Electric Vehicle Update: What to Watch

Rachel Linnewiel -- NCTCOG
NTEAA/NTREG Monthly Meeting
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The Basics: Who We Are

North Central Texas Council of Governments (NCTCOG) is:

Council of Governments
• Regional Coordination

Metropolitan Planning Organization
• Transportation Planning
• Air Quality

Dallas-Fort Worth Clean Cities Coalition (DFWCC)
• Petroleum Reduction
• Alternative Fuels
The Basics: Who We Are

NCTCOG Service Area
DFWCC Service Area
Metropolitan Planning Area (RTC Service Area)
Ozone Nonattainment Area
Criteria Air Pollutants

- Carbon Monoxide (CO)
- Lead (Pb)
- Nitrogen Oxides (NO\textsubscript{x})
- Ozone (O\textsubscript{3})
- Particulate Matter (PM\textsubscript{10} & PM\textsubscript{2.5})
- Sulfur Dioxide (SO\textsubscript{2})

Future ? CO\textsubscript{2}, NO\textsubscript{2}, Etc.
North Texas Ozone Monitors

Legend

- Counties Classified as Nonattainment Under 2008 8-Hour Ozone Standard

2010-2013 Design Value (ppb)*
- Green: 0 - 59 ppb
- Yellow: 60 - 75 ppb
- Orange: 76 - 95 ppb

- Not a full year of data, current as of October 15, 2013.
Exceedance Level indicates daily maximum eight-hour average ozone concentration. Exceedance Levels are based on Air Quality Index (AQI) thresholds established by the EPA for the revised ozone standard of 70 ppb.

- Orange (71-75 ppb)
- Orange (76-85 ppb)
- Red (86-105 ppb)
- Purple (106+ ppb)

*Not a full year of data, current as of 8/25/2016
Source: TCEQ, [http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_monthly.pl](http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_monthly.pl)
ppb = parts per billion
According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the Design Value (three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration) is less than or equal to 70 parts per billion (ppb).

1Attainment Goal - According to the US EPA National Ambient Air Quality Standards, attainment is reached when, at each monitor, the Design Value (three-year average of the annual fourth-highest daily maximum eight-hour average ozone concentration) is less than or equal to 70 parts per billion (ppb).

^Not a full year of data, current as of 8/25/2016.
Ground Level Ozone Formation

- Mobile Sources
- Point Sources
- Biogenic Sources
- Area Sources

- Protective Ozone Layer
- Stratosphere
- Troposphere

30 miles
6 miles

Earth

(Good Ozone)
(Bad Ozone)
DFW Nonattainment Area Inventory

Estimated 2017 Nitrogen Oxides (NO\textsubscript{x}) Emissions Inventory
Source Category Estimates = 296.77 tons per day (tpd)

- On-Road (Cars & Trucks) 130.77 tpd (44%)
- Off-Road (Locomotives, Aircraft, etc.) 25.24 tpd (8%)
- Non-Road (Construction, Agriculture, etc.) 45.54 tpd (15%)
- Point, Excluding Oil & Gas (Power Plants, Cement Kilns, etc.) 38.30 tpd (13%)
- Point - Oil & Gas 16.50 tpd (6%)
- Area (Dry Cleaners, Bakeries, etc.) 26.55 tpd (9%)
- Oil & Gas (Production & Drill Rigs) 13.87 tpd (5%)

Source: Texas Commission on Environmental Quality, 2017 Dallas-Fort Worth 8-hour Ozone Attainment Demonstration State Implementation Plan
DFW Nonattainment Area Inventory

Estimated 2017 Nitrogen Oxides (NO\textsubscript{x}) On-Road Emissions Inventory

Source Category Estimates = 130.77 tons per day (tpd)

- **Heavy-Duty Diesel**
  - 63.46 tpd (48.53%)

- **Light-Duty Gas**
  - 49.65 tpd (37.96%)

- **Medium-Duty Gas**
  - 12.52 tpd (9.57%)

- **Light-Duty Diesel**
  - 1.15 tpd (0.89%)

- **Heavy-Duty Gas**
  - 1.65 tpd (1.26%)

- **Medium-Duty Diesel**
  - 2.34 tpd (1.79%)

Source: Texas Commission on Environmental Quality, 2017 Dallas-Fort Worth 8-hour Ozone Attainment Demonstration State Implementation Plan
Electric Vehicles North Texas (EVNT)

- **Initial Areas of Focus**
  - Establish Stakeholder Group
  - Vehicles
    - Establish DFW Area as Launch Market
    - Implement Incentives for Purchase
  - Infrastructure
    - Implement Public Recharging Infrastructure
    - Streamline PEV Purchase and In-Home Charging Installation Process
Electric Vehicles North Texas (EVNT)

Registration by Electric Vehicle (EV) Model in North Texas

Total EV Registration:
Texas: 8041
DFW Area: 3124
38% of TX total
(As of September 2016)

*NCTCOG staff plans to include additional models including: Cadillac ELR, Chevrolet Spark, Fiat 500e, Honda Accord Plug-In & Fit EV, Toyota Plug In Prius, & RAV4 EV
Electric Vehicles North Texas (EVNT)

Electric Vehicle (EV) Registration Density by ZIP Code with EV Recharging Station Locations

Legend
- 2008 Eight-Hour Ozone Nont attainment Area
- EV Density by ZIP Code
  - 1 - 6
  - 7 - 15
  - 16 - 26
  - 27 - 42
  - 43 - 78
- EV Charging Stations
- Near Non attainment Counties

Source: NCTCOG
September 2016
Electric Vehicles North Texas (EVNT)

Total Charging Portals: 703

2013 Total: 462
Electric Vehicles North Texas (EVNT)

- **DFW Clean Cities Coalition Petroleum Reduction Goal**
  - Reduce Petroleum Consumption by 15% Year Over Year
  - 2015 Displacement: 23.26 Million Gasoline Gallon Equivalents (GGE)
  - 2016 Reduction Goal: 26.74 Million GGEs Displaced

![Diagram showing breakdown of 2015 Gallons of Gasoline Equivalent Reduced](image)
Under Consideration: Shifting Focus

- Solar Ready II Program Model
  - Focus on Cities
    - PEV Readiness in City Boundaries
    - Municipal Fleet Adoption
  - Case Studies
  - Workplace Charging Challenge
- Best Management Practices
- Resources/Deliverables
National Drive Electric Week (NDEW)

Join us for

NATIONAL DRIVE ELECTRIC WEEK

Saturday, September 17, 2016
10 am - 2 pm

Grapevine Mills Mall
3000 Grapevine Mills Pkwy
Grapevine, TX 76051

Activities, entertainment, giveaways, ride & drives, and much more!

Learn how you can drive electric at the largest gathering of EVs in North Texas!

Calling all EV owners: come show off your electric vehicle! #texasEV
Available EV Incentives

- Texas Commission on Environmental Quality (TCEQ)
  Texas Emission Reduction Plan (TERP) Alternative Fueling Facilities Program (AFFP)

- Provides grants of up to 50% of total eligible costs or a max. of $600,000 for the construction or expansion of alternative fueling stations in specific counties

- Deadline for Applications: November 8, 2016 at 5 pm

www.terpgrants.org

AFFP 2016 Awarded Project Types (Fuel Stations)

- Propane
- Electric Charging
- Biodiesel
- CNG
Available EV Incentives

- **TERP Texas Clean Fleet Program (TCFP)**
  - Provides reimbursements of up to 80% of the incremental cost of purchasing an eligible vehicle.
  - **Eligible Applicants:** Fleets of 75 or More On-Road Vehicles
  - **Vehicles Eligible for Replacement:** Diesel-Powered, Operated in Texas (2 Year Minimum)
  - **Vehicles Eligible for Purchase:** Powered by Alternative Fuel (Hybrid and Electricity Included)
  - **Minimum Activity Number:** 20 Vehicles
  - **Deadline for Applications:** October 18, 2016 at 5 pm

www.terpgrants.org
Criteria for Nomination
- Existing Alternative Fuel Facilities and Gaps
- Corridor Scale/Impact
- Emissions Reductions
- Development of Team and Degree of Collaboration and Support

Justification for Nominations
- National Highway System
- National Highway Freight Network
- NCTCOG Proposed Critical Urban Freight Corridor Network
- TCEQ TERP “Eligible Roadways”
- US Highway 287
Fixing America’s Surface Transportation (FAST) Act Section 1413 Nominations

Legend
- Alternative Fuel Centers Types
  - Compressed Natural Gas
  - Electric Charging
  - Hydrogen
  - Liquefied Natural Gas
  - Liquefied Propane Gas
- Nominated Interstates
- Nominated US Highways
- Counties with 2013-2015 Ozone Design Value Between 85 and 70 ppb ozone
- Texas Counties
- Proposed to be Counties Designated Ozone Nonattainment

August 2016

North Central Texas Council of Governments
Fixing America’s Surface Transportation (FAST) Act Section 1413 Nominations

Legend

Electric Charging Station Density*
- Ultra-low Density
- Low Density
- Medium Density
- High Density
- Nominated Interstates
- Nominated Highways
- Freight Oriented Developments
- Ozone Nonattainment Area
- MPA Boundary
- Region Boundary
- Counties

*Ultra-low density is an area with no station
Low density is an area with at least one station
Medium Density is an area with multiple stations near each other
High Density is an area with clusters of stations near each other
Legislation to Require Establishment of Program to Track Fuel Type During Vehicle Registration

Fuel Types to Be Tracked (At a Minimum):
- Electric Plug-In Drives
- Hybrid Electric Drives
- Compressed Natural Gas Drives
- Liquefied Natural Gas Drives

Rulemaking Announcement Anticipated – NCTCOG Will Submit Comments
Going Mainstream: Driving Large Scale Electric Vehicle Adoption in South Central Region

- Department of Energy (DOE) Funding Opportunity Announcement (FOA)
  - Area of Interest 1 – Plug-in Electric Drive Vehicle Program
    - Objective: Research, Develop, Demonstrate Plug-in Electric Vehicles (PEVs)
  - Increase exposure to and adoption of EVs in the Clean Cities South Central Region
Questions?
Contact Us

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