this measure will also provide more detailed emissions data about the oil and natural gas production sector which will be analyzed to develop future air quality policy and strategies.

D. The Department participates in multiple public outreach and education programs, which emphasize the importance of informing individuals about the effects of ozone on citizen health. This includes producing/supplying ozone education materials, creating online videos encouraging home efficiency and issuing ozone watches for the Tulsa MSA.

## 6. MAJOR TULSA AREA FACILITY INDUSTRIAL RETROFITS

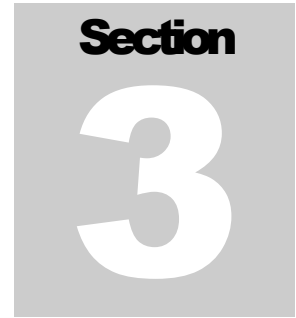
A number of Tulsa area facilities have performed major retrofits, resulting in significant reductions of ozone precursors. These projects include the following:

- A. ***PSO Northeastern Power Plant*** - Low-NOx burners installed on units 2, 3, &4 during 2012-2013. Further NOx reductions are expected through 2017.

Year	2011	2012	2013	2014	2015	2016	2017
<b>Annual NOx Reduction</b>	0%	45.6%	54.9%	65.1%	64.2%	79.2%	78.9%

\* Note that the NOx reductions beginning with calendar year 2013 are based on projections of future electric generation demand. Demand is subject to change based on a number of factors, including adverse weather and other circumstances.

- B. ***OG&E Muskogee, Sooner and Seminole Power Plants*** –Muskogee power plant will have low NOx burners installed on units 4 & 5 in 2013-2014. Sooner Power Plant will have low NOx burners installed on units 1 &2 in 2013-2014. Seminole Power Plant will have low NOx burners installed on units 1, 2 &3between 2015-2017.
- D. ***Grand River Dam Authority (GRDA) Chouteau Power Plant*** –Low NOx burner install on both units, voluntary completion in 2013. Major reduction in NOx emissions to be achieved by replacement of coal fired generating Unit 1 with natural gas combined cycle unit in 2017 and additional wind generation.
- E. ***Holly Refining and Marketing – Tulsa LLC*** - Replacement of two older boilers will result in NOx reductions.



## **3.0 Tulsa Area Ozone Advance Emission Reduction Projects Table**

Ozone Advance Emission Reduction Projects - Tulsa MSA					
Path Forward Action Plan Category	Emission Reduction Project	Entity	Description	Status	Implementation Schedule and - /or Completion Date
Enhanced Public Outreach and Education Programs	Tulsa Transportation Resource Center	INCOG	The Transportation Resource Center (TRC) is a dynamic and newly launched program designed to connect people to available transportation options. The website, <a href="http://TulsaTRC.Org">TulsaTRC.Org</a> , highlights resources for Tulsa Metro Area biking, walking, riding (transit and rideshare). TRC outreach efforts include working at community events, local company partnership and training, organizational meetings to present information, and more.	Ongoing	2013 - Continuous
	Tulsa Area Ozone Alert! Program	INCOG	The Ozone Alert! Program takes a voluntary episodic approach to ozone pollution reduction and healthy air quality. Twenty-three years strong, Tulsa unique and regionally-supported program continues to expand in partnership, programs and public awareness. Ozone Alert! Day forecasting occurs through partnership with the ODEQ and the NWS - and the INCOG region takes action. Area governments, businesses, individuals, TV, Radio and Print news/weather media all receive notification through E-Mail, Text, Screen widget and other venues - and the notification is passed on throughout INCOG's 700,000+ Tulsa Transportation Management Area population. The award-winning website, <a href="http://OzoneAlert.Com">OzoneAlert.Com</a> , continues to provide hourly ozone data, AQI information, daily allergy reporting, and much more information - with new traffic volume in the thousands per day during the ozone season.	Ongoing	1991 - Continuous
	Tulsa Area Clean Cities Program	Tulsa Area Clean Cities Program / INCOG	Clean Cities 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 works with local businesses and governments through outreach and education, to promote alternative fuel vehicles. Tulsa Clean Cities works to advance alternative fuels, idle reduction, and to promote the education of alternative fuel fleets, vehicle availability, and refueling options. <a href="http://www.TulsaCleanCities.Org">www.TulsaCleanCities.Org</a>	Ongoing	1997 - Continuous
Energy Efficiency Strategies and Programs	Mandated Energy Efficiency Requirements	State of Oklahoma	H.B. 3394/61 Okl. St. § 213 requires new construction or substantial renovation of buildings that receive 50% or more of their funding from the State of Oklahoma to meet the guidelines of the LEED system or the Green Globes rating system.	Ongoing	2008 - Continuous
	The Oklahoma Energy Security Act	State of Oklahoma	H.B. 3028 set state wide 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.	Ongoing	2010 - 2025
	Oklahoma First Energy Plan	State of Oklahoma	This plan lays out policy guidance for a diverse energy portfolio that includes energy efficiency and encourages efficiency technologies such as CHP and geothermal. This plan is in line with the Oklahoma Energy Security Act's target of 15% statewide renewable energy use by 2015.	Ongoing	2011 - 2015
	Oklahoma State Facilities Energy Conservation Program	State of Oklahoma	S.B. 1096 established the Oklahoma State Facilities Energy Conservation Program. The program directs all state agencies and higher education institutions to achieve an energy and conservation improvement target of at least 20% by 2020.	Ongoing	2012 - 2020
	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.	Ongoing	2010 - 2013

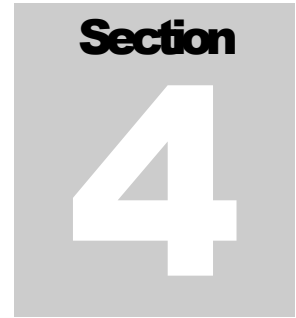
Ozone Advance Emission Reduction Projects - Tulsa MSA					
Path Forward Action Plan Category	Emission Reduction Project	Entity	Description	Status	Implementation Schedule and - /or Completion Date
	Building Efficiency Improvements	Tulsa City-County Library	The Tulsa City-County Library system's main downtown library has begun a two-year renovation, to improve 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.	Ongoing	2010 - 2014
	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.	Ongoing	2011 -
	Demand Response Energy Performance Reduction Program – Residential and Commercial	Public Service Company of Oklahoma	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.	Ongoing	2012 -
	Oklahoma Natural Gas (ONG) Energy Efficiency Program	Oklahoma Natural Gas	ONG's energy efficiency programs provide incentives for residential and commercial customers encouraging new energy-efficient natural gas appliance choices, including homeowner rebates for gas-heating system inspections and tuned-ups.	Ongoing	2012 -
	Oklahoma Gas and Electric Energy Efficiency Program	OG & E	OG & E offers a comprehensive portfolio of Demand-Side Management Energy Efficiency Programs that are anticipated to save 371 GWh of energy by 2015. Additionally, a 'SmartHours' Demand Response program and a new voltage control program is projected to achieve approximately 9,603 MWh of energy savings, also by 2015.	Ongoing	2013 - 2015
CNG/Alternative Fueled Vehicle & Infrastructure Projects	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. Additionally, 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, given no tax credit previously taken on the vehicle. Tax credits may be carried forward for up to five years. (68 O.S. §2357.22)	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. 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)	Ongoing	1990-
	Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Loans	State of Oklahoma	The Oklahoma Department of Central Services' Alternative Fuels Conversion Loan program provides 0% interest loans to government fleets for converting vehicles to operate on alternative fuels, the construction of AFV fueling infrastructure, and the incremental cost associated with the purchase of an OEM AFV. The program provides up to \$10,000 per converted or newly purchased AFV and up to \$300,000 for the development or installation of fueling infrastructure.	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	2010-2013

<b>Ozone Advance Emission Reduction Projects - Tulsa MSA</b>					
Path Forward Action Plan Category	Emission Reduction Project	Entity	Description	Status	Implementation Schedule and - /or Completion Date
	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	2010-2013
	CNG Fleet Conversion	ODOT	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.	Ongoing	2013 -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.	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 and to date have 71% of their 52 lift program buses running on dedicated CNG and approximately 44% of their fixed route fleet. Within the next several years, funding is being sought to complete the fixed route transition to 100% CNG.	Ongoing	2011 -
	CNG Fleet Conversion	City of Owasso	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 convert the fleet.	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 plans to convert 100% of their bus and car fleet to CNG power by 2020.	Ongoing	1988 - 2020
	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
	Tulsa Area Clean Cities Vehicle and Infrastructure Grant Program	Tulsa Clean Cities/ INCOG	The Public Fleet Conversion grant program, funded through a CMAQ grant for conversion of vehicles to alternative fuel vehicles, the purchase of original equipment manufacturer (OEM) alternative fuel vehicles, and development of alternative fuel vehicle infrastructure within the Tulsa area. Over the next five years, TACC anticipates this grant program will award approximately \$875,000 in project funding for Clean Vehicle and Infrastructure Projects in the Tulsa area.	Ongoing	1997 - Continuous
	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 imported oil, by addressing barriers 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 burning alternative fuels, facilitating the construction of alternative fuel stations, and promoting safety in the alternative fuel market.	Ongoing	2012 - 2016

<b>Ozone Advance Emission Reduction Projects - Tulsa MSA</b>				
Path Forward Action Plan Category	Emission Reduction Project	Entity	Description	Implementation Schedule and - /or Completion Date
Transportation System Strategies and Projects	Peoria Ave. Bus Rapid Transit	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 percent 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 will be before Tulsa voters in November 2013. Expected implementation: 2016	Ongoing  2016
	Tulsa Region Bicycle/Pedestrian Master Plan	INCOG	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. Expected study completion: 2014	Ongoing  2014
	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 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. Expected study completion: 2014	Ongoing  2014
	OKC – Tulsa Commuter Rail Program Initiative	ODOT	The Tulsa-Oklahoma City Corridor Investment Plan will identify and evaluate a full range of alternatives 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.	Ongoing  2013 -
	Transportation Management System Considerations	INCOG	Over the next five years, the Tulsa Transportation Management Area will research, analyze, select and implement a variety of 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.	Ongoing  2013 - 2018
	CNG Fleet Addition	ODEQ	ODEQ will be replacing up to 12 gasoline fueled vehicles with CNG fueled vehicles on a rolling basis.	Ongoing  2013 -



Ozone Advance Emission Reduction Projects - Tulsa MSA					
Path Forward Action Plan Category	Emission Reduction Project	Entity	Description	Status	Implementation Schedule and - /or Completion Date
Department of Environmental Quality Programs and Rulemakings	Open Burning Rule	ODEQ	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 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.	Complete	Effective July 2013
	Output based NOx Emissions standard	ODEQ	DEQ is currently reviewing OAC 252:100-33, Control of Emission of Nitrogen Oxides, to determine the feasibility of switching from an input-based emission standard to an output-based emission standard for nitrogen oxides (NOx). This measure will provide facilities more technological options for compliance with emission limits and will encourage the use of more efficient processes and equipment. This proposal is in the early stages of review/development with no definite date for next action.	Planned	2013 -
	O&NG PBR	ODEQ	The O&NG PBR streamlines the permitting process and reduces associated permitting fees for the numerous small oil and gas production sites in the state; however, this measure will also provide a more detailed emissions inventory for the oil and natural gas production sector which will be analyzed to develop future air quality policy and strategies.	Complete	Sept. 2013
	Public Outreach	ODEQ	The Department participates in multiple public outreach and education programs, which emphasize the importance of informing individuals about the effects of ozone on citizen health. This includes producing/supplying ozone education materials, creating online videos encouraging home efficiency and issuing ozone watches for the Tulsa MSA.	Ongoing	2013 - Continuous
<b>Major Tulsa Area Facility Industrial Retrofits</b>	<b>Low NOx Burner Install</b>	Public Service Company of Oklahoma	PSO Northeastern Power Plant - Low-NOx burners installed on units 2, 3, & 4 during 2012-2013. Further NOx reductions are expected through 2017.	Planned	2012 - 2017
	<b>Low NOx Burner Install</b>	Oklahoma Gas and Electric	Muskogee power plant will have low NOx burners installed on units 4 & 5 in 2013-2014. Sooner Power Plant will have low NOx burners installed on units 1 & 2 in 2013-2014. Seminole Power Plant will have low NOx burners installed on units 1, 2 & 3 between 2015-2017.	Planned	2013 - 2017
	<b>Low NOx Burner Install</b>	Grand River Dam Authority	Low NOx burner install on both units, voluntary completion in 2013. Major reduction in NOx emissions to be achieved by replacement of coal fired generating Unit 1 with natural gas combined cycle unit in 2017 and additional wind generation.	Planned	2013
	<b>Reduced Coal Generation NOx Reduction</b>	Grand River Dam Authority	GRDA Chouteau Power Plant – Reduced Coal Generation major reduction in NOx emissions by replacement of coal fired generating Unit 1 with natural gas combined cycle unit; and additional wind generation.	Planned	2017
	<b>Equipment Replacement</b>	Holly Refining and	Replacement of two older boilers will result in NOx reductions.	Ongoing	2012 -



## **4.0 Path Forward Reduction Projects - Action Plan Summary**



## **PATH FORWARD PROJECT SUMMARY**

### **1. ENHANCED PUBLIC OUTREACH AND EDUCATION PROGRAMS**

- A. Tulsa Transportation Resource Center
- B. Tulsa Area Ozone Alert!
- C. Tulsa Area Clean Cities

### **2. ENERGY EFFICIENCY STRATEGIES AND PROGRAMS**

- A. Statewide Efficiency Measures – OK First Energy Plan Strategies
  - a. Oklahoma State Mandated Energy Efficiency Requirements
  - b. The Oklahoma Energy Security Act
  - c. Oklahoma First Energy Plan
  - d. Oklahoma State Facilities Energy Conservation Program
- B. Tulsa Region Efficiency Programs
  - a. City of Tulsa Energy Efficiency Conservation Block Grant Projects
  - b. Tulsa City-County Library Efficiency Measures
  - c. Tulsa County Energy Efficiency and Conservation Block Grant Projects
  - d. Public Service Company of Oklahoma’s Demand Response Energy Performance Reduction Program
  - e. Oklahoma Natural Gas (ONG) Energy Efficiency Program
  - f. OG & E Energy Efficiency Program

### **3. COMPRESSED NATURAL GAS (CNG) VEHICLE AND INFRASTRUCTURE PROJECTS**

- A. Statewide CNG Projects – OK First Energy Plan Strategies
  - a. Oklahoma Leadership
  - b. Oklahoma Department of Transportation
  - c. Oklahoma Natural Gas Company
- B. Tulsa Region CNG/Alternative Fueled Vehicle and Infrastructure Projects
  - a. Metropolitan Tulsa Transit Authority Dedicated CNG Fleet Plan
  - b. City of Owasso
  - c. Tulsa Public Schools
  - d. City of Tulsa Refuse Haulers
  - e. Tulsa Area Clean Cities Vehicle and Infrastructure Grant Program
  - f. Tulsa Area Clean Cities I-40 Grant Projects

### **4. TRANSPORTATION SYSTEM STRATEGIES AND PROJECTS**

- A. Peoria Avenue Bus Rapid Transit
- B. Regional Bicycle/Pedestrian Master Plan
- C. Bikeshare Feasibility Study
- D. ODOT OKC – Tulsa Commuter Rail Program Initiative
- E. Other Considerations - Expressway Onramp Congestion Traffic Flow System

### **5. DEPARTMENT OF ENVIRONMENTAL QUALITY PROGRAMS AND RULEMAKINGS**

### **6. MAJOR TULSA AREA FACILITY INDUSTRIAL RETROFITS**