



# Environmental Protection Agency's Proposal to Update the Air Quality Standards for Ground-Level Ozone

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PAG Travel Reduction Program

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# Presentation Overview

- Background- National Ambient Air Quality Standards (NAAQS)
- Proposed EPA Standard for Ground-Level Ozone
- Benefits of Proposed Standard
- Timeline of Standard Revision Process
- Whats & Wheres & Hows of Ozone
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- Next Steps
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# National Ambient Air Quality Standards

- Federal Clean Air Act requires U.S. EPA to set NAAQS for air pollutants considered harmful to public health & environment.
- Primary standards protect public health including sensitive populations such as asthmatics, the elderly and children.
- Secondary standards also set to protect public welfare including decreased visibility and damage to animals, crops, vegetation, and buildings.
- EPA has set NAAQS for 7 air pollutants: airborne lead, carbon monoxide, sulfur dioxide, nitrogen dioxide, particulate matter (10 and 2.5 microns or less), and ozone.



# Federal Clean Air Act Requires Standards Be Reviewed Every 5 Years

- EPA last changed ozone standard in 2008 from 80 to 75 parts per billion (ppb).
- November 25, 2014, EPA proposed to strengthen the standard based on extensive scientific evidence about ozone's effects on public health.
- EPA proposed a range of 65 to 70 ppb.



# EPA Estimates Benefits to New Proposed Standard

## Reducing Air Pollution Delivers Health Benefits

- Ozone standard in the proposed range of 65-70 ppb has public health benefits worth an estimated:
  - \$6.4 to \$13 billion for a standard of 70 ppb, or
  - \$19 to \$38 billion for a standard of 65 ppb.
- Reduced deaths, asthma attacks, acute bronchitis and emergency room visits.
- Fewer missed school and work days.
- People most at risk include those with asthma, children, older adults, and people who are active outdoors, especially outdoor workers.

# Timeline for Proposed Standard

Deadline for comments on proposal is March 17, 2015.

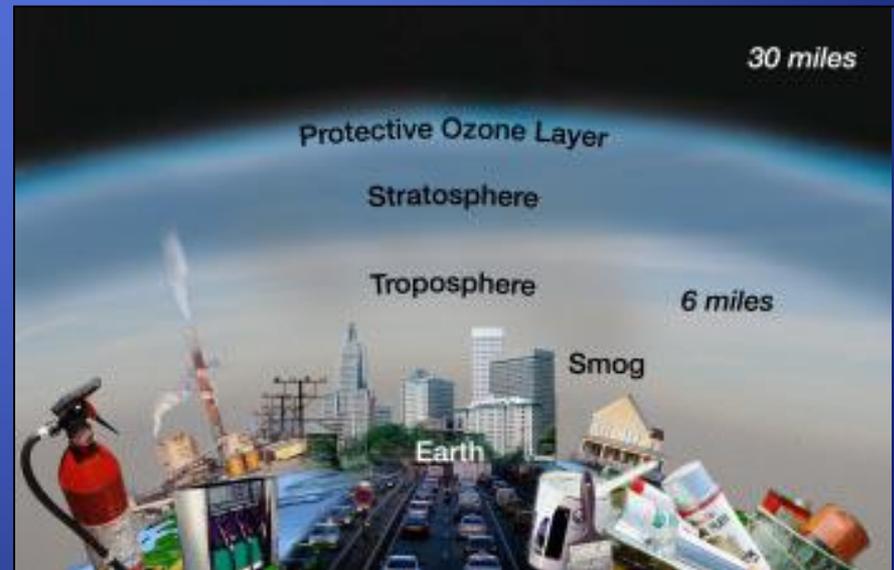
EPA will take final action on the proposed standards by Oct. 1, 2015.

Below is agency's schedule, if EPA revises the standards:

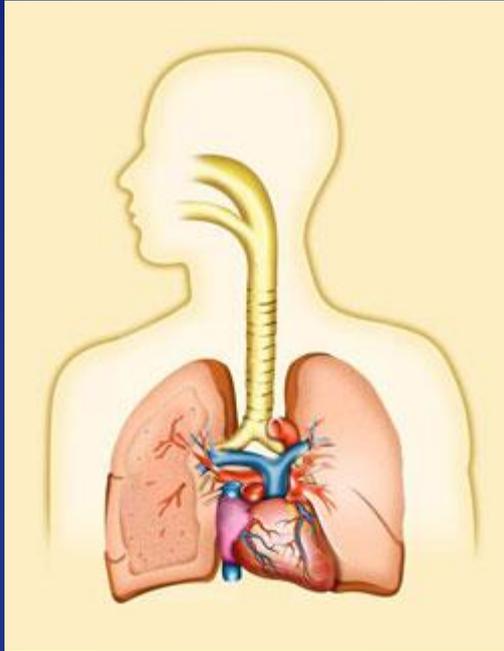
- By **October 1, 2016**: States recommend to EPA the designation for all areas of the state and the boundaries for those areas.
- By **June 1, 2017**: EPA responds to states' initial recommendations.
- By **October 1, 2017**: EPA issues final area designations; those designations *likely based on 2014-2016 air quality data*.
- **2020 to 2021**: States complete development of implementation plans, outlining how they will reduce pollution to meet the standards.
- **2020 to 2037**: States are required to meet the health standard, with deadlines depending on the severity of an area's ozone problem.

# What is Ground-Level Ozone?

- Not the protective ozone layer that keeps harmful solar radiation from reaching us.
- Not emitted directly from anything. Very complex pollutant.
- Ozone is the result of a chemical reaction between two pollutants oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOCs) reacting with strong solar radiation in stagnant air.
- Our region tends to have the highest levels of ozone from May through September.



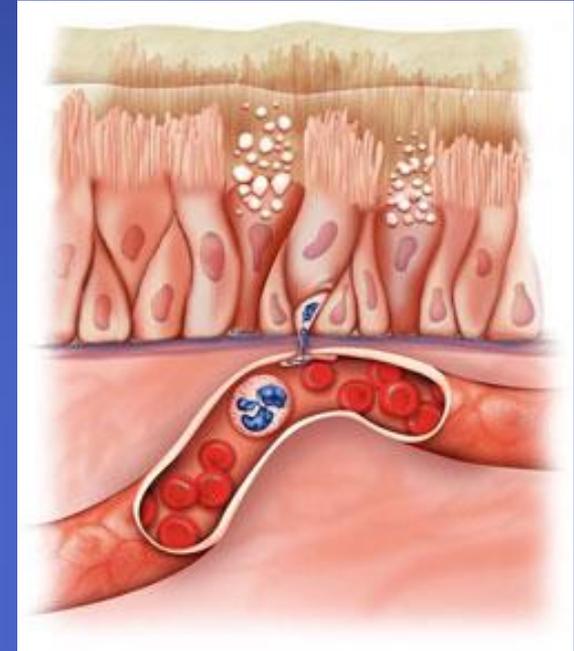
# Health Effects of Ozone



Ozone is a powerful oxidant that **irritates** the air ways causing coughing, a burning sensation, wheezing & shortness of breath. It can aggravate asthma and other lung diseases.



Alveoli filled with trapped air. Ozone can cause muscles in the **airways to constrict**, trapping air in the alveoli. This leads to wheezing & shortness of breath. It can result in asthma attacks.

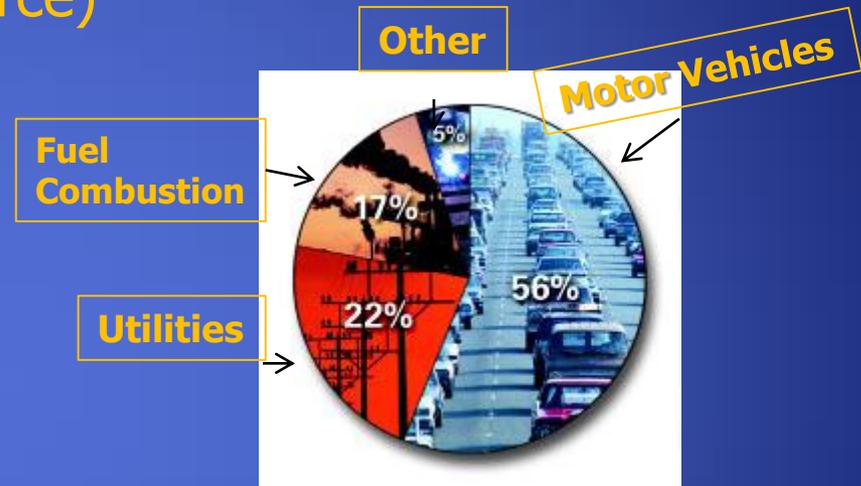


With **airway inflammation**, there is an influx of white blood cells, increased mucous, and fluid accumulation. This causes the death and shedding of cells that line the airways and is compared to the skin inflammation caused by sunburn.

# Where Does Ozone Come From?

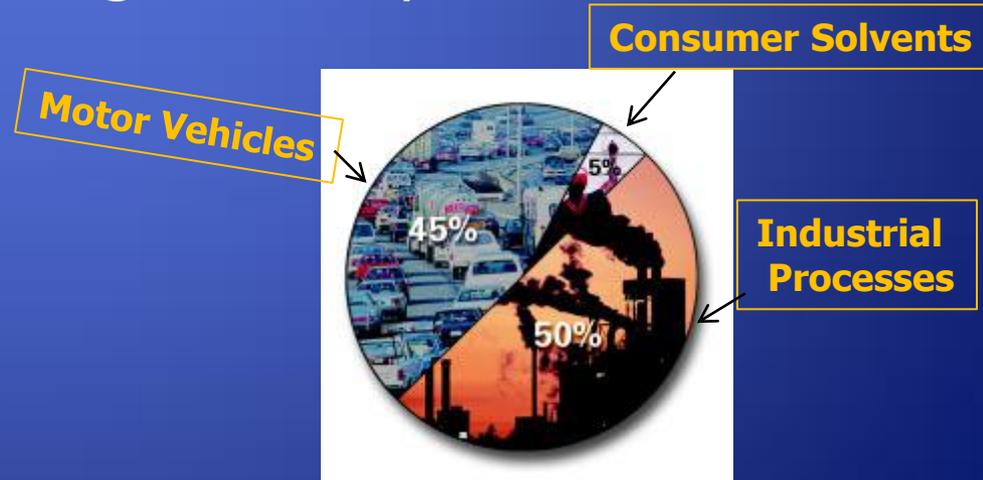
- *National Emissions of Nitrogen Oxides:*

- **Mobile sources** (biggest source)
- Fuel combustion
- Industrial Processes
- Biogenics
- Fires
- Miscellaneous other

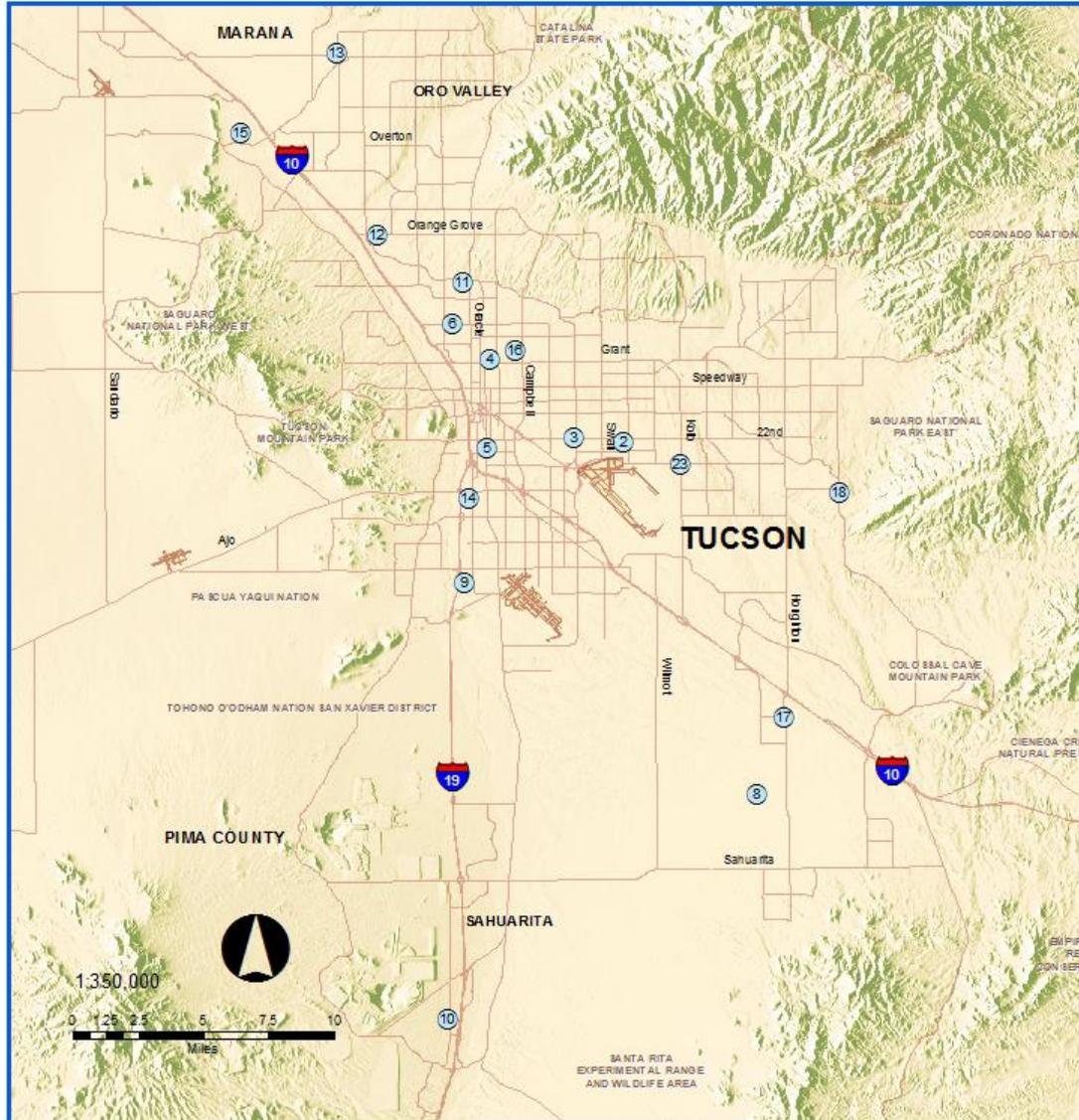


- *National Emissions of Volatile Organic Compounds*

- Biogenics
- Fires
- **Mobile sources**
- Industrial processes
- Solvents
- Miscellaneous other



# PDEQ Air Monitoring Locations



## Pima County Monitoring Sites

- 2 - 22nd / Craycroft
- 3 - 22nd / Alvemon
- 4 - Geronimo
- 5 - South Tucson
- 6 - Prince Road
- 8 - Corona de Tucson
- 9 - Santa Clara
- 10 - Green Valley
- 11 - Children's Park NCore
- 12 - Orange Grove
- 13 - Tangerine
- 14 - Rose Elementary
- 15 - Coachline
- 16 - Cherry / Glenn
- 17 - Fairgrounds
- 18 - Saguaro National Park East
- 23 - Golf Links / Kolb

- PDEQ Monitoring Sites
- Major Streets

Revised: June 2012

### Comments

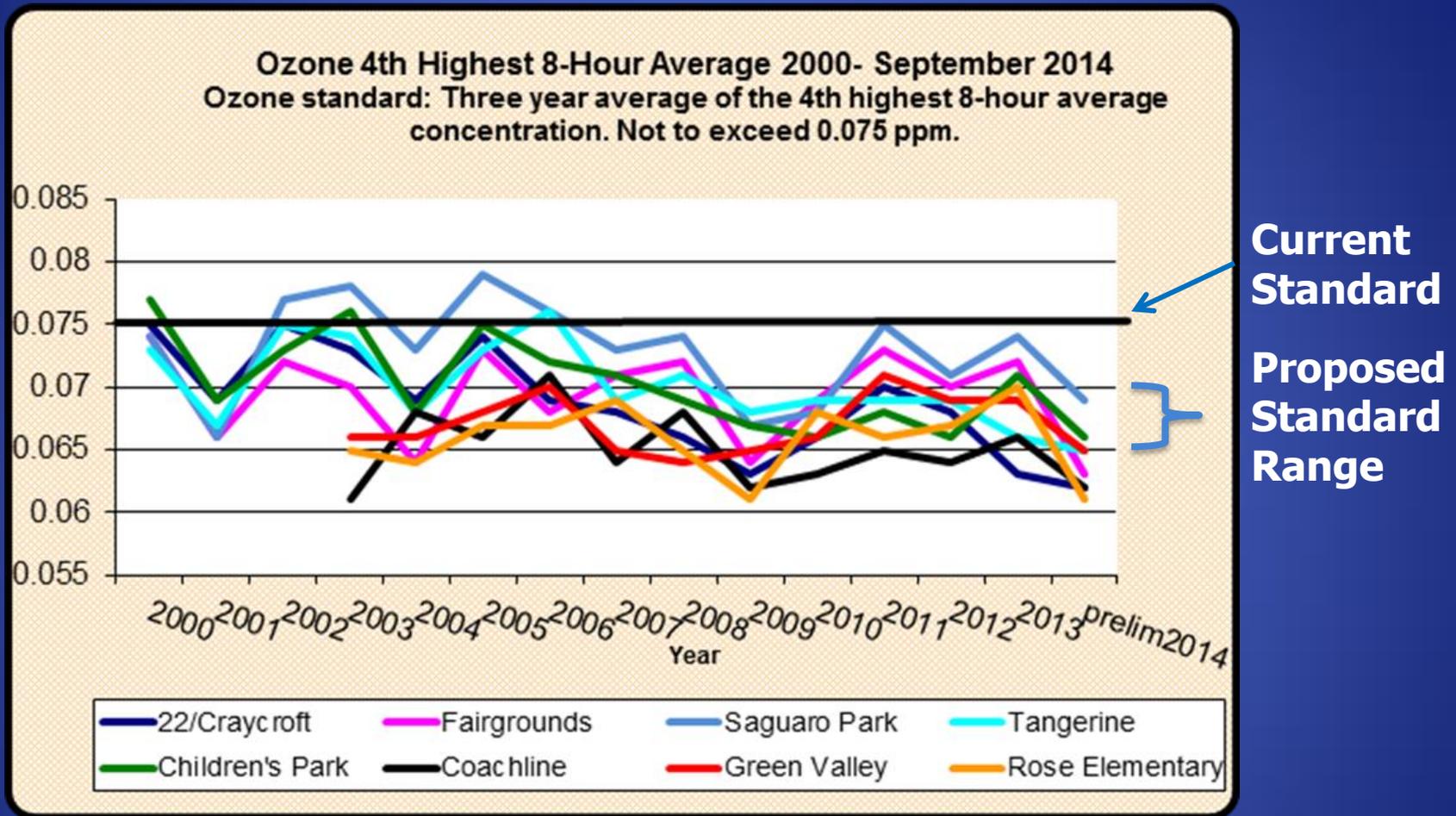
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Prepared By  
Pima County Department  
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Environmental Quality



# Pima County Ozone Levels



- Strong likelihood that the ozone levels in Pima County region will be over the standard, which will put us in violation (non-attainment) of the standard.

# Next Steps If Standard Is Revised & Our Region Is In Non-Attainment

- Develop emissions inventory to see what the major contributors to local ozone are.
- Work with community and sources to determine best ways to reduce emissions.
- These methods to reduce emissions will cost employers and the community money.
- Potential for Maricopa-type TRP (more enforcement including fines, lower to 50 employee threshold).
- Work with PAG & State to develop a plan incorporating best ways to meet the standard.
- State submits plan to EPA for approval.

# So What??

- Keeping ozone as low as possible during the next two years *could* avoid non-attainment.
- Motor vehicles are major contributors to ozone creation.
- If violate the standard, stricter & costly efforts could be part of plan to meet new standard.
- Each car we keep off the streets will benefit air quality; help keep us in attainment of the standards; and save individuals and businesses money.



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# Questions?

Proposed Ozone Standard -- EPA website

<http://www.epa.gov/groundlevelozone/actions.html>

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