

# OZONE NONATTAINMENT

Ad Hoc Study Committee on Air Quality and Energy

April 24, 2023



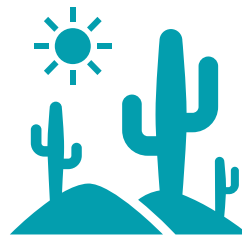
# THE BOTTOM LINE



The MAG region has been designated Moderate and is on a path to being **recategorized as Serious nonattainment for ozone.**



**Ozone endangers public health and negatively impacts economic growth.**

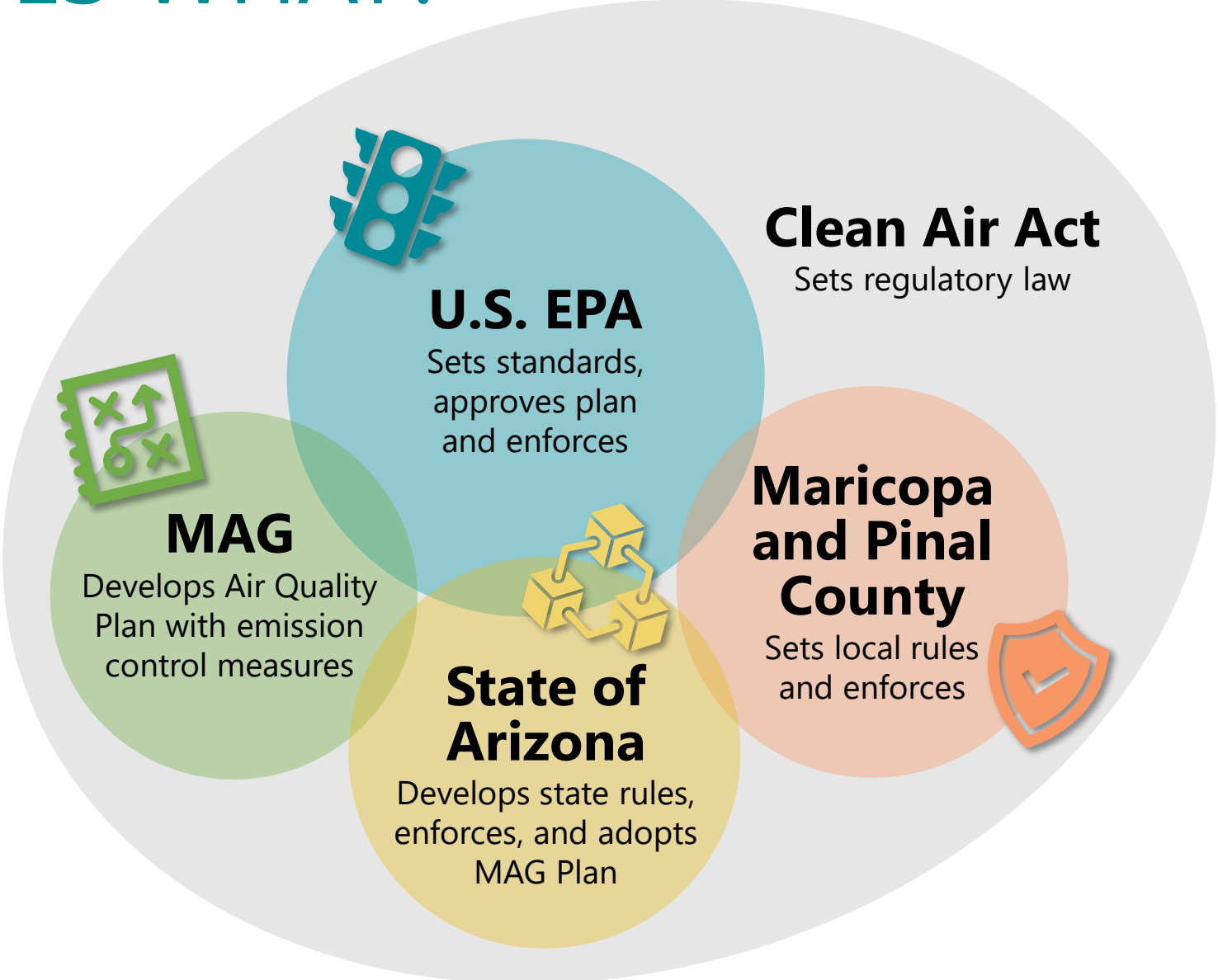


Roadway and transit investments included in the **Prop 400E plan are critical components of our region's air quality attainment plan.**



Need meaningful areawide ozone emission reduction measures and federal engagement to avoid **federal intervention and sanctions.**

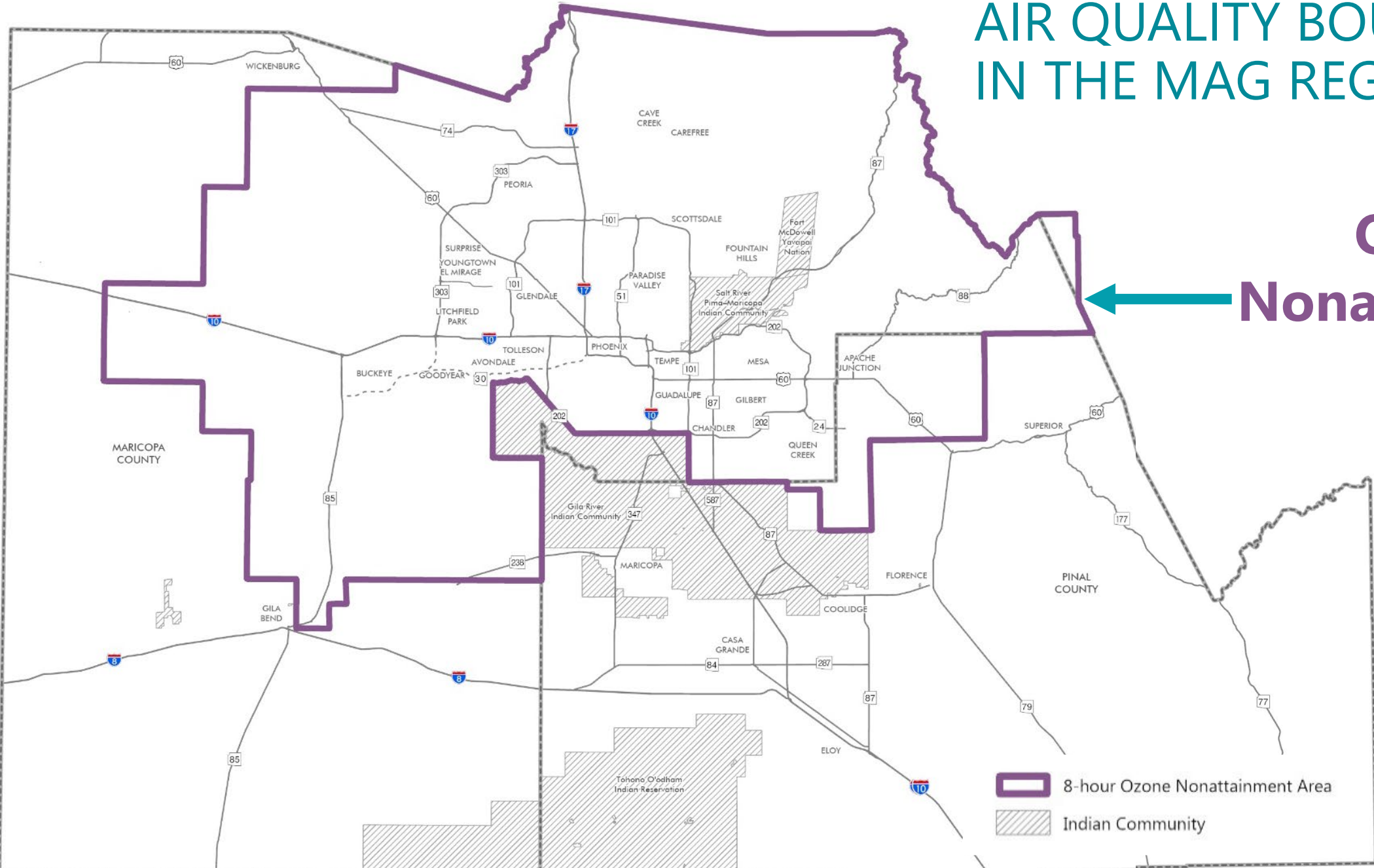
# WHO DOES WHAT?





# BACKGROUND

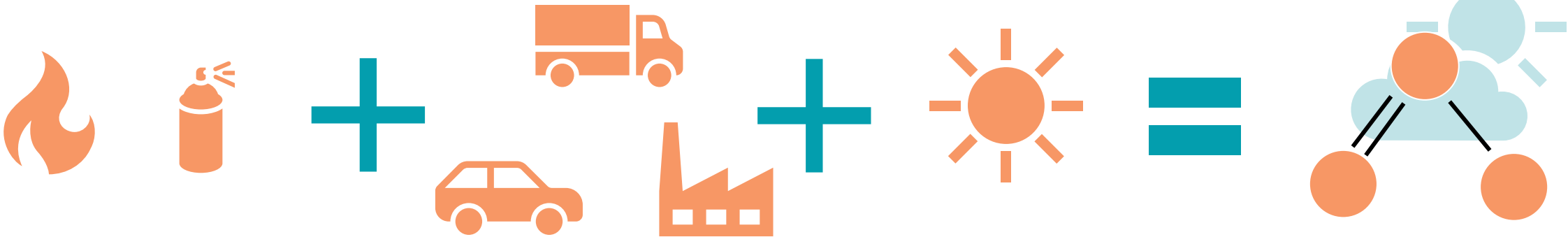
# AIR QUALITY BOUNDARIES IN THE MAG REGION

**Ozone  
Nonattainment  
Area**



 8-hour Ozone Nonattainment Area  
 Indian Community

# HOW OZONE IS FORMED



**ITEMS IN THE AIR:  
VOLATILE ORGANIC COMPOUNDS**

**EMISSIONS:  
OXIDES OF NITROGEN**

**SUNLIGHT**

**OZONE  
(O3)**

# PUBLIC HEALTH IMPACTS OF OZONE

Makes it more difficult to breathe deeply and vigorously and causes pain when taking a deep breath.

Aggravates lung diseases such as asthma, emphysema, and chronic bronchitis.

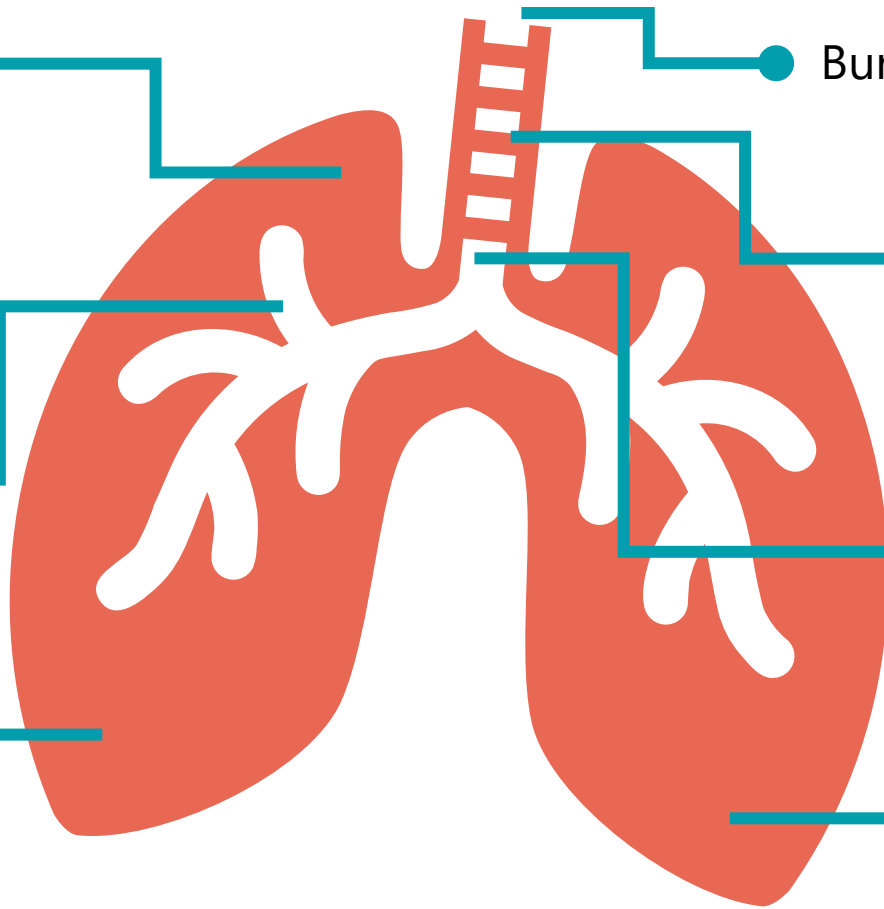
Increases the frequency of asthma attacks.

Burning and watery eyes.

Causes coughing and sore or scratchy throat.

Inflames and damages the airways.

Makes the lungs more susceptible to infection.



# CURRENT OZONE NONATTAINMENT STATUS



**Federal Standard**

**Clean Air Act Nonattainment Designation**

**2021**

**2022\***

**70 ppb**

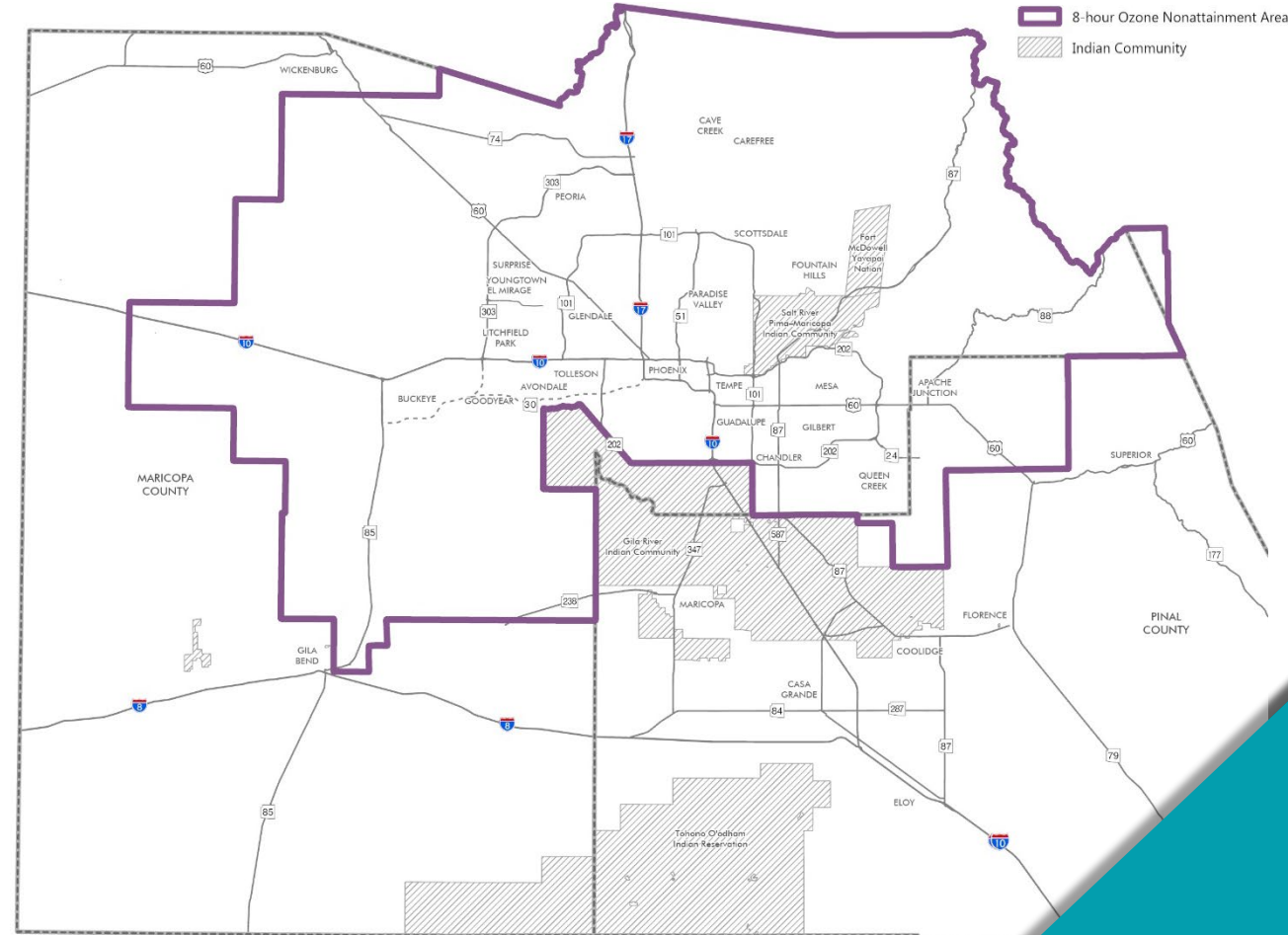
**Moderate**

**~75-80 ppb**

**~77-81 ppb**



\*2022 ozone season wildfire influence still under analysis



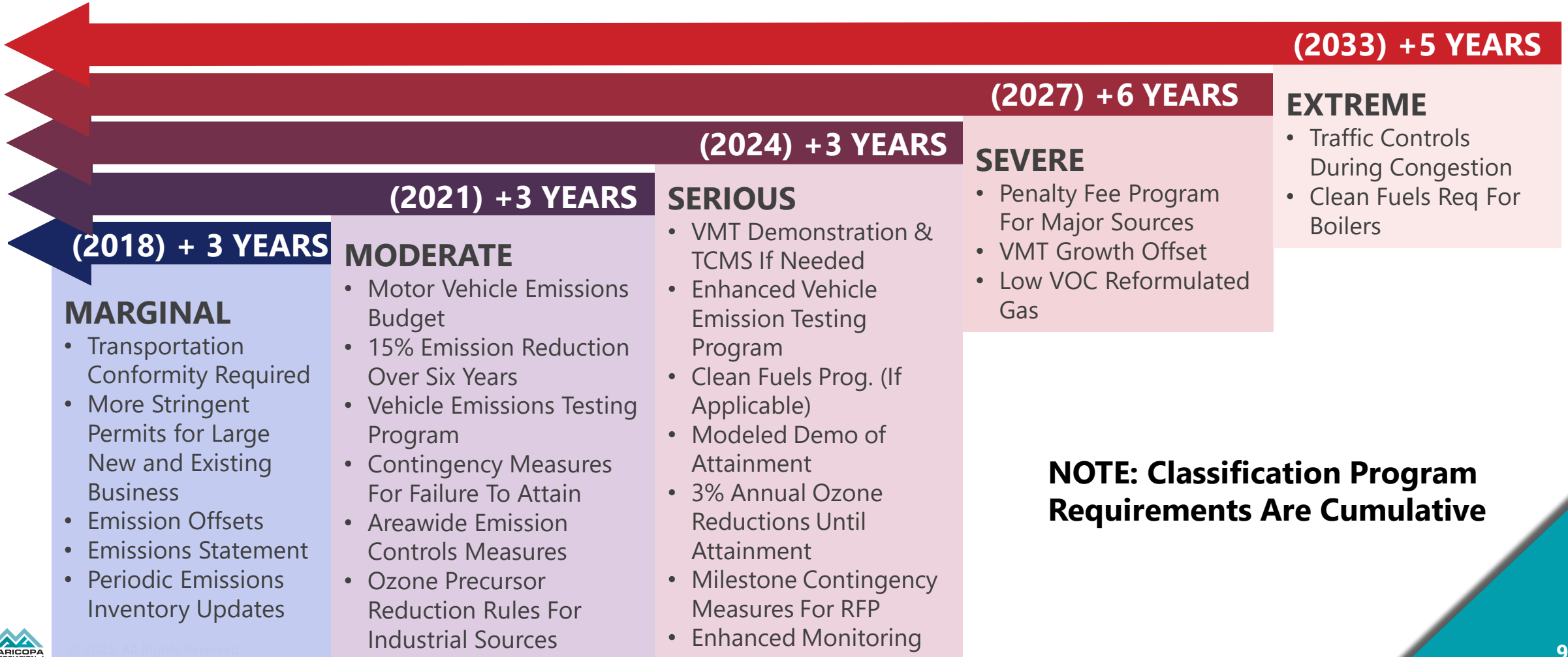


# OZONE NONATTAINMENT REQUIREMENTS

## CLEAN AIR ACT – ESCALATING OZONE NONATTAINMENT CLASSIFICATIONS

MOST DESIRABLE "ATTAINMENT"

LEAST DESIRABLE



**NOTE: Classification Program Requirements Are Cumulative**

# 8-HOUR OZONE CONCENTRATION

Highest 3-Year Average of the 4<sup>th</sup> Highest 8-hour Ozone Concentration in the Maricopa Nonattainment Area



— Ozone Concentration (ppb)     
 — Ozone Concentration (ppb) - Measured     
 — Ozone Concentration - Wildfires Excluded (ppb)

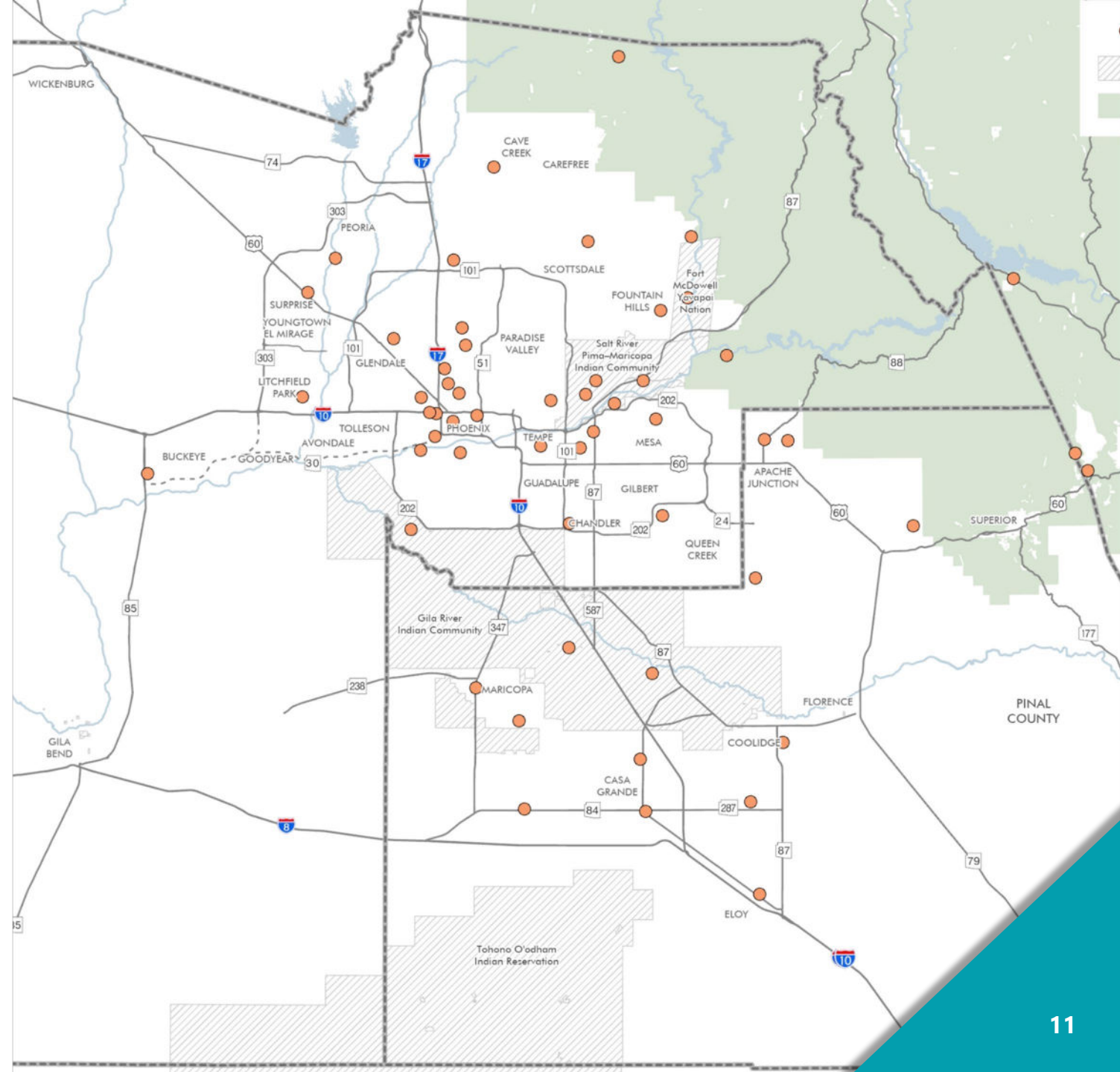
1997 Standard (84 ppb)     
  2008 Standard (75 ppb)     
  2015 Standard (70 ppb)



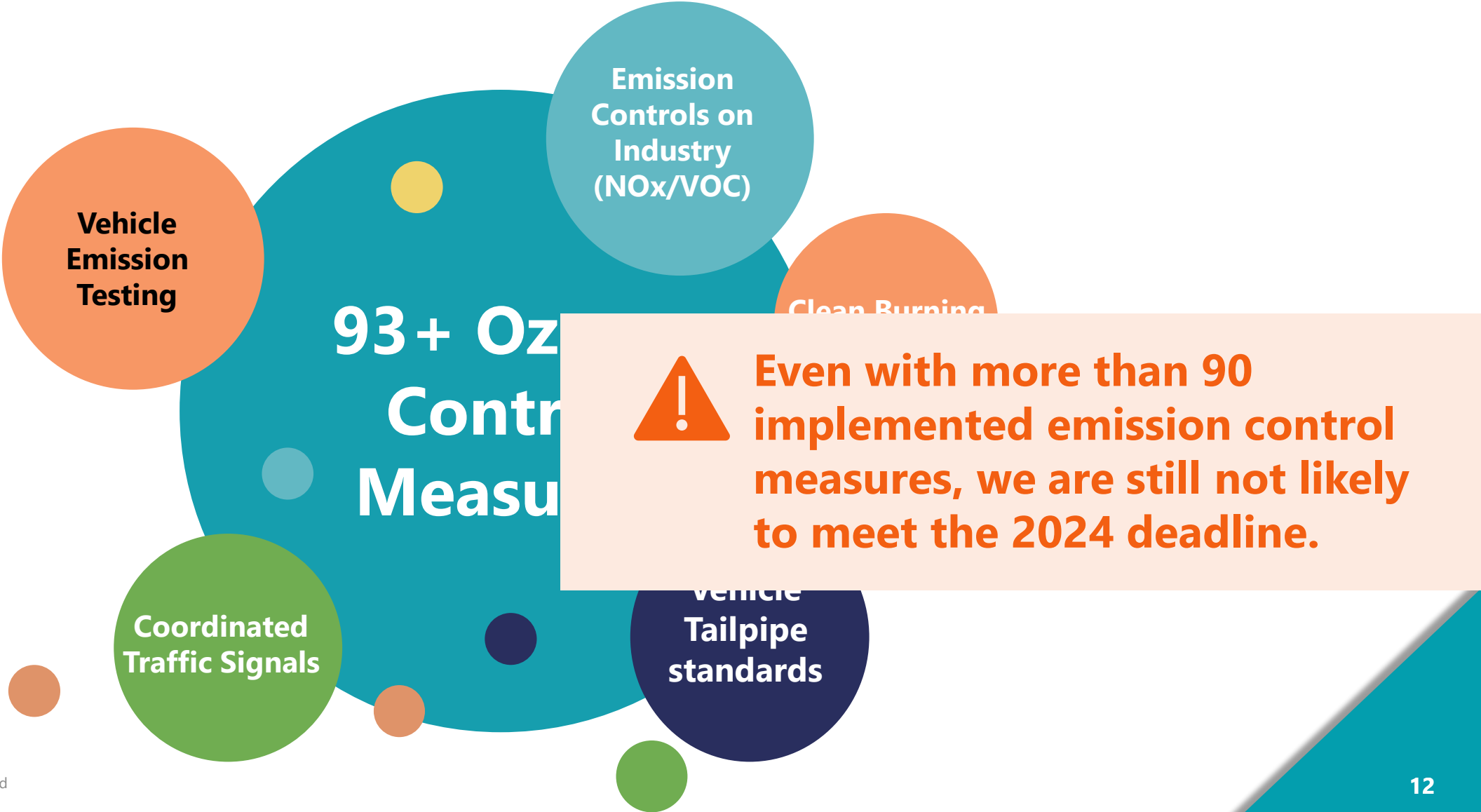
# REGIONAL AIR QUALITY MONITORS



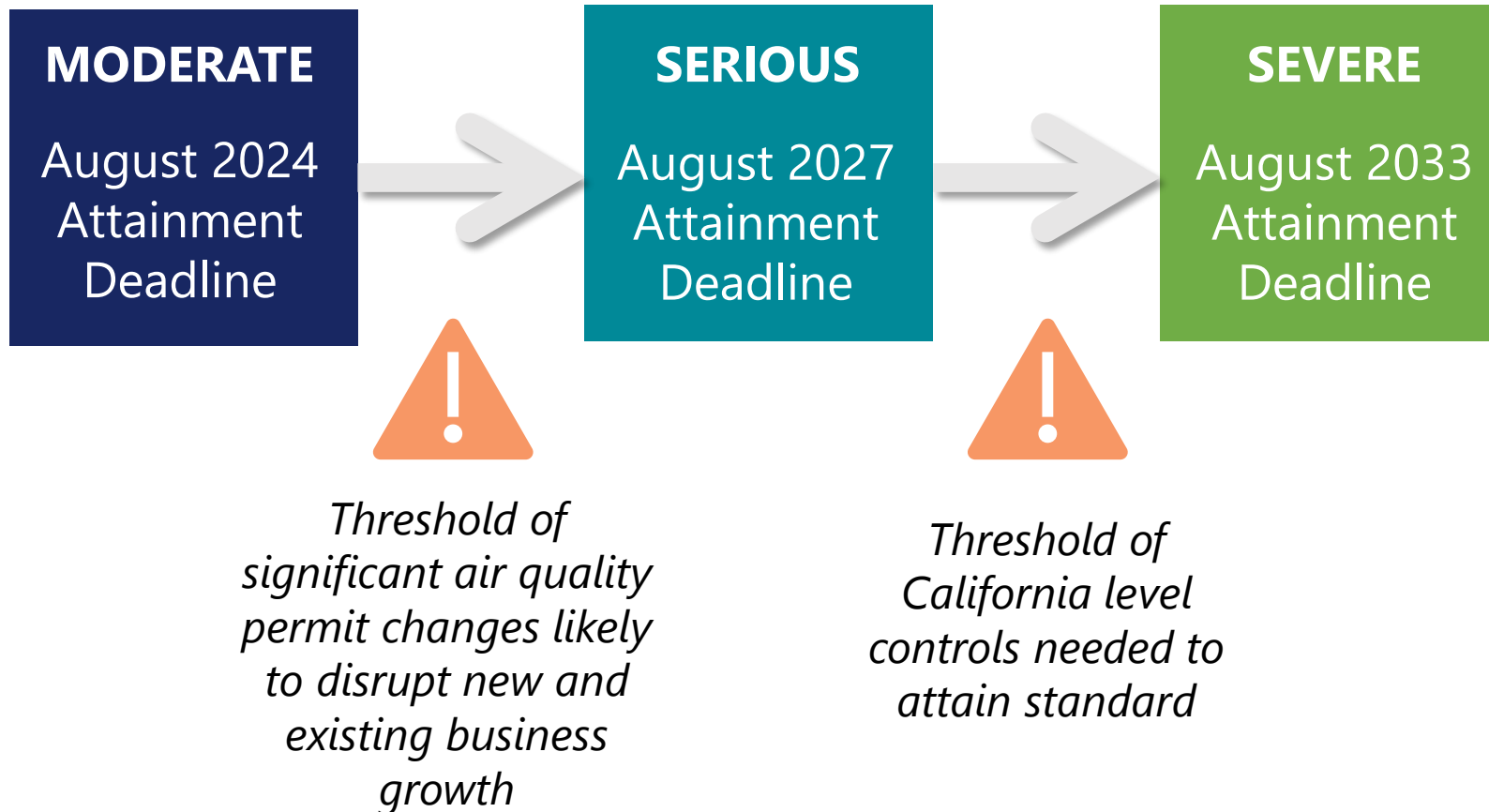
Regionwide air  
quality  
measurements  
collected



# REGIONAL OZONE AIR QUALITY MEASURES

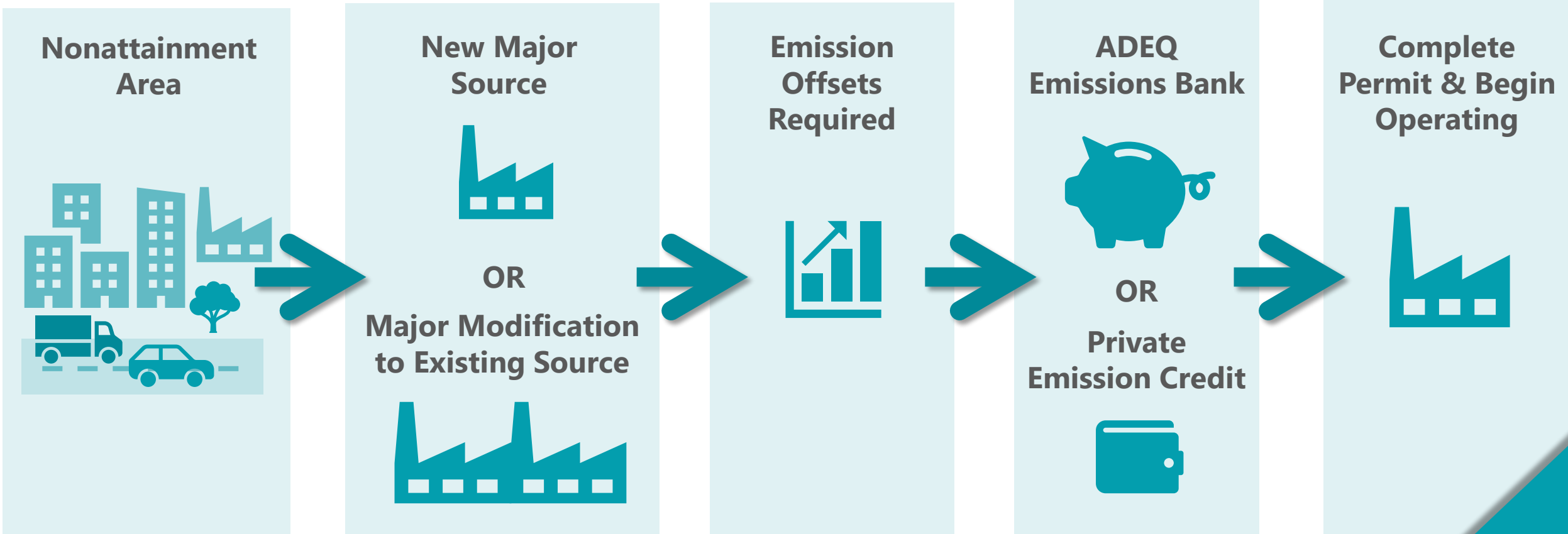


# CURRENT OZONE ATTAINMENT DEADLINES

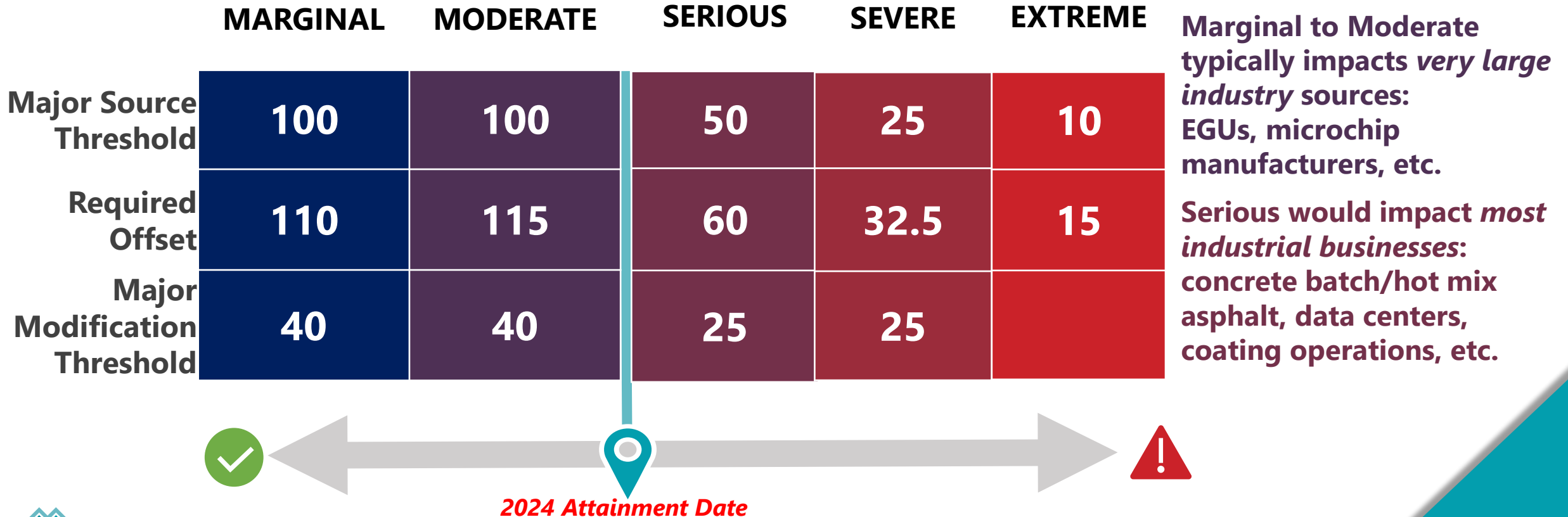


# OZONE NONATTAINMENT: WHAT DOES IT MEAN FOR BUSINESS?

# AIR QUALITY PERMITTING FOR BUSINESS



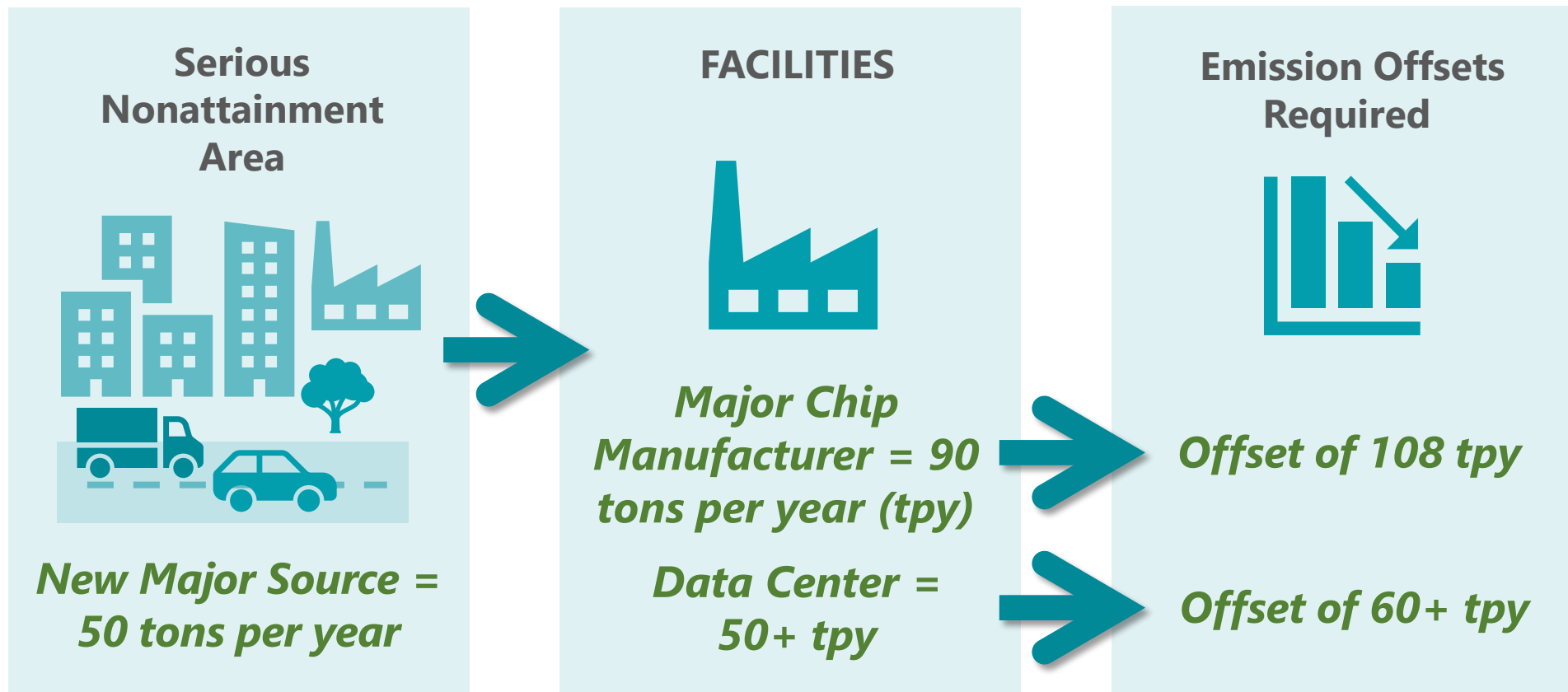
# EMISSION OFFSETS GET MORE DIFFICULT





# LOCAL EMISSIONS OFFSET EXAMPLES

 **THESE FACILITIES LIKELY DON'T GET BUILT IN SERIOUS NONATTAINMENT AREA**



# AVAILABLE EMISSIONS OFFSETS IN REGION

Regional Ozone Offsets Available for Permitting



# WHAT ARE THE BUSINESS IMPACTS OF MOVING FROM MODERATE TO SERIOUS?

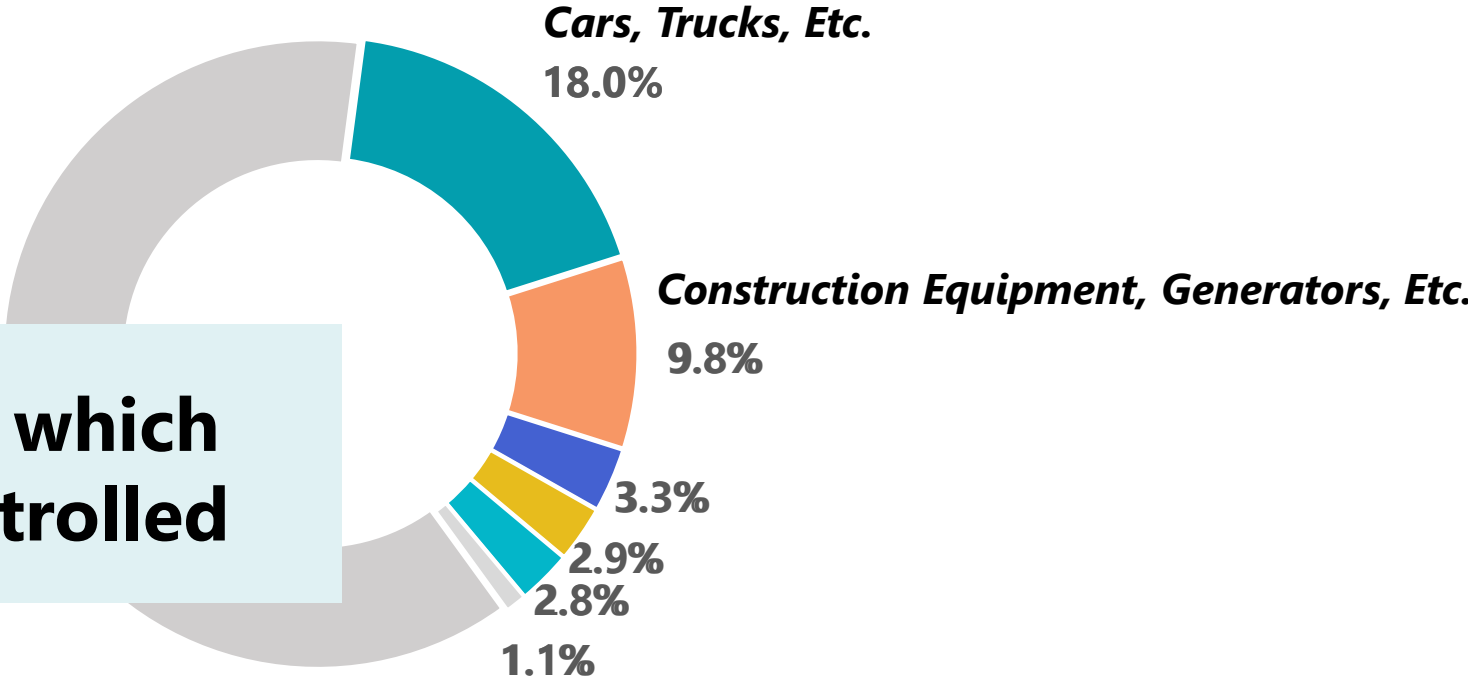
- ▶ Today, only very large businesses are impacted (100+ tpy).
- ▶ Moving to Serious nonattainment will **result in impacts to most industrial businesses** (50+ tpy).
- ▶ Emissions **offsets requirements escalate**.
- ▶ MAG region has **no emissions offsets in the bank**.
- ▶ **Implications will affect new business locates and business expansion.**

# ADDRESSING COMPLIANCE WITH THE OZONE STANDARD

# REGIONAL OZONE AIR QUALITY SOURCES

Downtown Phoenix (JLG Supersite)

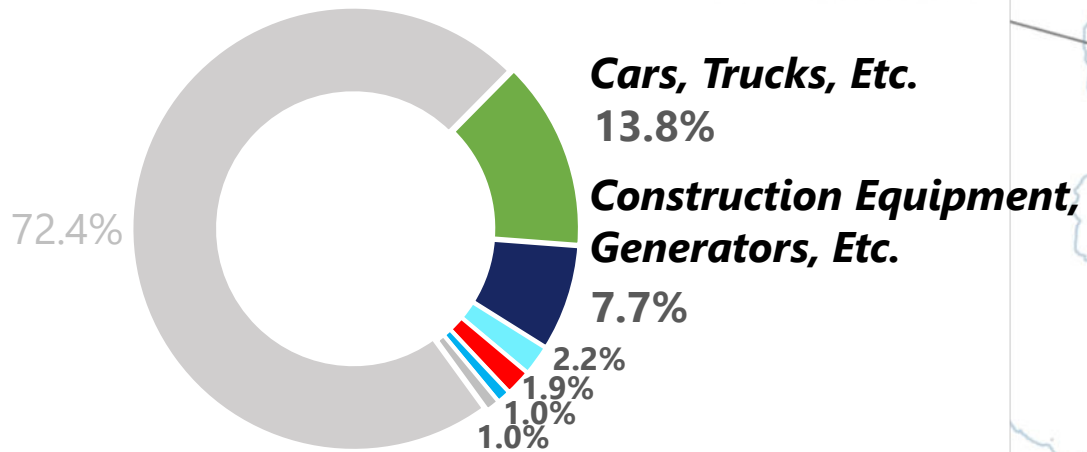
**Categories which can be controlled**



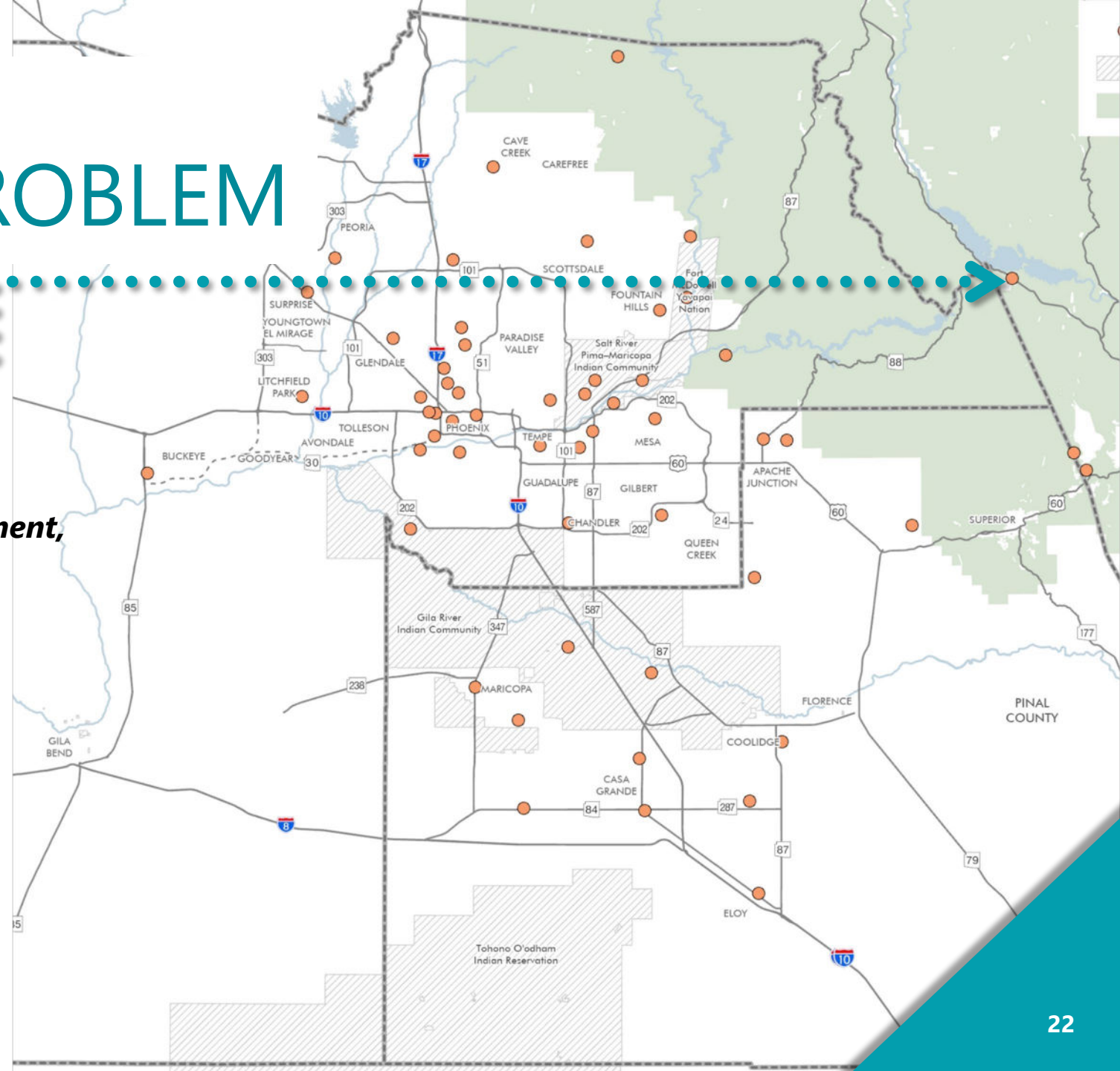
■ Boundary Condition ■ Onroad ■ Nonroad ■ Area ■ Point ■ Biogenic ■ Wildfire

# OZONE: A REGIONWIDE PROBLEM

Tonto National Monument



- Boundary Condition
- Onroad
- Nonroad
- Area
- Point
- Biogenic
- Wildfire

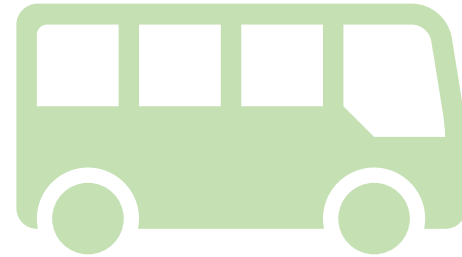


# NEW CONTROL MEASURE CATEGORIES



New regulatory requirements.

**AND**



Investments/  
enhancements to the  
regional transportation  
system.

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**AND**



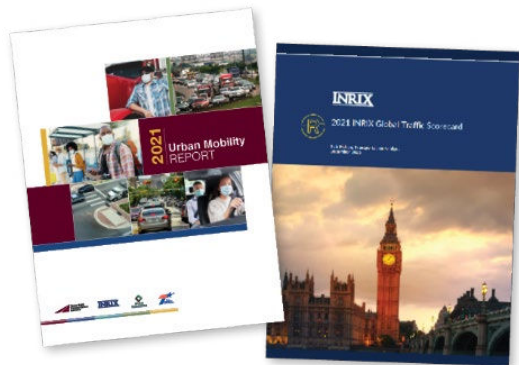
New regulatory requirements.



# OUR COMPETITIVE ADVANTAGE

*These investments have become our region's economic competitive advantage.*

Amongst our peers, we have the **lowest travel times and levels of congestion**, and the **highest travel time reliability**.



URBAN MOBILITY REPORT TRAVEL TIME INDEX (TTI)

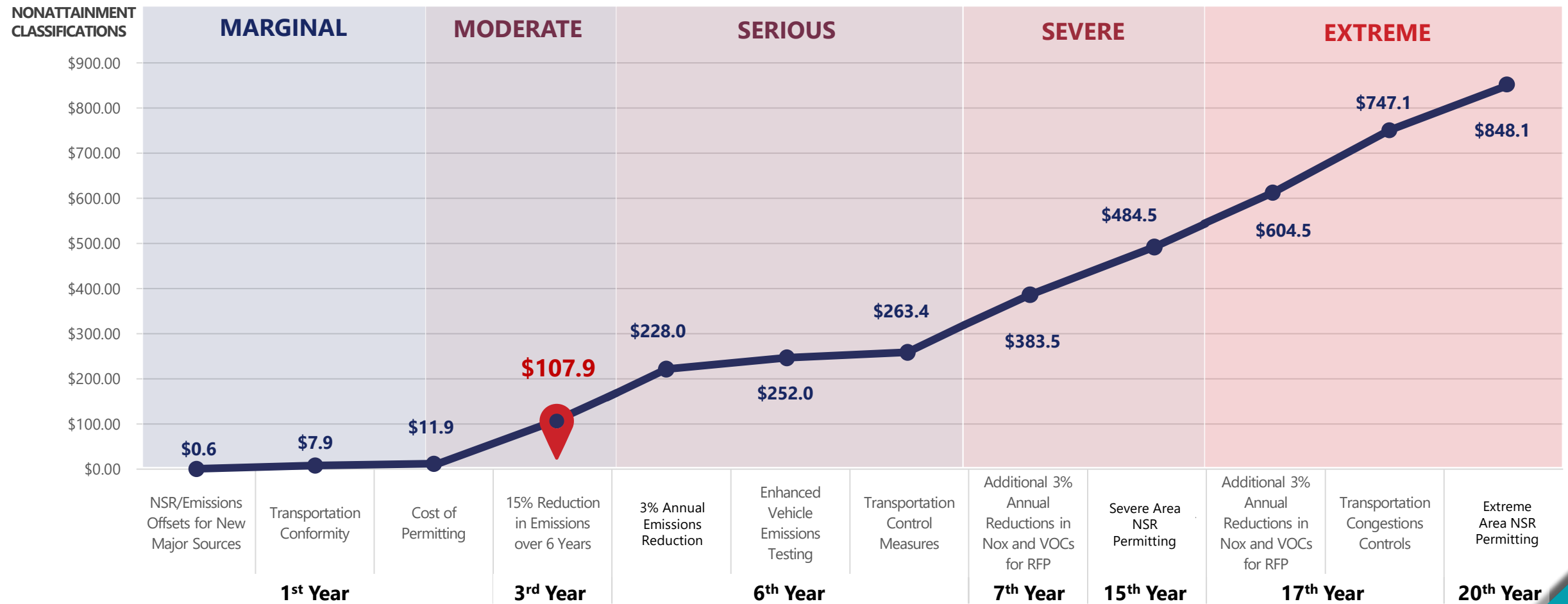
Rank	Urban Area	TTI
1	Phoenix, AZ	1.08
...	...	...
12	Houston, TX	1.15
13	Los Angeles—Long Beach Anaheim, CA	1.16
14	San Francisco, CA	1.16

INRIX DELAY COST PER DRIVER

Rank	Urban Area	Cost
1	Phoenix, AZ	\$321
...	...	...
20	Los Angeles	\$968
21	Miami	\$1,028
22	Boston	\$1,223

# OZONE NONATTAINMENT IS EXPENSIVE

Total Cumulative Annual Costs of Ozone Nonattainment (Millions)



Sources:

"Potential Cost of Nonattainment in the San Antonio Metropolitan Area" - [https://www.aacog.com/DocumentCenter/View/41742/Contract\\_582-16-60180\\_Deliverable\\_5-2\\_Cost\\_of\\_Nonattainment\\_Analysis\\_Rev0?bidId=](https://www.aacog.com/DocumentCenter/View/41742/Contract_582-16-60180_Deliverable_5-2_Cost_of_Nonattainment_Analysis_Rev0?bidId=)  
 "The Potential Cost of an Ozone Nonattainment Designation to Central Texas" - [http://www.capcog.org/documents/airquality/reports/2015/Potential\\_Costs\\_of\\_a\\_Nonattainment\\_Designation\\_09-17-15.pdf](http://www.capcog.org/documents/airquality/reports/2015/Potential_Costs_of_a_Nonattainment_Designation_09-17-15.pdf)  
 "NSR 90-Day Review Background Paper" - <https://www.epa.gov/sites/production/files/2015-08/documents/nsr-review.pdf>  
 "Average Construction Cost for Selected Technology Types" - <https://www.eia.gov/todayinenergy/detail.php?id=31912>

# OZONE NONATTAINMENT IS EXPENSIVE



## **Corpus Christi: \$600 million-\$1.7 billion each year**

Texas A&M/South Texas Economic Center May 2022 study shows a failure to meet the EPA ozone standards would result in significant permitting and economic impacts.



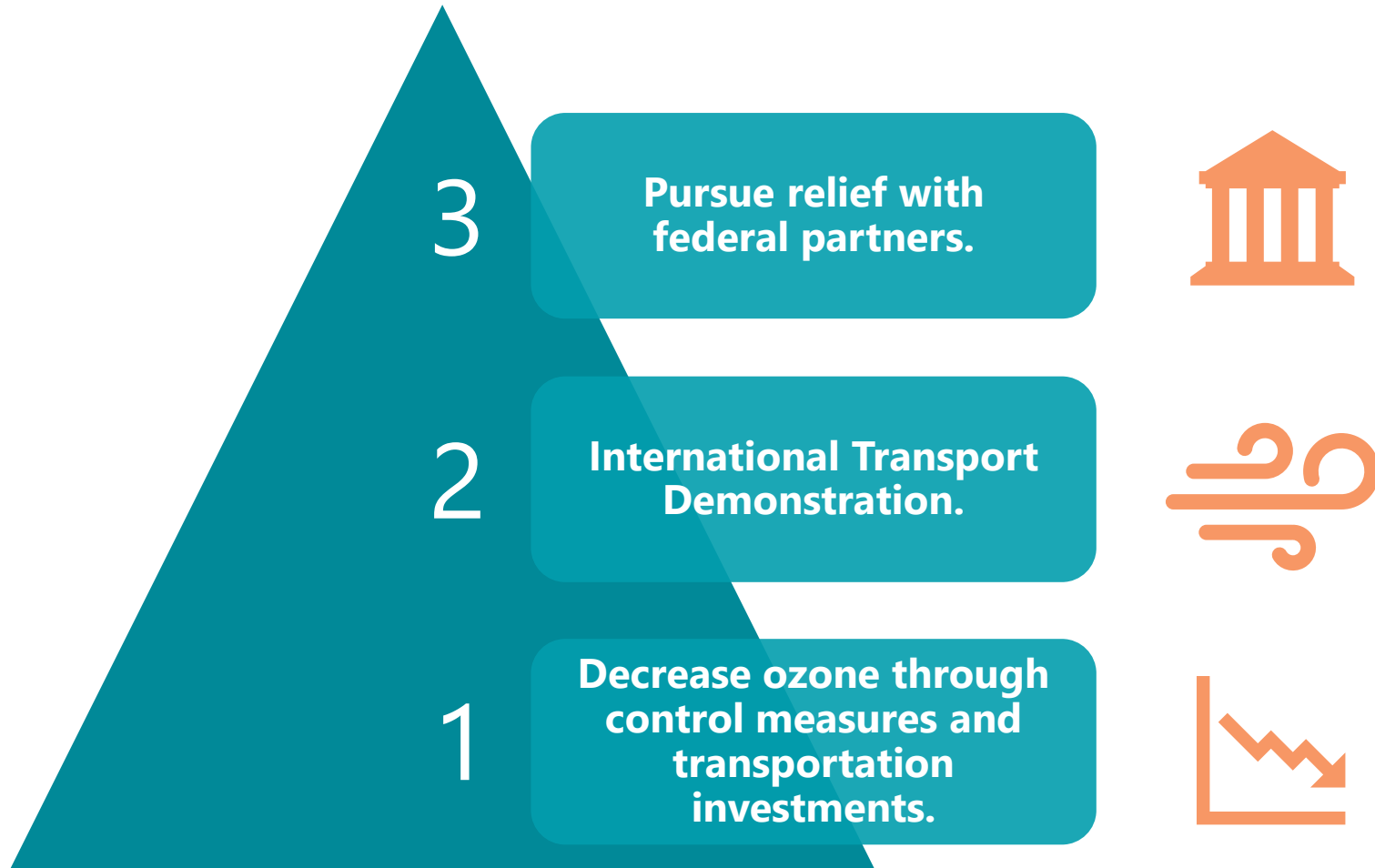
## **Oklahoma City – Shawnee Combined Statistical Area (CSA): \$9.6-\$15.2 billion over a 20- to 30-year period**

Oklahoma City (ACOG) March 2022 study shows high cost for violation of federal air quality standards and ensuing federal regulatory requirements.

### **COSTS INCLUDE:**

- Air quality permits & offsets.
- Increased unit cost per product or service.
- Stringent pollution controls.
- Impacted economic activity due to industrial and road construction delays.
- Missed business development opportunities.

# MAG STRATEGY TO ADDRESS COMPLIANCE WITH OZONE STANDARD



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