



AQMP Advisory Group

September 3, 2020

Cleaning The Air That We Breathe...



Agenda

1. Welcome, Introductions, Minutes, and 2016 AQMP Updates

2. South Coast PM_{2.5} Attainment Plan

3. Coachella Valley Ozone Extreme Area Plan

4. 2022 AQMP Control Measure Development



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Agenda Item #1

**Welcome, Introductions, Minutes, and
2016 AQMP Updates**



2016 Air Quality Management Plan (AQMP)

- Approved by the South Coast AQMD Governing Board in March 2017
- Integrated plan addressing multiple National Ambient Air Quality Standards (NAAQS)

Criteria Pollutant	Standard	South Coast Classification	Coachella Valley Classification
2008 8-hour Ozone	75 ppb	Extreme	Severe
1997 8-hour Ozone	80 ppb	Extreme	Extreme*
1979 1-hour Ozone	120 ppb	Extreme	Attainment
2012 Annual PM2.5	12 $\mu\text{g}/\text{m}^3$	Serious	Unclassifiable/ Attainment
2006 24-hour PM2.5	35 $\mu\text{g}/\text{m}^3$	Serious	Unclassifiable/ Attainment

*Voluntary reclassification from severe to extreme in July 2019



2016 AQMP – U.S. EPA Actions

Standards		EPA Actions	Reference
South Coast Air Basin	1979 1-hour Ozone (120 ppb)	<ul style="list-style-type: none"> Approved most plan elements; Conditional approval* for the reasonable further progress contingency measure requirement 	Effective Oct. 31, 2019; 84 FR 52005
	1997 8-hour Ozone (80 ppb)		
	2008 8-hour Ozone (75 ppb)		
	2006 24-hour PM2.5 (35 µg/m3)	<ul style="list-style-type: none"> Approved most plan elements; Conditional approval on contingency measures 	Effective Mar. 14, 2019; 84 FR 3305 Proposed rule released in July 2020 85 FR 40026
	2012 Annual PM2.5 (12 µg/m3)	<ul style="list-style-type: none"> Approved most plan elements; Conditional approval on contingency measures 	Proposed rule released in July 2020 85 FR 40026
Coachella Valley	2008 8-hour Ozone (75 ppb)	<ul style="list-style-type: none"> Approved most plan elements; Conditional approval* for the reasonable further progress contingency measure requirement 	Proposed rule released in January 2020 85 FR 2949

*Relied on South Coast AQMD's commitment to modify an existing rule or rules, or adopt a new rule(s), to include contingency provisions to provide for additional emissions reductions

Other U.S. EPA Actions

- **1997 8-hour Ozone Standard**
 - On July 10, 2019, EPA granted the request to reclassify Coachella Valley from a Severe to Extreme nonattainment area (84 FR 32841)
 - On February 14, 2020 , EPA finalized the submission date of the Extreme Ozone Nonattainment Area Plan
- **2006 24-hour PM_{2.5} Standard**
 - On July 10, 2020, EPA issued a proposed rule determining that the South Coast Air Basin failed to attain the standard by the attainment date of December 31, 2019 (85 FR 41479)





Contingency Measures

- **Clean Air Act requires contingency measures to take effect following a determination that the area has failed:**
 1. To meet any RFP requirement
 2. To meet any quantitative milestone
 3. To submit a quantitative milestone report
 4. To attain the applicable PM_{2.5} NAAQS by the applicable attainment date
- **PM_{2.5} Contingency Measures**
 - Rule 445 (Wood Burning Devices) adopted in June 2020 to address contingency provisions for PM_{2.5};
 - Lower curtailment thresholds to be triggered following EPA findings of failure
- **Ozone Contingency Measures**
 - A rule will be updated to include contingency provisions



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Agenda Item #2

South Coast Air Basin Attainment Plan for 2006 24-hour PM_{2.5} Standard



PM_{2.5} National Ambient Air Quality Standards

South Coast Air Basin Attainment Status

Standard	Level	Attainment Deadline	Attainment Status
1997 Annual PM _{2.5}	15 µg/m ³	2015	Attained in 2013
1997 24-hour PM _{2.5}	65 µg/m ³	2015	Attained in 2013
2006 24-hour PM_{2.5}	35 µg/m³	2019	Serious Nonattainment
2012 Annual PM _{2.5}	12 µg/m ³	2025	Serious Nonattainment



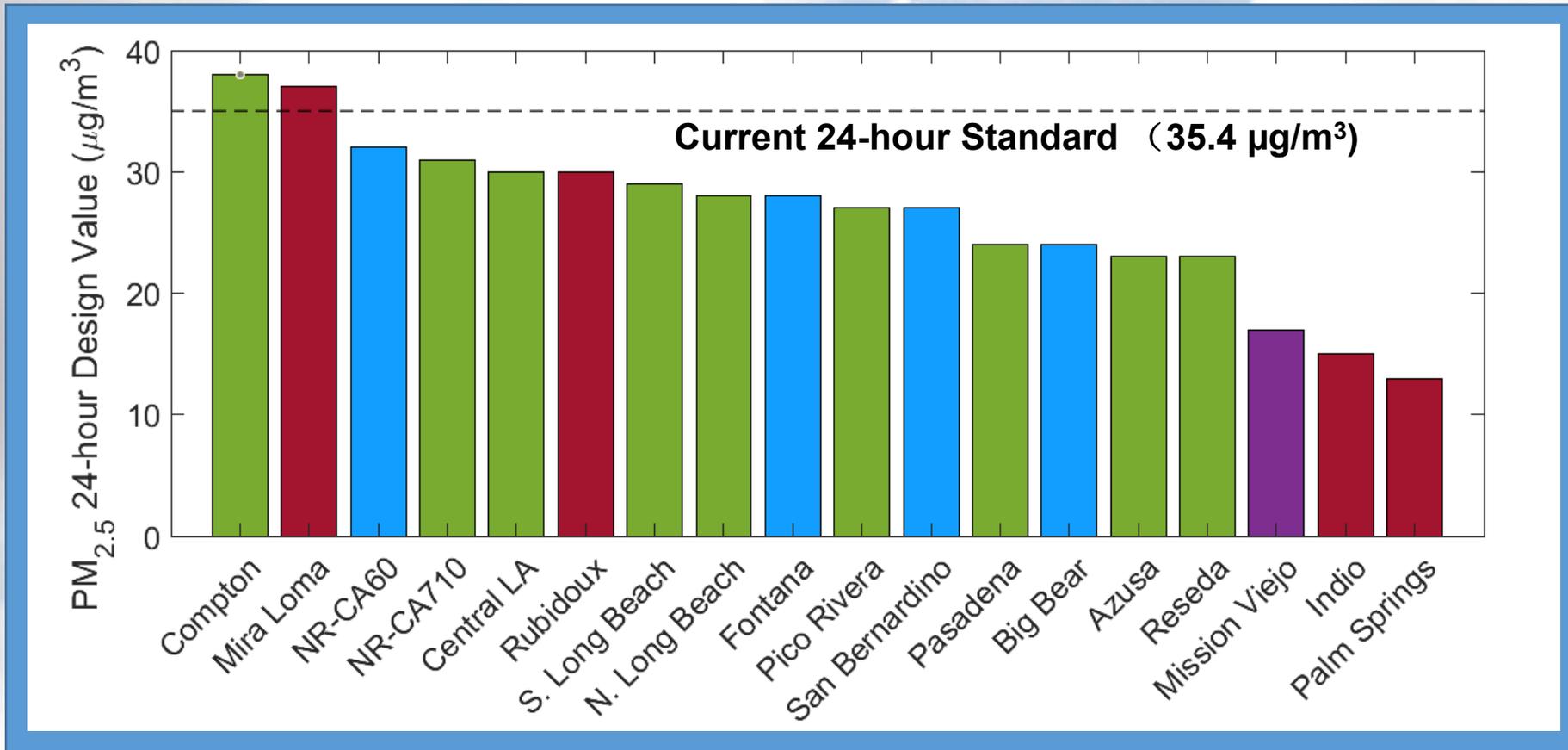
24-hour PM_{2.5} Attainment Determination

- **Attainment status determined by the “Design Value” at the highest site, the 3-year average of the annual 98th percentile of daily concentrations at each monitoring location**

Year 1	Year 2	Year 3
2017	2018	2019
98 th percentile of 24-hr concentrations	98 th percentile of 24-hr concentrations	98 th percentile of 24-hr concentrations
3-Year Average = Design Value		

- **98th percentile depends on sampling frequency**
 - every day sampling - 8th highest reading
 - every third day sampling - 3rd highest reading

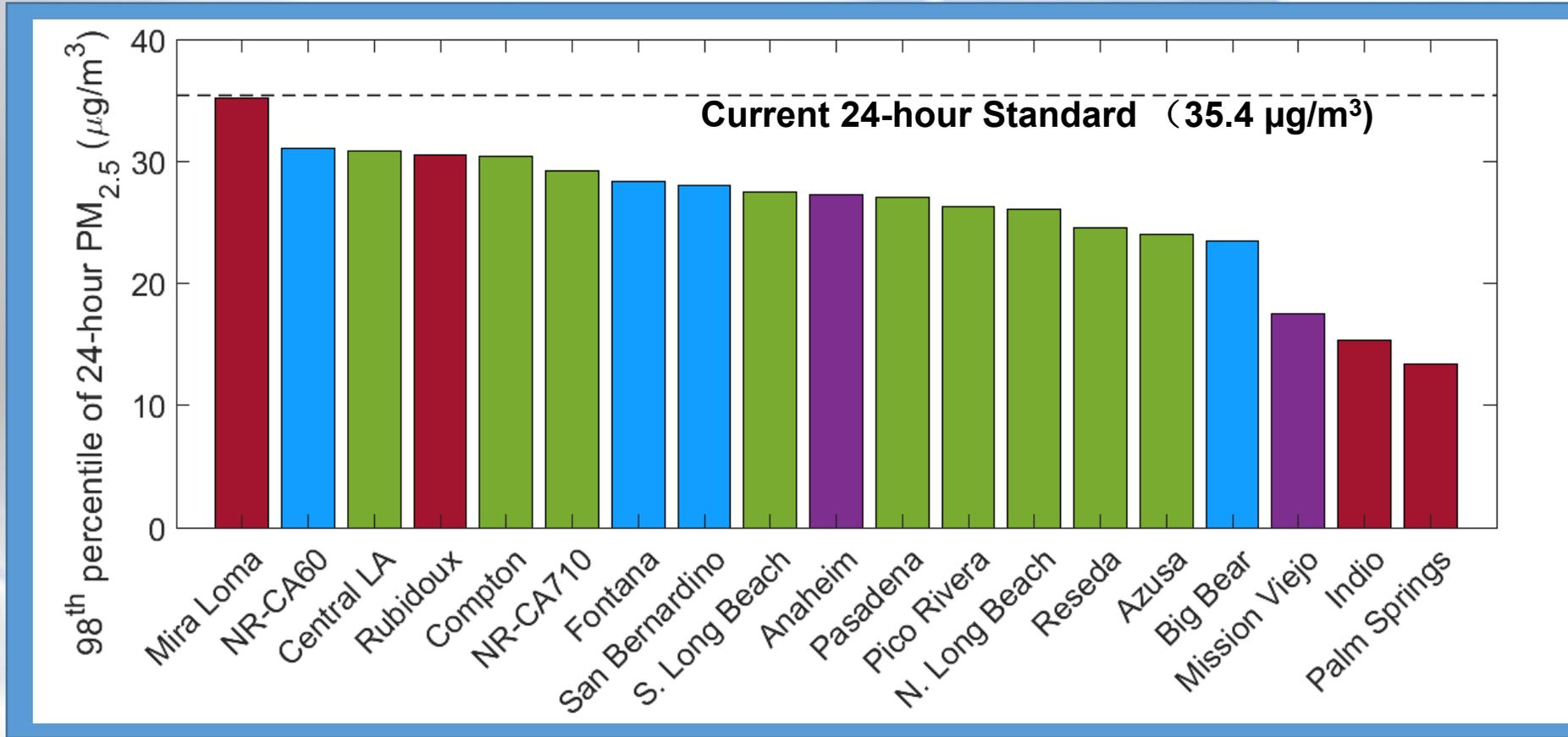
2017-2019 3-year Design Values*



* Data likely to be approved as exceptional events by U.S. EPA removed from analysis



Progress Towards Attainment based on 2018-2019 Data (2-year average)*

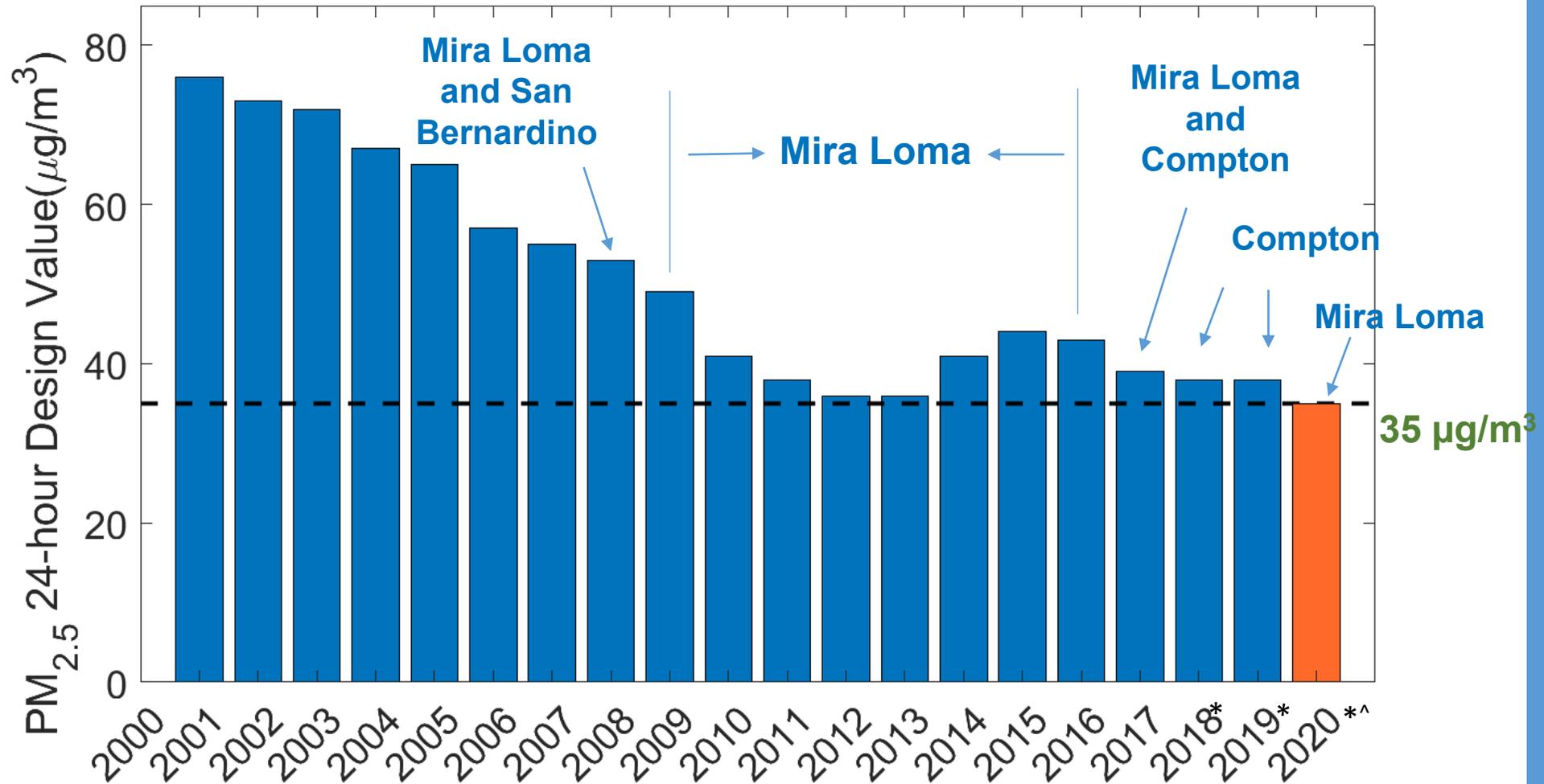


Removing 2017 data, 2-year average of 98th percentiles is below standard at all stations



* Data likely to be approved as exceptional events by U.S. EPA removed from analysis

Overall Progress towards Attainment



* Likely exceptional events are removed ^ Preliminary 2020 Jan-Jun Data

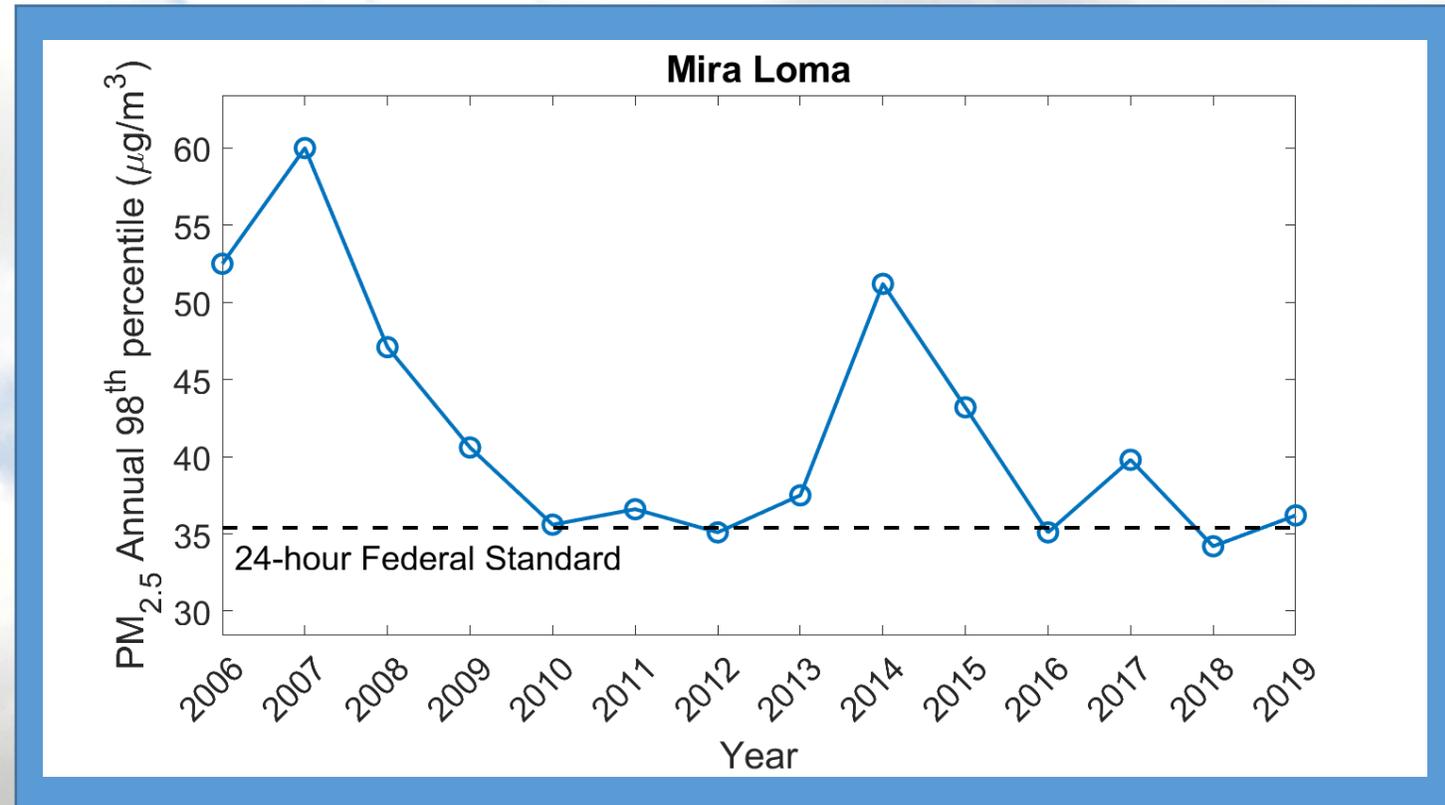


Attainment Status

- Since 2001, Basin maximum 98th percentile concentrations decreased by 51%
- Based on the design value for 2017-2019, South Coast Air Basin failed to attain the 2006 24-hour PM_{2.5} standard by December 31, 2019
 - Both the Mira Loma and Compton sites exceeded the standard
- Mira Loma has had the highest PM_{2.5} concentration since 2008
- For 2017-2019, Compton became the highest site, due to three abnormally high PM_{2.5} episodes measured on January 1st and late December 2017
 - Staff is evaluating possible sources/causes (e.g., stagnant meteorology, direct PM_{2.5} from wood burning, fireworks, other local sources)
 - High levels at Compton were not observed previously, nor since 2017

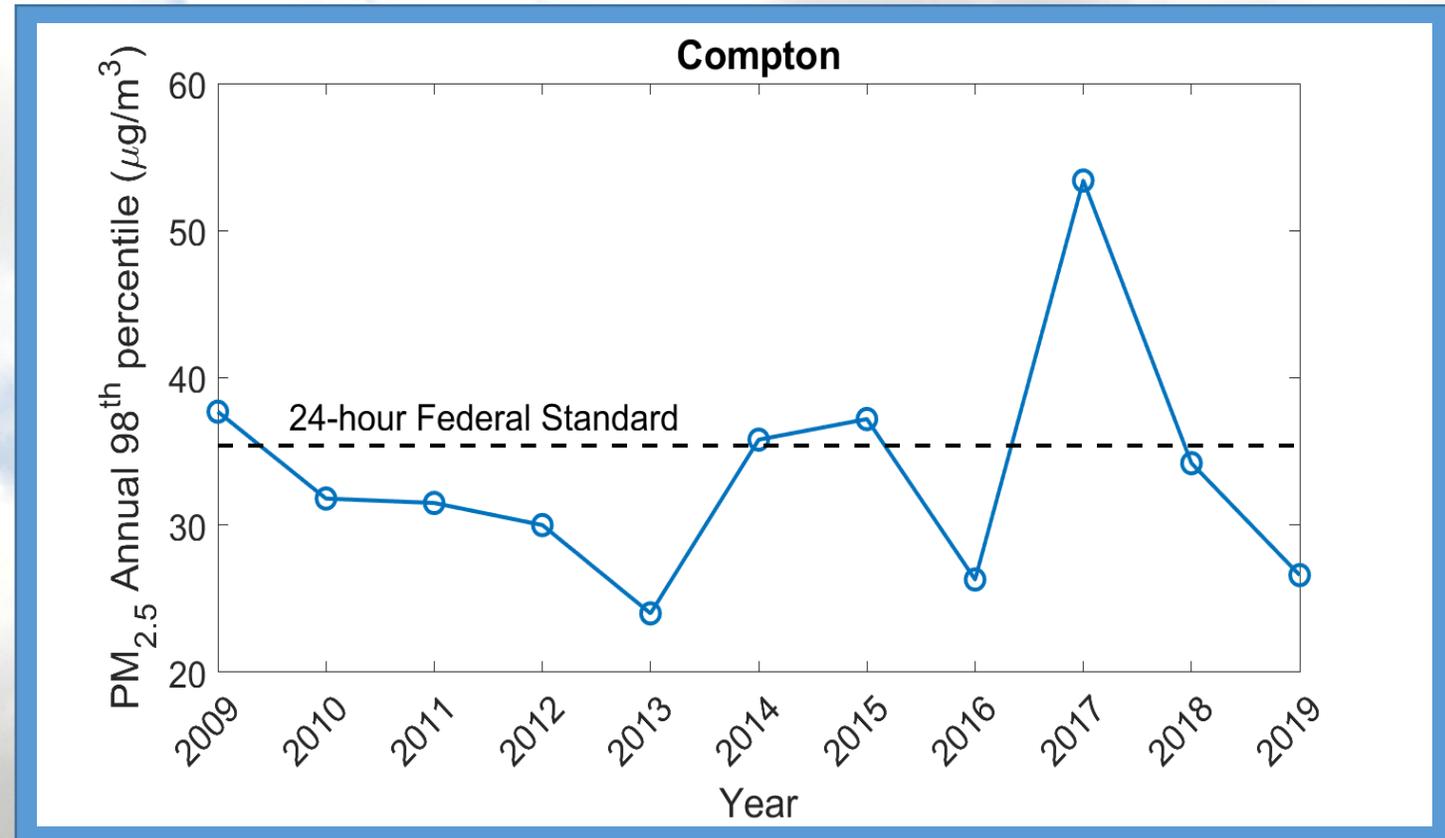
Progress in Mira Loma

- Mira Loma, design site since 2008, is impacted by secondary PM formation as well as local sources
- Mira Loma is very close to attainment
- Preliminary 2020 design value (years 2018-2020) to date shows that Mira Loma will attain by the end of 2020, if no more than 4 days above 35.5 $\mu\text{g}/\text{m}^3$ for rest of year (Nov/Dec)



Progress in Compton

- Ambient data in Compton shows lower PM_{2.5} levels prior to 2017 and a sharp increase in 2017 only
- Preliminary 2020 design value (years 2018-2020) to date is well below the standard, indicating Compton will attain the standard by the end of 2020, if no more than 7 days above 45 ug/m³ for rest of year, which is very unlikely





Implications of Nonattainment

EPA Notice of Failure to Attain

- Proposed rule published in Federal Register on July 10, 2020

Contingency Measures

- Contingency provisions to be triggered in Rule 445-Wood Burning Devices
 - Curtailment threshold to be lowered from 30 to 29 $\mu\text{g}/\text{m}^3$

State Implementation Plan (SIP) Revision

- Due to EPA on December 31, 2020



PM_{2.5} Plan Revision – Key Requirements

5% Reduction of PM_{2.5} or One of Its Precursors (NO_x, NH₃, SO_x, and VOC)

- ✓ NO_x emissions reduced by more than 5% per year by existing regulations

Emission Inventory and Attainment Demonstration

- ✓ Updated emissions inventory; expeditious attainment expected in 2023 based on baseline emissions (existing regulations)

Control Strategy Analysis

- ✓ Continued implementation of Serious area plan control strategy in 2016 AQMP
- ✓ Analysis of other feasible measures

Reasonable Further Progress (RFP) and Quantitative Milestone

- ✓ To be evaluated/demonstrated based on reductions in baseline emissions

Contingency Measures

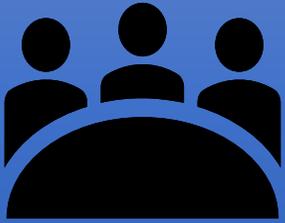
- ✓ Contingency provisions already included in Rule 445 – Wood Burning Devices



Attainment Demonstration – Two-Fold Hybrid Approach

- **Compton** – Supplemental weight of evidence and air quality trend analysis based on monitoring data
 - Traditional attainment demonstration using chemical transport modeling is not appropriate for Compton
 - High PM episodes observed in 2017 were likely driven by anomalous human activities which are not reflected in the emissions inventory
 - If local emissions causing non-attainment are unknown, difficult to develop an effective control strategy
 - Traditional control strategy for Compton would require unrealistic levels of emissions regional reductions and may not be effective
 - Compton will very likely be in attainment before U.S. EPA considers plan
- **Mira Loma** – Traditional Approach - Updated emissions inventory/regional air quality modeling
 - Preliminary analysis indicates attainment with baseline emissions (existing regulations) with recently adopted regulations providing further assurances

Paths Forward



Develop Required Plan

- Attainment strategy based on Mira Loma, with alternate approach for Compton
- Ongoing emission reductions from adopted rules and regulations
- Demonstrate annual reduction of 5% until attainment
- Plan may be moot if all sites attain by end of 2020 (roughly 50/50 chance)



Clean Data Determination

- Closely monitor PM_{2.5} levels in 2020 (November/December)
- Possible exceptional events such as wildfire and fireworks to be addressed promptly working with CARB and EPA; these exceedances are excluded in design value calculations
- Potential Clean Data Determination by U.S. EPA if 2020 design values are below standard, attainment plan not needed

Public Process

Summer 2020



- **Mobile Source Committee (August 21)**
- **Advisory Groups**
 - **STMPR (August 20)**
 - **AQMP (September 3)**

Fall 2020



- **Release Draft Plan (September 18)**
- **Regional Public Hearings (October 7)**

Winter 2020



- **South Coast AQMD Board Consideration**
- **CARB Board Consideration**



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Agenda Item #3

**Coachella Valley Extreme Area Plan
for the 1997 8-Hour Ozone Standard**



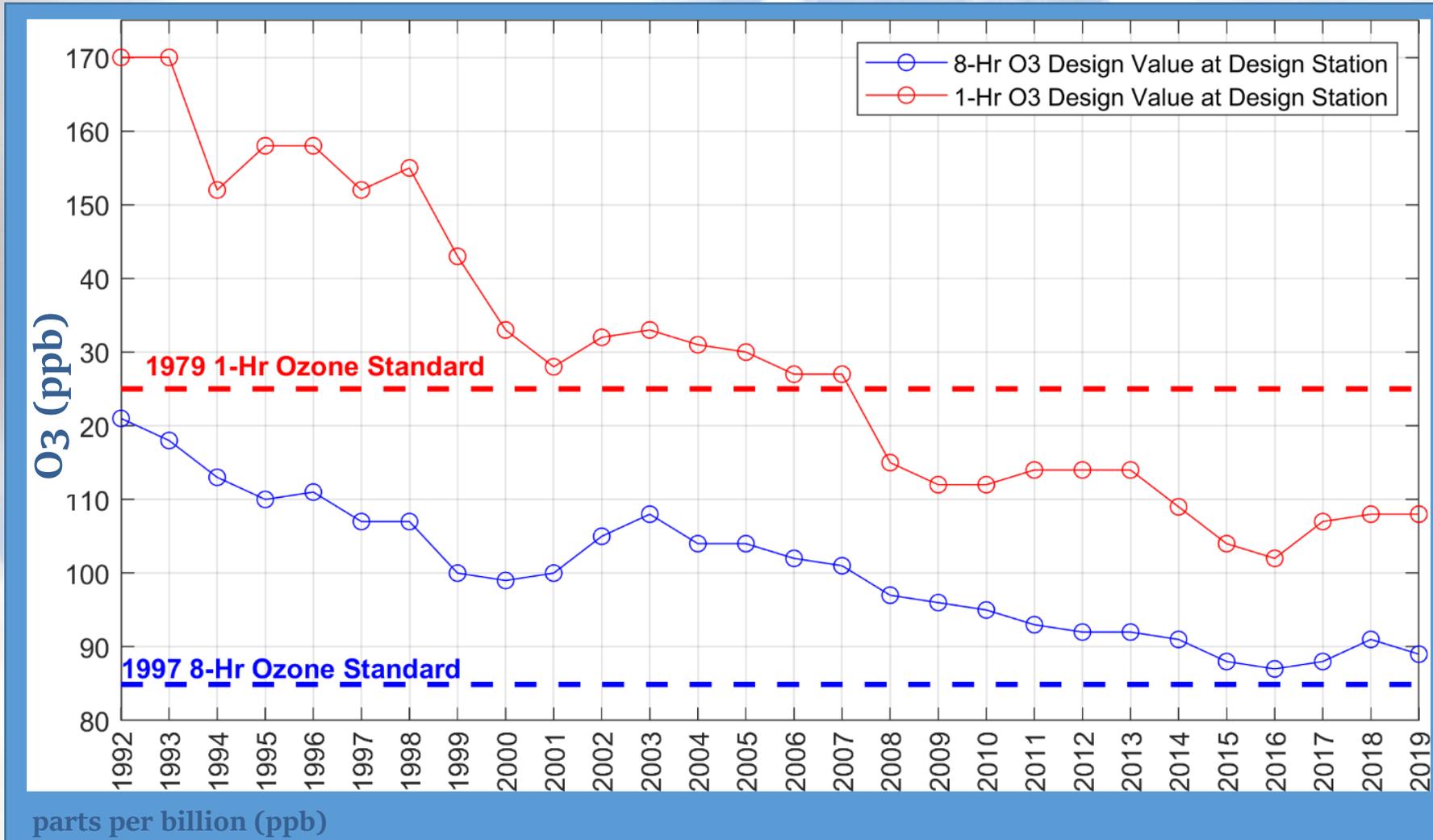
Ozone National Ambient Air Quality Standards

Coachella Valley Attainment Status

Criteria Pollutant	Averaging Time	Designation	Attainment Date
Ozone (O ₃)	(1979) 1-Hour (0.12 ppm)	Attainment	11/15/2007 (attained 12/31/2013)
	(1997) 8-Hour (0.08 ppm)	Nonattainment (Extreme)	6/15/2024
	(2008) 8-Hour (0.075 ppm)	Nonattainment (Severe)	7/20/2027
	(2015) 8-Hour (0.070 ppm)	Nonattainment (Severe)	8/3/2033



Ozone Trend in Coachella Valley (design value)



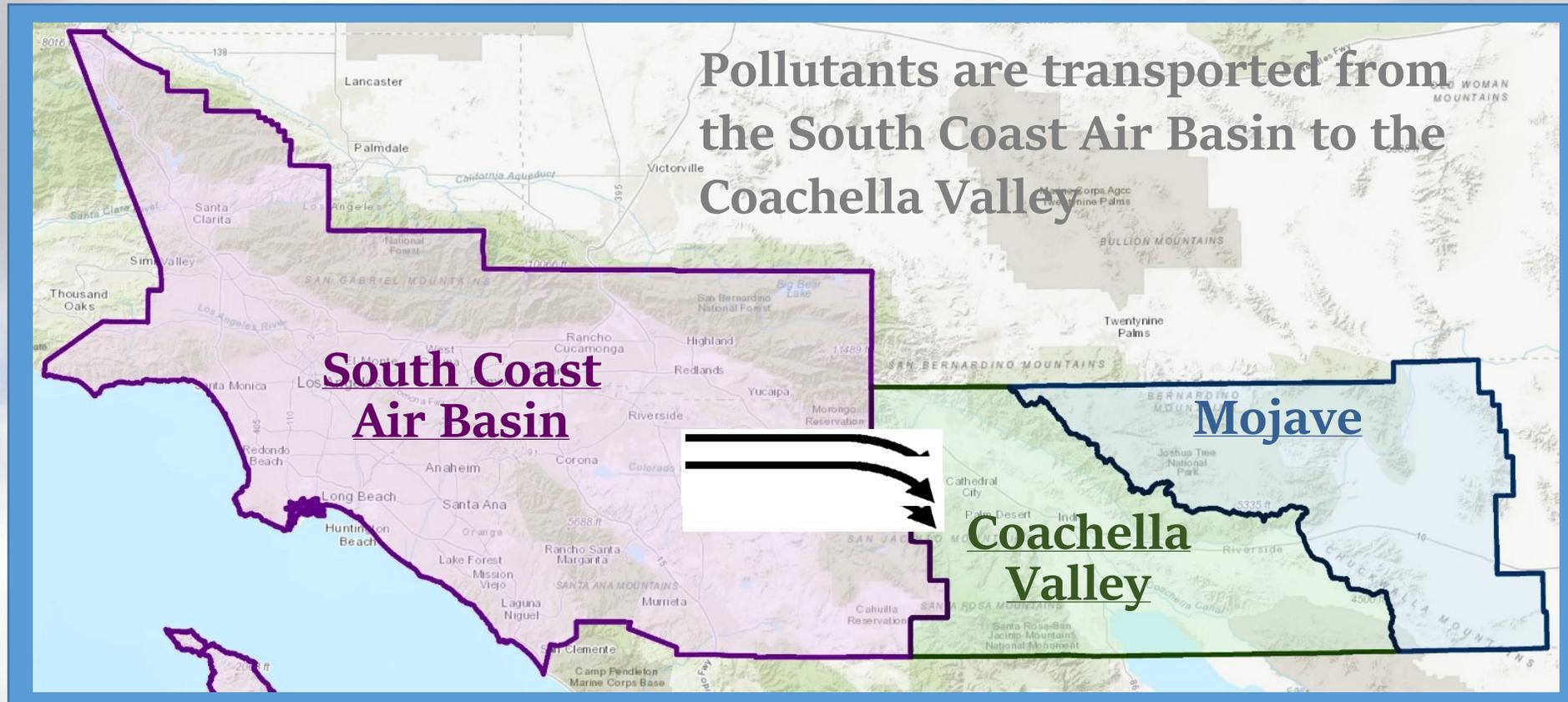


1997 8-hour Ozone Attainment Status

- **Coachella Valley was classified as a “Severe” nonattainment area, with an attainment date of June 15, 2019**
 - **Monitoring data (2016-2018) showed that the area did not attain the standard by the deadline**
- **On July 10, 2019, Coachella Valley was granted a voluntary reclassification from “Severe” to “Extreme” by the U.S. EPA**
 - **New attainment date is June 15, 2024**
 - **A revision to the State Implementation Plan (SIP) is required (due February 2021)**

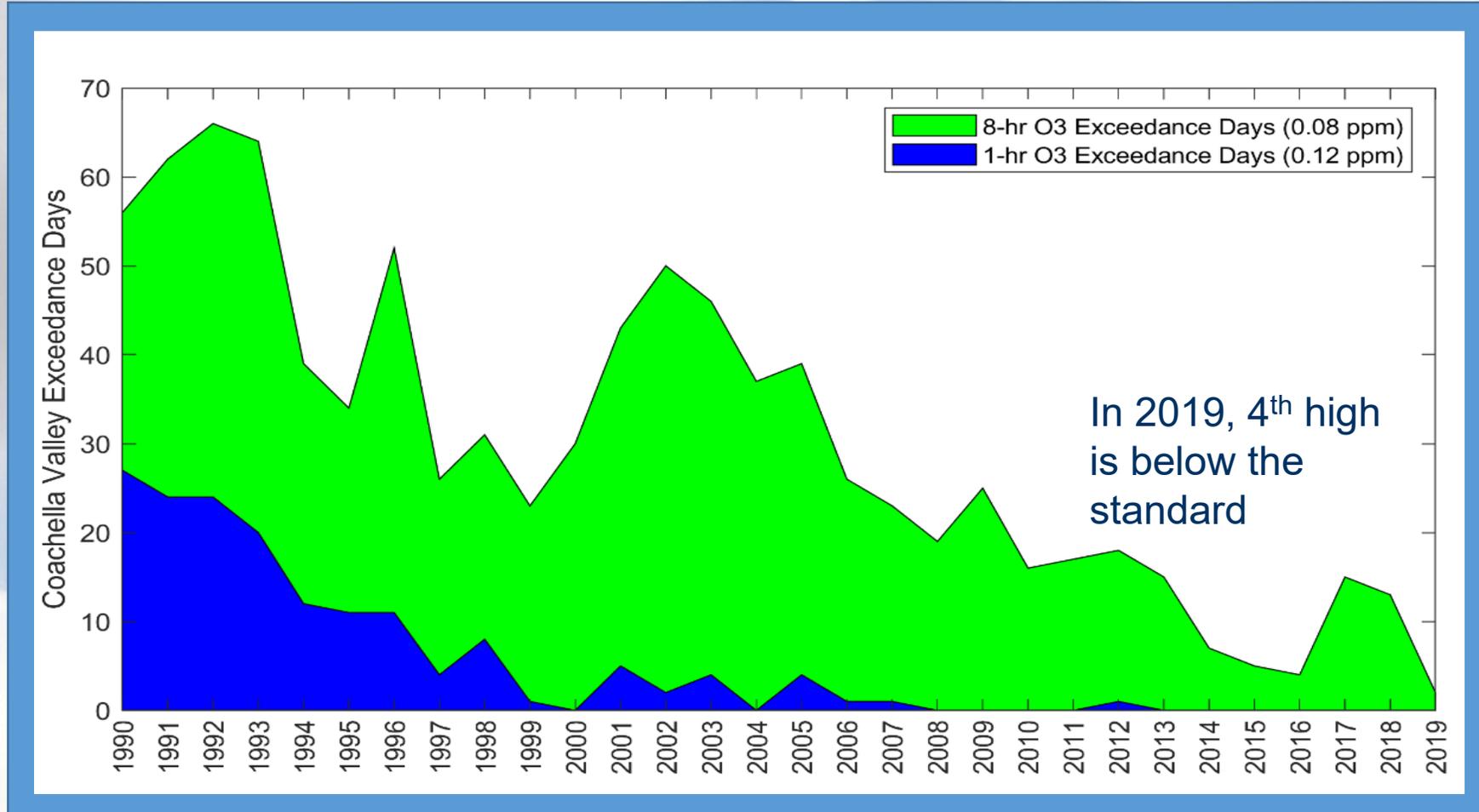
Air Quality Setting

- Ozone exceedances in Coachella Valley are primarily due to the direct transport of ozone and its precursors from the South Coast Air Basin





Ozone Trend in Coachella Valley (number of exceedance days)





Base and Future Year Design Values

Station	2018 Base Year Design Values (ppb)	2023 Future Year Design value (ppb)*
Palm Springs	89.3	83.2
Indio	84.3	79.1

* Based on preliminary modeling, 2022 design value is also expected to be below the standard.



Pathway to Attainment

- **Attainment by 2023 is expected to be achieved based on baseline emissions**
 - **Adopted rules and regulations provide continued emission reductions in future years**
- **Recently adopted rules and regulations since 2016 AQMP as well as continued implementation of 2016 AQMP measures provide further assurance for 2023 attainment**
- **Based on preliminary modeling, attainment may be earlier (2022), but 2023 is retained as attainment year given uncertainties in meteorology, emissions inventory and modeling approach**



Extreme Area Plan – Key Requirements

Emission Inventory and Attainment Demonstration

- ✓ Updated emissions inventory;
- ✓ Expeditious attainment expected by 2023 based on baseline emissions (existing regulations)

Control Strategy Analysis

- ✓ Continued implementation of control strategy in 2016 Air Quality Management Plan
- ✓ Analysis of Reasonably Available Control Technology / Reasonably Available Control Measures (RACT/RACM)

Reasonable Further Progress

- ✓ Achieved based on reductions in baseline emissions

Major Source Thresholds Changed from 25 to 10 Tons per Year (NO_x and VOC)

- ✓ Amendments to Title V and New Source Review Programs underway

Contingency Measures

- ✓ Contingency provisions to be included in a rule



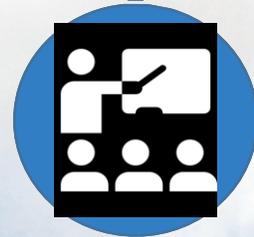
Public Process



Aug 26 – AB 617 East Coachella Valley Community Steering Committee

Sep 3 – AQMP Advisory Group

Sep 11 – Release Draft Plan



Sep 18 – South Coast AQMD Mobile Source Committee

Sep 25 – Public Consultation Meeting

Oct 13 – Public Comments Due

Nov 3 – Release Draft Final Plan

Nov 20 – South Coast AQMD Mobile Source Committee



Dec 4 – South Coast AQMD Board Consideration

Submittal to CARB/U.S. EPA following Board Approval



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Agenda Item #4

2022 AQMP Control Measure Development



Background – 2015 8-hour Ozone Standard

- In 2015, the U.S. EPA strengthened the National Ambient Air Quality Standards (NAAQS) for ozone to 70 parts per billion (ppb)
- Nonattainment classifications for South Coast Air Basin and Coachella Valley

Standard	Level	South Coast Classification	Coachella Valley Classification	Attainment Date
2015 8-hour Ozone	70 ppb	Extreme	Severe	August 3, 2038 (South Coast) August 3, 2033 (Coachella Valley)
2008 8-hour Ozone	75 ppb	Extreme	Severe	July 20, 2032 (South Coast) July 20, 2027 (Coachella Valley)
1997 8-hour Ozone	80 ppb	Extreme	Extreme*	June 15, 2024 (both South Coast and Coachella Valley)
1979 1-hour Ozone	120 ppb	Extreme	Attainment	February 6, 2023 (South Coast)

*Voluntary reclassification from severe to extreme in July 2019



Key SIP Elements and Due Dates for Severe and Extreme Nonattainment Areas

	8/3/2020	8/3/2021	8/3/2022	8/3/2028
Severe and Extreme Areas	Baseline Year Emissions Inventory	Nonattainment New Source Review	Attainment Demonstration	Section 185 Fee Program (Failure to attain)
	Emissions Statement		Reasonably Available Control Measures	
	Reasonably Available Control Technology Demonstration		Reasonable Further Progress	
	Vehicle Miles Traveled Offset		Conformity	
Extreme Area Only		Clean Fuels for Boilers	Contingency Measures	
			Enhanced Inspection and Maintenance Program	


2022 AQMP



Overall Control Strategy for Attaining 2015 8-hour Ozone Standard

- Extensive transition to near-zero (NZE) and zero-emissions (ZE) technologies in mobile and stationary sources, where feasible
- Transition to cleanest available technologies if NZE/ZE not feasible
- Regulatory measures; Incentive programs
- Eliminate/minimize reliance on 182(e)(5) measures
- Seek legislative authority where applicable
- Seek new sources of funding for new/existing incentive programs
- Work closely with state and local governments to maximize reductions from residential and commercial buildings



2022 AQMP Control Measures

- **South Coast AQMD Control Measures**
 - **Stationary Sources**
 - **Mobile Sources**
- **CARB's Updated SIP State Strategy for South Coast Air Basin**
 - **Mobile Sources**
 - **Consumer Products**
- **SCAG's 2020 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) and Transportation Control Measures TCM)**



Control Measure Development – Proposed Approach

- **Proposed working groups for three key areas**



Mobile Source – On Road



Mobile Source – Off Road



Residential and Commercial Buildings

- **Bimonthly meetings (more frequent meetings as needed)**
- **November 2020 to October 2021 (expected)**
- **Open to all**
- **Other working groups?**



2022 AQMP Schedule

