Agenda
Alamo Area Council of Governments
Air Quality Committee
Wednesday, January 26, 2022, 12:00 p.m.
2700 NE Loop 410, Board Room
San Antonio, TX 78217

Request All Electronic Devices Be Silenced

1. **Meeting called to Order**
   The AACOG Air Quality Committee is meeting in accordance with Chapter 551 of the Texas Government Code (Open Meetings Act). As such, the Committee reserves the right to retire into executive session concerning any of the items listed on this Agenda whenever it is considered necessary and legally justified under the Texas Open Meetings Act.

2. **Roll Call**

3. **Public Comments**
   This time is for anyone to comment to the Air Quality Committee on issues and items of concern. There will be no deliberation or action on these comments. Time allowed is at the discretion of the Chairman; with three (3) minutes being customary

Consent Agenda
The consent agenda consists of items considered being of a routine nature and contains items recommended for approval by the Air Quality Committee or the minutes from previous Committee meetings. These items will be enacted in one motion, or any member of the Committee may request that items be removed from the consent agenda and considered separately for purposes of discussion and voting.

4. Consider and act upon the recommendation to approve the June 23, 2021 Air Quality Committee Meeting Minutes.

New Business

5. Update and overview of 2021 ozone season. - Lyle Hufstetler

6. Update on Bexar County's Ozone Nonattainment Status. - Lyle Hufstetler

7. Update and summary of activities conducted under the 2020-2021 Rider 7 Air Quality Planning Grant to expand ambient monitoring and inventory emissions. - Steven Smeltzer

8. Next meeting is TBD.

9. Adjournment

Items of interest for inclusion on future agendas should be forwarded to the Chair and Executive Director.

John Williams
Air Quality Committee Chair
Mayor, City of Universal City

This meeting is accessible to people with disabilities. The accessible entrance is located at the front entrance of 2700 NE Loop 410, San Antonio, TX 78217. Accessible parking spaces are also available. Please contact AACOG for auxiliary aids and services for the hearing impaired, including interpreters for the deaf, at 210-362-5200 at least 48 hours prior to the meeting or by calling Texas Relay at 7-1-1 for assistance.

Air Quality Committee **4.**

Meeting Date: 01/26/2022

Title:

AGENDA ITEM DESCRIPTION:

Consider and act upon the recommendation to approve the June 23, 2021 Air Quality Committee Meeting Minutes.

BACKGROUND/HISTORY:

DISCUSSION:

FINANCIAL IMPACT:

STAFF RECOMMENDATION:

Attachments

June 23, 2021 Minutes

Minutes
Alamo Area Council of Governments
Air Quality Committee
Wednesday, June 23, 2021 - 10:00 a.m.
AACOG Plaza Building, Conference Room
8200 Perrin Beitel Rd., Suite 100
San Antonio, TX 78218
or virtually by GoToMeeting (instructions below)

Alamo Area Council of Governments will conduct this hybrid meeting in person and via GoToMeeting for attendance virtually pursuant to Governor Abbott's March 16, 2020 order permitting public bodies to meet telephonically and waiving other requirements of the Texas Open Meetings Act due to the ongoing state of emergency.

If accessing virtually, please join my meeting from your computer, tablet or smartphone.
https://global.gotomeeting.com/join/782868605

You can also dial in using your phone. United States (Toll Free):
1-866-899-4679 Access Code: 782868605
Public Comments Instructions:
Members of the public who would like to address the Board of Directors (Item 4) must register beforehand, as indicated below, and access the meeting via webcast by following the hyperlink https://global.gotomeeting.com/join/782868605
Those without internet access may dial in by calling
1-866-899-4679 Access Code: 782868605

To register for public comment, please call (210) 608-1524 or email info@aacog.com by 10:00 a.m. on the day of the meeting. Please register before this time.
Late registration may result in you missing the opportunity to provide comment.
Registration for public comments will conclude by 10:00 a.m.
Request All Electronic Devices Be Silenced

MEMBERS PRESENT
Mayor John Williams, Chair
Judge Richard Evans
Judge Robert Hurley
Judge Richard Jackson
Judge Sherman Krause
Judge Kyle Kutscher
Ms. Lisa Lewis
Judge Darrel Lux
Councilman Clayton Perry
Judge Chris Schuchart

ALTERNATES PRESENT
Mr. Brian Hoffman for Ex Officio, non voting
Col. David Trotter

MEMBERS ABSENT
Judge Darrel Lux
Councilman Clayton Perry

STAFF PRESENT
Diane Rath
Stella Garcia
Susie Ernst
Lyle Hufstetler
Steven Smeltzer
other staff members

1. **Chairman Williams called the meeting to order at 9:31 a.m.**
   The AACOG Air Quality Committee is meeting in accordance with Chapter 551 of the Texas Government Code (Open Meetings Act). As such, the Committee reserves the right to retire into executive session concerning any of the items listed on this Agenda whenever it is considered necessary and legally justified under the Texas Open Meetings Act.

2. Roll Call was taken and a quorum was established.

3. No Public Comments were given.
   This time is for anyone to comment to the Air Quality Committee on issues and items of concern. There will be no deliberation or action on these comments. Time allowed is at the discretion of the Chairman; with three (3) minutes being customary.

Consent Agenda

The consent agenda consists of items considered being of a routine nature and contains items recommended for approval by the Air Quality Committee or the minutes from previous Committee meetings. These items will be enacted in one motion, or any member of the Committee may request that items be removed from the consent agenda and considered separately for purposes of discussion and voting.

4. Consider and act upon the recommendation to approve the May 26, 2021 Air Quality Committee meeting minutes.

   Moved by Judge Richard Evans, seconded by Judge Chris Schuchart, to approve the May 26, 2021 Air Quality Committee meeting minutes as written. The motion carried unanimously.

   Vote: 9 - 0

New Business

5. Consider and act upon the recommendation to send a letter addressed to the EPA to leave Bexar County at a marginal ozone nonattainment classification. -- Lyle Hufstetler

   Moved by Judge Chris Schuchart, seconded by Judge Kyle Kutcher, to approve the recommendation to send a letter addressed to the EPA to leave Bexar County at a marginal ozone nonattainment classification. City of San Antonio Mayor Ron Nirenberg will be added to the letter CC list. The motion carried unanimously.

   Vote: 9 - 0

6. Next meeting is TBD.

7. There being no further business to discuss, Chairman Williams adjourned the meeting at 9:40 a.m.

Items of interest for inclusion on future agendas should be forwarded to the Chair and Executive Director.

John Williams
Air Quality Committee Chair
Mayor, City of Universal City

Air Quality Committee **5.**

Meeting Date: 01/26/2022

Title: 2021 Ozone Report

Presented by: Lyle Hufstetler, Natural Resources Project Coordinator

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AGENDA ITEM DESCRIPTION:

Update and overview of 2021 ozone season. - Lyle Hufstetler

BACKGROUND/HISTORY:

In October 2015, the U.S. Environmental Protection Agency (EPA) promulgated its revised ozone National Ambient Air Quality Standards (NAAQS). In July 2018, the EPA designated Bexar County as nonattainment of the 2015 ozone NAAQS with a marginal classification, based on a certified design value for the area of 74 ppb using data from 2015-2017, which became effective on September 24, 2018. The seven remaining counties of the San Antonio-New Braunfels MSA were designated attainment/unclassifiable. Bexar County did not attain the NAAQS by the Sept. 24, 2021 deadline, and now faces a reclassification to moderate nonattainment no later than March 2022.

DISCUSSION:

The 2021 ozone season had 62 moderate ozone days, with 12 of those days over 70 ppb at Bexar County regulatory monitors, which is about average for the season. Most high ozone days occurred in September and October. We ended the season with a 73 ppb design value at CAMS 58, up one ppb from 2020. The fourth-highest ozone in 2021 was 78 ppb, which will make it difficult to attain the NAAQS within the next two years.

A typical ozone season in San Antonio has two distinct peaks of high ozone frequency: one in the spring from April-June, and the other in the fall from August-October. The fall peak has historically been more severe than the spring peak.

FINANCIAL IMPACT:

None

STAFF RECOMMENDATION:

If you have questions, please contact Lyle Hufstetler at lhufstetler@aacog.com or 210-376-9901.

Attachments

2021 Ozone Report

Ozone Report Presentation

2021 Ozone Season Report

AACOG Air Quality Committee
January 2022

In October 2015, the U.S. Environmental Protection Agency (EPA) promulgated its revised National Ambient Air Quality Standards (NAAQS) for ground-level ozone. The annual fourth-highest maximum daily average 8-hour (MDA8) ozone concentration, averaged over three years, measured at each regulatory monitor within an area must not exceed 70 parts per billion (ppb). The highest of these three-year averages is that area's design value, which is the metric used by the EPA to determine attainment.

Bexar County was designated nonattainment under the 2015 ozone NAAQS effective September 24, 2018, which triggered a three-year deadline to attain the NAAQS (attainment date), or effectively, the end of the 2020 ozone season (attainment year). Bexar County missed its attainment date based on a 2020 design value of 72 ppb, and now faces reclassification to moderate nonattainment, which is expected to be made official no later than March 2022.

2021 Ozone Season Summary

The 2021 ozone season ended November 30, 2021. Two regulatory monitors in Bexar County continue to show violations of the NAAQS through 2021: CAMS 23 at Marshall High School (San Antonio NW) and CAMS 58 at Camp Bullis (Table 1).

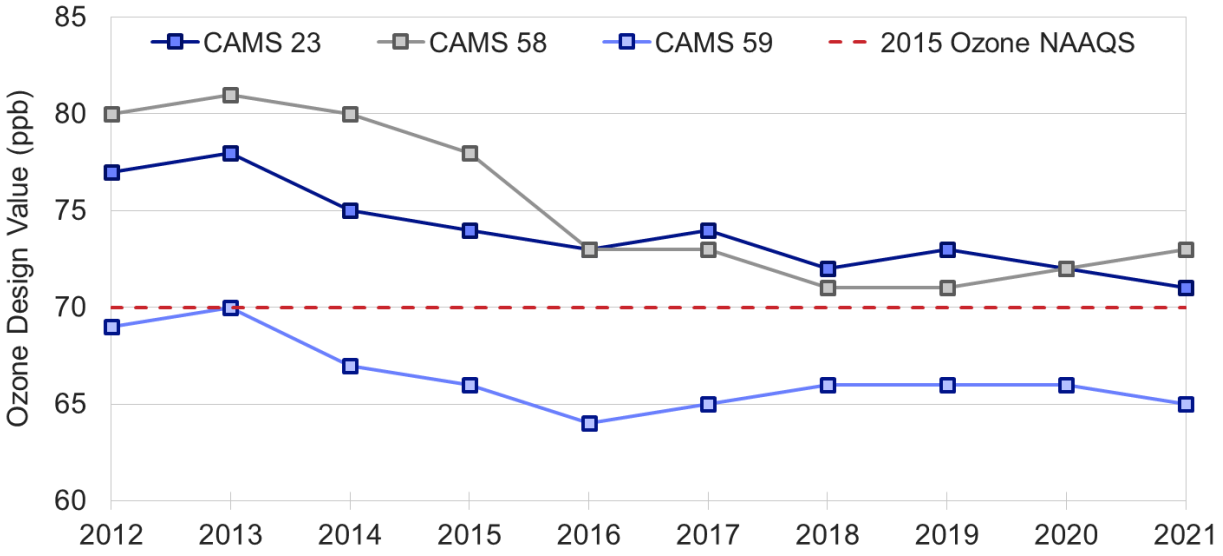
Table 1: Four Highest MDA8 at Bexar County Regulatory Monitors, 2021

Monitor	Fourth-Highest MDA8 (ppb)			Preliminary Three-Year Average
	2019	2020	2021*	
San Antonio NW C23	75	69	70	71
Camp Bullis C58	69	74	78	73
Calaveras Lake C59	63	66	66	65

*Ozone data validated through September 2021; Data will be certified by EPA no later than May 2022

The design value trend from 2012 - 2021 at each regulatory monitor is shown in Figure 1. Although a downward trend was noted through 2016, design values have remained relatively steady since then.

Figure 1: Design Value Trend at Bexar County Regulatory Monitors, 2012 - 2021



The Air Quality Index for ozone defines “moderate” days as those having MDA8 between 54 and 70 ppb, and “unhealthy for sensitive groups” as those with MDA8 between 71 and 85 ppb. There were 62 moderate ozone days or higher in 2021, with 12 of those days having MDA8 > 70 ppb. The monthly frequency of actual and average days for both ozone thresholds is shown in Table 2. Most months had average or below average number of high ozone days. September and October were more severe than average, containing two-thirds of all days with MDA8 > 70 ppb. August was notably less severe than usual, with no days having MDA8 > 70 ppb, and fewer than half the expected number of moderate ozone days.

Table 2: 2021 Ozone Monthly Summary Statistics for Bexar County Regulatory Monitors

Month	Actual Days MDA8 > 54	Average Days MDA8 > 54	Actual Days MDA8 > 70	Average Days MDA8 > 70
March	9	5.4	0	0.1
April	9	11.3	1	1.0
May	8	10.9	1	1.8
June	6	6.3	1	1.2
July	2	4.2	1	0.8
August	4	9.6	0	2.9
September	13	10.3	5	2.4
October	9	7.9	3	1.8
November	2	0.8	0	0.0
Total	62	66.7	12	12.0

The Texas Commission on Environmental Quality (TCEQ) issued 12 Ozone Action Day alerts in 2021. These alerts are issued when air quality is expected to be unhealthy for sensitive groups the following day. AACOG offers to forward these alerts to people who sign up to receive them at http://www.aacog.com/list.aspx. In addition, AACOG offers complimentary Ozone Action Day alert flags for area schools to display when appropriate. Ozone Action Day alerts warn people sensitive to pollution (older people, children, and those with underlying respiratory conditions, like asthma) to limit their exposure outdoors. It is also an opportunity for the public to take measures to mitigate their contribution to pollution by reducing energy consumption at home and driving less. Table 3 lists Ozone Action Day alert verification statistics for 2021. Most of the alerts that verified occurred in September and October.

Table 3: Ozone Action Day Alert Verification Summary Statistics, 2021

Days Alert Issued	12
Days Alert Verified	7
Days with MDA8 > 70 ppb	13
Days with MDA8 > 70 ppb without Alert	6

2022 Ozone Season Outlook

The 2022 ozone season will begin on March 1. In order to attain the ozone NAAQS by the end of this year, the maximum allowable fourth-highest MDA8 must not exceed the values presented in Table 4.

Table 4: 2022 Maximum Allowable 4th-Highest MDA8 to Attain Ozone NAAQS

Monitor	4th-Highest MDA8 (ppb)		Maximum Allowable 4th-Highest MDA8 to Attain NAAQS in 2022
	2020	2021*	
San Antonio NW C23	69	70	73
Camp Bullis C58	74	78	60
Calaveras Lake C59	66	66	80

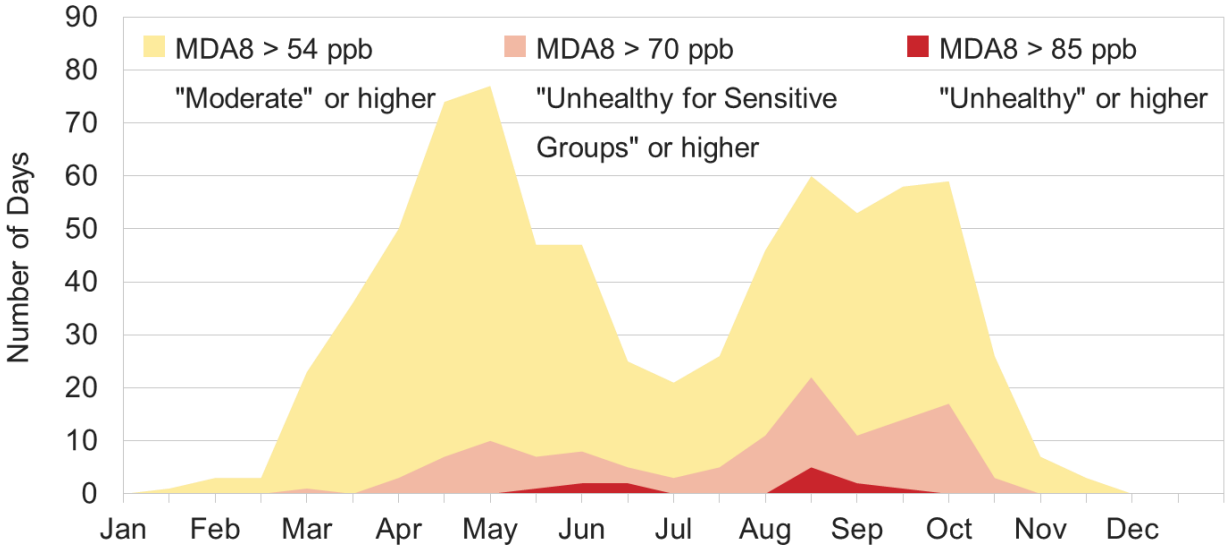
*Ozone data validated through September 2021; Data will be certified by EPA no later than May 2022

Given the fourth-highest MDA8 for 2020 and 2021, it is possible that CAMS 23 could attain the NAAQS by the end of 2022. It appears less likely for CAMS 58 to attain the NAAQS by that time. CAMS 59 continues to report the lowest ozone of the three regulatory monitors.

Figure 2 shows the seasonal distribution of high ozone days at selected thresholds using data from 2010-2021. There are two clear peaks during the ozone season where the frequency of elevated ozone days increases sharply. The first of these peaks is in the spring, generally from April through June, and the second peak is in the fall, from August through October. These months have weather patterns that are most favorable for ozone formation. High ozone events in July are

less common, a phenomenon known as the “mid-summer minimum,” usually a result of persistent southeasterly winds from the Gulf of Mexico transporting cleaner air into the region.

Figure 2: Ozone Exceedances of Selected Thresholds at Regulatory Monitors by Semi-Monthly Period, 2010-2021



2021 OZONE SEASON REPORT

Presented to AACOG Air Quality Committee

Presented by Lyle Hufstetler

January 26, 2022

Current Three-Year Average

Monitor Site	4th Highest 8-Hour Average O_3 (ppb)			Three-Year Average
	2019	2020	2021	
San Antonio Northwest CAMS 23	75	69	70	71
Camp Bullis CAMS 58	69	74	78	73
Calaveras Lake CAMS 59	63	66	66	65

Two Bexar County regulatory monitors continue to violate the 2015 Ozone NAAQS

Ozone values will be certified by EPA no later than May 2022

2021 Ozone Season by Month

Month	Actual Days MDA8 > 54	Average Days MDA8 > 54	Actual Days MDA8 > 70	Average Days MDA8 > 70
March	9	5.4	0	0.1
April	9	11.3	1	1.0
May	8	10.9	1	1.8
June	6	6.3	1	1.2
July	2	4.2	1	0.8
August	4	9.6	0	2.9
September	13	10.3	5	2.4
October	9	7.9	3	1.8
November	2	0.8	0	0.0
Total	62	66.7	12	12.0

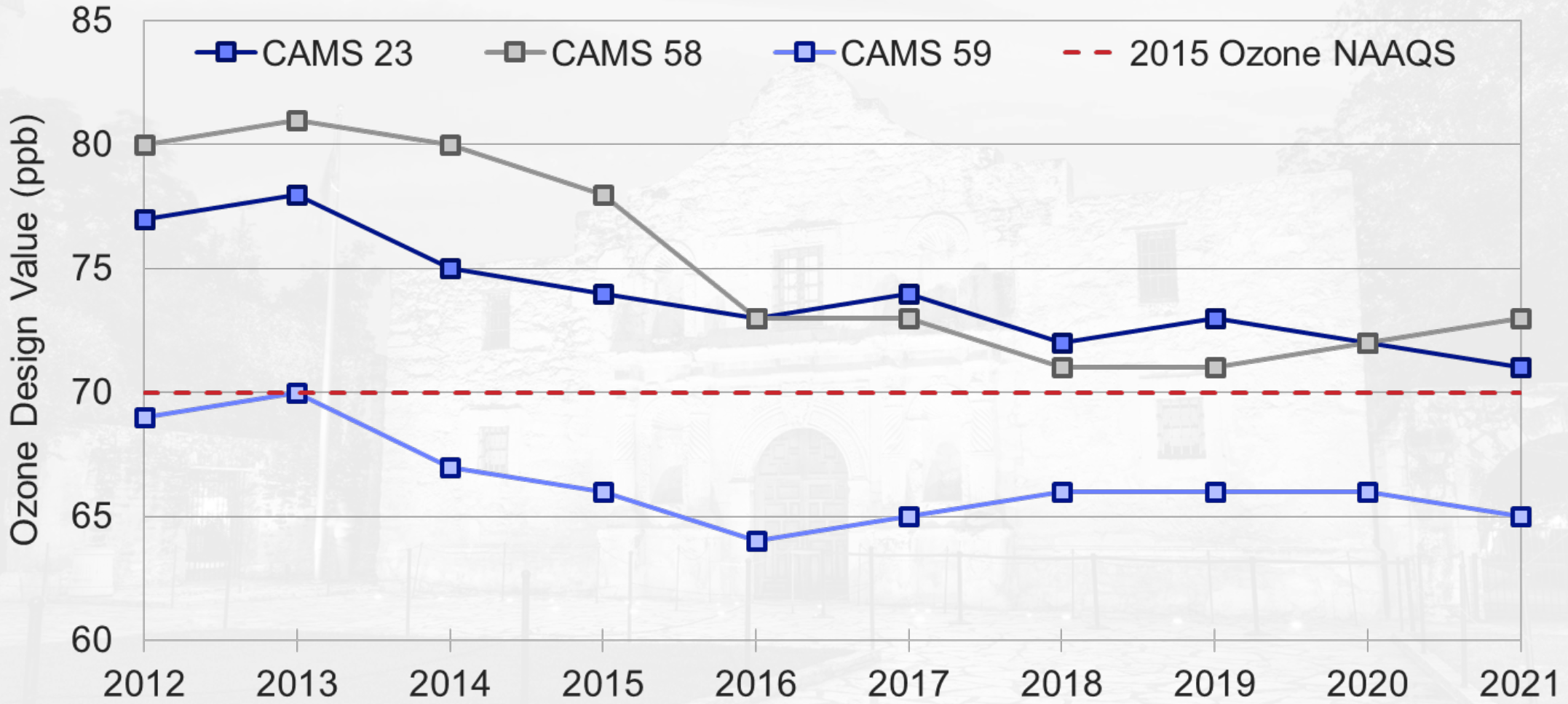
2021 Ozone Action Day Alerts

Days Alert Issued	12
Days Alert Verified	7
Days with MDA8 > 70 ppb	13
Days with MDA8 > 70 ppb without Alert	6

Ozone Action Day Alerts are issued by TCEQ when high ozone levels are expected to occur the following day. When an Ozone Action Day Alert is issued:

- Avoid prolonged exposure outdoors if you are younger, older, or have a respiratory condition
- Limit car use, if possible – telecommute, combine errands, refuel in the evening
- Reduce energy use at home – yard work in the evening, turn up thermostat 1-2°
- Sign up to receive these alerts at http://www.aacog.com/list.aspx

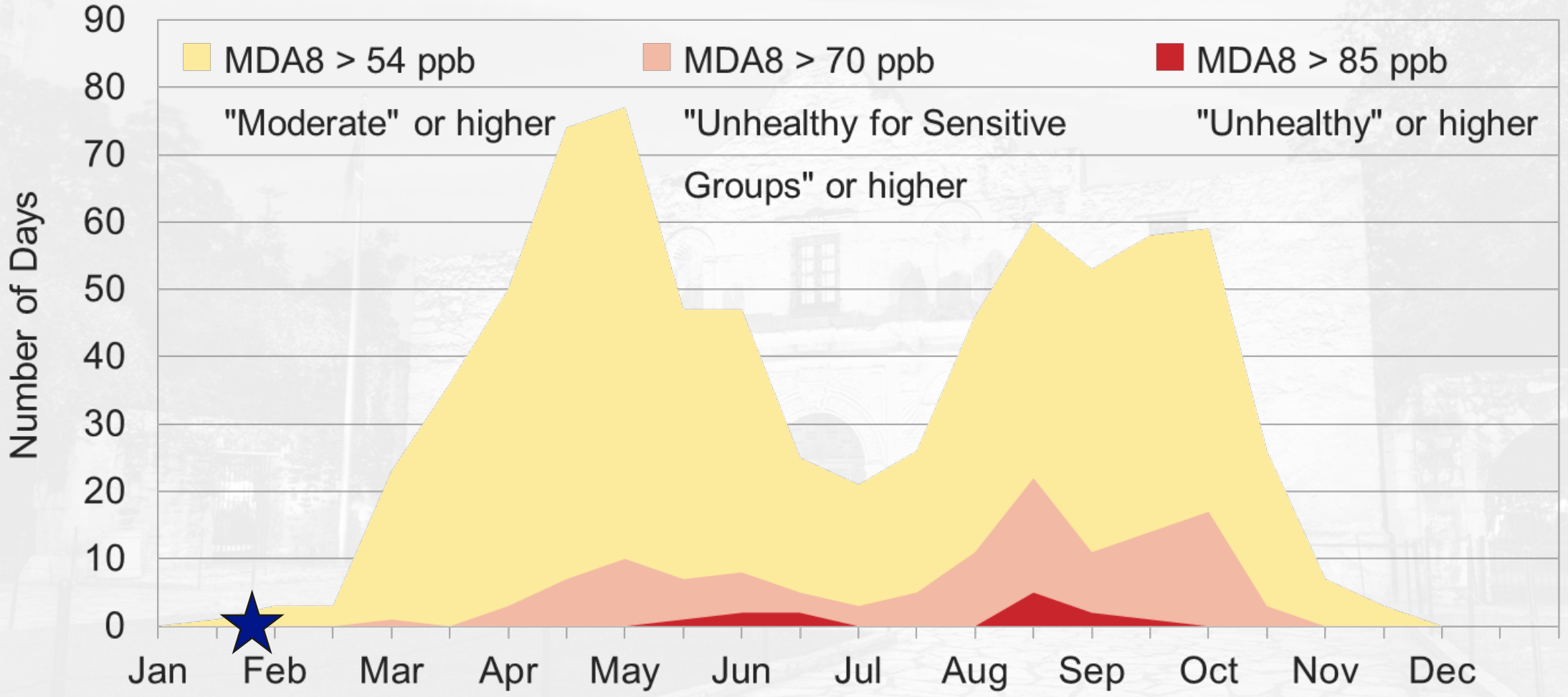
Design Value Trend

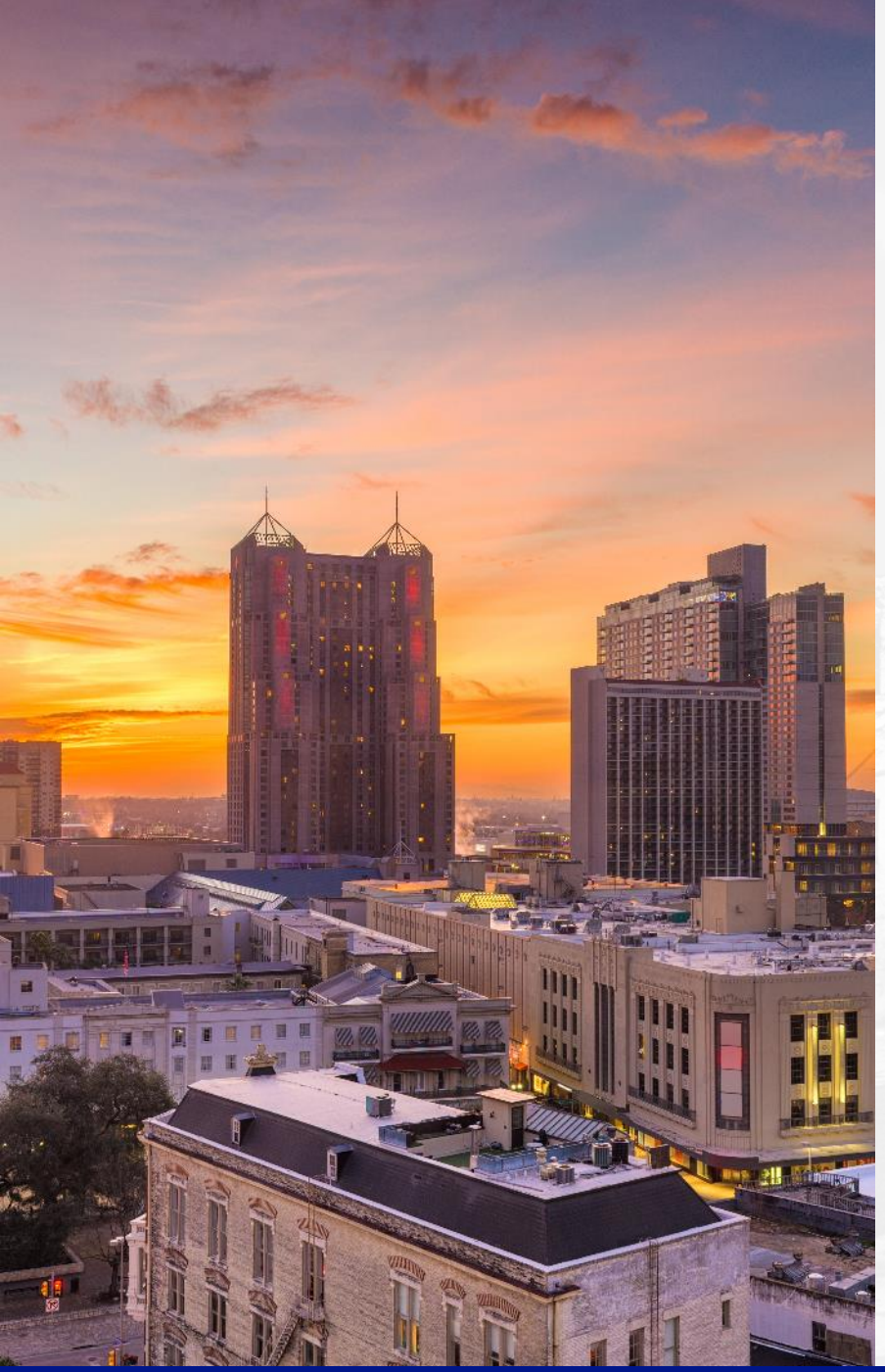


Attaining the NAAQS in 2022

Monitor Site	4th-Highest 8-Hour Average O_3 (ppb)		2022 Maximum Allowable 4th-Highest to Attain NAAQS
	2020	2021	
San Antonio Northwest CAMS 23	69	70	73
Camp Bullis CAMS 58	74	78	60
Calaveras Lake CAMS 59	66	66	80

Seasonal Ozone Variation





Lyle Hufstetler

Contact Me

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San Antonio, Texas 78217

AACOG

Alamo Area Council of Governments

2022 Ozone Season to Date

Monitor	Date	ppb	Date	ppb	Date	ppb	Date	ppb
S.A. Northwest CAMS 23	1/14	45	1/17	43	1/5	43	1/13	41
Camp Bullis CAMS 58	1/14	48	1/13	47	1/5	45	1/17	43
Calaveras Lake CAMS 59	1/14	44	1/13	42	1/5	42	1/17	41

* Ozone data not yet validated for 2022

Air Quality Committee **6.**

Meeting Date: 01/26/2022

Title: Bexar County Nonattainment Status

Presented by: Lyle Hufstetler, Natural Resources Project Coordinator

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AGENDA ITEM DESCRIPTION:

Update on Bexar County's Ozone Nonattainment Status. - Lyle Hufstetler

BACKGROUND/HISTORY:

In October 2015, the U.S. Environmental Protection Agency (EPA) promulgated its revised National Ambient Air Quality Standards (NAAQS) for ground-level ozone. The annual fourth-highest maximum daily average 8-hour (MDA8) ozone concentration, averaged over three years, measured at each regulatory monitor within an area must not exceed 70 parts per billion (ppb). The highest of these three-year averages is that area’s design value, which is the metric used by the EPA to determine attainment.

DISCUSSION:

Bexar County was designated nonattainment under the 2015 ozone NAAQS effective September 24, 2018, which triggered a three-year deadline to attain the NAAQS (attainment date), or effectively, the end of the 2020 ozone season (attainment year). Bexar County missed its attainment date based on a 2020 design value of 72 ppb, and now faces reclassification to moderate nonattainment, which is expected to be made official no later than March 2022.

A moderate nonattainment classification brings additional and more-stringent federal regulations intended to improve that area's air quality. These regulations are discussed in detail in the attached presentation.

FINANCIAL IMPACT:

None

STAFF RECOMMENDATION:

If you have any questions, please contact Lyle Hufstetler at lhufstetler@aacog.com or 210-376-9901.

Attachments

Bexar County Non Attainment Status Update

MODERATE NONATTAINMENT IN BEXAR COUNTY

Lyle Hufstetler
Project Coordinator
Alamo Area Council of Governments
lhufstetler@aacog.com | 210-376-9901

AGENDA

NAAQS Overview & History

Moderate Nonattainment

Scenarios & Solutions

AACOG
Alamo Area Council of Governments

Regulatory Overview

Regulatory Framework

Ozone as a Criteria Pollutant

Ozone NAAQS History

Bexar County Ozone Trend

Regulatory Framework

- Federal Clean Air Act gives EPA authority to protect human health by setting and enforcing National Ambient Air Quality Standards (NAAQS) for “criteria pollutants”

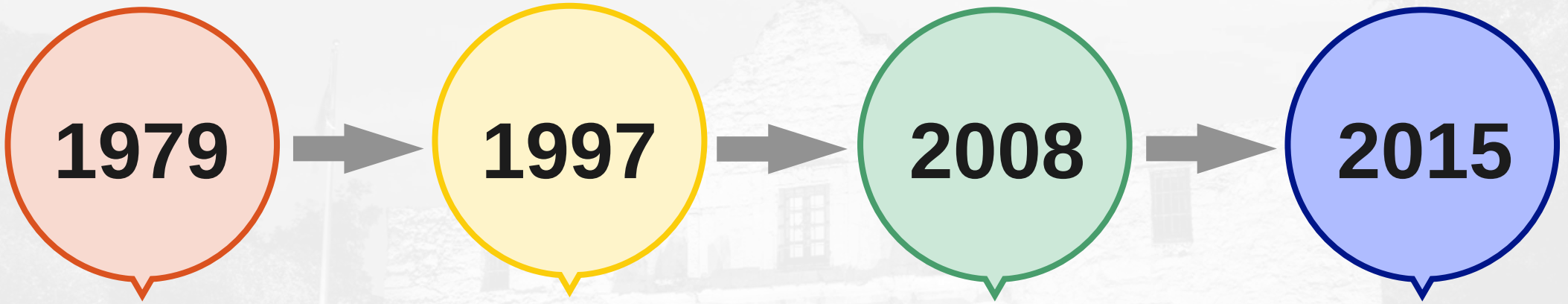
- Nationally acceptable levels of concentrations of these pollutants; Must be periodically reviewed for consistency with latest science

- Failure to meet NAAQS results in nonattainment (NA) designation; State Implementation Plans (SIP) must be developed

Ozone as a Criteria Pollutant

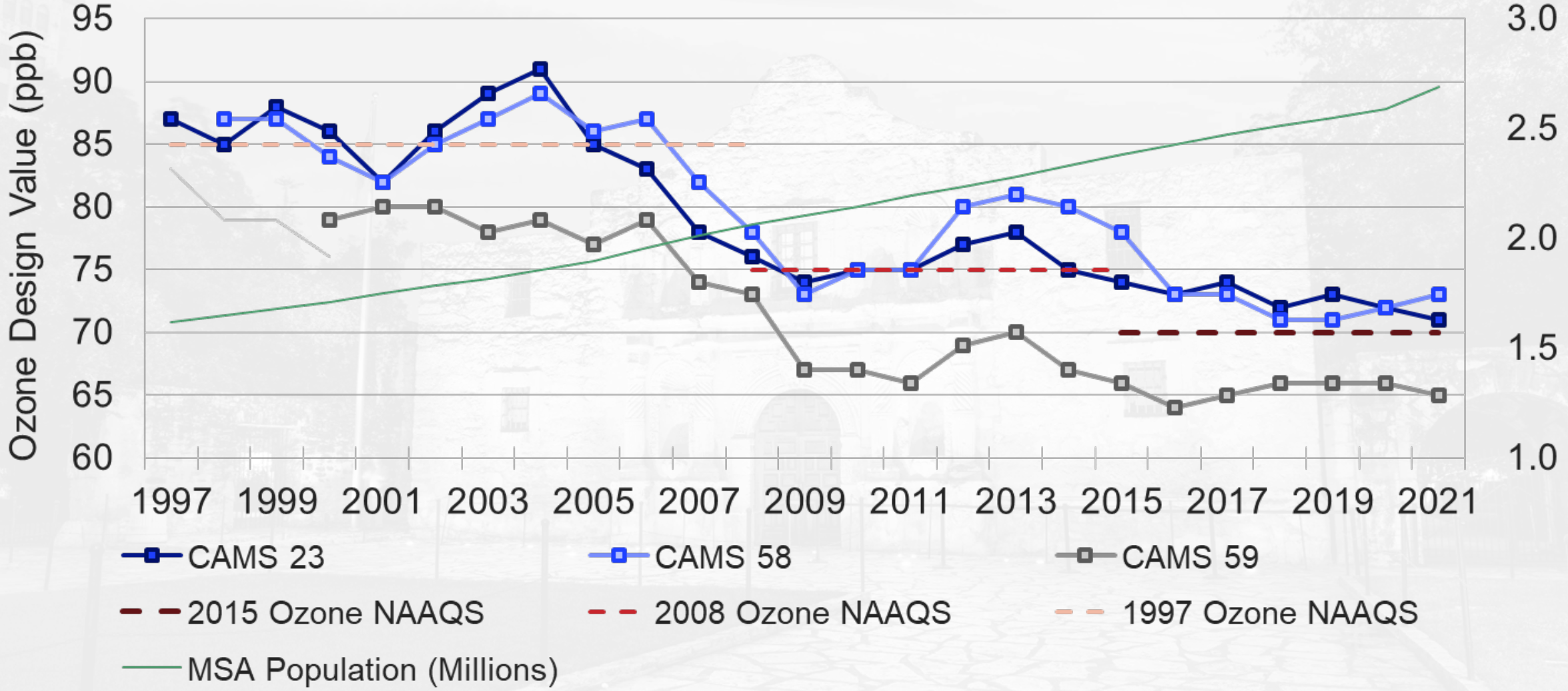
- Ozone forms when nitrogen oxides (NO_X) react with volatile organic compounds (VOC) in the presence of sunlight and is toxic to humans
- Primary NAAQS protect public health; Secondary – public welfare
- Design Value: annual 4th-highest maximum daily average 8-hour ozone (MDA8) concentration, averaged over 3 years, must not exceed 70 parts per billion (ppb).

Ozone NAAQS History



1979	1997	2008	2015
1-Hour Standard	**8-Hour Standard**	**8-Hour Standard**	**8-Hour Standard**
0.12 parts per million	0.08 parts per million	0.075 parts per million	0.070 parts per million
Max 1 day with peak 1-hr O_3 over 0.12 ppm	Annual 4th-highest MDA8 over 3 years	Annual 4th-highest MDA8 over 3 years	Annual 4th-highest MDA8 over 3 years

Bexar County Ozone Trend



Ozone Nonattainment Classifications

Area Classification	From	Up To (not including)	Attainment date (years from effective designation)
Marginal	71 ppb	81 ppb	3
Moderate	81 ppb	93 ppb	6
Serious	93 ppb	105 ppb	9
Severe-15	105 ppb	111 ppb	15
Severe-17	111 ppb	163 ppb	17
Extreme	163 ppb		20

- Each increasing classification compounds and strengthens regulations, and is a consequence of failure to meet NAAQS by the attainment date

2015 Ozone NAAQS

- EPA published area designation in the Federal Register July 25, 2018; Bexar County attainment designation effective September 24, 2018
- Monitoring data from 2015-2017 showed 74 ppb → marginal nonattainment classification
- Three years to reach attainment or risk being reclassified to moderate Attainment date: September 24, 2021

Ozone NAAQS Status

Monitor Site	4th Highest 8-Hour Average O_3 (ppb)			Three-Year Average
	2018	2019	2020	
San Antonio Northwest CAMS 23	72	75	69	72
Camp Bullis CAMS 58	73	69	74	72
Calaveras Lake CAMS 59	71	63	66	66

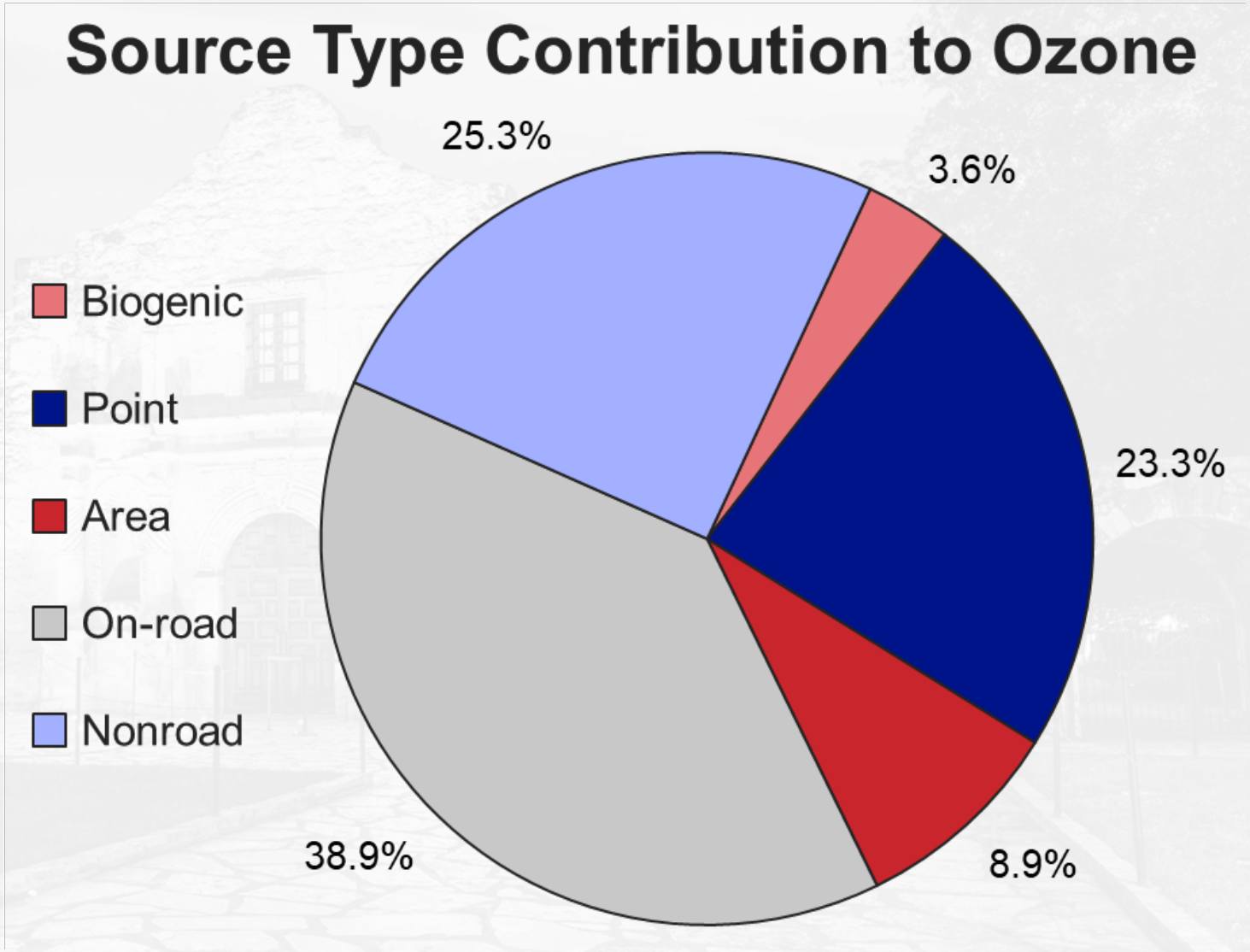
FAILURE TO ATTAIN

Reclassification effective no later than March 2022

Photochemical Modeling

Models allow us to estimate the contribution of certain emission sources to ozone levels at a particular monitor.

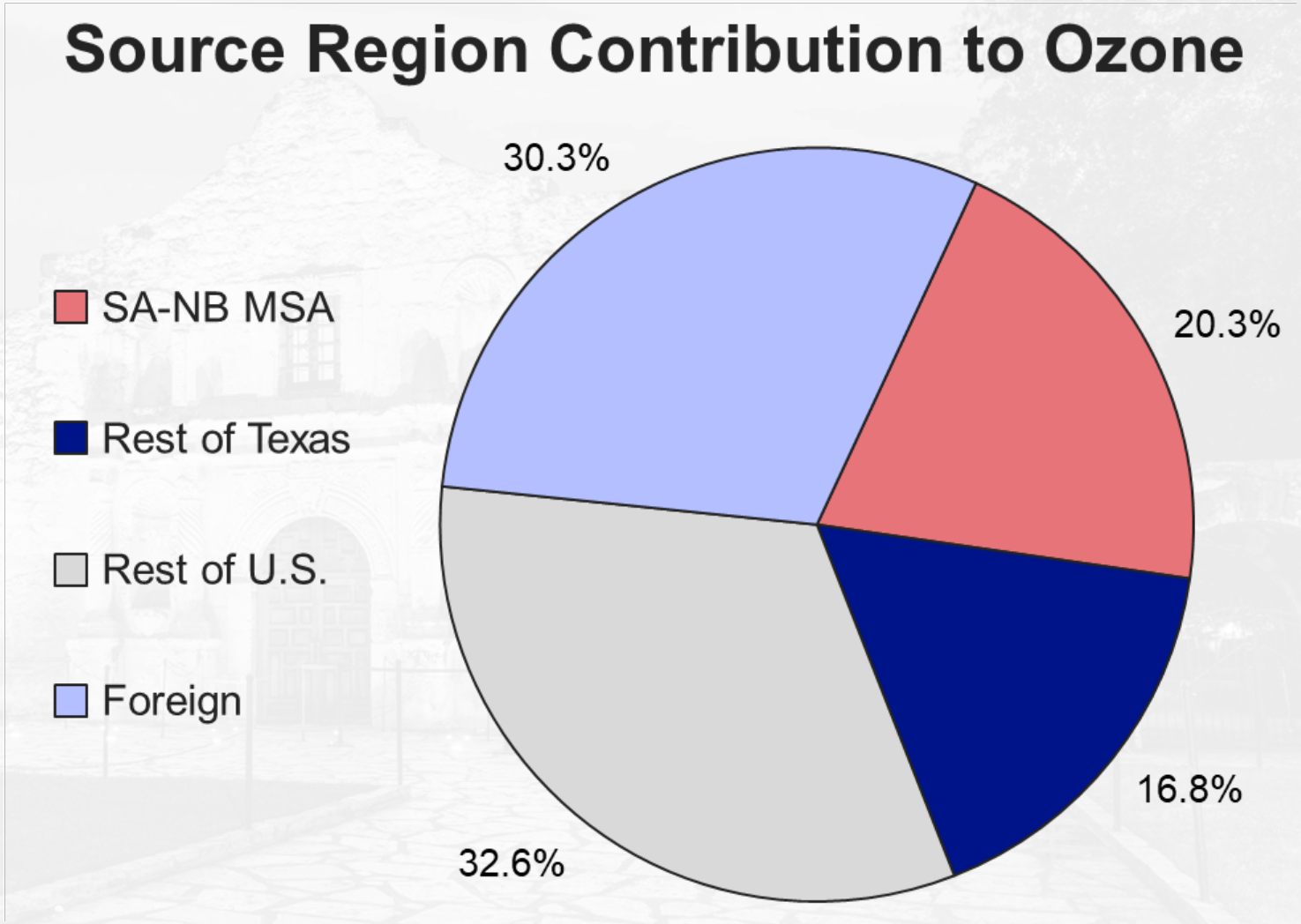
Mobile sources (on-road and nonroad) account for as much as 64% of ozone at the Camp Bullis monitor.



Photochemical Modeling

Models allow us to estimate the contribution emissions from specific regions to ozone levels at a particular monitor.

Most ozone is transported from outside our region. About 20% is estimated to be formed locally.



Moderate Nonattainment

State Implementation Plans

Existing Marginal Requirements

Vehicle Inspection & Maintenance

New Point Source Controls

State Implementation Plans

- A state's comprehensive, enforceable plan to meet the NAAQS; carried out by the Texas Commission on Environmental Quality (TCEQ)
- Revised as needed to comply with NAAQS requirements (e.g., new source review, emission inventories, control strategies, permitting, modeling, etc.)
- Developed with participation from stakeholders through meetings, comment periods, and public hearings

MARGINAL

(3 years)

Emissions Inventory

Emissions Statements

Nonattainment NSR

Emissions Offsets

Conformity

NSR Thresholds & Offset Ratios

100 TPY

1.1 : 1

Emissions Inventory & Statements:

- Due two years from effective date of designation
- Point, area, on-road, and non-road NO_X and VOC emissions
- 2017 base year emissions
- Periodic updates every three years until attainment

MARGINAL
(3 years)

Emissions Inventory

Emissions Statements

Nonattainment NSR

Emissions Offsets

Conformity

NSR Thresholds & Offset Ratios

100 TPY
1.1 : 1

Nonattainment New Source Review & Emissions Offsets:

- Business expansions within and relocations to NA areas
- NSR thresholds based on “potential to emit”
- Emission reduction credits can be purchased to offset increases from expansion/relocation

MARGINAL
(3 years)

Emissions Inventory

Emissions Statements

Nonattainment NSR

Emissions Offsets

Conformity

NSR Thresholds & Offset Ratios

100 TPY
1.1 : 1

Conformity:

- Two categories: General and Transportation

- Federal projects must not –
  1. Delay timely NAAQS attainment
  2. Cause new NAAQS violations
  3. Worsen existing NAAQS violations

- *De minimis* thresholds and motor vehicle emissions budgets (MVEB) used in conformity tests

MODERATE

(6 years)

Basic I/M

RACT/RACM

Attainment Demo

Contingency Measures

RFP – 15% VOC

NSR Thresholds & Offset Ratios

100 TPY

1.15 : 1

Basic Vehicle Inspection & Maintenance:

- NLT 4 years after reclassification
- OBD tests emissions-related components, adding 15 minutes
- Gasoline vehicles 2-24 years old
- Austin & El Paso: $18.50
  DFW & Houston: $25.50

MODERATE

(6 years)

Basic I/M

RACT/RACM

Attainment Demo

Contingency Measures

RFP – 15% VOC

NSR Thresholds & Offset Ratios

100 TPY
1.15 : 1

Reasonably Available Control Technology/Measures:

- RACT: the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility

- EPA's RACT/BACT/LAER Clearinghouse

MODERATE

(6 years)

Basic I/M

RACT/RACM

Attainment Demo

Contingency Measures

RFP – 15% VOC

NSR Thresholds & Offset Ratios

100 TPY
1.15 : 1

Reasonably Available Control Technology/Measures:

- Economically and technologically feasible control measures for stationary and mobile sources
- Must advance the attainment date by at least one year
- Implemented no later than the beginning of ozone season in the attainment year (2023)

MODERATE

(6 years)

Basic I/M

RACT/RACM

Attainment Demo

Contingency Measures

RFP – 15% VOC

NSR Thresholds & Offset Ratios

100 TPY
1.15 : 1

Attainment Demonstration & Contingency Measures:

- Photochemical modeling and weight-of-evidence analysis
- Emissions reductions included in a SIP are sufficient to attain the NAAQS attainment date
- Contingency measures – implemented without further rulemaking

MODERATE

(6 years)

Basic I/M

RACT/RACM

Attainment Demo

Contingency Measures

RFP – 15%

NSR Thresholds & Offset Ratios

100 TPY

1.15 : 1

15% Reasonable Further Progress for VOC:

- Show incremental annual NO_X and VOC reductions
- 15% NO_X and VOC reductions from 2017 base year to 2023 attainment year
- Extra 3% reduction in 2024 for contingency

Scenarios & Solutions

What If We Still Don’t Attain?

Beyond Ozone

Air Quality Improvement Solutions

Ozone NAAQS Status

Monitor Site	4th Highest MDA8 (ppb)			Three-Year Average
	2019	2020	2021*	
San Antonio Northwest CAMS 23	75	69	70	71
Camp Bullis CAMS 58	69	74	**78**	73
Calaveras Lake CAMS 59	63	66	66	65

*2021 data current as of 11/16/2021

We ended 2021 with a 73 ppb design value (circled) set by the Camp Bullis monitor – an increase of 1 ppb over 2020

- The 4th-Highest MDA8 for 2021 will stay in our design value calculation through the next two years…

Ozone NAAQS Status

Monitor Site	4th Highest MDA8 (ppb)					Three-Year Average
	2019	2020	2021*	2022	2023	
San Antonio Northwest CAMS 23	75	69	70	??	??	??
Camp Bullis CAMS 58	69	74	**78**	??	??	??
Calaveras Lake CAMS 59	63	66	66	??	??	??

*2021 data validated through September; expected certification by EPA no later than May 2022

- Remember, the attainment year for moderate areas is **2023**; that 78 ppb will be used to determine if we get bumped up to serious nonattainment

SERIOUS

(9 years)

Enhanced I/M

Enhanced Monitoring

VMT Demo and TCMs

RFP – 18%

NSR Thresholds & Offset Ratios

50 TPY

1.2 : 1

Key Points:

- Major Source threshold and offset ratios tighten; RFP increases
- Enhanced I/M as in HGB & DFW; PAMS already established statewide
- VMT Demos and TCMs – reduce transportation-related air pollution by improving traffic flow and reducing vehicle use

Marginal – Moderate – Serious

MARGINAL
(3 years)

Emissions Inventory

Emissions Statements

Nonattainment NSR

Emissions Offsets

Transportation & General Conformity

MODERATE
(6 years)

Basic I/M

RACT/RACM

Attainment Demo

Contingency Measures

Stage II Vapor Recovery

RFP – 15% VOC reductions with 6 years

SERIOUS
(9 years)

Enhanced I/M

Enhanced Monitoring Plan

VMT Demo and TCMs

RFP – 18% VOC reductions with 6 years

NSR Thresholds and Offset Ratios

100 TPY **1.1 : 1**	**100 TPY** **1.15 : 1**	**50 TPY** **1.2 : 1**

Future NAAQS Activities

- Ozone and fine particulate ($PM_{2.5}$) NAAQS reviews finalized in December 2020, both without revision
- In June 2021, EPA announced a reconsideration of that decision; proposed PM Summer 2022, targeting ozone by the end of 2023
- Although currently within the $PM_{2.5}$ NAAQS, EPA is considering as low as 8.0 µg/m^3, which would put Bexar County at risk of nonattainment
- No draft policy assessment yet for ozone NAAQS reconsideration

Infrastructure Investment & Jobs Act

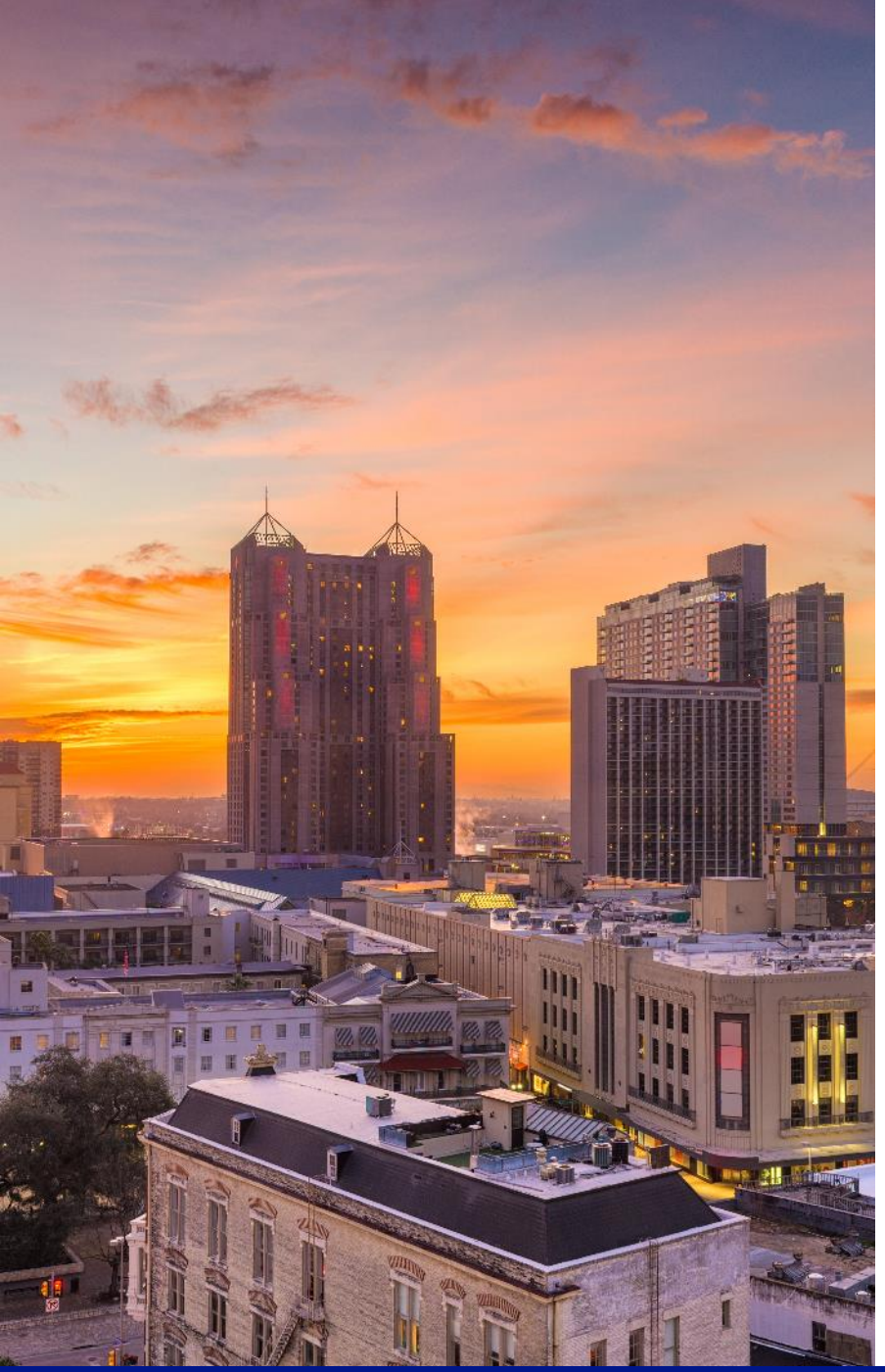
- National Electric Vehicle Formula Program
  - $5 billion for EV Corridors
  - $1 billion per year for FY 2022-2026

- Grants for Charging and Fueling Infrastructure for Corridors and Communities
  - $2.5 billion for Alternative Fuels (EV, CNG, LNG, LPG, H2)
  - $300 million for FY 2022; $400 million for FY 2023; $500 million for FY 2024; $600 million for FY 2025; and $700 million for FY 2026
  - 50% for corridors; 50% for communities (rural and underserved)

- Federal funding share: 80%

Future Air Quality Planning

- Infrastructure bill will be a huge benefit to air quality planning efforts
- Transportation electrification and grid resiliency
- Environmental Justice – Justice40 initiative (E.O. 14008)
  - Fair treatment and meaningful involvement of all people
  - 40 percent of federal climate and transportation investments must flow to underserved and overburdened communities
- Smoking Vehicle Reporting Program



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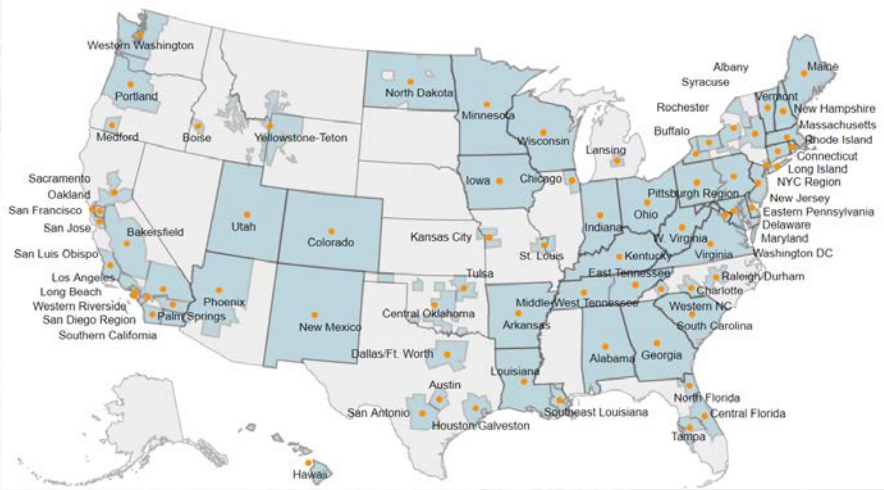
Clean Cities Coalitions

- Federal, State, and Local Incentive Outreach and Grant Assistance
- **Alternative Fuel Corridor Development**
- Outreach and Demonstration Events
- Tracking, Reporting, and Information Sharing
- Over 80 coalitions across the country



Annual $PM_{2.5}$ NAAQS Comparison

2018-2020 $PM_{2.5}$ DV > 12 µm/m^3

2018-2020 $PM_{2.5}$ DV > 8 µm/m^3

Source: EPA

EPA Advance Program

- Federal, state, local, public, and private partners working together to take local action to reduce ozone and fine particulate matter to maintain compliance with the NAAQS
- EPA has wealth of resources to provide technical assistance, grant opportunities, collaboration, training, and more
- Regional Advance plans offer flexibility in scope and periodic updates encourage regular stakeholder participation

EPA Advance Program

- Beginning in 2022, AACOG will begin developing its first PM Advance Plan with regular input and participation from area stakeholders

- Plan will include:
  - PM Conceptual Model
  - Overview of Available Resources
  - Commitments from Alamo Area Air Quality Partners

- Bexar County no longer eligible to participate in Ozone Advance; will need to re-scope the report and recruit new participants from rural areas

EPA Advance Technical Assistance

- Mobile | Transportation
- Energy Efficiency | Renewable Energy | Climate
- Overall Planning | Green Infrastructure | Heat Island
- Education | Outreach | Grants | Program Management
- Stationary and Area Sources | Monitoring

Air Quality Committee **7.**

Meeting Date: 01/26/2022

Title: 2020-2021 Rider 7 Air Quality Planning Summary

Presented by: Steven Smeltzer, Environmental Manager

AGENDA ITEM DESCRIPTION:

Update and summary of activities conducted under the 2020-2021 Rider 7 Air Quality Planning Grant to expand ambient monitoring and inventory emissions. - Steven Smeltzer

BACKGROUND/HISTORY:

The 86th Texas Legislature appropriated over $1.9 million to AACOG under the Rider 7 Air Quality Planning grant to enhance ambient monitoring operations and inventory emissions across Atascosa, Bandera, Comal, Guadalupe, Kendall, Medina, and Wilson Counties.

DISCUSSION:

Three general monitoring projects were chosen with AACOG's nearly $2 million allocation: stationary surface monitoring, stationary upper-level monitoring, and aircraft sampling. At four existing ozone sites in Comal and Guadalupe Counties,

NOx and meteorological analyzers were installed, greatly adding to the value of ozone data. Two new sites were selected in Kendall and Atascosa Counties for NOX and meteorological monitoring, with the Atascosa site also receiving an SO_2 analyzer and an Auto-GC to measure VOCs.

Upper-air monitoring using a radar wind profiler (RWP) in New Braunfels and a SODAR in Boerne began in April, but after the profiler malfunctioned, a SODAR was installed in New Braunfels in August.

Aircraft sampling was conducted during 42 flights throughout September, October, and early November. One-second measurements were recorded for multiple pollutants, including ozone and NOX. Flight patterns were selected based on that day's expected wind flow, capturing both upwind and downwind pollutant concentrations of point source and urban ozone plumes over the course of the project.

AACOG conducted four emission inventories to estimate ozone precursor emissions from diesel equipment operating at quarries and mines; commercial lawn and garden equipment; tractors and combines; and landfill and heavy industrial equipment.

FINANCIAL IMPACT:

None

STAFF RECOMMENDATION:

For more information, please contact Steven Smeltzer at ssmeltzer@aacog.com or 210-362-5203.

Attachments

Rider 7 Presentation

2020-2021 Rider 7 Air Quality Planning Grant

Presented by AACOG

Air Quality Committee

Jan. 26, 2022

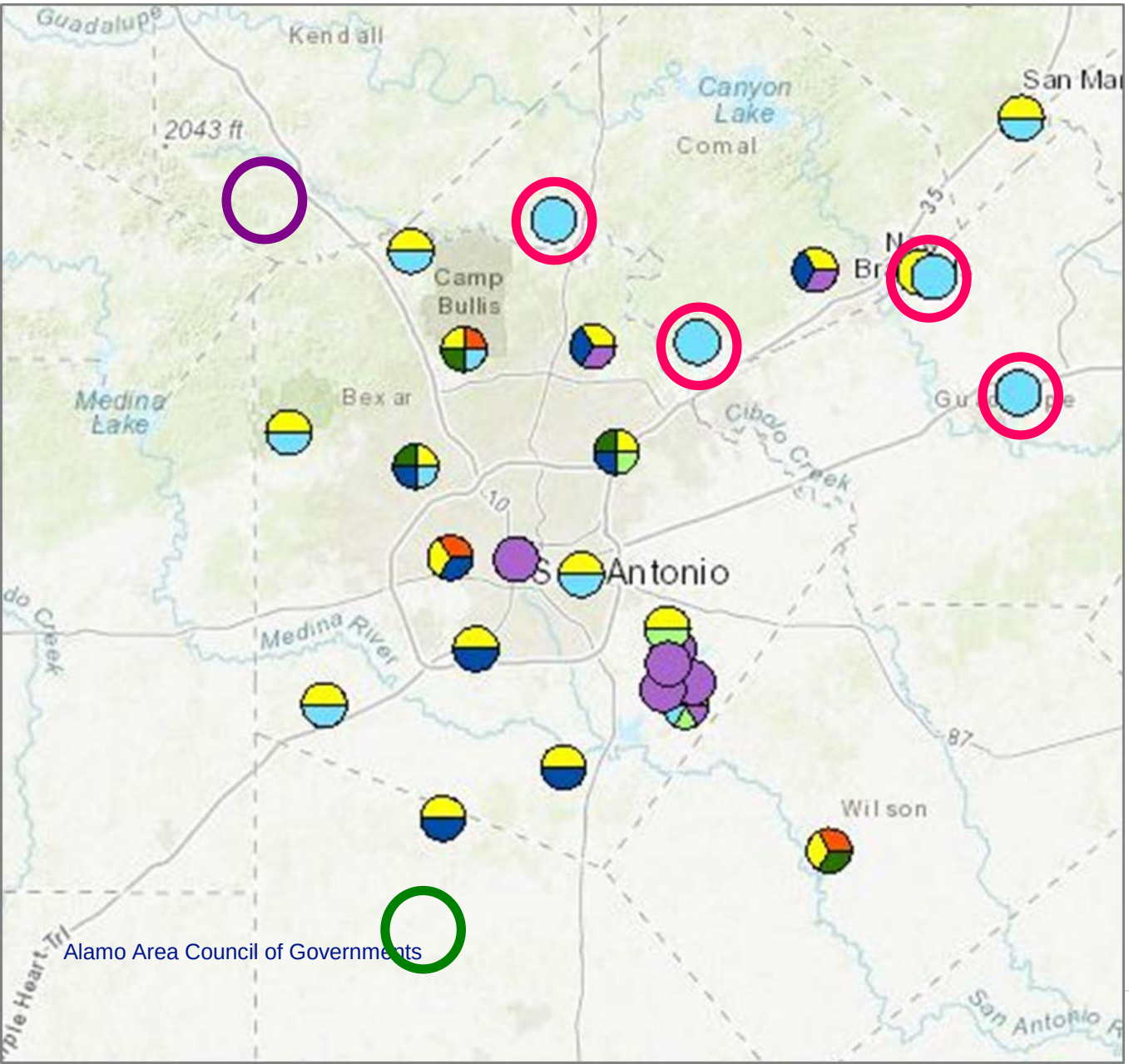
2022-2023 Air Quality Grant

- Funds are restricted to Comal, Guadalupe, and Wilson Counties
- Total amount of additional funds for 2022 and 2023: $404,096 (the funding amount for 2020-2021 was $1,968,750 for a seven county region)
- Continue meteorological and NO_X monitoring enhancements at Bulverde Elementary - C503, New Braunfels Airport - C504, Garden Ridge - C505, and Seguin - C506
- Looking at possible options for installing the Auto-GC VOC monitor in the three county region
- Planning on developing Emission Inventories

2020-2021 Monitoring Project List

- Nitrogen Oxides (NO_X) and meteorological (met) at four existing ozone sites
- New NO_X and met – Kendall County
- New NO_X, sulfur dioxide (SO_2), Automated Gas Chromatograph (Auto-GC) for Volatile Organic Compounds (VOC), and met – Atascosa County
- Sonic Detection and Ranging (SODAR) with ceilometer – Kendall County
- Radar Wind Profiler (RWP) / SODAR / ceilometer – Guadalupe County
- Aircraft Sampling – 7-county Study Area

Surface Monitoring Project Locations



Red circles:

Additional met and NO_X monitors at existing AACOG ozone sites

Bulverde Elementary	- C503
New Braunfels Airport	- C504
Garden Ridge	- C505
Seguin	- C506

Purple circle:

New met and NO_X monitor

Boerne Lake	- C1622

Green circle:

New met, NO_X, SO2, and Auto-GC VOC

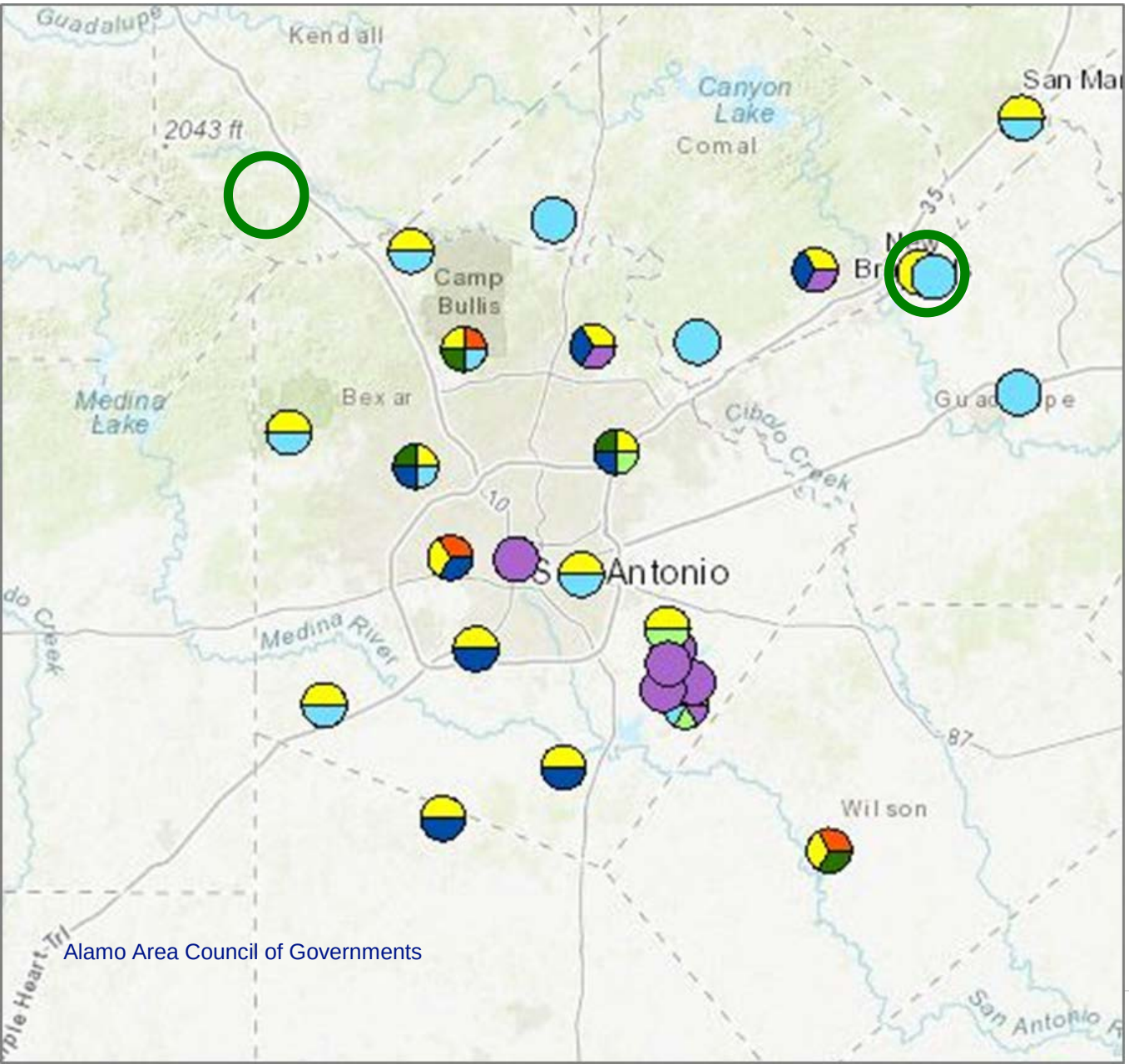
Poteet	- C1627

Reporting Statistics for Nitrogen Oxide (NO)

Monitor	CAMS	Number of Days	Days with 100% Reporting
Bulverde Elementary	503	198	90.4%
New Braunfels Airport	504	203	87.2%
Garden Ridge	505	200	82.5%
Seguin	506	198	91.9%
Boerne Lake	1622	190	47.4%
Poteet	1627	22	81.8%

- Boerne Lake had NO_X instrument failure during June and July, and communications board failure caused by a lightning storm
- Poteet monitor started operation in September. The data has been archived, but was not transmitted to TCEQ. Coordination continues between TCEQ and AACOG to make all data publicly available.

Profiler and SODAR Project Locations



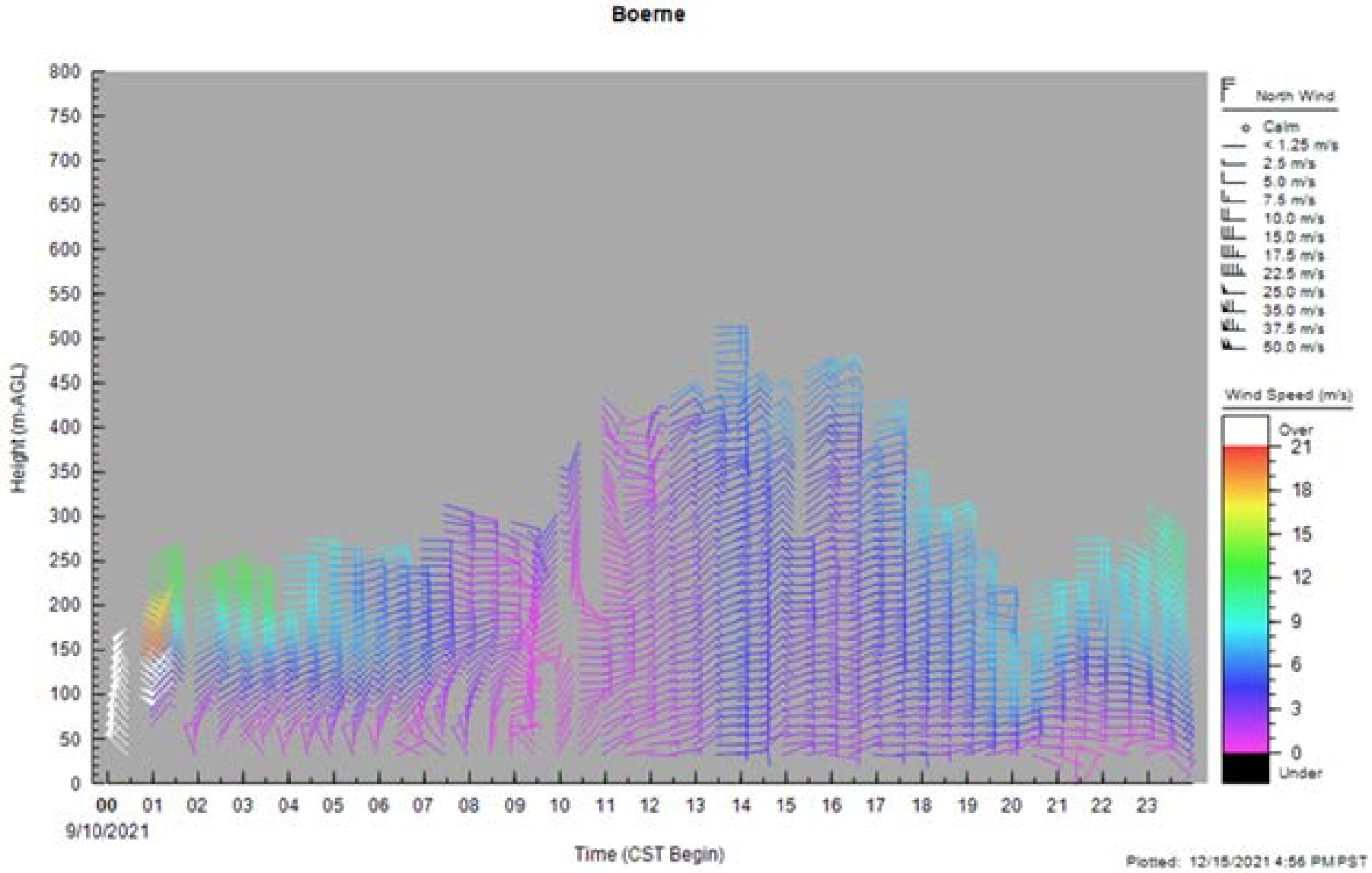
Green Circles: Upper-air profiler sites

- New Braunfels Airport
- Boerne Lake

New Braunfels Airport Radar Wind Profiler

Alamo Area Council of Governments

Boerne SODAR Wind Profiler, Sept. 10, 2021

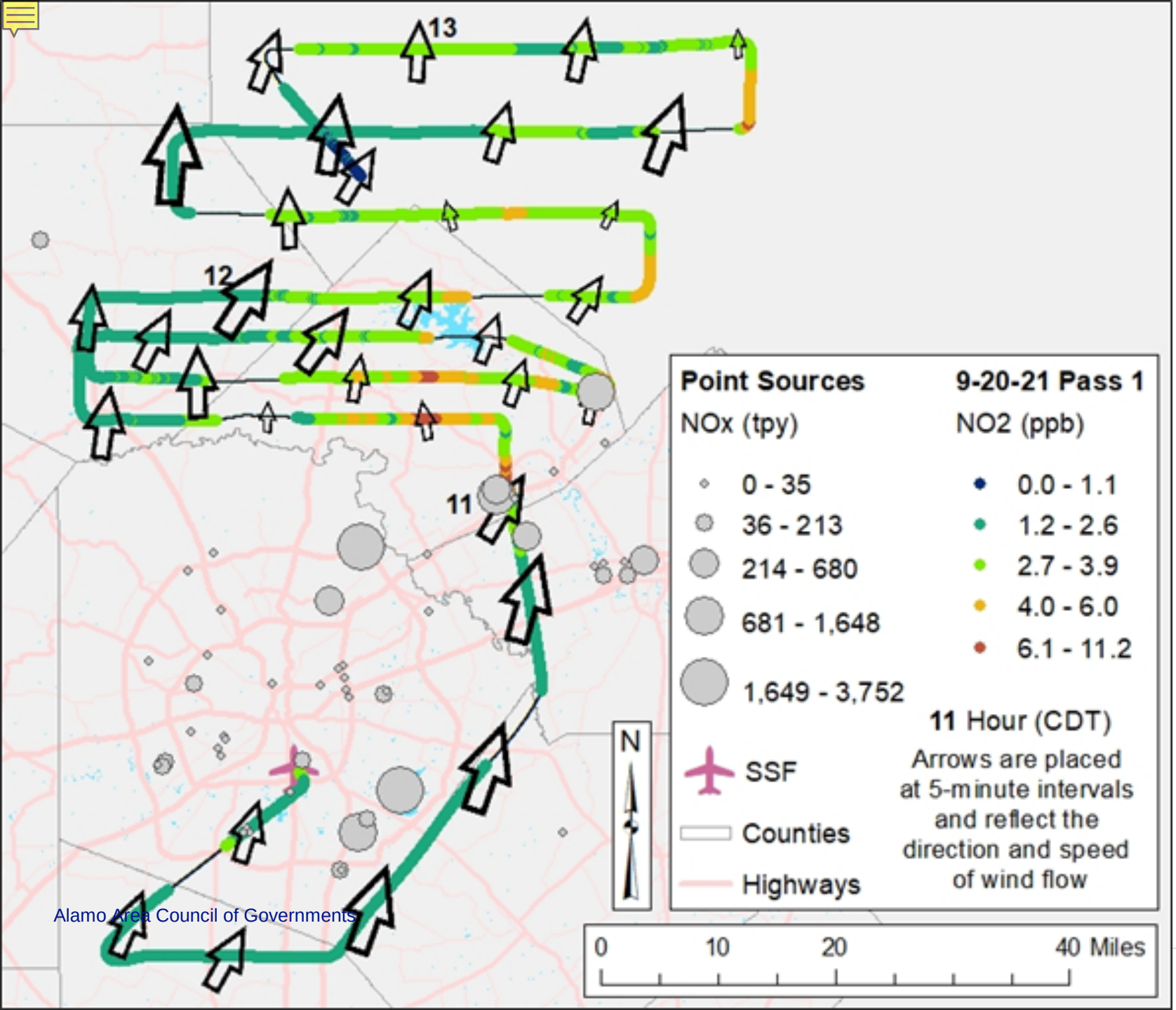


Easterly to northeasterly winds were present throughout much of the day, veering to east southeasterly around 22:00-23:00 CDT. The wind patterns throughout the day were fairly consistent with the mixing heights analyzed by the ceilometer. Through the early morning hours, the SWP indicated a change in wind direction and speed just below 100 m, suggesting a mixing height at about that level. Later in the day (14:00), winds were uniform with height in both direction and speed, indicating a mixed layer to at least 500 m.

Aircraft Sampling

- Aircraft sampling of pollutants occurred September - November 2021
- A total of 41 flights
- Sampling included both upwind and downwind of San Antonio’s urban ozone plume, including seven days where ozone was at least 60 ppb
- Flight paths were generally planned one to two days prior to takeoff, oriented in a way that transects the prevailing wind flow. This ensures that the horizontal extent of pollutant plumes can be measured

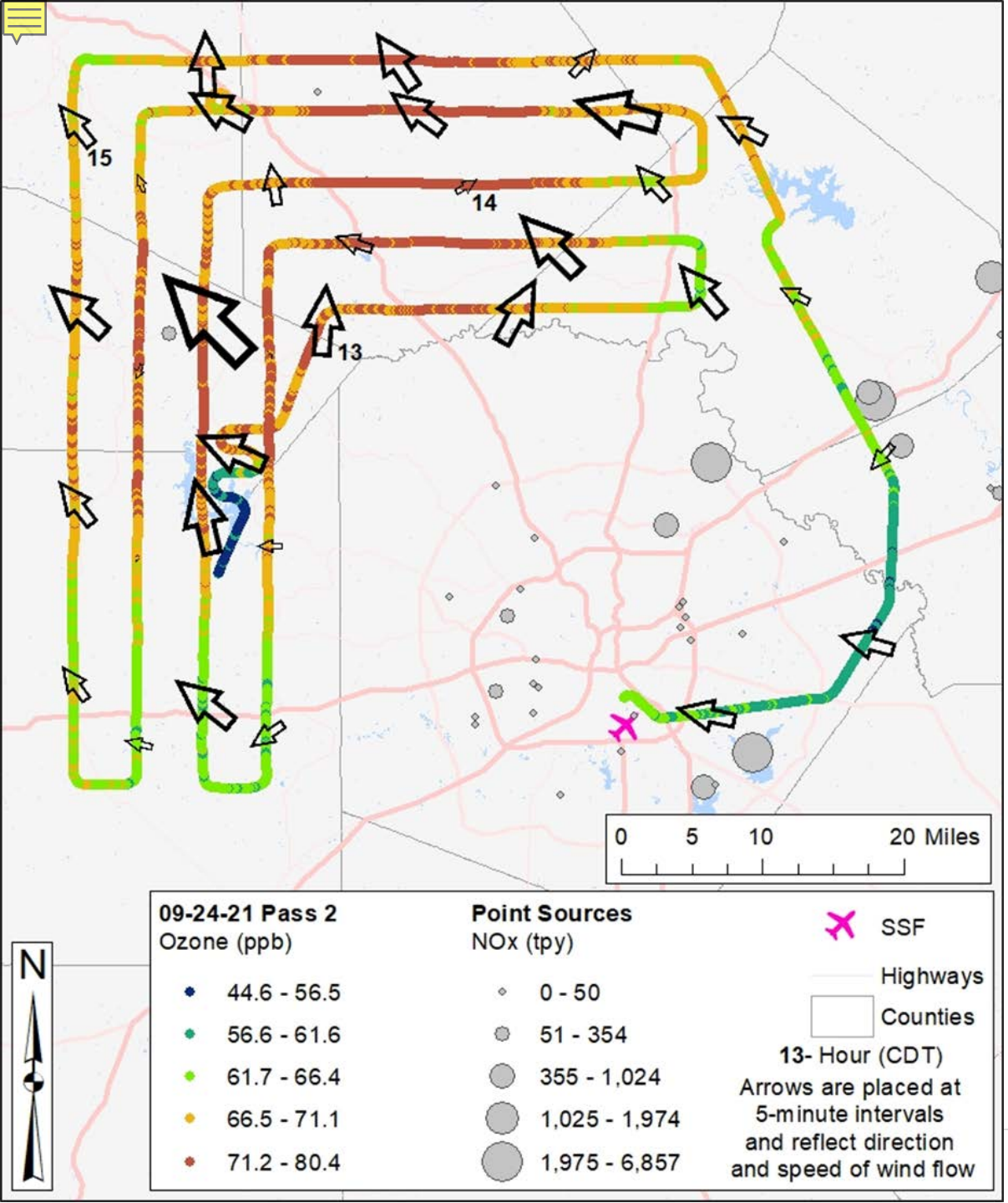
September 20, 2021: Nitrogen Dioxide (NO_2) and Wind Observations



Peak 8-hour ozone = 56 ppb (C58)

September 24, 2021: Ozone and Wind Observations

(1-hour Ozone)



Peak 8-hour ozone = 71 ppb (C58)

2020-2021 Emission Inventory Projects

- Diesel Quarry and Mining Equipment Emission Inventory
- Commercial Lawn and Garden Emission Inventory
- Tractors and Combines Emission Inventory
- Diesel Landfill Operations, Residential Construction, Scrap Recycling Operation, and Manufacturing Operations Construction Emission Inventory

NO_X Emissions

- Commercial Lawn and Garden Equipment – 0.11 Tons of NO_X per Day
- Quarry and Mining Equipment – 0.47 Tons of NO_X per Day
- Landfill Operations Equipment – 0.01 Tons of NO_X per Day
- Residential Construction Equipment – 0.12 Tons of NO_X per Day
- Scrap and Recycling Operations Equipment – 0.05 Tons of NO_X per Day
- Manufacturing Construction Equipment – 0.10 Tons of NO_X per Day
- Tractors and Combines – 0.32 Tons of NO_X per Year*

* Expressed annually due to varying planting seasons across crop types

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Current Attainment Status

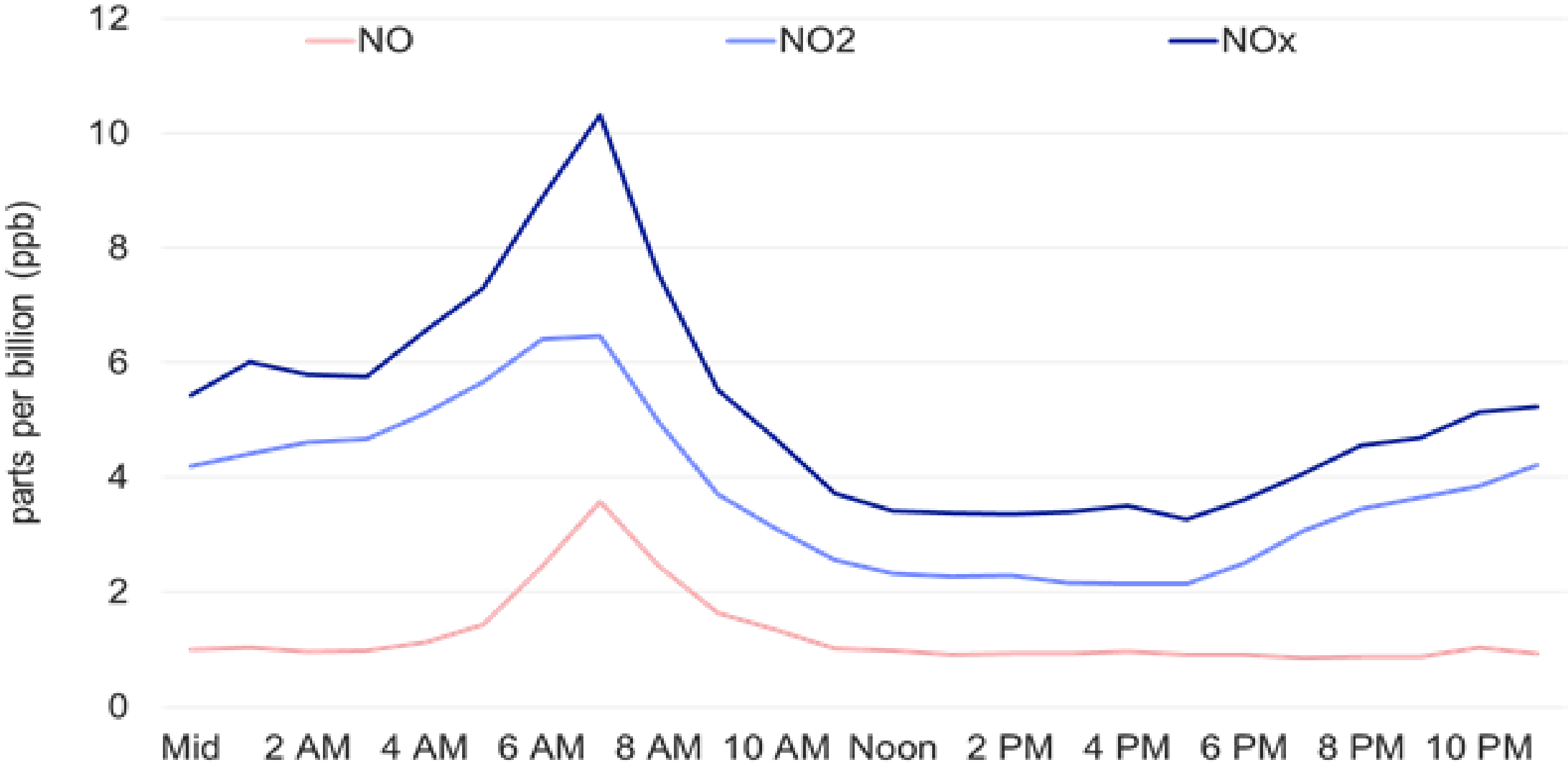
- Bexar County did not attain the 70-ppb standard by the end of 2020
- Expected reclassification to moderate nonattainment in March 2022
- Triggers 1) additional regulations intended to improve ozone levels in Bexar County, and 2) a tightening of existing regulations already in place under the marginal classification.
- Once reclassified to moderate, Bexar County will be required to attain the standard by September 24, 2024, with 2023 being the final year of data to be considered.

Provisional Three-Year Average

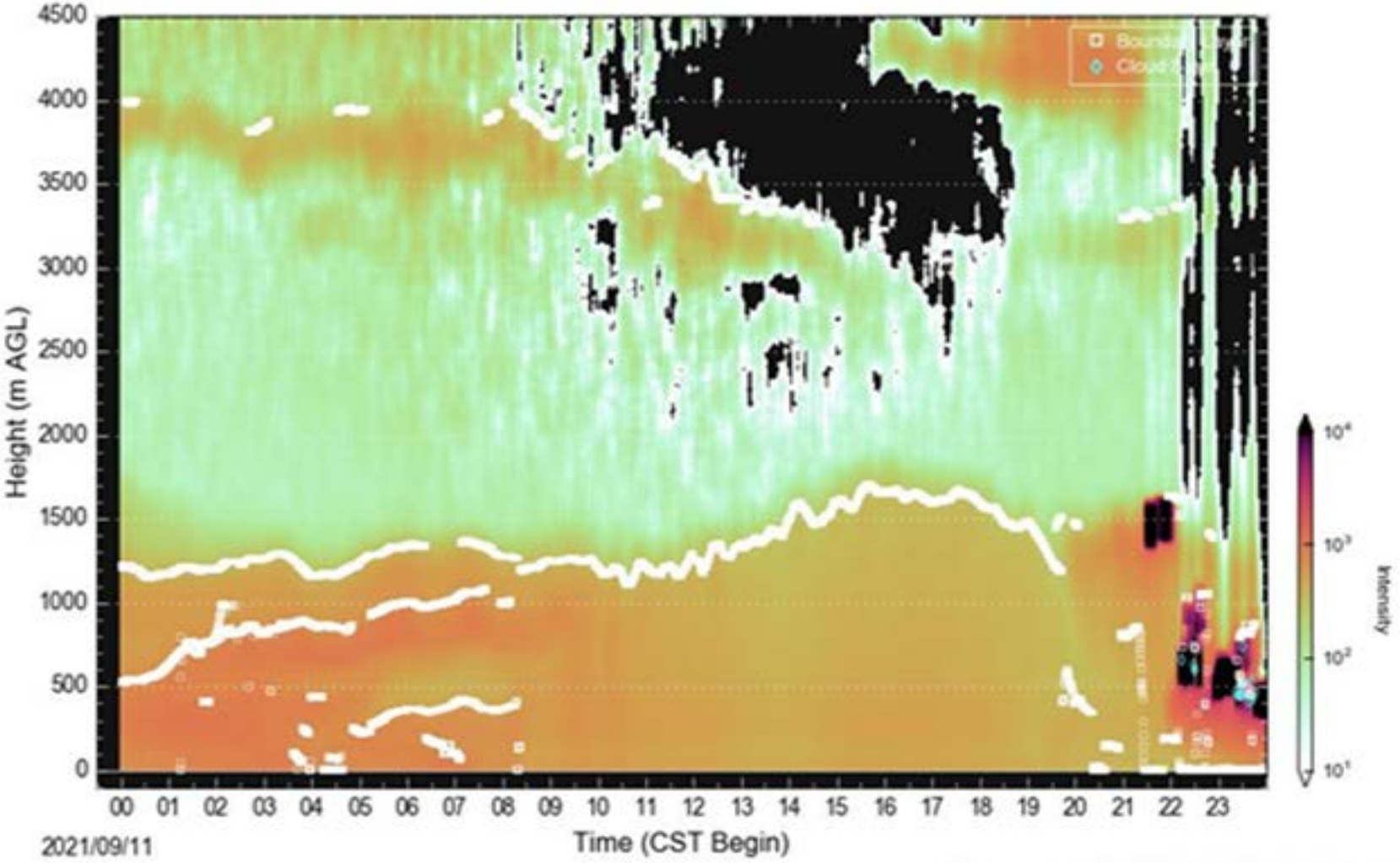
Monitor Site	4th Highest 8-Hour Average O_3 (ppb)			Three-Year Average
	2019	2020	2021*	
San Antonio Northwest CAMS 23	75	69	70	71
Camp Bullis CAMS 58	69	74	78	73
Calaveras Lake CAMS 59	63	66	66	65

* Data certification expected no later than May 2022

Diurnal NO_X Profile at C504 NB Airport



Ceilometer Backscatter Intensity and Analyzed Mixing Heights at Boerne on Sept. 11, 2021



From midnight through 03:30 CDT, mixing heights in Boerne were between 500-900 m, before a lower-level inversion developed between the surface and 500 m through 08:00 CDT. Between 08:00-08:30 CDT, mixing heights increased to 1,200 m, with a gradual increase in mixing heights for the remainder of the morning into the late afternoon. Maximum mixing heights were reached around 15:30 CDT near 1,700 m. Mixing heights started to decrease after 19:00 CDT, with a near-surface inversion developing in the evening

Types of Equipment

- Radar Profiler
  - uses radar waves to detect the wind speed and direction at various elevations above the ground.
- SODAR
  - similar to a Radar Profiler but uses sound waves.
- RASS
  - uses backscattering of radio waves to measure the speed of sound at various heights above the ground to measure temperature above the ground
- Ceilometer
  - uses a laser or other light source to measure temperature above the ground