

TRANSPORTATION AND AIR QUALITY IN DFW

Texas Association of Pupil Transportation
Region XI

March 19, 2014

Amanda Brimmer, Principal Air Quality Planner
Karla Weaver, Program Manager



Who is NCTCOG?

Air Quality Background

North Texas Clean Air Programs

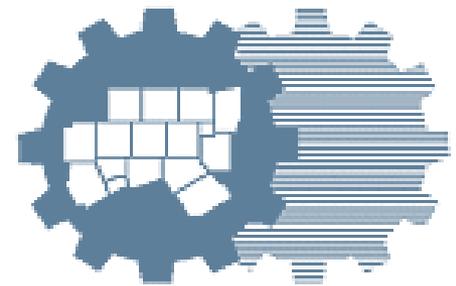
Vehicle Funding

RTC School Policy

Land Use and School Citing

Transportation Alternatives Program (TAP)

WHO IS NCTCOG?



WHAT IS THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG)?

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A voluntary association of, by, and for local governments.

NCTCOG serves a 16-county region of North Texas, which includes over 230 member governments including counties, numerous cities, school districts, and special districts.

Established to assist local governments in planning for common needs, cooperating for mutual benefit, and coordinating for sound regional development.

NCTCOG's purpose is to help local governments recognize regional opportunities, eliminate unnecessary duplication, and make joint decisions.

METROPOLITAN PLANNING ORGANIZATION (MPO)

Roles and Responsibilities

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Activities Overseen by Regional Transportation Council (RTC)

Metropolitan Transportation Plan - Mobility 2035

Transportation Improvement Program

Surface Transportation Program-Metropolitan Mobility

Congestion Mitigation and Air Quality Program

Section 5307 (Urbanized Area)

Section 5310 (Elderly and Disabled)

Air Quality Conformity Determinations

Unified Planning Work Program

Metropolitan Transportation Planning Funds:

Federal Transit Administration (Section 5303)

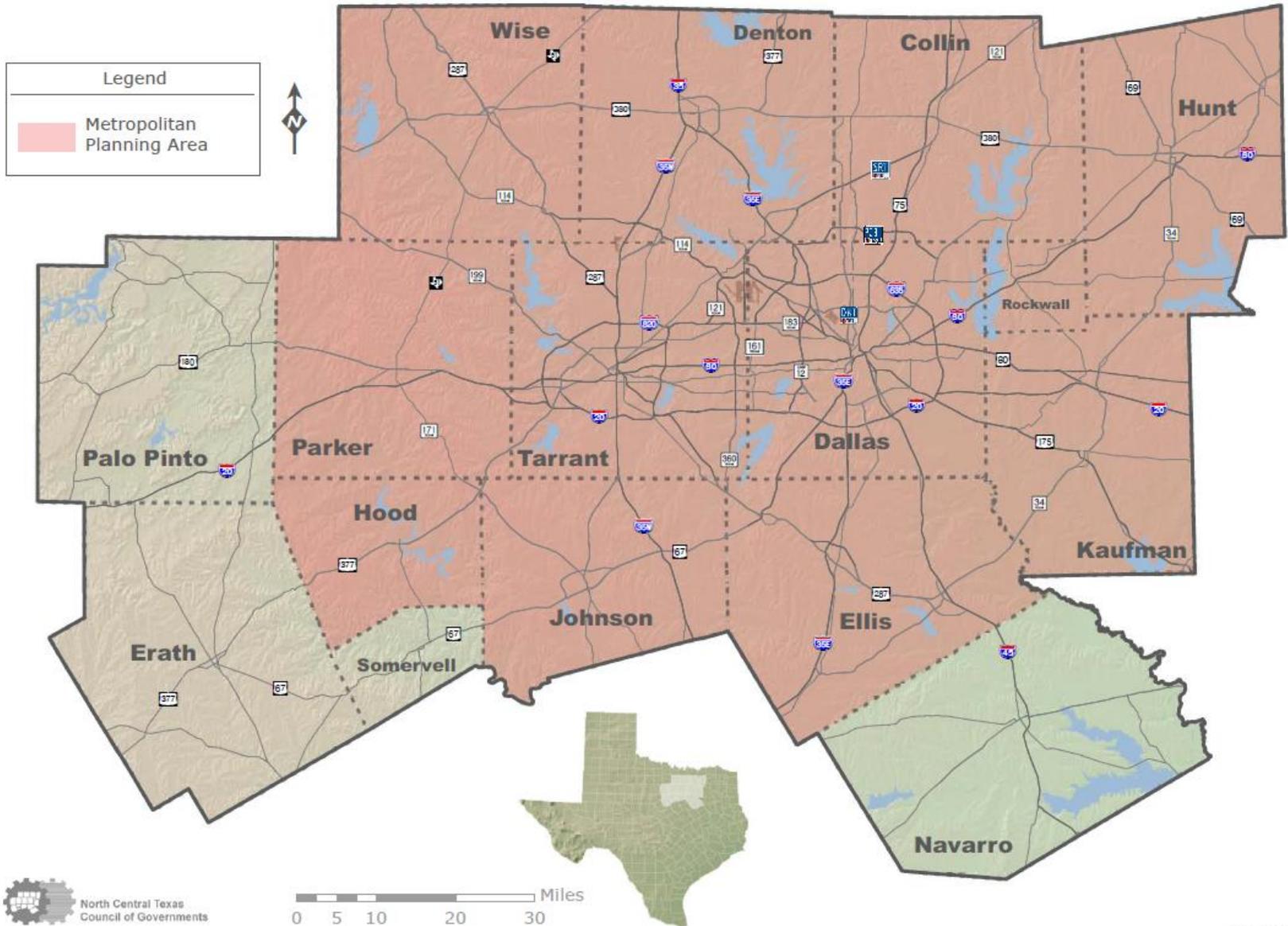
Federal Highway Administration (PL)

Texas Department of Transportation

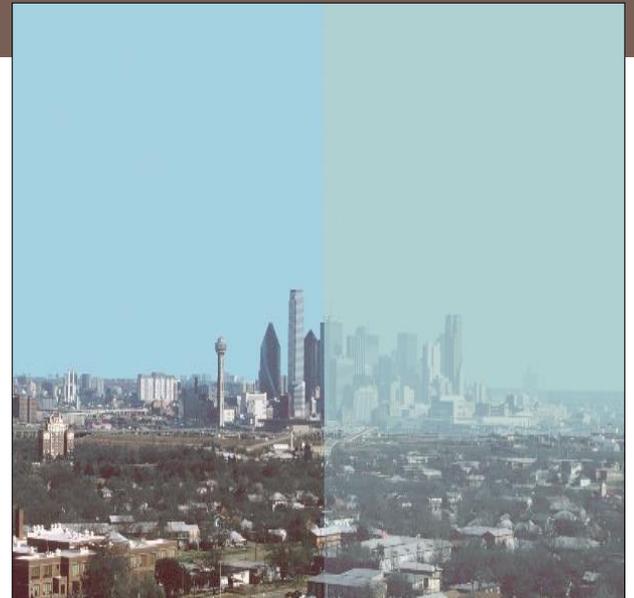
METROPOLITAN PLANNING ORGANIZATION (MPO)

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NCTCOG Area



AIR QUALITY BACKGROUND



1990 CLEAN AIR ACT AMENDMENTS

National Ambient Air Quality Standards (NAAQS)

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Six Criteria Pollutants

Carbon Monoxide (CO)

Lead (Pb)

Nitrogen Oxides (NO_x)

Ozone (O₃)

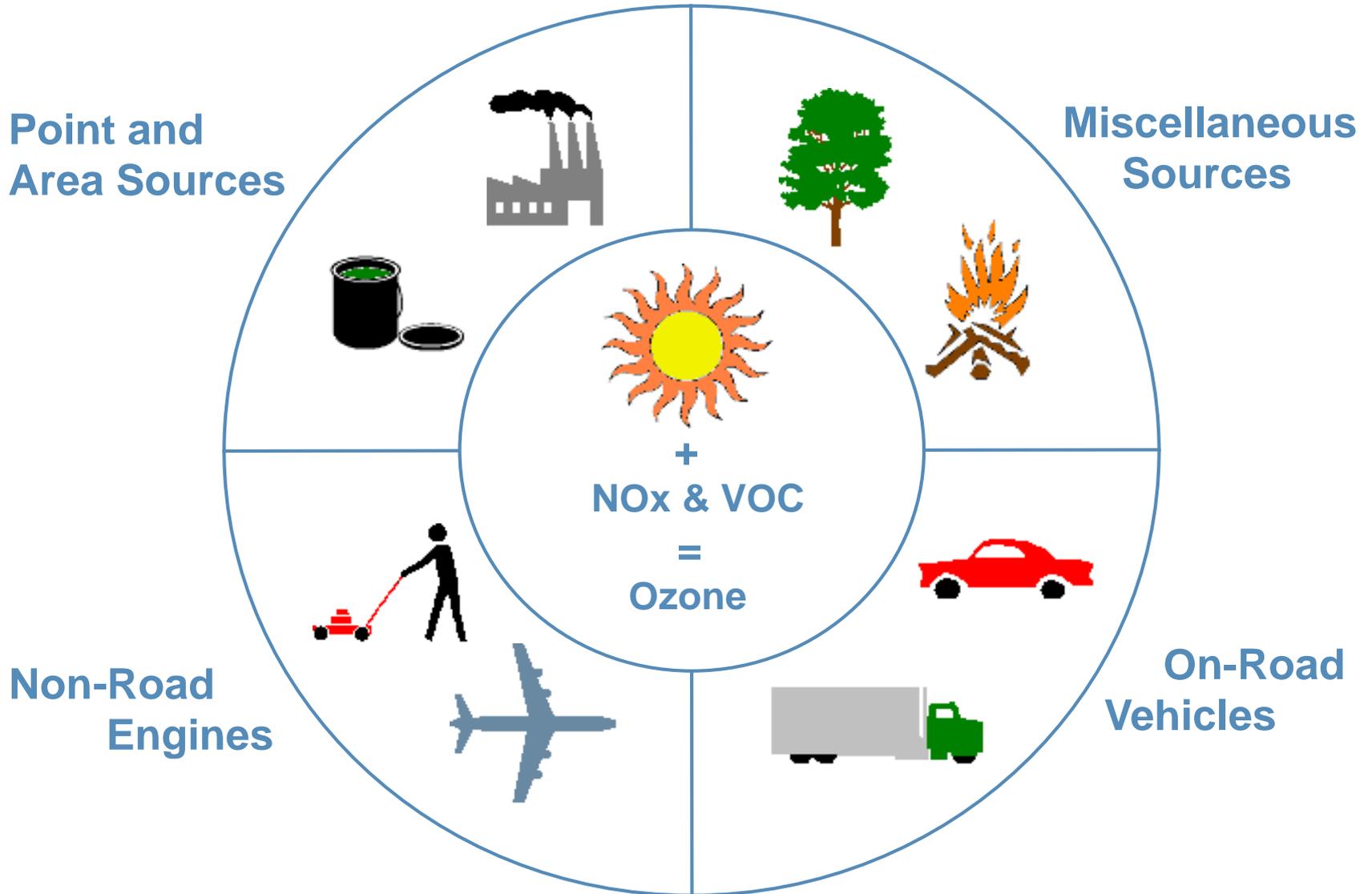
Particulate Matter (PM_{2.5} & PM₁₀)

Sulfur Dioxide (SO₂)



STATE OF AIR QUALITY IN NORTH TEXAS

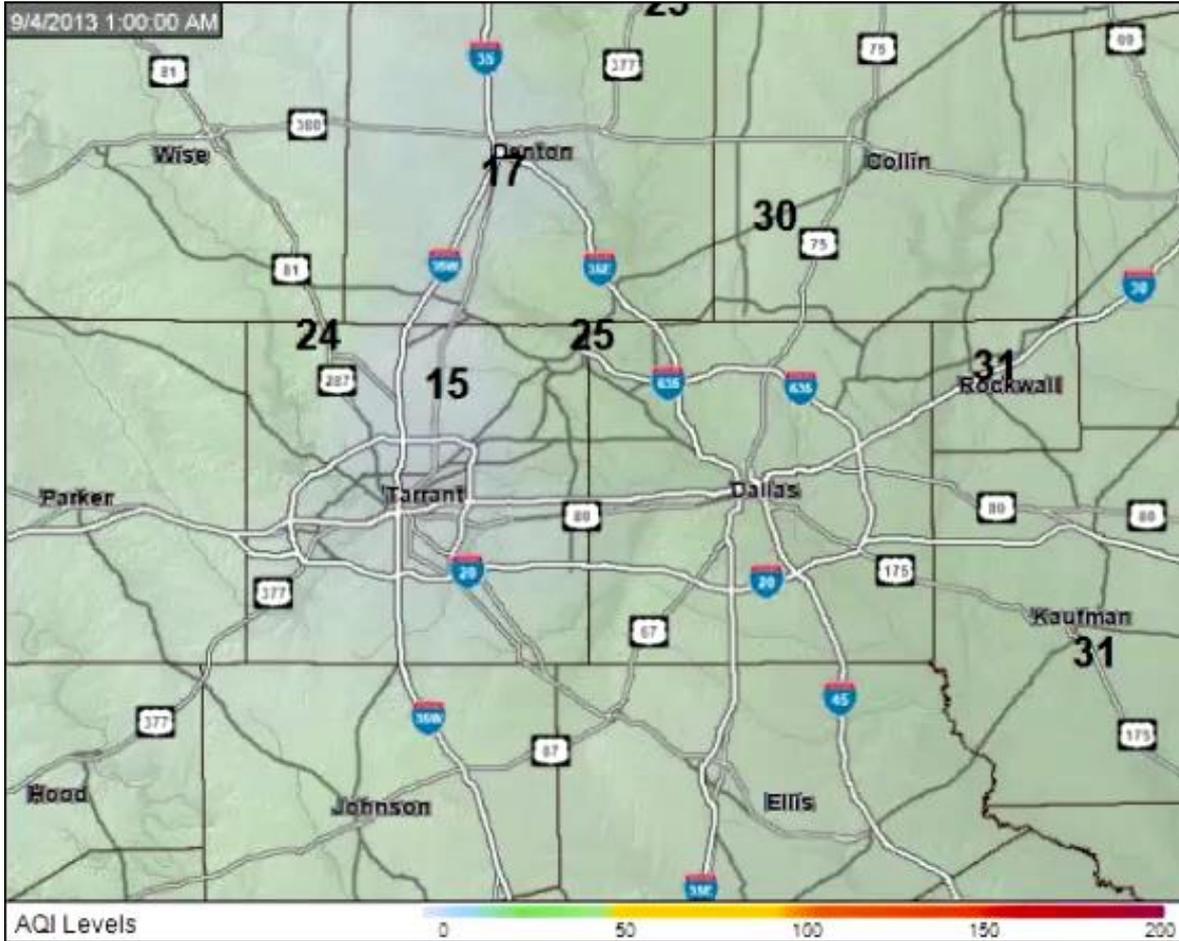
Ozone Formation



HIGHEST 8-HOUR OZONE LEVEL IN 2013

10

Maximum Daily 8-Hour Average was 85 ppb on September 3, 2013



Air Quality

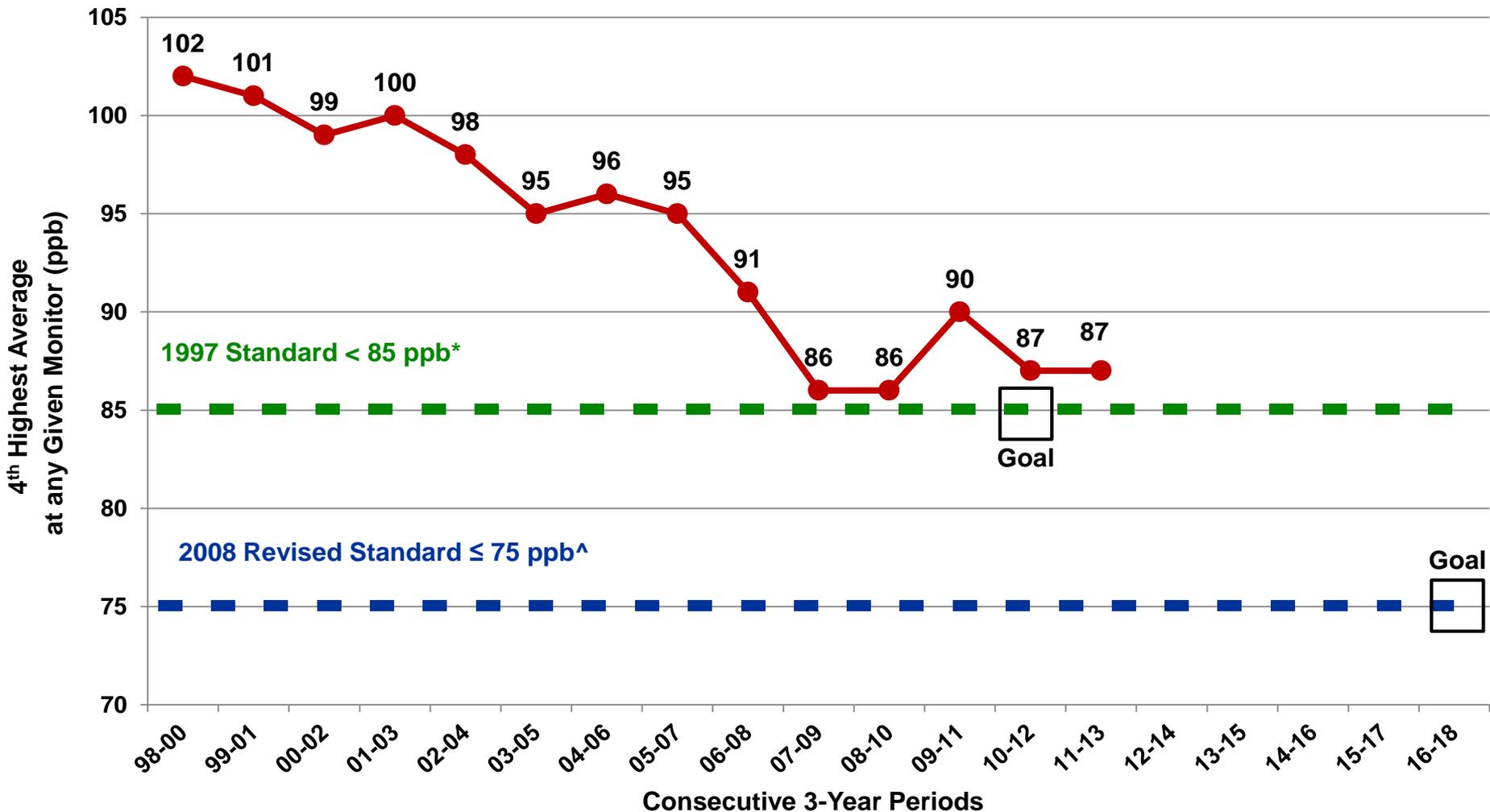


AQ Monitoring Site



8-HOUR OZONE STANDARD

Historical Trends



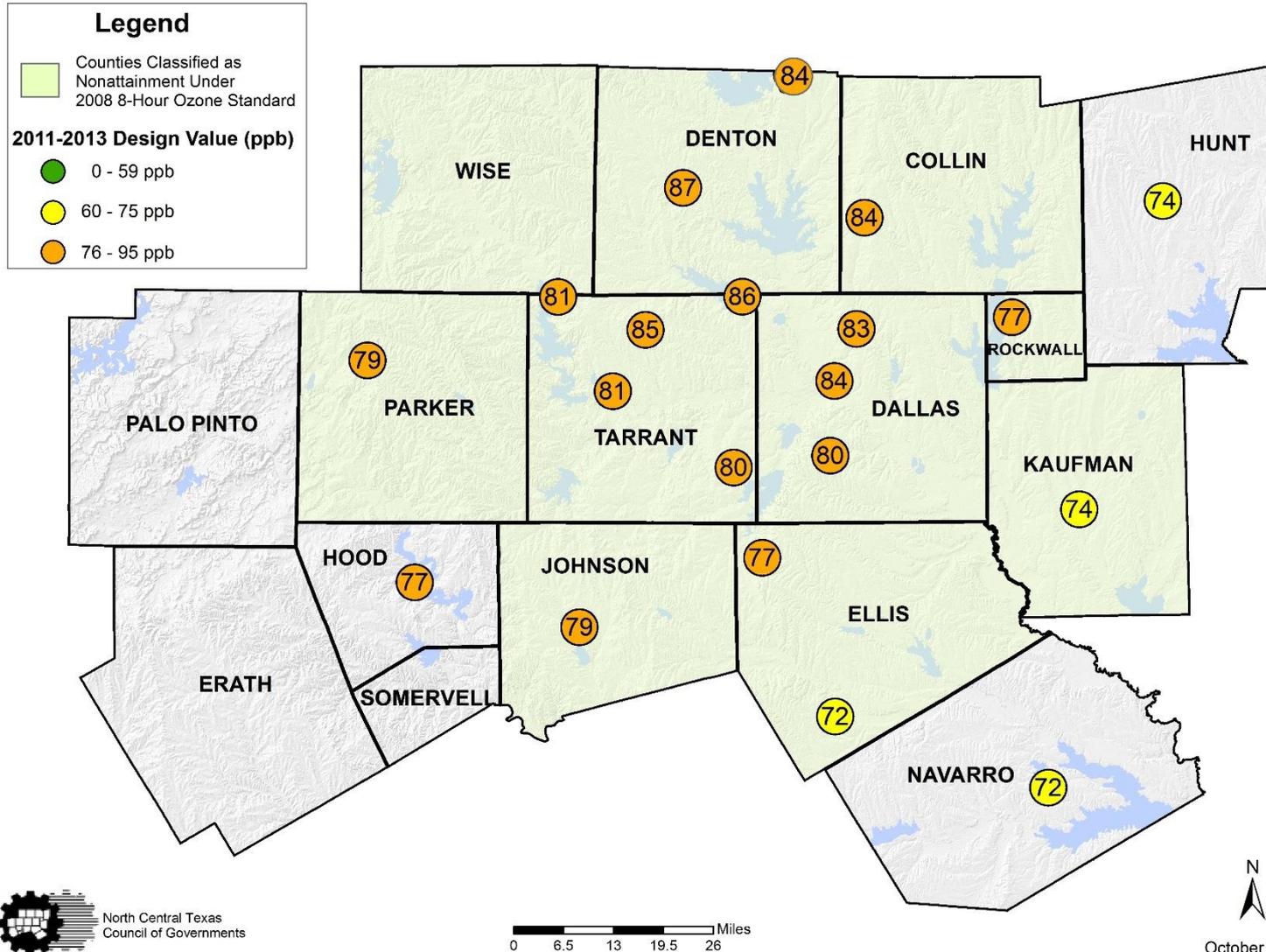
*Attainment Goal - According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than 85 parts per billion (ppb).

^Attainment Goal - According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is equal to or less than 75 parts per billion (ppb).

Note: The 2013 data has not been verified by the TCEQ. This is the most current data, but it is not official until certified by TCEQ technical staff

2008 8-HOUR OZONE STANDARD

Design Values



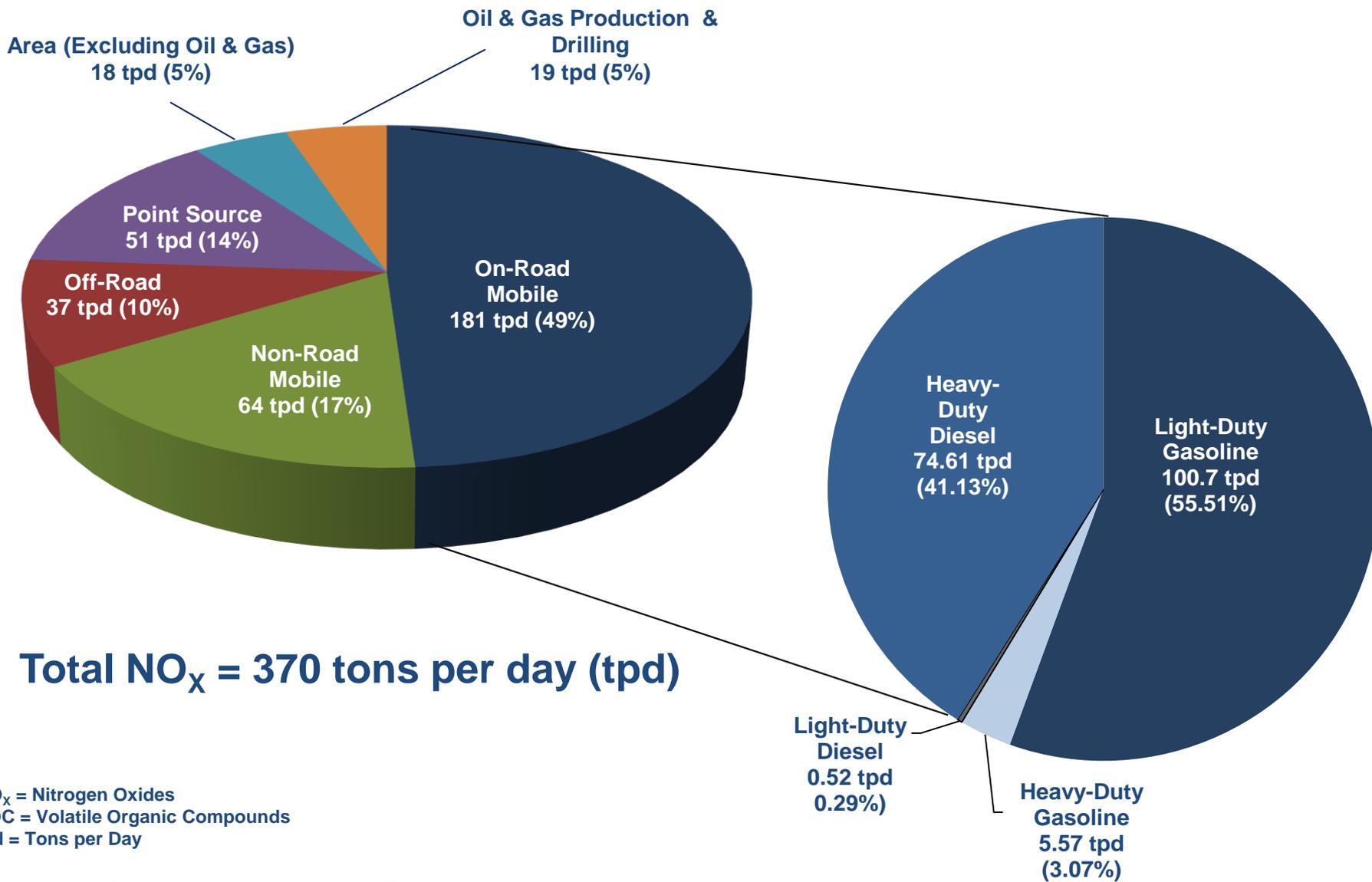
October 2013

Colors represent Air Quality Index breakpoints

According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the three-year average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 75 parts per billion (ppb)

NORTH TEXAS AIR QUALITY

2012 Estimated NO_x Emissions Inventories by Source



NO_x = Nitrogen Oxides
VOC = Volatile Organic Compounds
tpd = Tons per Day

DALLAS-FORT WORTH CLEAN CITIES (DFWCC)



Dallas-Fort Worth
CLEAN CITIES

DFW CLEAN CITIES

Overview

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Clean Cities was created by the US Department of Energy to Address the Requirements of the Energy Policy Act (EPA) of 1992.

To Advance the Nation's Economic, Environmental, and Energy Security by Supporting Local Practices That Contribute to the Reduction of Petroleum Consumption in the Transportation Sector

Currently, the National Clean Cities Program is part of the Office of Energy Efficiency and Renewable Energy's Vehicle Technologies Program.



www.dfwcleancities.org

DFW CLEAN CITIES

Various Technologies

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Alternative Fuels and Vehicles

Biodiesel (B100)

Electricity

Ethanol (E85)

Hydrogen

Natural Gas

Propane

Fuel Blends

Biodiesel/Diesel Blends
(B2, B5, B20)

Ethanol/Gasoline Blends (E10)

Hydrogen/Natural Gas Blends
(HCNG)

Fuel Economy

Fuel Efficiency

Behavioral Changes

Vehicle Maintenance Initiatives

Vehicle Miles Traveled (VMT)

Hybrids

Light- and Heavy-Duty Hybrid
Electric Vehicles (HEV)

Plug-In HEVs (PHEV)

Idle Reduction

Heavy-Duty Trucks

School Buses

Truck Stop Electrification

DFW CLEAN CITIES

Web Resources

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www.fueleconomy.gov



www.afdc.energy.gov



www1.eere.energy.gov

AIR NORTH TEXAS



AIR NORTH TEXAS

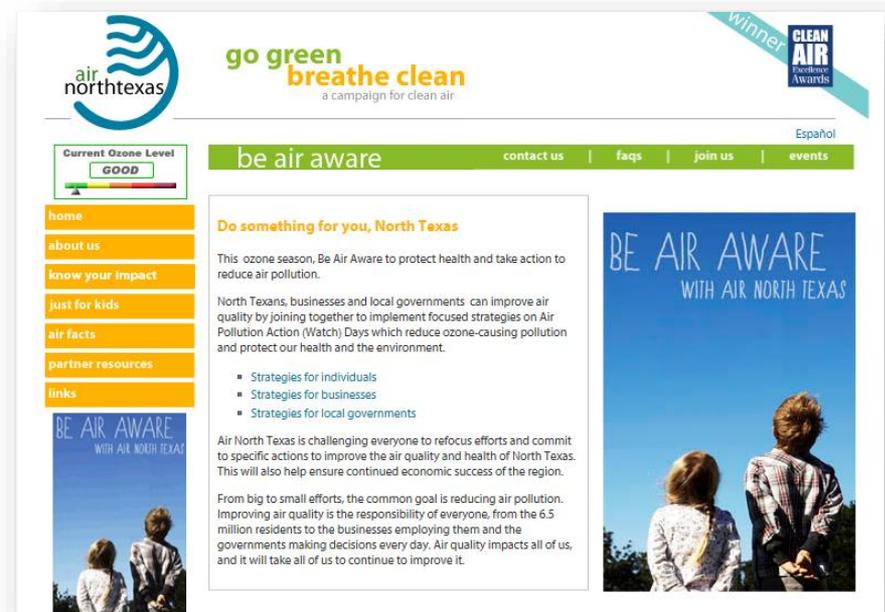
What is it?

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Public awareness campaign that encourages residents of North Texas to make clean air choices.

Composed of a coalition of regional organizations committed to improving the air in North Texas.

Aims to generate a consistent region-wide brand that promotes behavioral and lifestyle changes that impacts our health and the environment.



www.airnorthtexas.org

AIR NORTH TEXAS

Example Strategies

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Individuals

Conserve water to conserve electricity

Bicycle or walk

Use mass transit

Carpool

Take lunch to work/carpool to lunch

Conserve electricity

Telecommute

Businesses/Governments

Move construction activities to evening hours

Postpone mowing to a day without an Air Pollution Action (Watch) Alert

Limit testing of emergency generators

Coordinate on-site employee lunches

Use audio and video conference call technology

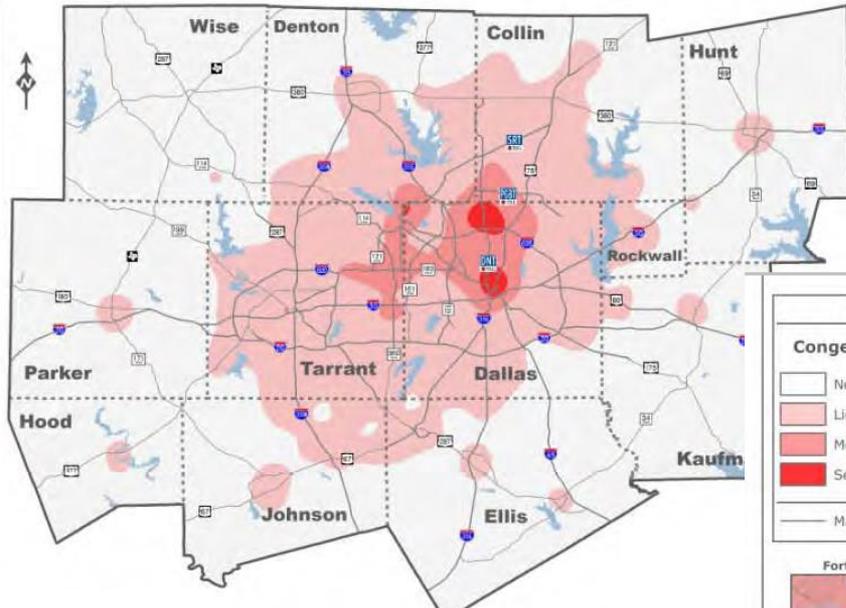
ANTI-IDLING INITIATIVES



LEVELS OF TRAFFIC CONGESTION

North Central Texas

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2012

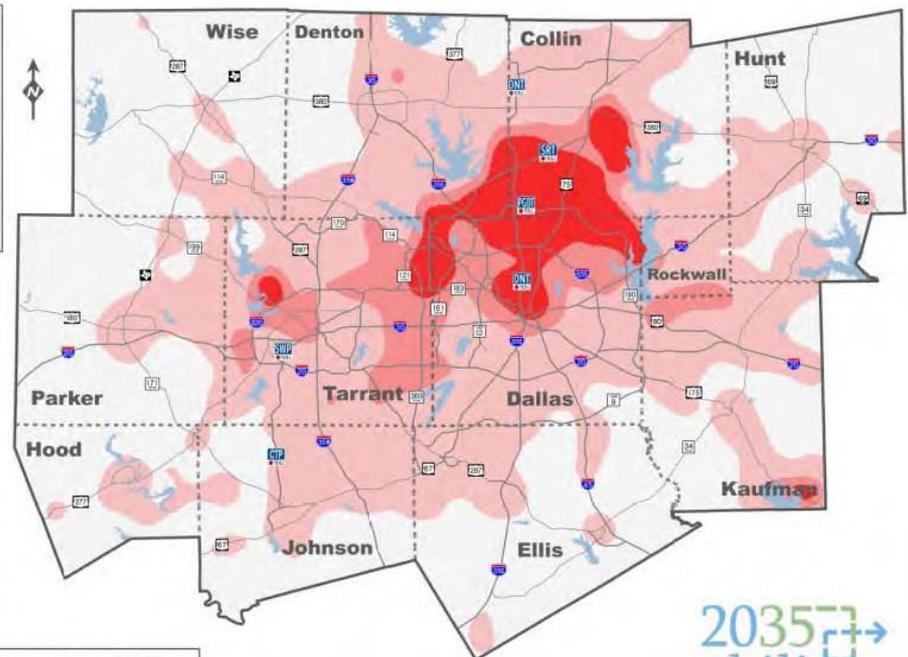
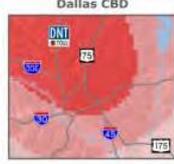
2035

Legend

Congestion Index*

- No Congestion
- Light Congestion
- Moderate Congestion
- Severe Congestion

— Major Roads



Cost of Congestion: \$10.1 billion

*Congestion Index is based on a percent increase in travel time.

VEHICLE IDLING

Why Be Concerned?

Health

Exhaust Inhalation
Impacts of Poor Air Quality

Environment

200,000 Tons NO_x Each Year
11 Million Tons of Carbon
Dioxide (CO_2) Each Year
Elevated Noise Levels

Energy Security

650,000 18-Wheelers → 685 Million Gallons of Fuel
6.7% of Annual Fuel Use for Medium-Duty Vehicles

Money

Zero Miles per Gallon; up to \$7,500/Year Spent on Fuel*
Decrease in Engine Life \ Increased Maintenance Costs



*Assumes \$4.09 per gallon Diesel (04/12); 1,830 hours per year idling
Source: Environmental Protection Agency (EPA), Department of Energy (DOE)

LOCALLY ENFORCED IDLING RESTRICTIONS

Overview

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Restriction

No gasoline or diesel vehicle over 14,000 lbs. gross vehicle weight rating (GVWR) can idle for more than 5 minutes when vehicle is not in motion; in effect year round

Exemptions



Vehicle Type	Operations	Location
With a sleeper berth and during a government mandated rest period	Power source for mechanical operations	Not within two (2) miles of a truck stop offering external heating/air conditioning
Airport ground support equipment		
Military, emergency, and law enforcement	Maintenance/ diagnostic Purposes	
Armored vehicles	Windshield defrosting	
Buses (30 minute maximum)	Traffic congestion	
Certified clean idle engines (2008+)		

LOCALLY ENFORCED IDLING RESTRICTIONS

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North Central Texas

Cities

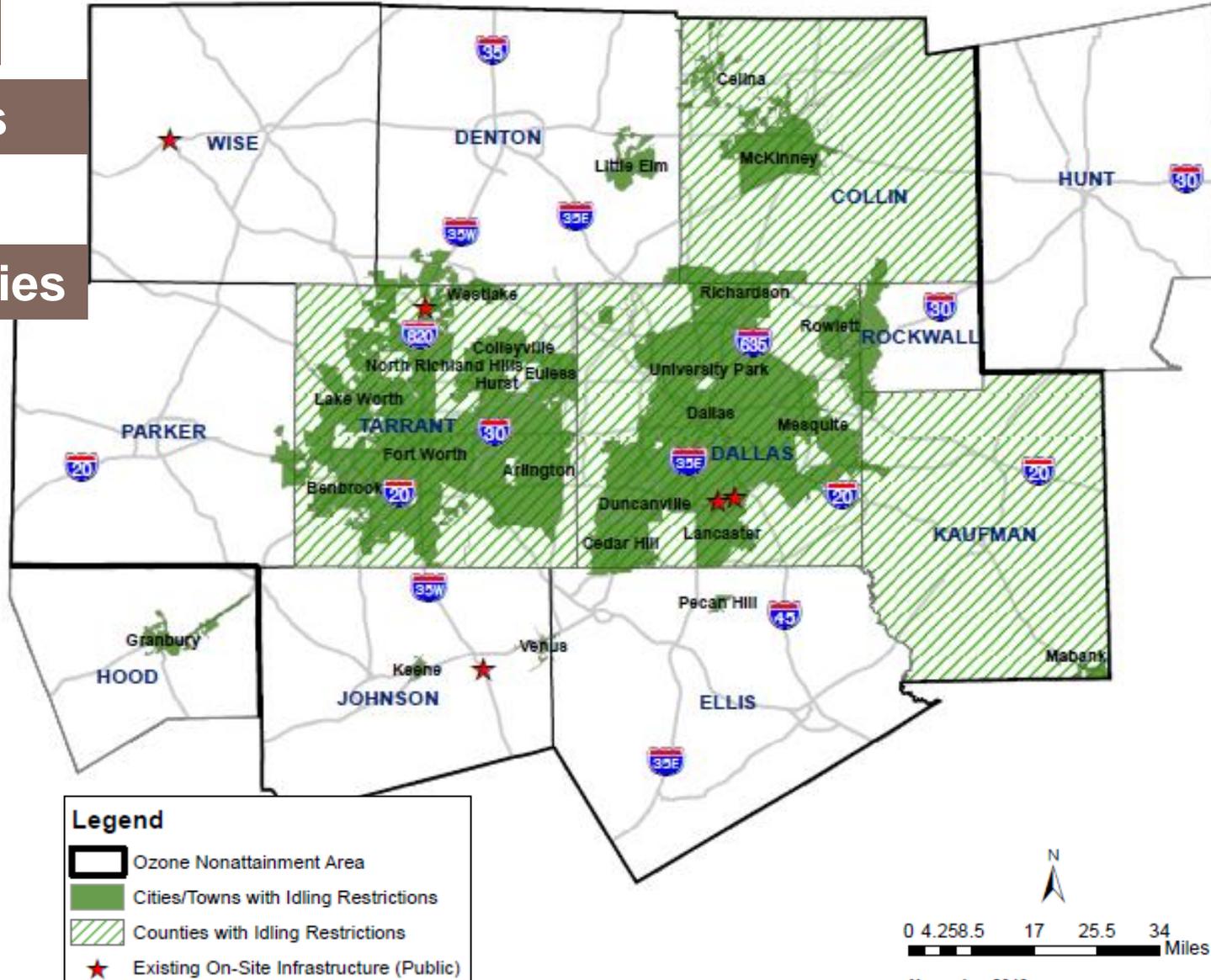
Arlington
Benbrook
Cedar Hill
Celina
Colleyville
Dallas
Duncanville
Euless
Fort Worth
Granbury
Hurst
Keene
Lake Worth
Lancaster
Mabank
McKinney
Mesquite
North Richland Hills
Pecan Hill
Richardson
Rowlett
University Park
Venus

Towns

Little Elm
Westlake

Counties

Collin
Dallas
Kaufman
Tarrant



LOCAL GOVERNMENT IMPLEMENTATION

Education and Outreach

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Identify Idling Hotspots

(i.e. warehousing districts, gas drilling sites, etc.)

Promote Awareness of Restrictions and Idle Reduction
Technology Options

Available Outreach Items:

Local Government Guide

Anti-Idling Posters and Street Signs

Driver Education Brochures

Idling Complaint Hotline and Website

877-NTX-IDLE

www.EngineOffNorthTexas.org



REGIONAL EMISSIONS ENFORCEMENT PROGRAM

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Overview

Reduce Number of Fictitious/Counterfeit Inspection Certificates by:

- **Conducting Covert Operations on State Inspection Stations**
- **Identifying Inspectors Performing Improper Inspections**
- **Prosecuting Offenders for Counterfeit Inspection Certificates**
- **Utilizing NCTCOG's Emissions Database (NED)**

Enforce Truck Lane Restrictions

Support Anti-Idling Restrictions

Enforce Smoking Vehicle Statute

Train Local Law Enforcement Officers

**Encourage Collaboration Between
Counties to Increase Enforcement Efforts**



Regional
Emissions
Enforcement
Program

OTHER WAYS TO REDUCE IDLING

Fleets – Public & Private

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Retrain/Educate Drivers

Technology to Monitor Driver Behavior

Adopt a Fleet Anti-Idling Policy

Expectations

Time Limits

Accountability

Recognition

Invest in Technologies

Idle-Reduction Devices

Hybrid and Electric Vehicles



CLEAN FLEET POLICY

CLEAN FLEET POLICY

2014 Revisions

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Adopted by RTC on October 13, 2005

Adoption and Reporting Required for Vehicle Funding

Promotes Low Emissions in all Aspects of Fleet Management

Current Policy	2014 Proposed Revisions
Acquisitions	Reduce Emissions from Fleet Activities
Operations	Reduce Overall Fuel Consumption, Particularly Use of Conventional Petroleum Fuels
Maintenance	Partner with NCTCOG and DFW Clean Cities
Compliance Verification	Ensure Drivers and Fleet Personnel are Educated about Fleet Air Quality and Petroleum Reduction Goals

CLEAN FLEET VEHICLE POLICY

Adopting Schools/Districts

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Allen ISD

Azle ISD

Birdville ISD

Blue Ridge ISD

Caddo Mills ISD

Castleberry ISD

Celeste ISD

Chico ISD

Crandall ISD

Denton ISD

Duncanville ISD

Ennis ISD

Everman ISD

Garland ISD

Glen Rose ISD

Kaufman ISD

Kennedale ISD

Lake Worth ISD

Lipan ISD

Mabank ISD

Mansfield ISD

Mesquite ISD

Millsap ISD

Plano ISD

Pope John Paul II High School

Rockwall ISD

White Settlement ISD

Wylie ISD

www.nctcog.org/fleetpolicy

NORTH CENTRAL TEXAS CLEAN SCHOOL BUS PROGRAM



Serves NCTCOG 16-County Area

Clearinghouse for Information on School Bus:

Technology

Best practices

Legislation

Funding opportunities

Provides Resources To Help:

Protect health of school-aged children

Improve air quality by encouraging:

Expedited purchase of clean buses

Utilization of clean vehicle technologies

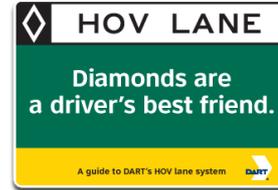
Adoption of anti-idling policies



www.nctcog.org/CleanSchoolBus

TRANSPORTATION CONTROL STRATEGIES

NCTCOG Air Quality Programs



tryparkingit.com



VEHICLE FUNDING OPPORTUNITIES

Available/Upcoming Clean Technology Funding Programs (Current as of 03/12/14)

Eligible Technology Applications

	School Buses	Oil and Gas Vehicles/ Equipment	Long Haul Trucks	Dump Trucks	Other	Idle Reduction Technology	Heavy-Duty Vehicles	Light-Duty Vehicles	Refueling Infrastructure
Engine Control Systems: Diesel Particulate Filter Leasing Program		X	X		X		X		
H-GAC Drayage Loan Program		X			X		X		
Propane Autogas: Business Fleet Incentive Program	X	X		X	X		X	X	
Texas Natural Gas Vehicles Grants Program	X	X	X	X	X		X		
US DOT LoNo Emission Vehicle Deployment Program	X				X				

For More Information, visit: www.nctcog.org/AQFunding

Federal and State Incentives and Laws/Tax Credits: www.afdc.energy.gov/laws

SCHOOL POLICY, LAND USE, AND SITING: TRANSPORTATION CONNECTION



BEGINNING THE DIALOGUE

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NCTCOG hosted first Regional meeting in 2010 to bring local governments (elected officials and city staff) and Independent School Districts (ISDs) to the table to discuss various issues:

Access

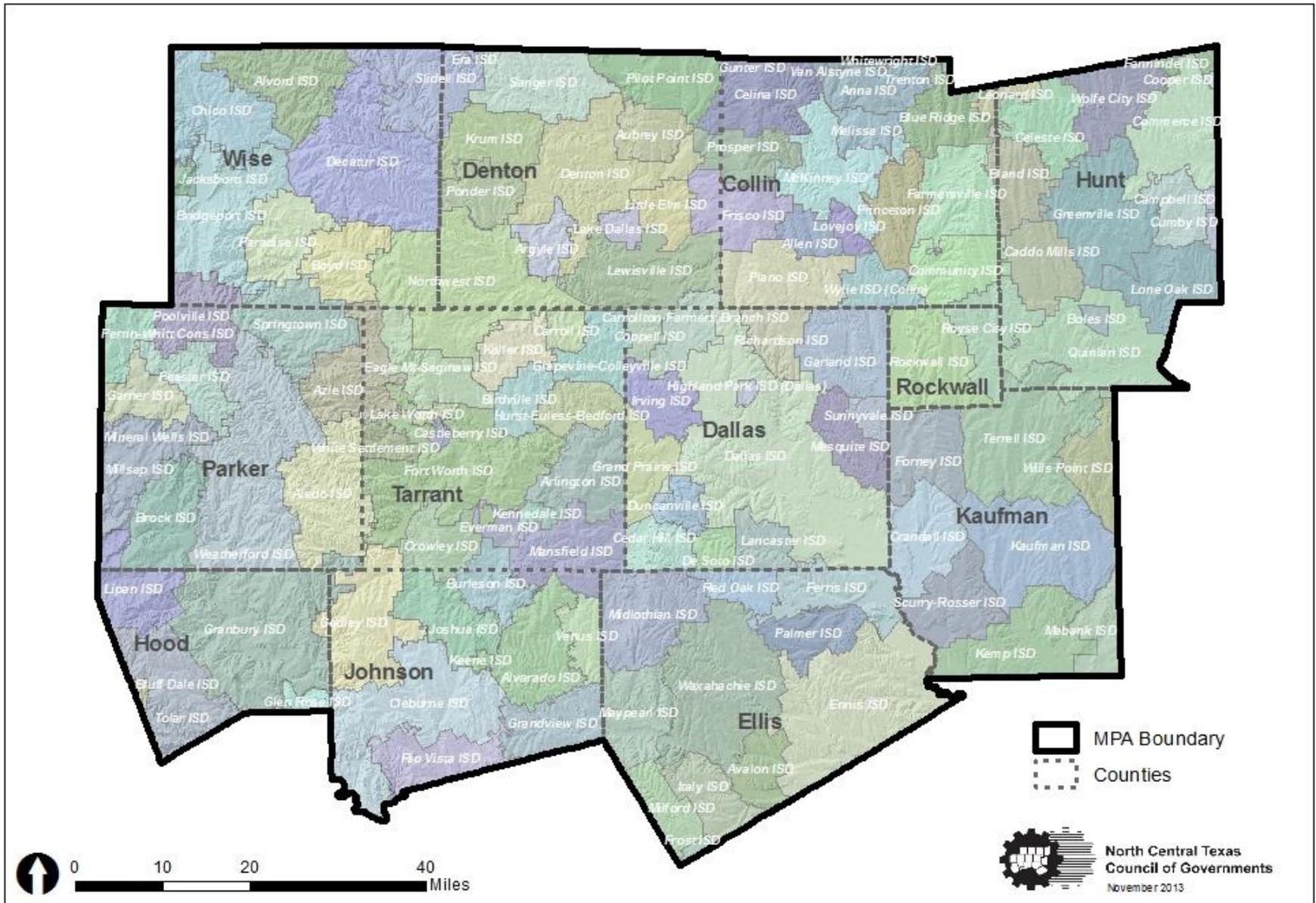
Safety

Air Quality

School Siting

There are 209 municipalities in the 127 school districts located within the 12-county Metropolitan Planning Area (MPA)

127 Independent School Districts (ISDs) in the NCTCOG Metropolitan Planning Area (MPA)



RTC SCHOOL POLICY

REGIONAL TRANSPORTATION COUNCIL (RTC) SCHOOL POLICY – ADOPTED AUGUST 2013

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We Recognize the Independence of Independent School Districts

Engage Students in Progress North Texas

Participate in the RTC Clean Fleet Vehicle Policy

Encourage Participation in:

Clean School Bus Programs

Energy Audits

Vehicle Idling Reduction Programs

Contracting Initiatives for “Green” Construction

Pilot School Siting Programs

Coordinate Bus Stops and Routes Between ISDs

REGIONAL TRANSPORTATION COUNCIL (RTC) SCHOOL POLICY

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Continue Advocating STEM to Meet Workforce Needs

**Advocate Programs that Advance the Safety of Children Traveling To and From School
(Transportation Alternatives Program, TxDOT's Precious Cargo, and Safe Routes to School, etc.)**

Provide Technical Assistance to ISDs

LAND USE AND SCHOOL SITING: TRANSPORTATION CONNECTIONS

LOCAL GOVERNMENTS AND ISD'S

Coordination

44

As communities grow, schools and local governments should work together.

Local comprehensive plans and school siting plans should be coordinated.

Schools are major financial investments for a community that often lead to the demand for new:

Roads and traffic signals

Sewer lines and utilities

Other infrastructure and services



SCHOOL SITING – WORK TO DATE

45

Workshop with McKinney City Council and McKinney ISD (February 21, 2011)

Traffic Congestion/Health and Safety/Safe Routes to School

Establish pilot project to address school siting issues and inter-agency coordination

NCTCOG School Siting White Paper (December 2012)

Prevailing Issues Related to School Siting

Recommendations to Promote Effective Practices

Identify Key Personnel and Stakeholders

**Establish an Institutional Structure for Coordinated
Planning**

Adopt a Shared Vision – Shared Resources

Identify Funding Sources

SCHOOL SITING – WORK TO DATE

46

Presentation to Joint Committee of Denton City Council and Denton ISD (March 5, 2012)

Focus on Coordination and Transportation/Land Use Connections

Technical Assistance Provided to City of Denton and Denton ISD

Map Roadway/Intersection Projects in the TIP within Denton ISD Boundaries

Funding Assistance for Pedestrian Infrastructure Near School Sites

LATEST STEPS

47

RTC School Policy Meeting (November 19, 2013)

NCTCOG brought together a group of elected officials and staff from various municipalities and Independent School Districts (ISD's) to discuss the policy and needs in the region.

Collaboration

Communication

Funding

Continued coordination on landbanking options and financing strategies.



TRANSPORTATION ALTERNATIVES PROGRAM (TAP)

TRANSPORTATION ALTERNATIVES PROGRAM

What Is It?

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**MAP – 21: Moving Ahead for Progress in the 21st Century
(Current transportation funding and authorization bill)**

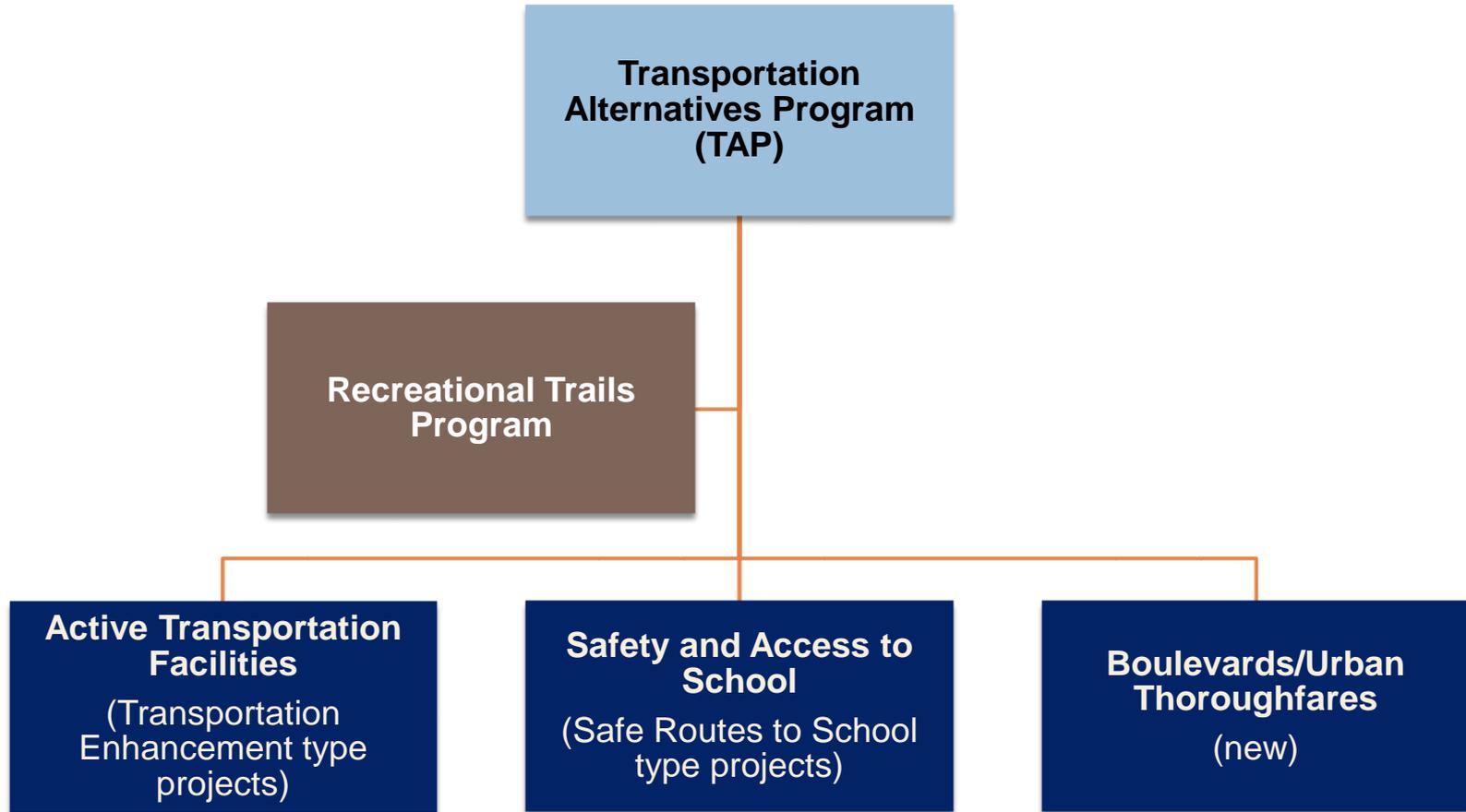
**Launches the Transportation Alternatives Program (TAP)
Former Transportation Enhancement (TE) and Safe
Routes to School (SRTS) consolidated.**

**States have sub-allocated funds to MPOs in urbanized
areas with populations over 200,000 for direct selection.**

TRANSPORTATION ALTERNATIVES PROGRAM

Structure

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FUNDING AVAILABLE TO THE REGION

51

Up to \$28,728,000 Available

Split: 66% Eastern Subregion and 34% Western Subregion

Up to Three Fiscal Years of Funds (FY '14/'15/'16)

Supplemental Funds Could be Added

Proposed Maximum Funding Award per Project

Active Transportation Facilities: \$3 Million

Safety and Access to Schools: \$500,000

Boulevards/Urban Thoroughfares: \$3 Million



PROPOSED LOCAL MATCH REQUIREMENTS

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Local Match

Active Transportation Facilities: 80/20%

Safety and Access to Schools: 80-100/0-20%*

Boulevards/Urban Thoroughfares: 50/50%

- * Transportation Development Credits (TDC) may be used to meet the federal requirements of a minimum 20% local match. Funds offset by the TDC portion must go back into a transportation-related project.**

TRANSPORTATION DEVELOPMENT CREDITS

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There will be 1-2 Million in TDCs available for Safety and Access to School projects that can be used to meet the Federal Requirement of a local match.

Projects will be asked:

If they want to use the TDCs?

Could their project be built without TDCs?

Do they want to build the project if not awarded TDCs?

TRANSPORTATION DEVELOPMENT CREDITS

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Funds offset by the TDC portion must go back into a transportation-related project. We will be evaluating innovation.

An MOU would need to be signed between NCTCOG and the agency awarded funds on the “reallocation” of funds. (under development)

PROPOSED ELIGIBLE ENTITIES

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Eligible Entities to Receive TAP funds

Local Governments

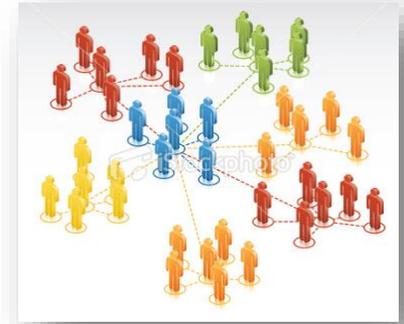
Regional Transportation Authorities and Transit Agencies

School Districts, Local Education Agencies, or Schools

Tribal Governments

Other Local or Regional Governmental Entity with Responsibility for Oversight of Transportation or Recreational Trails

Joint applications and multi-jurisdiction projects are strongly encouraged.



ELIGIBLE PROJECT CATEGORIES

Proposed

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Safety and Access to Schools

Neighborhood Sidewalks, Trails, and On-Street Bicycle Infrastructure Facilities

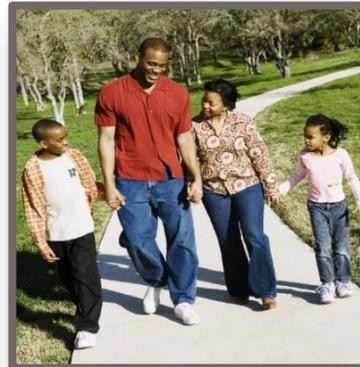
Pedestrian and Bicycle Crossings, Safety Improvements, ADA Improvement Projects

Traffic Calming

Non-Infrastructure Safe Routes to School (SRTS) Program

Activities: Education, Enforcement, Encouragement

Activities, Public Awareness Campaign/Outreach



TAP SCHEDULE

Public Meetings	12/9 - 12/11, 2013
Workshop	12/17/13
STTC Action (Process, Eligible Proj., & Scoring Criteria)	1/24/14
RTC Action (Process, Eligible Proj., & Scoring Criteria)	2/13/14
Call for Projects <u>Opened</u>	2/24/14
Application Workshop	2/28/14
Call for Projects <u>Closes</u>	5/30/14, 5 p.m.
Review of Projects / Scoring by NCTCOG	June/August 2014
Public Meetings (Recommended Projects)	9/14
STTC Action (Selected Projects)	9/26/14
RTC Action (Selected Projects)	10/9/14
Submittal Deadline for Transportation Improvement Program (TIP) modifications	10/24/14
Approval of STIP	March/April 2015

CONTACT INFORMATION

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www.nctcog.org/BikePed