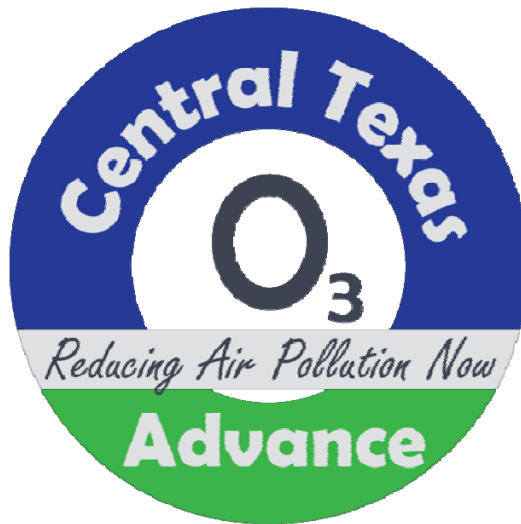


AIR QUALITY PLANNING IN AUSTIN, TEXAS
SHARING LESSONS LEARNED
ADVANCE PROGRAM WEBINAR,
OCTOBER 16, 2014



ADVANCE

A U.S. Environmental Protection Agency Program

Presentation Overview

- Air Quality Issues in Central Texas
- History of Air Quality Planning Efforts in Central Texas
- Ozone Advance Program Planning Process
- What's in the Action Plan
- Reporting & Metrics
- Lessons Learned
- Questions & Answers



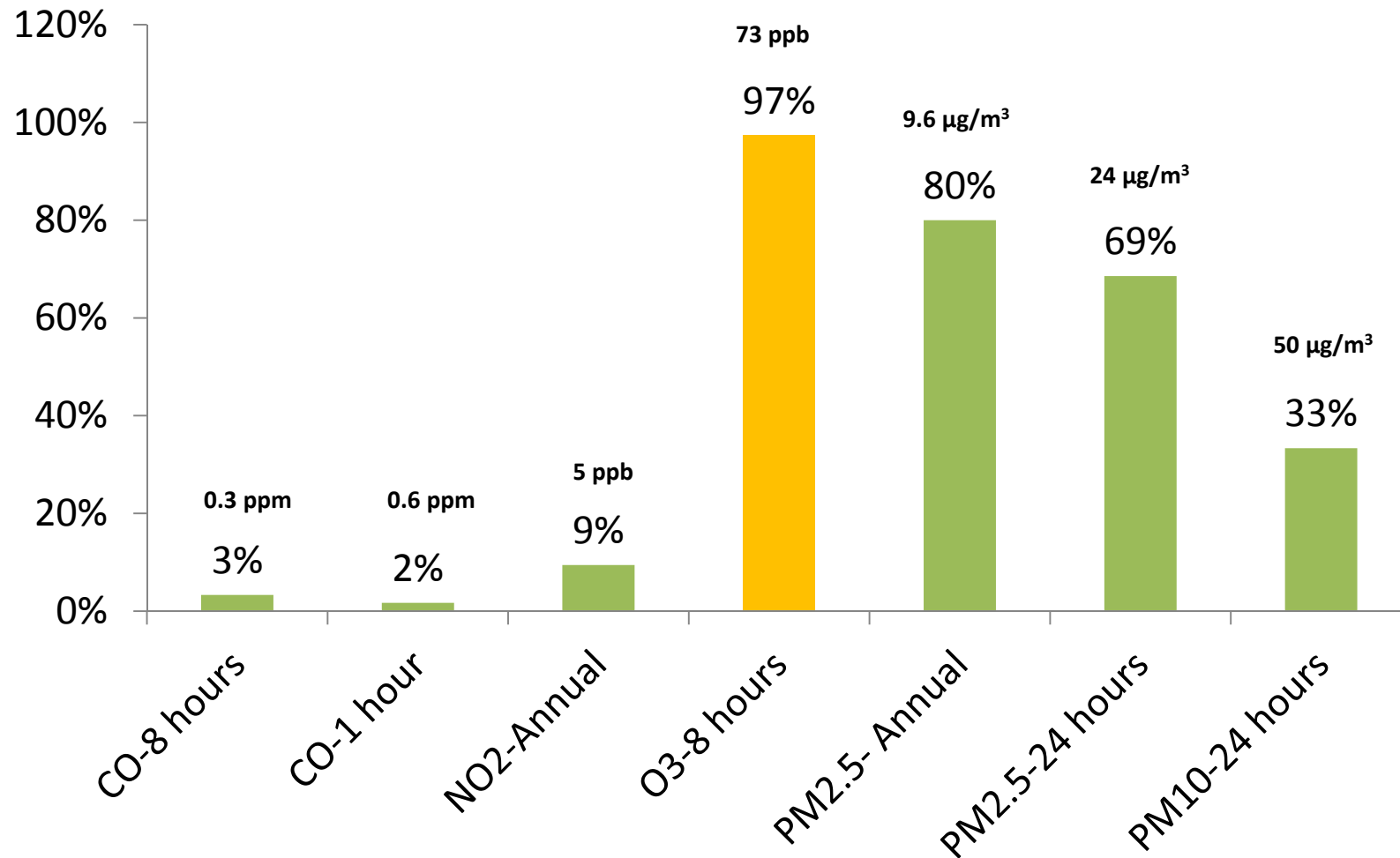
AIR QUALITY ISSUES IN CENTRAL TEXAS

Facts About the Austin-Round Rock MSA

- Bastrop, Caldwell, Hays, Travis, and Williamson Counties (Austin is in Travis County)
- Total Population, 2013: 1,883,051 (rank = 35th)
 - 2.61% Growth Rate 2012-2013 (rank = 8th)
 - City of Austin: 885,400 (rank = 11th)
- Land Area: 4,209.89 square miles
 - 447 persons per square mile
- Total Economic Output, 2013: \$104 billion
 - 3.75% Growth 2012-2013
 - Best BBQ in the World (FACT!) →
 - Best Music Festival in the World (FACT!) →

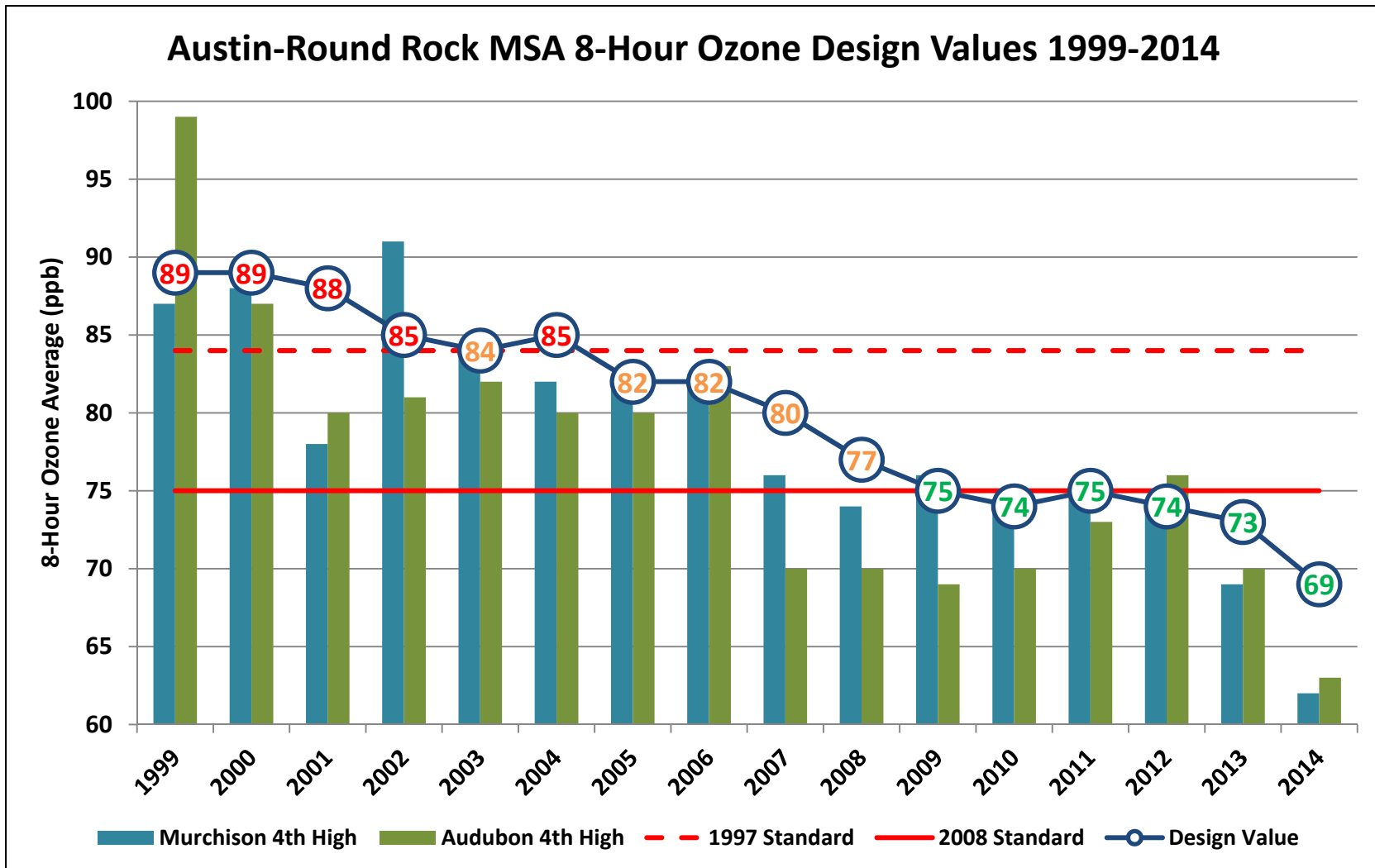


2013 Design Values as % of NAAQS



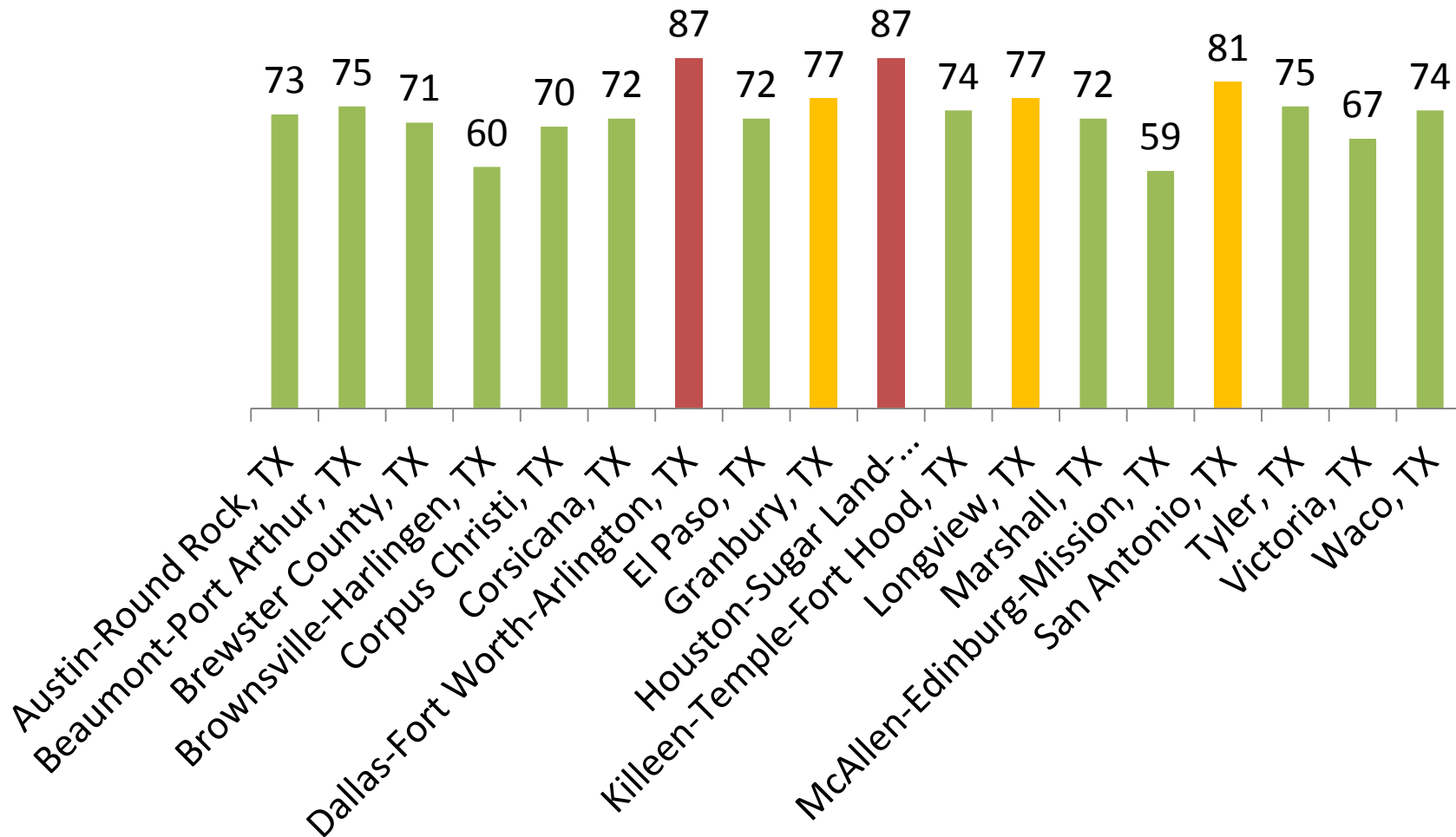
Source: <http://www.epa.gov/airtrends/values.html>

Ozone Design Value Trend 1999-2014



Source: http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_attainment.pl

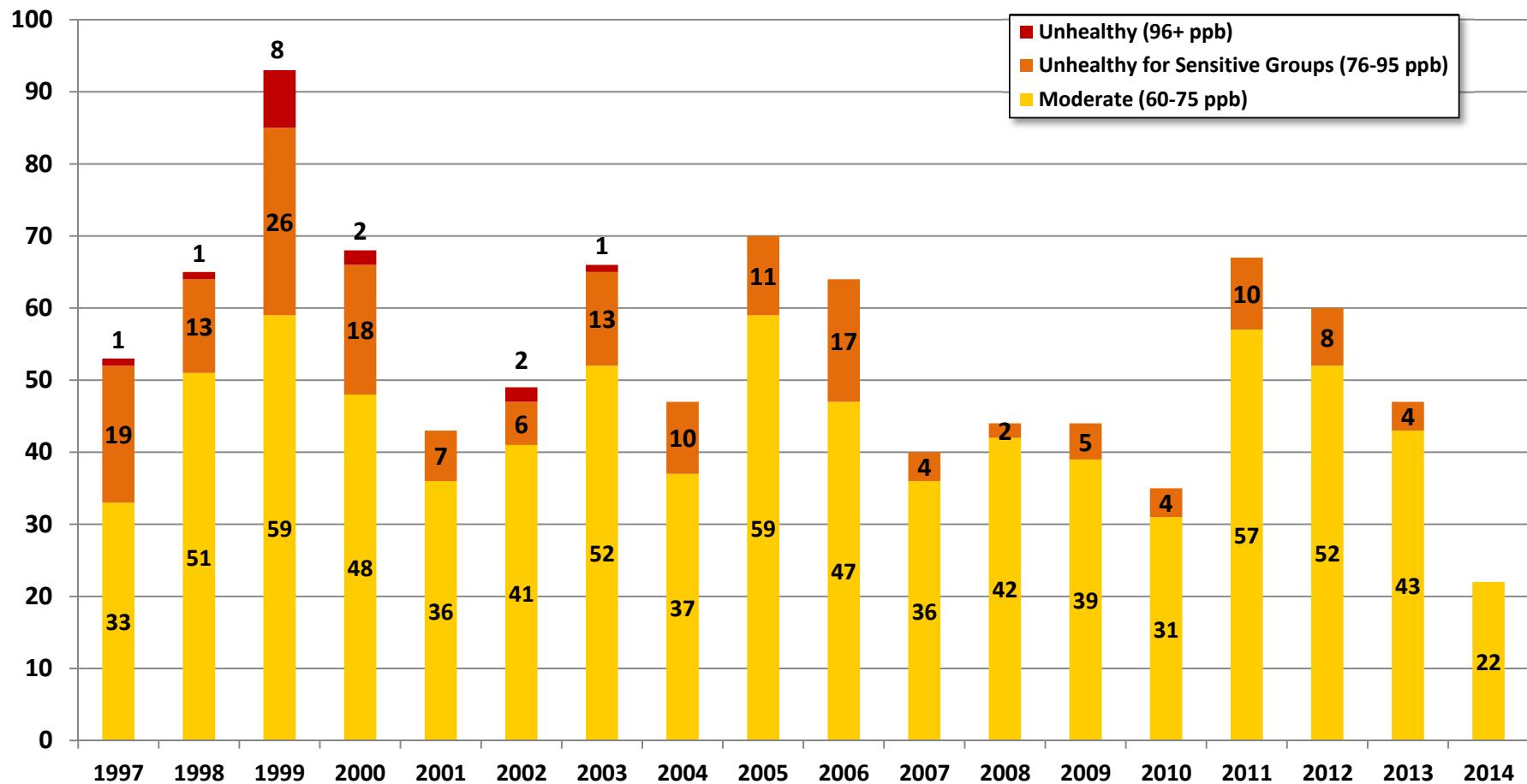
2013 Ozone Design Values in Texas



Source: http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_attainment.pl

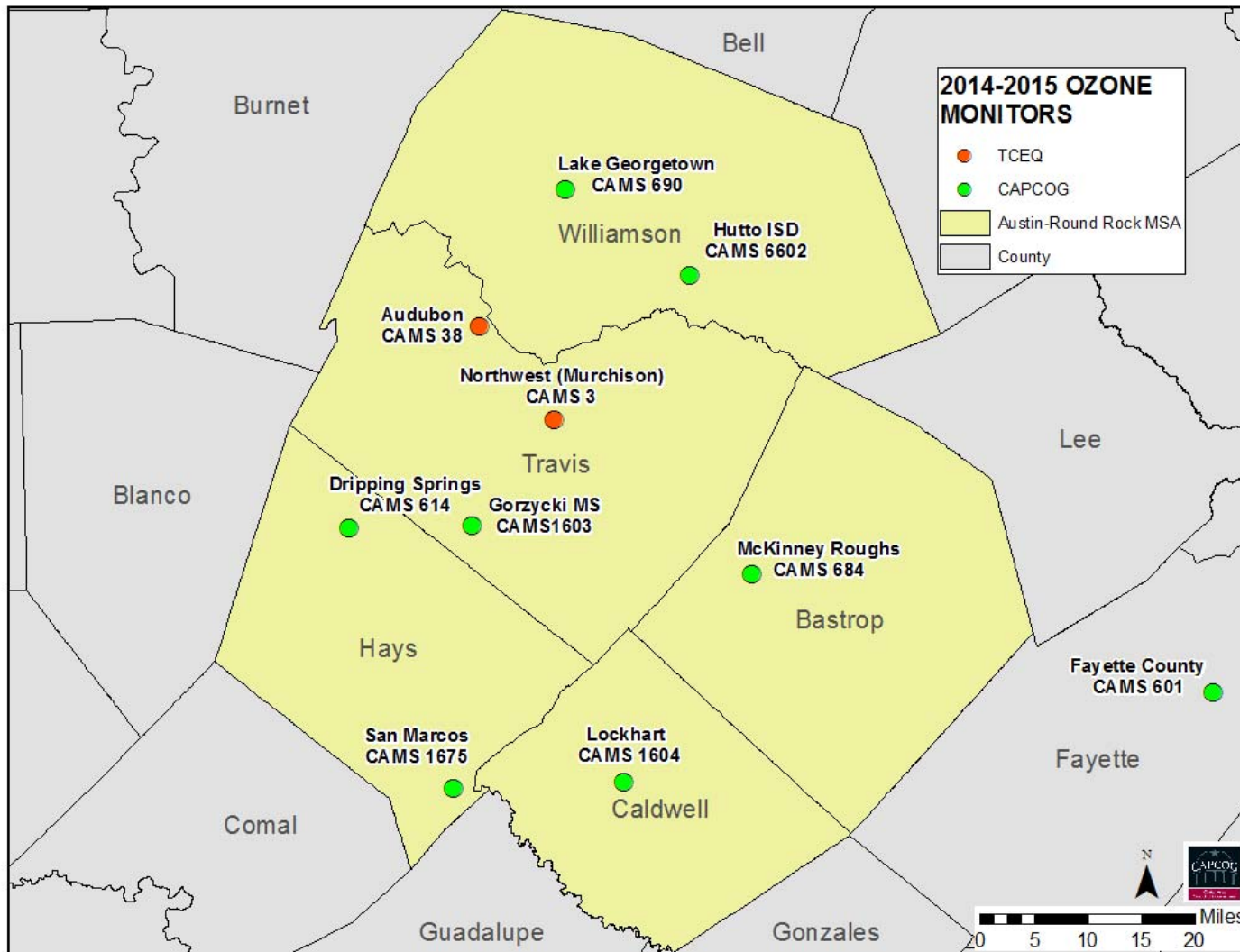
How Often Does the Austin Area Experience High Ozone?

Number of Days with Unhealthy 8-Hour Ozone Levels
in Austin-Round Rock MSA



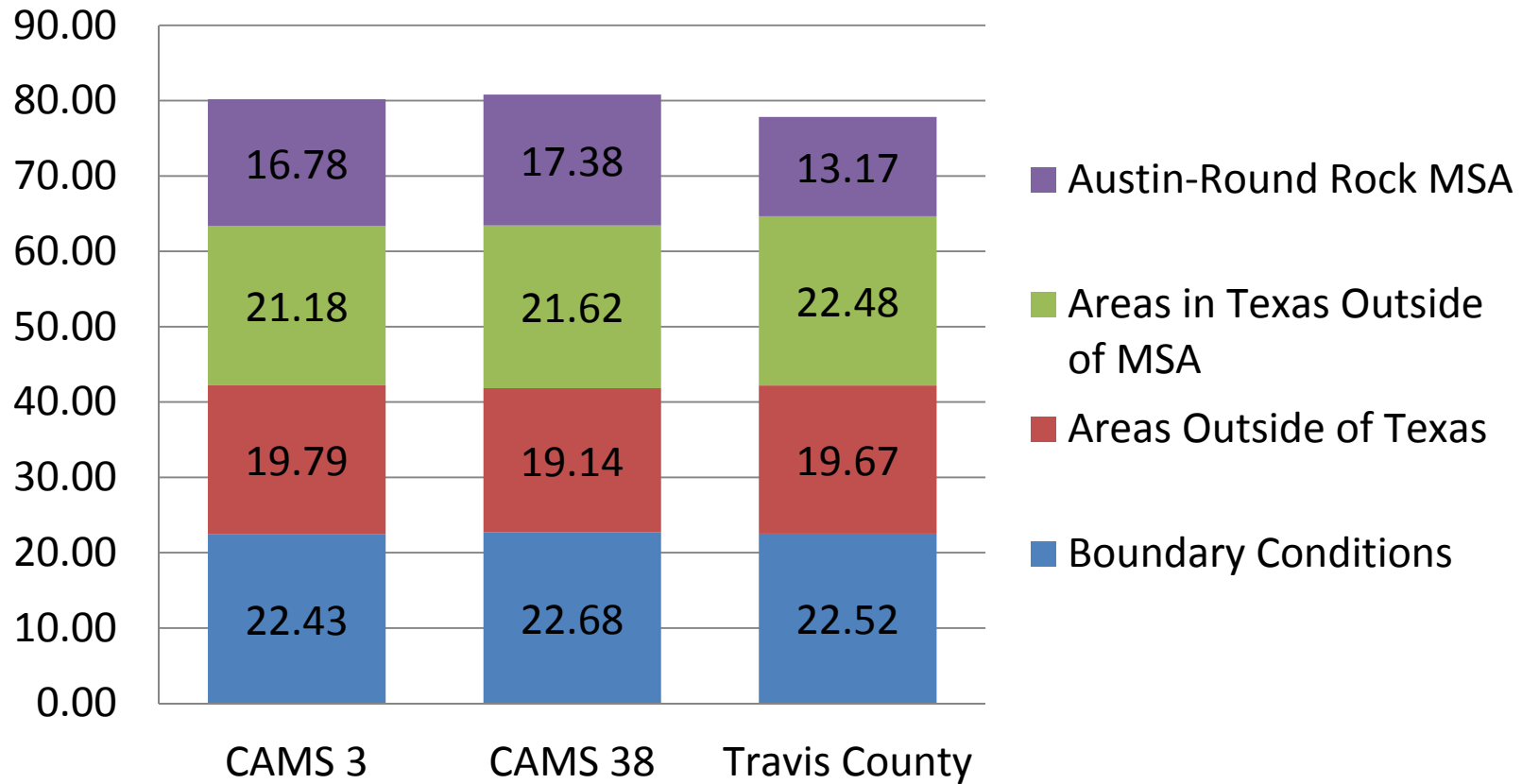
Source: http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_monthly.pl

Locations of Regulatory and Research Ozone Monitors



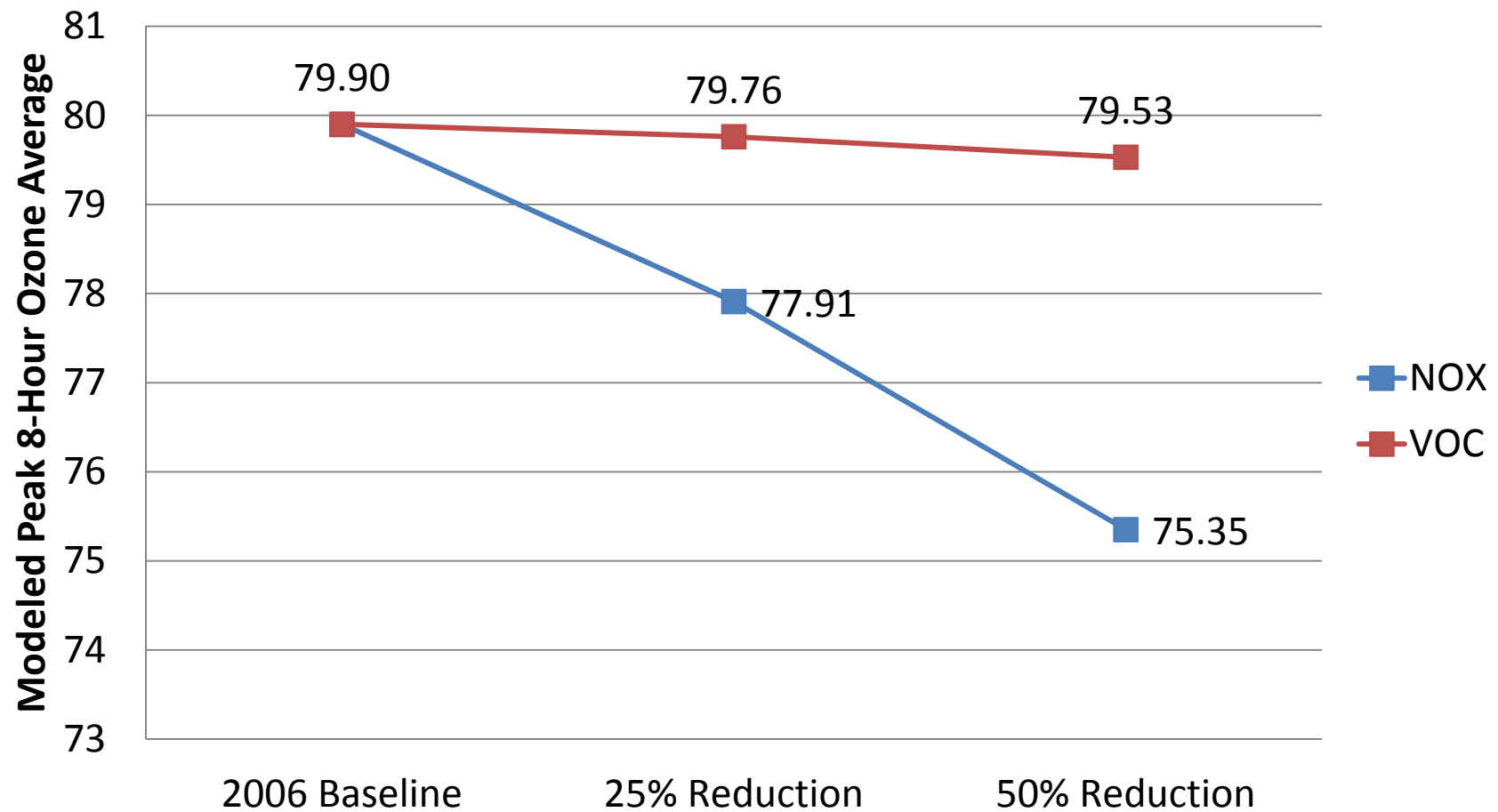
How Much Do Local Emissions Contribute to High Ozone?

Modeled Contribution of Various Source Areas to Peak Ozone in Austin-Round Rock MSA, 2006 (ppb)



Source: http://www.capcog.org/documents/airquality/reports/2013/Task_8.3-APCA_Analysis_Final.pdf

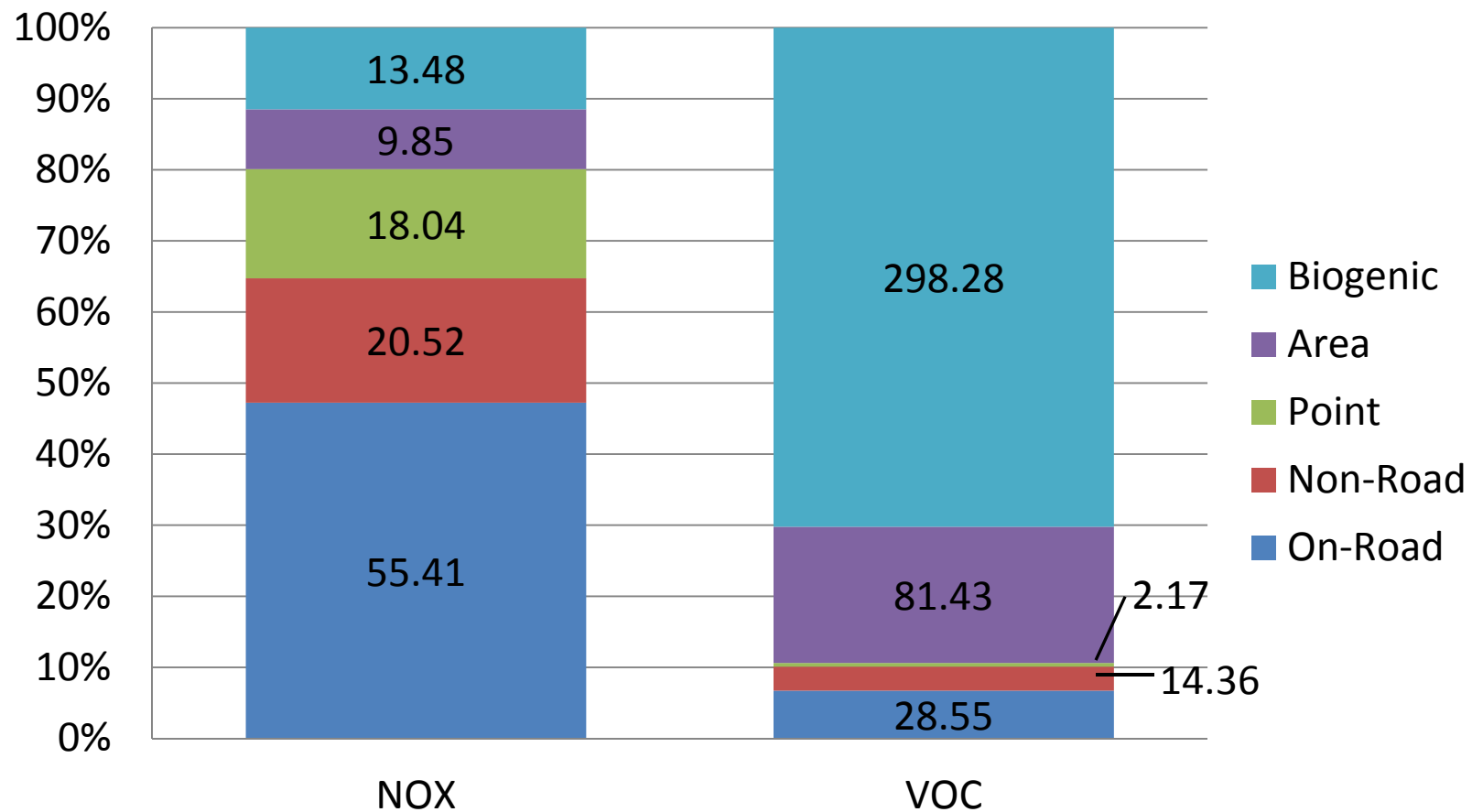
Austin Area Ozone Sensitivity to NO_x and VOC Reductions



Source: http://www.capcog.org/documents/airquality/reports/2013/Task_8.3-Precursor_Response_Runs_Final.pdf

Sources of NO_x and VOC Emissions in Central Texas

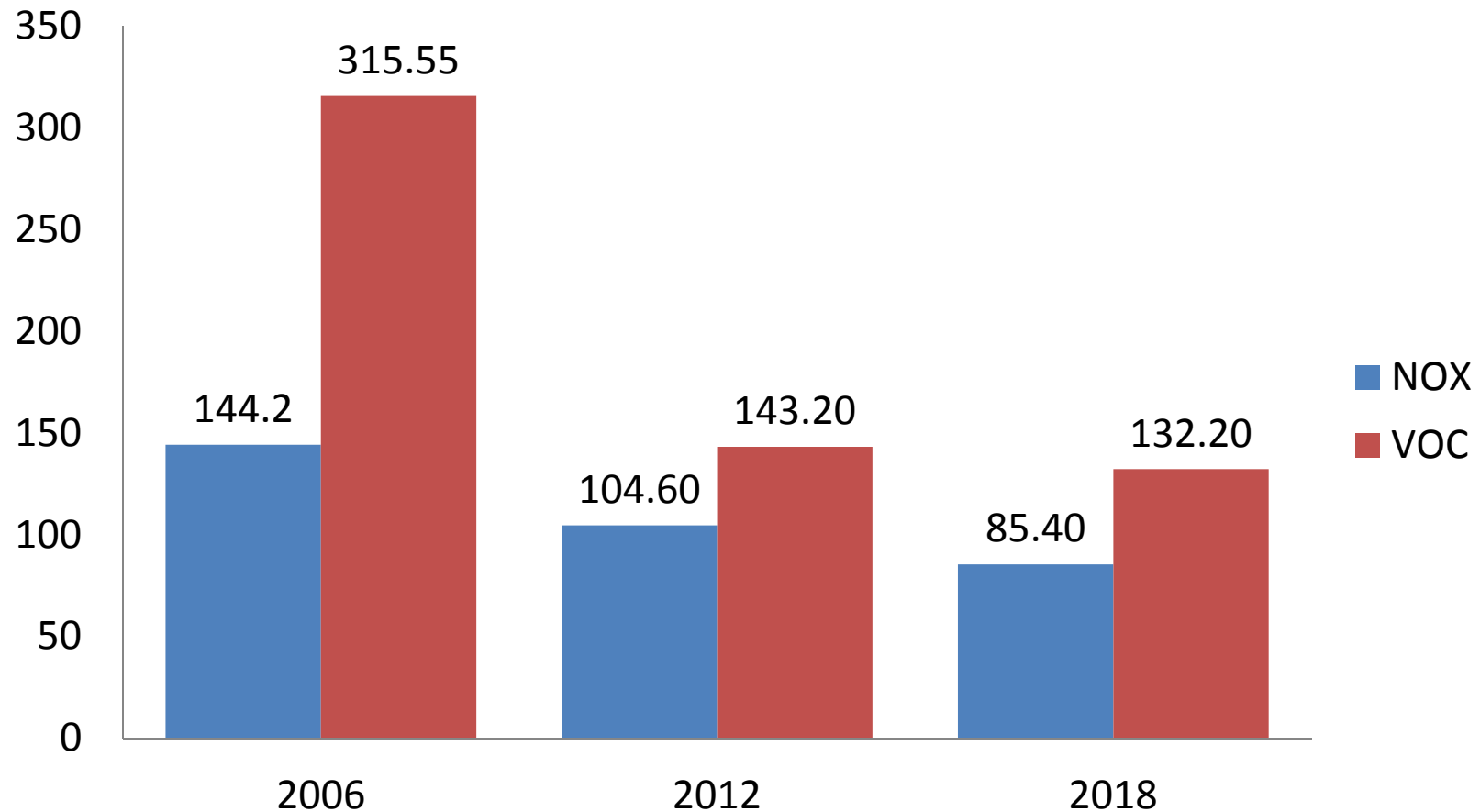
NO_x and VOC Emissions by Source Category, 2012 (tons per day)



Source: http://www.capcog.org/documents/airquality/reports/2013/AACOG_2012_and_2018_Modeling_Report-Body_Only.pdf

Emission Trends in Central Texas

NO_x and VOC Emissions 2006-2018 (tons per day)



Sources: 2006: http://www.capcoq.org/documents/airquality/reports/2013/Task_8.3-Base_case_Performance_Evaluation_Final.pdf,
2012 and 2018: http://www.capcoq.org/documents/airquality/reports/2013/AACOG_2012_and_2018_Modeling_Report-Body_Only.pdf



HISTORY OF AIR QUALITY PLANNING EFFORTS IN CENTRAL TEXAS

Efforts to Reduce Ozone in Austin Area Since 1990

- Pre-1994: Various City, County, Regional Programs
- 1994-2002: CLEAN AIR Force Programs
- 2002: CAC Formed, One-Hour Ozone Flex Plan
- 2004: Early Action Compact SIP
- 2008: Eight-Hour Ozone Flex Plan
- 2009: The “Big Push”
- 2013: Ozone Advance Program Action Plan

Prior Planning Efforts – 1-Hour Ozone Flex Plan (2002)



- 1-Hour ozone flex plan was designed to keep the area in attainment of the old 1-hour ozone standard
- On June 15, 2005 the 1- hour ozone standard was revoked for all areas

Prior Planning Efforts - Early Action Compact SIP (2004)

- Based on Clean Air Action Plan adopted by the Central Texas Clean Air Coalition in 2002
- Demonstrated attainment of 1997 ozone standard by 2007 and maintenance through 2015
- State measures: I/M program, heavy duty idling restrictions, degreasing rules, stage 1 vapor recovery applicability limits lowered, cutback asphalt restrictions
- Local/Regional Voluntary Measures



Prior Planning Efforts – 8-Hour Ozone Flex Plan

8-Hour Ozone Flex Program Created in 2006

- Designed to stay in attainment of the 1997 8-O₃ Standard
- Areas not yet designated or monitoring nonattainment; maintenance areas not eligible
- Voluntary Emission Reductions, Contingency Measures, Regular Reporting
- MOA between local governments, state agencies, and EPA

8-Hour Ozone Flex Plan - 2008

- Adopted in 2008, Expired 12/31/2013
- Continuation of voluntary emission reduction measures included in the EAC SIP
- State measures applicable to region
- New regional emission reduction measures
- New emission reduction commitments
- **Won EPA Clean Air Excellence Award in 2014 for community engagement**

Prior Planning Efforts – Big Push (2009)

- Travis County was initially recommended to be designated nonattainment for the 2008 eight-hour ozone standard in March 2009, based on a design value of 77 ppb.
- The “Big Push” was the region’s initiative do everything it could to bring the 3-year design value into attainment by the end of the 2009 ozone season.
- Officials of the regional Clean Air Coalition led the initiative, building on the successful voluntary efforts the region had already implemented.
- Discrete commitments were made as part of this effort across a wide range of government, business, and non-profit entities, as well as private citizens.
- **Final Design Value for 2009: 75 ppb**

*Your air.
Your
Commitment.*





OZONE ADVANCE PROGRAM PLANNING PROCESS

Current Planning Effort – Ozone Advance Program (2012)

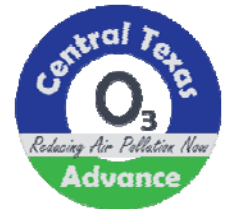
- Designed to address 2008 ozone standard and get an “advance” on new standards
- Central Texas CAC signed up May 2012
- 8-O₃ Flex Plan Served as Plan through 12/31/2013
- Only areas not eligible: designated moderate or higher for ozone
- Significantly more flexibility, fewer requirements

ADVANCE

A U.S. Environmental Protection Agency Program

Building the Central Texas OAP

- **May 2012:** Submitted sign-up letter to EPA
- **Feb. – Jun. 2013:** Staff Solicited Stakeholder and Public Input on Emission Reduction Measures
- **Jul. – Aug. 2013:** Staff Compiled Community Input and Developed Recommendations
- **Sep. – Oct. 2013:** Presented Recommendations to Elected Officials Developed Overall Action Plan
- **Nov. – Dec. 2013:** Finalized & Submitted Action Plan
- **Jan. – Mar. 2014:** Developed Outreach & Education Plan
- **2014 – 2019:** Implement, Track, and Update Action Plan



Ways to Solicit Stakeholder Input

- **Educate**
 - Printed Material
 - Audio/Visual Material (radio ads, online videos, etc.)
 - Presentations to City and County Elected Officials
 - Staffing Outreach Events
 - Newsletters & News Media Coverage
- **Get Feedback**
 - Surveys
 - Webinars
 - Social Media
 - Public Meetings



WHAT'S IN THE ACTION PLAN

Goals in Austin-Round Rock MSA OAP Action Plan

1. Stay in Attainment of 75 ppb Standard
2. Continue Reducing Ozone to Avoid Nonattainment Designation for New Ozone Standard
3. Position Region to Attain a New Ozone Standard as Quickly if Possible if Designated Nonattainment
4. Reduce Exposure When High Ozone Occurs
5. Minimize Costs to Region of Potential Nonattainment Designation

Key Technical Questions Addressed in the Action Plan

- What are the conditions under which high ozone forms in the region?
- How much influence do local emissions have on peak ozone levels?
- How effective are NO_x emission reductions compared to VOC emission reductions?
- Which source types are having the biggest impact on ozone?
- Which control strategies and measures best fulfill the region's goals?

OAP Action Plan

- State Rules/Programs Applicable to the Region
 - I/M Program, Vehicle/Equipment Replacement Programs, Fuels Programs, Stage 1 Vapor Recovery
- Regional Emission Reduction Measures
 - Examples: Commute Solutions, Clean Air Partners Program, Clean Cities Program, Radio Advertising
- Local/Voluntary Emission Reduction Measures
 - 491 commitments from 29 entities
 - Examples: EE/RE measures, idling ordinances, employer-based commute programs

Local Emission Reduction Commitments

Emission Reduction Strategy	CAC Members	Other Entities	TOTAL
Commute Trip Reduction Measures	31	33	64
Development Measures	22	8	30
Energy and Resource Efficiency Measures	20	9	29
Fleet and Fuel Efficiency Measures	66	21	87
Outreach, Awareness, and Education Measures	59	34	93
Regulation and Enforcement Measures	24	0	24
Sustainable Procurement and Operations	50	14	64
Transportation Emission Reduction Measures	63	37	100
TOTAL	335	156	491

Action Plan:

<http://www.capcog.org/documents/airquality/OzoneAdvanceOutreach/Austin-Round Rock MSA OAP Action Plan.pdf>

Local Emission Reduction Commitments

3.2.9: Summary of CAC Member Jurisdiction Commitments

The following table summarizes the emission reduction measure commitments each CAC member jurisdiction made for this action plan. “O’s” represent measures that were already being implemented or had already been committed to under the 8-03 Flex Plan, while the X’s represent new commitments under the OAP.

Table 3-2: CAC Member Emission Reduction Measure Commitments

Measure	City of Austin	Travis County	City of Round Rock	Williamson County	City of San Marcos	Hays County	City of Bastrop	City of Elgin	Bastrop County	City of Lockhart	City of Luling	Caldwell County	City of Cedar Park	City of Georgetown	City of Hutto	City of Sunset Valley
Commute Solutions																
Alternative Commute Infrastructure		X					O									
Commute Solutions Programs, May Include:	O	O	O		O		O		O							O
*Compressed Work Week	O		O		O				O							O
*Flexible Work Schedule	O		O		O		O		O							O
*Carpool or Alternative Transportation Program, May Include Incentive	O															
*Transit Pass Subsidized by Employer	O	X														
*Teleworking (Full Time)	O															
*Teleworking (Part Time)	O	O	O						O							
Implement Internal Employer Commute Reduction Program	X						X		X						X	
Encourage Private Sector Commuter Trip Reduction Programs	X						X		X						X	

OAP Action Plan

- Ongoing Technical Research
 - Monitoring, Emissions Inventory Research, Data Analysis, Control Strategy Analysis, Photochemical Modeling
- Annual Reporting
 - Status updates, quantification of measures, etc.
- Annual Plan Updates
 - Incorporate any new information or commitments into plan, retool efforts for upcoming years



REPORTING & METRICS

Regional Reporting

- Features of the Annual Air Quality Report
 - Collects details of emission reduction efforts from prior year
 - Thousands of pieces of information were collected from over 2 dozen entities
 - Used as the basis for evaluating the planning effort
- January 1, 2013 – December 31, 2013 Report:
<http://www.capcog.org/documents/airquality/reports/2014/Aust-in-Round-Rock-MSA-Annual-Air-Quality-Report-2013.pdf>

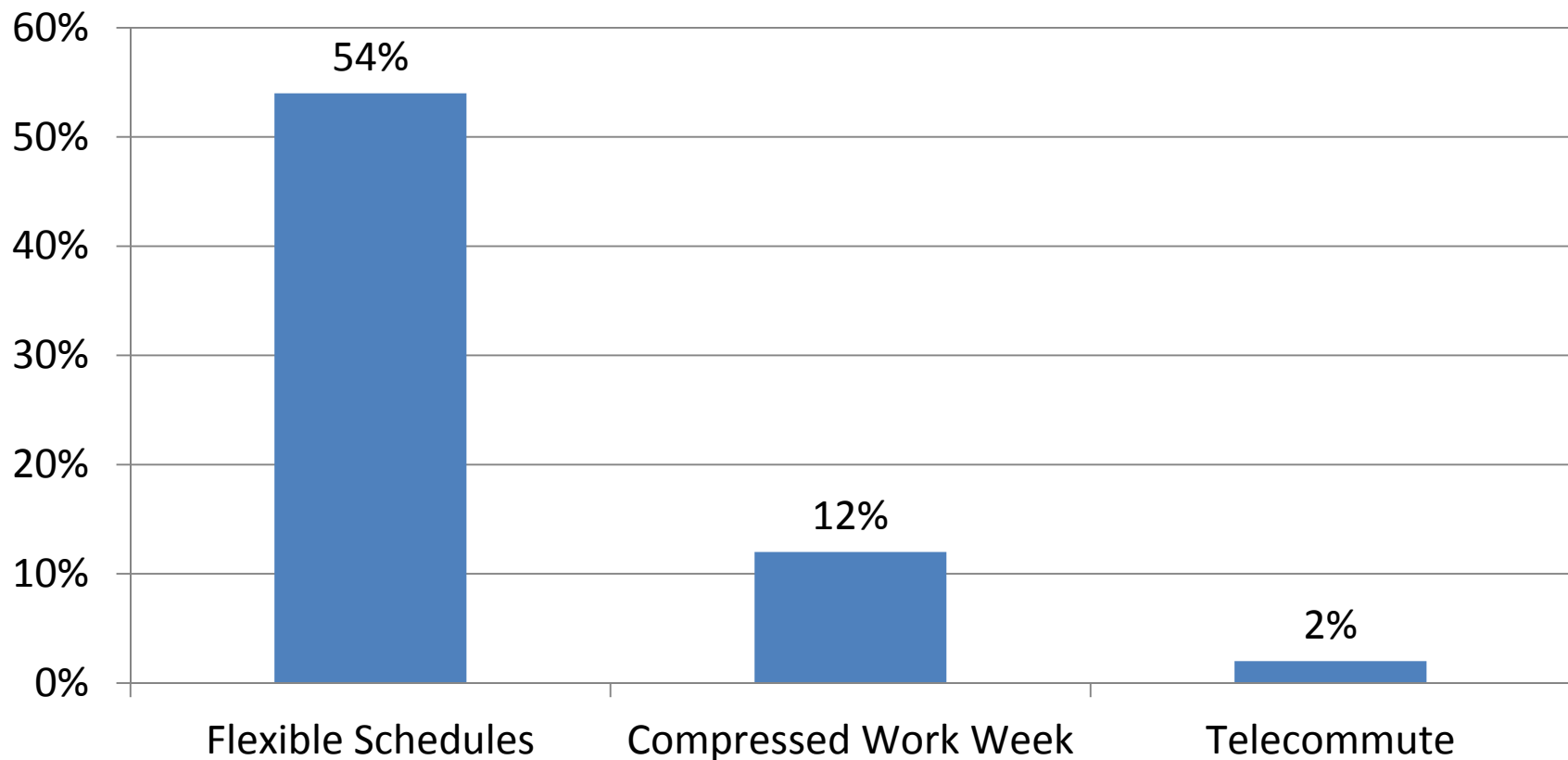
Example: Comparing Energy Intensity Across Entities

Entity	Square Feet	Electricity Consumed (kWh)	Consumption Ratio (kWh/sq. foot)
Travis County	3,778,488	31,891,536	8.400
City of Austin	5,919,317	546,734,310	92.364
City of Cedar Park	258,857	28,611,927	110.532
City of Georgetown	594,475	26,774,275	45.039
City of Pflugerville	130,230	15,281,447	117.342
City of San Marcos	249,000	24,881,144	99.924

Source: [http://www.capcog.org/documents/airquality/reports/2014/Austin-Round Rock MSA Annual Air Quality Report - 2013.pdf](http://www.capcog.org/documents/airquality/reports/2014/Austin-Round_Rock_MSA_Annual_Air_Quality_Report_-_2013.pdf)

Example: Work Schedule Changes

Participation Rate in Work Schedule Options



Source: http://www.capcoq.org/documents/airquality/reports/2014/Austin-Round_Rock_MSA_Annual_Air_Quality_Report_-_2013.pdf

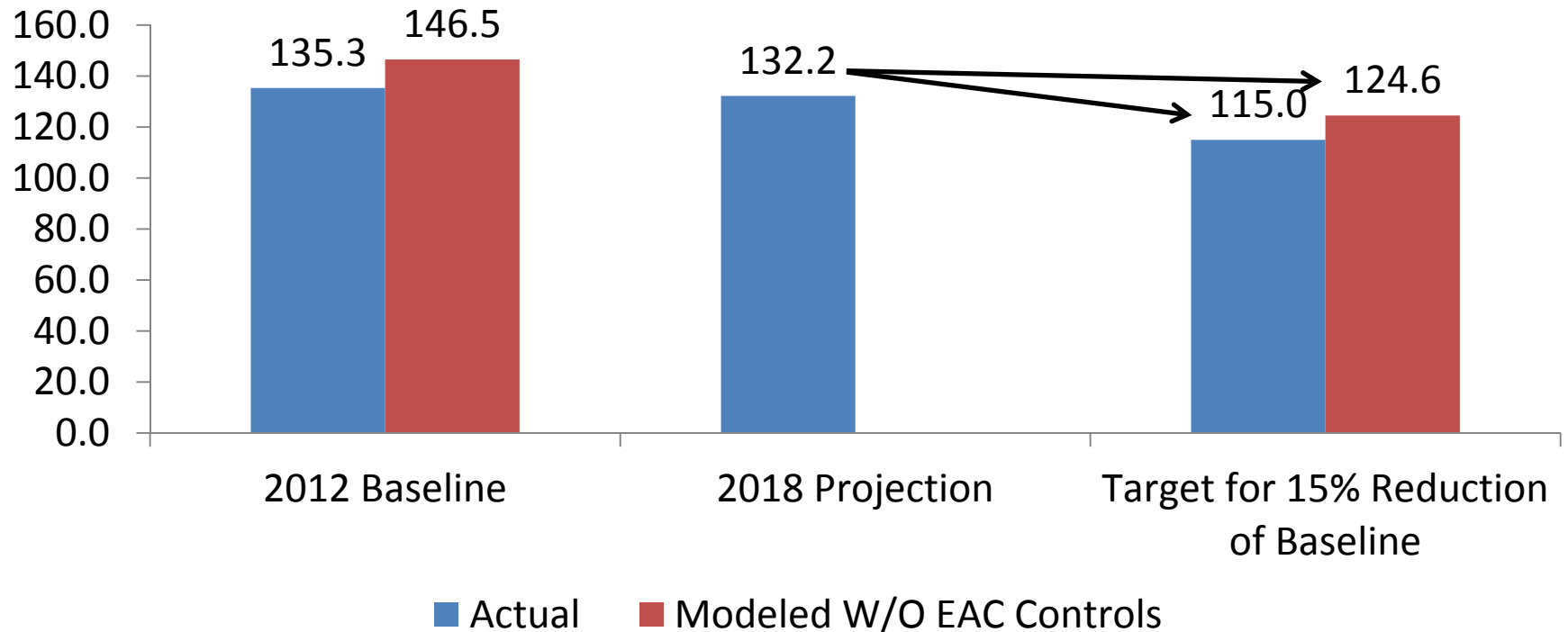
Quantifying State Measures Applicable to Area

Source: <http://www.capcoq.org/documents/airquality/reports/2014/Austin-Round Rock MSA Annual Air Quality Report - 2013.pdf>

Measure	NO _x Reduction (tpd)	VOC Reduction (tpd)
Vehicle Inspection and Maintenance Program	2.95	2.45
TERP-ERIG, Rebate, and Third-Party Grants	3.14	0.00
TERP-Clean Fuel Fleet	0.08	0.00
TERP-Natural Gas Vehicle Replacement	<0.01	0.00
TxLED	2.49	0.00
Low RVP Gasoline	0.31	1.16
Water Heaters, Small Boilers, and Process Heaters	0.51	0.00
Stage I Vapor Recovery	0.00	6.46
Degreasing Rules	0.00	0.92
Cutback Asphalt Rules	0.00	0.24
Subtotal – Quantified State Rules	9.48	11.23

Quantifying Emission Reductions for RFP Demonstrations

Example: VOC Emission Reductions That Required for 15% “Reasonable Further Progress” SIP Requirement if Austin was a “Moderate” Ozone Nonattainment Area



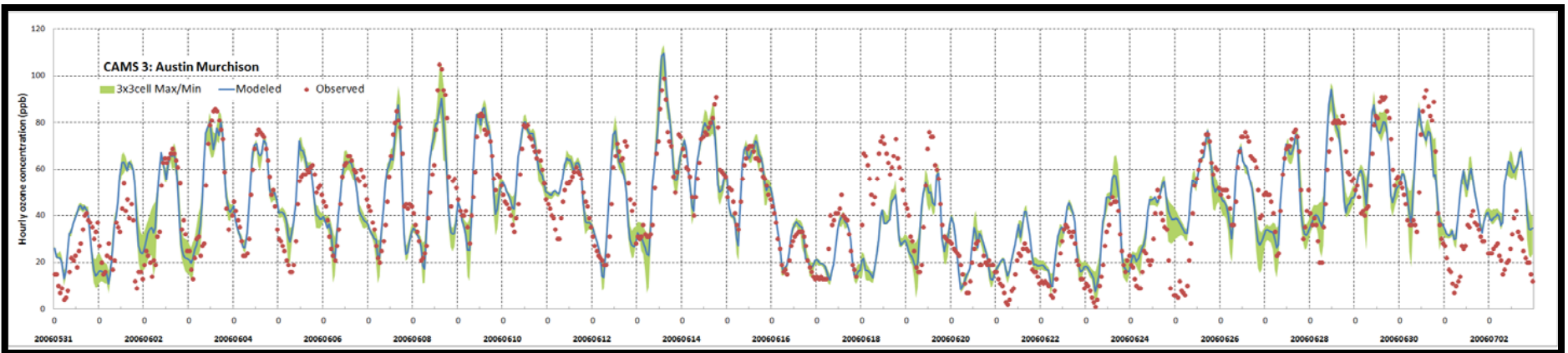
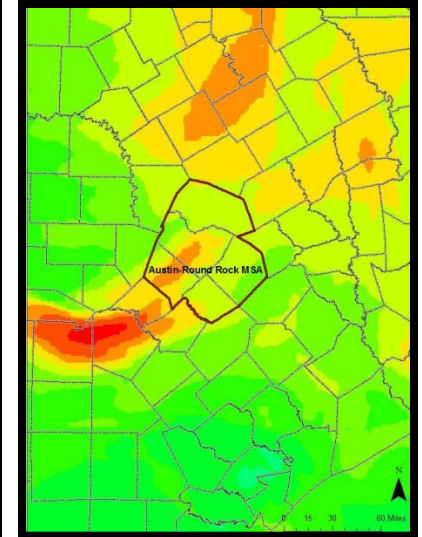
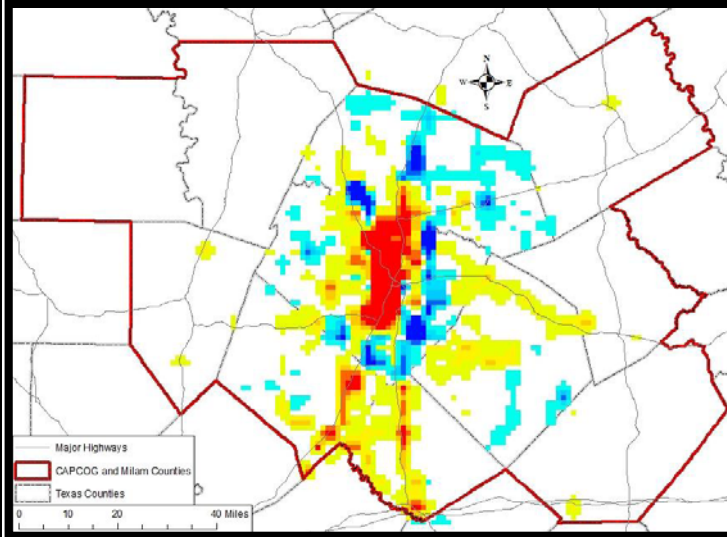


LESSONS LEARNED

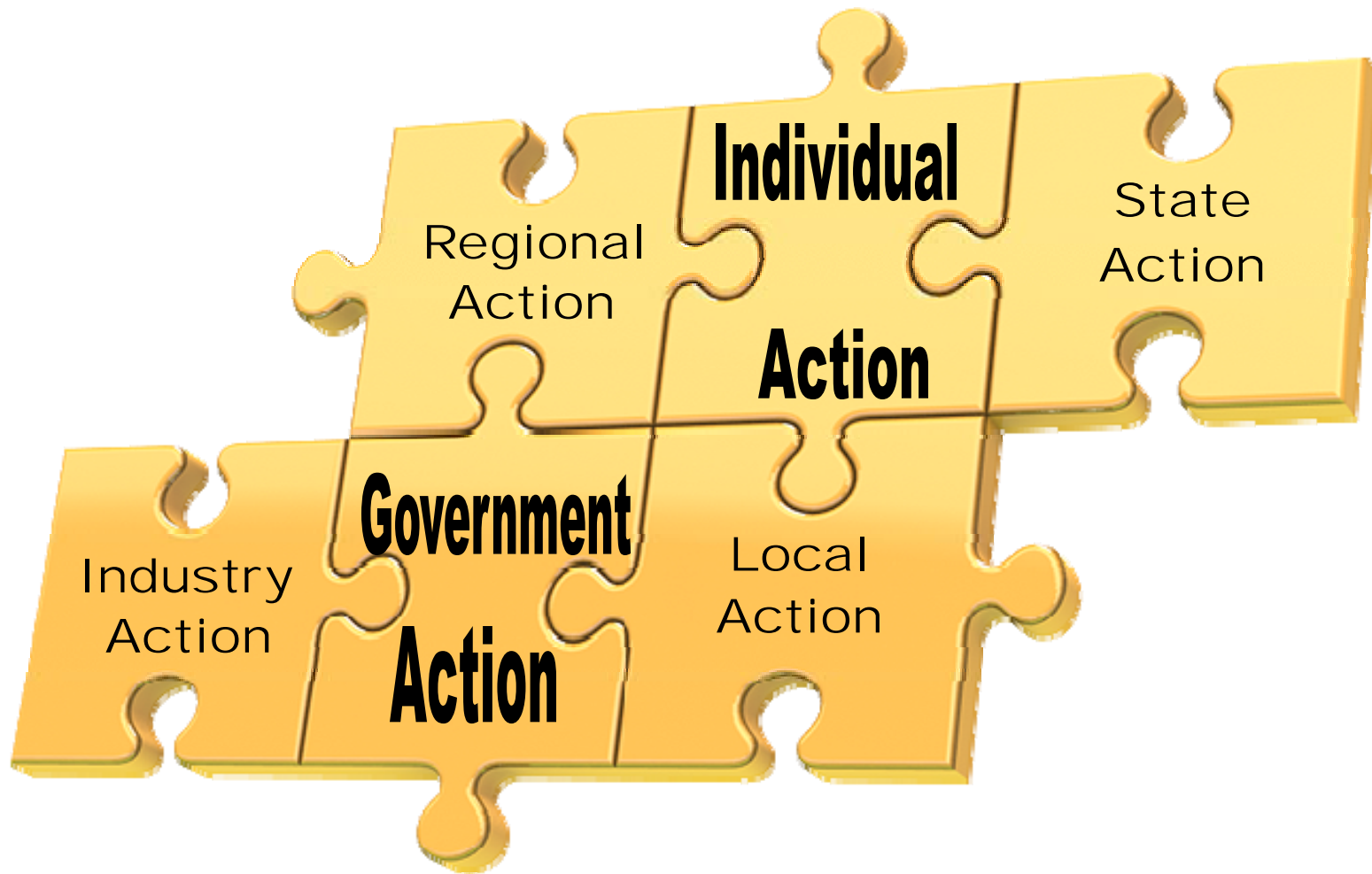
Lesson 1: Build a Coalition



Lesson 2: Establish a Strong Technical Foundation



Lesson 3: Pay Attention to Implementation



Lesson 4: Understand the Regulatory Context



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

DEC - 4 2008

MEMORANDUM

SUBJECT: Area Designations for the 2008 Revised Ozone Standards
FROM: Robert J. Meyers, Principal Deputy Assistant Administrator
TO: Regional Administrators, Regions I-X

This memorandum provides information for the purpose of implementing the 2008 Ozone Quality Standards (NAAQS). It is intended for States and tribes should consider in making decisions and information with the state and tribes.



FEDERAL REGISTER

Vol. 78 Thursday, June 6, 2013
No. 109

CHAPTER 114. CONTROL OF AIR POLLUTION FROM MOTOR VEHICLES
SUBCHAPTER C. VEHICLE INSPECTION AND MAINTENANCE; LOW INCOME VEHICLE REPAIR ASSISTANCE, RETROFIT, AND ACCELERATED VEHICLE RETIREMENT PROGRAM; AND EARLY ACTION COMPACT COUNTIES
DIVISION 3. EARLY ACTION COMPACT COUNTIES

30 TAC §§114.80 - 114.87

The Texas Commission on Environmental Quality (commission) adopts new §§114.80 - 114.87. Sections 114.80 - 114.82, 114.84, and 114.87 are adopted with changes to the proposed text as published in the July 30, 2004 issue of the *Texas Register* (29 TexReg 7259). Sections 114.83, 114.85, and 114.86 are adopted without changes to the proposed text and will not be republished.

Sections 114.80 - 114.87 will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the state implementation plan (SIP).

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

Texas has a history of proactive air quality initiatives. Since 1996, the Texas Legislature has provided funding to the near-nonattainment areas (i.e., San Antonio, Austin, Northeast Texas, Corpus Christi, and Victoria) for use in performing planning functions related to the reduction of ozone concentrations in each area. The areas have conducted ambient air monitoring, following EPA guidelines, that is beyond that performed by the commission, including installing and maintaining supplementary monitors. The areas developed emissions inventories and photochemical modeling studies, and the modeling studies results have been

This concept of an EAC was endorsed, modified and made EACs include all air quality plan, but control decisions. An control strategies, gain the eight-hour expeditious timeline the EPA's eight-hour "fail-safe" provision process if specific. The principles of a and EPA officials s emission reduction tenance of the sig the measures to be state support to on incorporation of the date of nonattainm vided all EAC term to return areas to t and/or milestones emission reduction EAC is the flexibilit measures. Based the combination of emission reduction entity within the EAC area miss a m cluding attaining th forfeit its participat process in progress the same requirement fective had it not p exemptions from E

On December 9, 2 San Antonio, and Guidelines, and

Environmental Protection Agency
Ambient Air Quality Standards Requirements; Proposed Rule

Page 6313

TITLE 42—THE PUBLIC HEALTH AND WELFARE

§ 7410

PRIOR PROVISIONS

A prior section 109 of act July 14, 1955, was renumbered section 116 by Pub. L. 91-604 and is classified to section 7416 of this title.

AMENDMENTS

1977—Subsec. (c). Pub. L. 95-95, §106(b), added subsec. (c).
Subsec. (d). Pub. L. 95-95, §106(a), added subsec. (d).

EFFECTIVE DATE OF 1977 AMENDMENT

Amendment by Pub. L. 95-95 effective Aug. 7, 1977, except as otherwise expressly provided, see section 406(d) of Pub. L. 95-95, set out as a note under section 7401 of this title.

MODIFICATION OR REVISION OF RULES, REGULATIONS, ORDERS, DETERMINATIONS, CONTRACTS, CERTIFICATIONS, AUTHORIZATIONS, DELEGATIONS, AND OTHER ACTIONS

All rules, regulations, orders, determinations, contracts, certifications, authorizations, delegations, or other actions duly issued, made, or taken by or pursuant to act July 14, 1955, the Clean Air Act, as in effect immediately prior to the date of enactment of Pub. L. 95-95 [Aug. 7, 1977] to continue in full force and effect until modified or rescinded in accordance with act July 14, 1955, as amended by Pub. L. 95-95 [this chapter], see section 406(b) of Pub. L. 95-95, set out as an Effective Date of 1977 Amendment note under section 7401 of this title.

TERMINATION OF ADVISORY COMMITTEES

Advisory committees established after Jan. 5, 1973, to terminate not later than the expiration of the 2-year period beginning on the date of their establishment, unless, in the case of a committee established by the President or an officer of the Federal Government, such committee is renewed by appropriate action prior to the expiration of such 2-year period, or in the case of a committee established by the Congress, its duration is otherwise provided for by law. See section 14 of Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 776, set out in the Appendix to Title 5, Government Organization and Employees.

ROLE OF SECONDARY STANDARDS

Pub. L. 101-549, title VIII, §817, Nov. 15, 1990, 104 Stat. 2697, provided that:
“(a) REPORT.—The Administrator shall request the National Academy of Sciences to prepare a report to the Congress on the role of national secondary ambient air quality standards in protecting welfare and the environment. The report shall:
“(1) include information on the effects on welfare and the environment which are caused by ambient concentrations of pollutants listed pursuant to section 108 [42 U.S.C. 7408] and other pollutants which

comment on the proposed report. The Administrator shall include in the final report a summary of the comments received on the proposed report.
“(3) There are authorized to be appropriated such sums as are necessary to carry out this section.”

§ 7410. State implementation plans for national primary and secondary ambient air quality standards

(a) Adoption of plan by State; submission to Administrator; content of plan; revision; new sources; indirect source review program; supplemental or intermittent control systems

(1) Each State shall, after reasonable notice and public hearings, adopt and submit to the Administrator, within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national primary ambient air quality standard (or any revision thereof) under section 7409 of this title for any air pollutant, a plan which provides for implementation, maintenance, and enforcement of such primary standard in each air quality control region (or portion thereof) within such State. In addition, such State shall adopt and submit to the Administrator (either as a part of a plan submitted under the preceding sentence or separately) within 3 years (or such shorter period as the Administrator may prescribe) after the promulgation of a national ambient air quality secondary standard (or revision thereof), a plan which provides for implementation, maintenance, and enforcement of such secondary standard in each air quality control region (or portion thereof) within such State. Unless a separate public hearing is provided, each State shall consider its plan implementing such secondary standard at the hearing required by the first sentence of this paragraph.

(2) Each implementation plan submitted by a State under this chapter shall be adopted by the State after reasonable notice and public hearing. Each such plan shall—

(A) include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this chapter;

(B) provide for establishment and operation

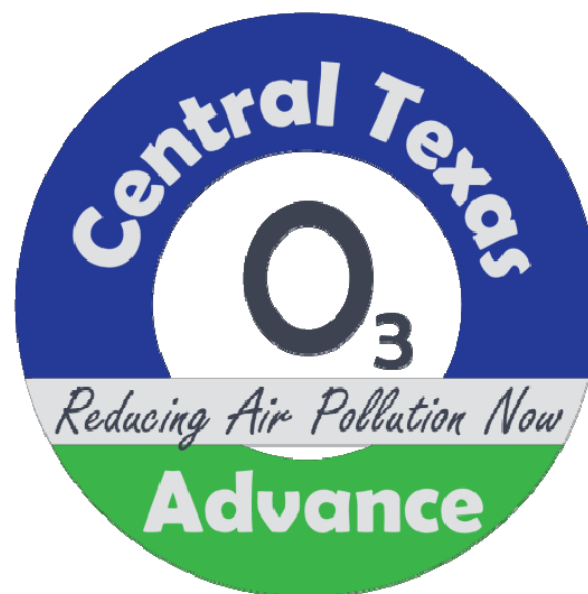
Lesson 5: Voluntary Plans Rely on Outreach and Education



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A U.S. Environmental Protection Agency Program