Air Quality Overview

Presented to: Richardson City Council

August 23, 2010

Air Quality

- Over the past three decades, the common or "criteria" air contaminants were identified as being the most significant air pollution contaminants in the nation.
- These contaminants include
 - particulate matter
 - carbon monoxide
 - sulfur dioxide
 - nitrogen dioxide
 - ground level ozone
 - lead

Air Quality

- Ground-level ozone is created when volatile organic compounds (VOC's) and nitrogen oxides (NoX) react with sunlight
- These pollutants come from a variety of sources: –emissions from vehicles
 - -lawn mowers
 - -boats
 - –emissions from power plants & industrial facilities
 - -Construction equipment



What is Ozone?

- Ozone is O₃
- Produced in Nature
 - lightning, trees
- Stratospheric Ozone (15 miles +)
 - shields earth from ultraviolet rays of Sun
- Tropospheric Ozone (less than 6 miles)
 - Excess comes from chemical reactions
 - burning of fossil fuels, coal, as well as from vapors of solvents, paints, etc.

Ozone & Health

- Lungs
 - Damages tissue
 - Reduces function
 - Causes sensitivity to other irritants
- Primarily impacts individuals with respiratory conditions, the young and the elderly
- Animal studies indicate long-term exposure can produce:
 - permanent structural damage
 - accelerate aging of the lung

Air Quality

- The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for each of the criteria contaminants to protect human health and welfare.
- The standards are the maximum allowable concentration of air contaminants in outdoor air to protect the most sensitive people from adverse health effects.



















Timeline

EPA issues decision to reclassify	Dec 2010
Revised SIP for Region due to EPA	Jan 2012
Serious attainment date	June 15, 2013

Reconsideration of the 8-Hour Standard

Proposed Revision

- Primary Standard
 - Protect public health
 - 60-70 ppb
- Secondary Standard
 - Protect sensitive vegetation and ecosystems
 - 7-15 ppm-hours

Key Dates Subject to Change

Final rule Aug. 2010
EPA designations Aug. 2011
State Implementation Plans Dec. 2013
Attainment Dates 2014-2031

Primary Ozone Standard Revision

- At 70 ppb
 20 counties in TX will exceed standard
- At 65 ppb
 26 counties in TX will exceed standard
- At 60 ppb
 29 counties in TX will exceed standard
- 2 out of 31 counties with an ozone monitor will be in compliance with the lowest proposed standard

What is the City doing?

- Ozone Watch Program
- Transportation Demand Management
- Clean Fleet Program
- Traffic Enhancements i.e. right/left turn lane construction.
- Bicycle lanes
- Heavy vehicle anti idling ordinance
- City recognized by EPA as "Best Workplace for Commuters"
- Mayor's Climate Protection Agreement.

What is the City doing cont.

- Continue to work with the NCTCOG and the TCAWG on air quality issues
- Sustainability efforts reducing electricity consumption (LEED certified buildings, HVAC and lighting improvements)
- Transit oriented development
- Support of mass transit

Individual Actions:

- Limit driving
- Minimize cold starts
- Avoid jack rabbit acceleration
- Avoid excessive idling
- Drive your lowest emission vehicle
- Refuel carefully and in the evening when its cooler
- Maintain your vehicle
- Keep your car in the garage when it's not in use
- Don't mow your lawn or use gas powered equipment on the mornings of Ozone Alert Days
- · Limit your chores on Ozone Alert Days

