

TAMI RITTER, CHAIR
Supervisor, District #3

TOD KIMMELSHUE, VICE CHAIR
Supervisor, District #4

BILL CONNELLY
Supervisor, District #1

PETER DURFEE
Supervisor, District #2

DOUG TEETER
Supervisor, District #5

ZACH BROWN
Councilmember, Biggs

BRYCE GOLDSTEIN
Councilmember, Chico

BRUCE JOHNSON
Vice Mayor, Gridley

ERIC SMITH
Vice Mayor, Oroville

RON LASSONDE
Councilmember, Paradise



STEPHEN ERTLE
Air Pollution Control Officer

PATRICK LUCEY
Assistant Air Pollution Control Officer

REGULAR MEETING NOTICE OF THE BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT GOVERNING BOARD July 23, 2026 - 10:00 a.m.

Meeting Locations:

Butte County Association of Governments Board Room
326 Huss Drive, Suite 100, Chico, California

Members of the public are encouraged to attend the meeting in real time using the Zoom link and call in information below. Note: To join the video conference, you will need a webcam and computer audio (speakers and microphone). If you do not have either, you may dial the call-in number listed to join by audio only

Join Zoom Meeting:

<https://us02web.zoom.us/j/87111751705?pwd=em1GWGk2cVJZTExqYmwraGw2T1pqdz09>

Meeting ID: 871 1175 1705

Passcode: 298155

Call-in: 1-669-900-9128

The Governing Board is committed to making its proceedings accessible to all citizens. Individuals with special needs should call the Clerk of the Board at (530) 332-9400, Monday through Friday, 7:30 a.m. to 4:30 p.m. to request disability-related modifications, accommodations or to request materials in alternate formats. All requests for special accommodations and/or alternative format documents must be made 48 hours prior to the meeting. Every reasonable attempt will be made to provide such accommodations.

1. **Call to Order and Roll Call.**
2. **Additions and Deletions to the Consent Agenda.**

Chair

Chair

CONSENT AGENDA

Chair

- 3.1 Minutes of May 28, 2026 Meeting of the Board of Directors.
- 3.2 Activity Report on Butte County Air Quality Management District Activities.
- 3.3 Status Report on Calendar of Events.
- 3.4 Status Report on Communications.
- 3.5 Financial Status Report for Fiscal Year 2025-26.
- 3.6 4th Quarter Grant Revenue Report.
- 3.7 PBRM Grant Amendment – Additional Funds. (Resolution)

Kelly Towne
Stephen Ertle
Kelly Towne
Stephen Ertle
Aleah Ing
Aleah Ing
Ursula Parker

3.8 Authorization to Open New Bank Accounts. (Resolutions)

Stephen Ertle

REGULAR AGENDA

ITEMS FOR ACTION

- 4. Items removed from the Consent Agenda for Board consideration and actions.**
- 5. Fiscal Year 2026-2027 Budget Hearing #2 (Motion to Approve Resolutions 2026-04 Budget Adoption & 2026-05 Contracted Outside Legal Services).**
- 6. PM2.5 Maintenance Plan (Public Hearing) (Motion to Approve Resolution 2026-13).**
- 7. CalPERS Pension Contract Amendment to Include PEPRA Provisions (Motion to Approve CalPERS Resolution).**

Chair

Aleah Ing

Jason Mandly

Aleah Ing

ITEMS FOR INFORMATION

- 8. APCO Report.**
- 9. Other Business.**
- 10. Public Comment Period.** Any person may address the Board of Directors on any matter within the jurisdiction of the Board that is not on the agenda for this meeting. Any person may address the Board on an agenda item when that time is called. The chair requests that each person addressing the Board limits their presentation to five (5) minutes.
- 11. Adjourn to Closed Session.**
Employee Association MOU Negotiations/APCO Contract Renewal.
- 12. Report from Closed Session.**

Stephen Ertle

Chair

Chair

Chair

Chair

ADJOURNMENT

- 13. The next Board of Directors Meeting is scheduled for August 27, 2026, at 10:00 a.m. at the Butte County Association of Governments Board Room, 326 Huss Drive, Suite 100, Chico, California.**

Questions, comments, and correspondence may be directed to:

Kelly Towne, Clerk of the Board

629 Entler Avenue, Suite 15

Chico, CA 95928

ktowne@bcaqmd.org or 530-332-9400 ext. 109





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PATRICK LUCEY
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Draft Minutes of the Butte County Air Quality Management District Governing Board of Directors Meeting of May 28, 2026

Members Present:

Bill Connelly	Supervisor, District 1
Peter Durfee	Supervisor, District 2
Tami Ritter	Supervisor, District 3
Tod Kimmelshue	Supervisor, District 4
Bryce Goldstein	Councilmember, Chico
Zach Brown	Councilmember, Biggs
Bruce Johnson	Councilmember, Gridley
Eric Smith	Vice Mayor, Oroville
Ron Lassonde	Councilmember, Paradise

Members Absent:

Doug Teeter	Supervisor, District 5
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Staff Present:

Patrick Lucey	Assistant Air Pollution Control Officer (AAPCO)
Aleah Ing	Administrative Services Officer, (ASO)
Kelly Towne	Clerk of the Board
Paige McCleskey	Administrative Assistant
Jason Mandly	Senior Air Quality Planner

Staff Remote:

Riley Peacock	Air Quality Engineer, II
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Public comments are accepted before and during the meeting by emailing ktowne@bcaqmd.org.

1. Call to Order and Roll Call.

Chair Tami Ritter called the meeting to order at 10:11 a.m. at the BCAG Board Room, 326 Huss Drive, Suite 100, Chico, California.

2. Additions and Deletions to the Consent or Regular Agenda.

No additions or deletions.

Agenda Item 3.1

3. Consent Agenda.

- 3.1** Minutes of the April 23, 2026, Meeting of the Board of Directors.
- 3.2** Activity Report on Butte County Air Quality Management District Activities.
- 3.3** Status Report on Calendar of Events.
- 3.4** Status Report on Communications.
- 3.5** Financial Status Report for Fiscal Year 2025-26.
- 3.6** FY25-26 AB617 Implementation Application.

ACTION REQUESTED: Approve Consent Agenda Items.

Board comments: None.

Public comments: None.

A motion was made by Supervisor Durfee and seconded by Supervisor Connelley to approve the Consent Agenda Items.

AYES: Supervisor Ritter, Supervisor Durfee(motion), Supervisor Kimmelshue, Supervisor Connelly(second), Councilmember Goldstein, Councilmember Brown, Vice Mayor Johnson, Councilmember Lassonde and Vice Mayor Smith.

NOES: None.

ABSTAIN: None.

ABSENT: Supervisor Teeter.

ITEMS FOR ACTION

4. Items removed from the Consent Agenda for Board consideration and actions.

No items were removed from the Consent Agenda.

5. Fiscal Year 26-27 Budget Hearing #1

ACTION REQUESTED:

Staff released the proposed Fiscal Year 2026-2027 Budget on April 21, 2026. A Public Hearing is required pursuant to Health and Safety Code, Section 40130 and 40131 in a separate meeting prior to the meeting where the Board adopts the Budget. The adoption hearing is scheduled for June 25, 2026.

The FY 2026-2027 Budget Report was presented by Aleah Ing, Administrative Services Officer.

Hearing opened: 10:12 a.m. by Supervisor Ritter(chair).

Board comments: None.

Public comments: None.

6. Authorization to Change Banking Institution/Electronic Payment Processor

ACTION REQUESTED:

1. Authorize broad authority for the APCO to research, negotiate terms and services and change Institutions if warranted and,
2. Authorize broad authority for the APCO to research, negotiate terms and services and change Processor if warranted.

The Authorization to Change Banking Institution/Electronic Payment Processor report was presented by Patrick Lucey, AAPCO.

Board comments: Yes.

Public comments: None.

A motion was made by Supervisor Kimmelshue and seconded by Supervisor Durfee to authorize the APCO to research, negotiate terms and services and change banking Institutions and electronic payment processors if warranted.

AYES: Supervisor Ritter, Supervisor Durfee(second), Supervisor Kimmelshue(motion), Supervisor Connelly, Councilmember Goldstein, Councilmember Brown, Vice Mayor Johnson, Councilmember Lassonde and Vice Mayor Smith.

NOES: None.

ABSTAIN: None.

ABSENT: Supervisor Teeter.

7. Fiscal Year 25-26 CAP Incentives Application.

ACTION REQUESTED:

Adopt Resolution 2026-10 to receive funding and approve CAP Incentives Fiscal Year 2025-2025 grant agreement.

The Fiscal Year 2025 - 2026 Community Air Protection Incentives Grant Agreement report was presented by Jason Mandly, Senior Air Quality Planner.

Board comments: None.

Public comments: Yes.

A motion was made by Councilmember Goldstein and seconded by Supervisor Durfee to Adopt Resolution 2026-10 to receive funding and approve CAP Incentives Fiscal Year 2025-2025 grant agreement.

AYES: Supervisor Ritter, Supervisor Kimmelshue, Supervisor Durfee(second), Supervisor Connelly, Councilmember Goldstein(motion), Councilmember Brown, Vice Mayor Johnson, Councilmember Lassonde and Vice Mayor Smith.

NOES: None.

ABSTAIN: None.

ABSENT: Supervisor Teeter.

8. CalPERS Pension Contract Amendment to Include PEPRA Provisions.

ACTION REQUESTED:

Approve the Resolution of Intention to amend the CalPERS Pension contracts to incorporate the Public Employees' Pension Reform Act of 2013 (PEPRA) provisions and language.

The CalPERS Pension Contract Amendment to Include PEPRA Provisions report was presented by Aleah Ing, ASO.

Board comments: None.

Public comments: None.

A motion was made by Supervisor Kimmelshue and seconded by Vice Mayor Smith to approve the Resolution of Intention to amend the CalPERS Pension contracts to incorporate the Public Employees' Pension Reform Act of 2013 (PEPRA) provisions and language.

AYES: Supervisor Ritter, Supervisor Durfee, Supervisor Kimmelshue(motion), Supervisor Connelly, Councilmember Brown, Vice Mayor Johnson, Councilmember Goldstein, Councilmember Lassonde and Vice Mayor Smith(second).

NOES: None.

ABSTAIN: None.

ABSENT: Supervisor Teeter.

ITEMS FOR INFORMATION

9. Assistant APCO Report.

ACTION REQUESTED:

None. This Item is provided for information and discussion.

Board comments: None.

Public comments: None.

10. Other Business. No other business was presented.

11. Public Comment Period. Any person may address the Board of Directors on any matter within the jurisdiction of the Board that is not on the agenda for this meeting. Any person may address the Board on an agenda item when that time is called. The Chair requests that each person addressing the Board limits their presentation to five (5) minutes.

12. Adjourn to Closed Session. No closed session.

13. The meeting adjourned at 10:26 a.m. The next Board of Directors Meeting is scheduled for June 25, 2026 at 10:00 a.m. at the Butte County Association of Governments Board Room, 326 Huss Drive, Suite 100, Chico, California.

Stephen Ertle, Air Pollution Control Officer
Butte County Air Quality Management District

I hereby attest that this is a true and correct copy of the action taken by the Butte County Air Quality Management District Board of Directors on May 28, 2026.

ATTEST: _____
Kelly Towne, Clerk of the Governing Board

Attachment 1

APCO Notes

Summary of Recent/Upcoming Staff Events and EPA Updates

- **CAPCOA Enforcement Managers Quarterly Meeting in Chico**
 - The District hosted the April Quarterly meeting on April 28 – 29, 2026 at Oxford Suites in Chico. 19 air district and CARB staff attended in person and another 25. Next meeting is July 29 – 30, 2026 at Santa Barbara AQMD's Office.
- **CAPCOA Engineering Managers Quarterly Meeting in Davis**
 - District Engineer Riley Peacock is currently Vice Chair of the Engineering Managers Committee. He will transition to Chair in October of this year and will lead this committee in 2027. The meeting was held at the Yolo-Solano AQMD Office in Davis on April 28 – 29, 2026.
- **Hosting CARB for Carl Moyer/FARMER Site Visits**

Staff from the California Air Resources Board representing the Carl Moyer Program and the FARMER program visited the District on May 13 to learn how these grant programs are implemented locally. After an office Q&A, grant staff toured the Earthworm Soil Factory in Butte Valley to see how FARMER Program-funded equipment and lawn and garden voucher-funded equipment benefit local businesses. The group then visited Ace Hardware in Chico to learn how Participating Retailers work with the District to implement the Lawn and Garden voucher program.
- **2x EPA Updates on Permitting-Related Actions**
 - **Proposed New Source Review (NSR) “Begin Actual Construction” Rule**
 - Under the current NSR rule, a source must obtain a permit before beginning “any” construction related to a permitted emission source. The new proposed rule will allow construction activities for preparation of installing an emission source before the permit is issued. This will allow more flexibility for sources subject to NSR.
 - **Guidance on Review of Title V Permit Applications**
 - EPA will allow Districts to submit Draft Title V permits for review by the EPA regional office prior to the public comment period on the draft permit and the comment period may run concurrently with EPA's review. This change should speed up the Title V review process.
- **Upcoming CARB Mobile Sources Control Division (MCSD) Leadership Air District Tour in Chico**
 - Begins at noon on Wednesday June 17, 2026 at the District Office.
 - Director Ertle helped coordinate this tour at the District Office.
 - Includes Colusa APCD, Glenn APCD, Northern Sierra AQMD, and Feather River AQMD along with Butte AQMD and the CARB MCSD Leadership team.
 - Strengthen collaboration between CARB MCSD and Air Districts that administer incentive programs (Moyer Program, FARMER Program, HVIP, CC4A, VW).



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Assistant Air Pollution Control Officer

Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Stephen Ertle, Air Pollution Control Officer

Re: **Activity Report**

ISSUE:

Summary of District activities for calendar years 2024, 2025 and 2026 as of June 30, 2026.

ACTION REQUESTED:

Accept and file report.

DISCUSSION:

None.

Attachment:

2026 Activity Report.

Agenda Item 3.2

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Activity (2026)	2024	2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD ¹
Permits to Operate Issued/Renewed	841	830	52	66	52	63	160	63							456
Authority to Construct Permits Issued	26	41	3	1	1	4	0	8							17
Portable Equipment Registrations	33	32	2	6	5	1	0	0							14
Engine Registrations Issued/Renewed	246	0	0	230	0	0	0	0							230
Inspections Performed by Facility	362	403	74	30	46	26	55	41							272
Inspections Performed by Permits	489	557	100	36	72	42	102	56							408
Status Change Reports Received	72	102	6	5	1	2	0	3							17
Agricultural Burn Days ^{2*}	329	361	25	28	31	30	31	30							175
Agricultural No-Burn Days ^{2*}	6	4	6	0	0	0	0	0							6
Burn Permits Issued	733	716	38	48	79	93	56	54							368
Burn Notifications	4,310	4,813	386	340	628	375	371	347							2447
Rice Fields Reported Harvested	336	367	0	0	3	2	0	0							5
Complaints Received	97	101	3	4	5	9	3	7							31
Notices of Noncompliance Issued	60	62	6	1	2	26	2	2							39
Notices to Comply Issued	3	5	0	0	0	0	0	0							0
Public Outreach	1193	1964	47	52	63	44	42	286							534
Environmental Documents Reviewed	0	0	0	0	0	0	0	0							0
Public Records Requests	49	46	5	2	2	4	5	9							27
															0

¹ YTD = Year-to-date totals

² Burn Day Status reported below 3000' elevation

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Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Kelly Towne, Clerk of the Board

Re: **Calendar of Events**

DATE	EVENT	LOCATION
July 23	Butte County Air Quality Governing Board Meeting	Chico
July 27-29	Engineering Managers	Monterey Bay ARD
August 5	Butte County Fire Safe Council Meeting	Paradise
August 7	Sacramento Valley BCC Meeting	Yolo-Solano AQMD
August 12-13	CAPCOA Board Meeting	CAPCOA (Sacramento)
August 19	TAC Meeting	Feather River AQMD
August 27	Butte County Air Quality Governing Board Meeting	Chico
September 2	Butte County Fire Safe Council Meeting	Paradise
September 7	Labor Day – District Office Closed	Chico
September 16	TAC Meeting	Glenn County APCD
September 24	Butte County Air Quality Governing Board Meeting	Chico
October 7	Butte County Fire Safe Council Meeting	Paradise
October 13	District Audit	Chico
October 21	TAC Meeting	Placer County APCD
October 22	Butte County Air Quality Governing Board Meeting	Chico
October 26-29	Engineering Managers	Diamon Bar
November 2-4	CSDA Board Clerk Conference	Santa Barbara

Agenda Item 3.3

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Date of Release: July 16 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Stephen Ertle, Air Pollution Control Officer

Re: **Status Report on Communications**

ISSUE:

Status Report on Communications with Board Members in May and June of 2026.

ACTION REQUESTED:

None. For information only.

DISCUSSION:

APCO met with Chair Ritter to review the Board Agenda in June.

Attachment:

None.

Agenda Item 3.4

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Assistant Air Pollution Control Officer

Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Aleah Ing, Administrative Services Officer

Re: **Financial Status Report Fiscal Year 2025-2026**

ISSUE:

Financial Status Report.

ACTION REQUESTED:

Accept and file report.

DISCUSSION:

Two new columns have been added to the Budget vs Actual report. These columns are budget reporting requirements triggered by GASB 103 requirements, which are being incorporated in the monthly financial report for increased transparency and consistency across all budgetary reporting.

The attached financial report summarizes the District's revenue & expenses in the Budget vs Actual report during the period of July 1, 2025, through June 30, 2026 (Revenue is 91.26% of the fiscal year, Expenses 57.89%), and the Balance sheet for the period ending June 30, 2026. District is on track with overall expenses however the number is skewed due to timing of grant outlays. These are unaudited financials and may not include all year end journals.

Attachment:

- 1- Fiscal Year 25-26 Budget Vs Actual.
- 2- Fiscal Year 25-26 Balance Sheet.

Agenda Item 3.5

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Butte Co. Air Quality Management Dist.
Profit & Loss Budget vs. Actual
 July 2025 through June 2026 100% of Budget

Accrual Basis

		*New Column	*New Column			
	Actual - YTD	Budget Amounts		Variances (Positive/Negative)		% of Current Budget to Actual
	Jul '25 - June '26	Original Budget	Final Budget	Original vs Final Budget	Final Budget vs Actual	
Ordinary Income/Expense						
Income						
421 · License and Permits						
4213010 · Ag Burn Permits	98,101.79	95,000.00	95,000.00	0.00	3,101.79	103.27%
4213013 · Ag Engine Registration Program	12,237.46	14,350.00	14,350.00	0.00	-2,112.54	85.28%
4213020 · Title V Permits	5,671.26	5,500.00	5,672.00	172.00	-0.74	99.99%
4213030 · Operating Permits	697,891.17	609,000.00	609,000.00	0.00	88,891.17	114.6%
4213035 · Portable Engine Registration	38,649.61	45,500.00	45,500.00	0.00	-6,850.39	84.94%
4213038 · Asbestos Program	18,479.25	5,000.00	10,000.00	5,000.00	8,479.25	184.79%
4213040 · Auth to Construct	26,764.81	40,000.00	40,000.00	0.00	-13,235.19	66.91%
4213055 · Emission Reduction Fee	0.00	0.00	0.00	0.00	0.00	0.0%
4213060 · Misc. Other Permits	0.00	400.00	400.00	0.00	-400.00	0.0%
4713061 · Technical Evaluation	3,361.96	2,000.00	3,500.00	1,500.00	-138.04	96.06%
Total 421 · License and Permits	901,157.31	816,750.00	823,422.00	6,672.00	77,735.31	109.44%
430 · Fines, Forfeitures & Penalties						
4300001 · Civil Settlements	80,965.00	40,000.00	88,000.00	48,000.00	-7,035.00	92.01%
Total 430 · Fines, Forfeitures & Penalties	80,965.00	40,000.00	88,000.00	48,000.00	-7,035.00	92.01%
441 · Interest Income	143.57	0.00	0.00	0.00	143.57	100.0%
451 · Intergovernmental						
45000 · Governmental Funds						
4500001 · State Subvention	73,399.90	65,300.00	73,400.00	8,100.00	-0.10	100.0%
4511001 · DMV Surcharge	736,816.70	740,000.00	733,500.00	-6,500.00	3,316.70	100.45%
Total 45000 · Governmental Funds	810,216.60	805,300.00	806,900.00	3,316.60	3,316.60	100.41%
45105 · Direct Grant Funds						
4510500 · AB 2588 Hot Spots Fee	134.00	134.00	134.00	0.00	0.00	100.0%
4510501 · 105 Pilot Project Grant Funding	0.00	0.00	0.00	0.00	0.00	0.0%
4510502 · AB 197 Funding	8,583.00	8,383.00	8,383.00	0.00	200.00	102.39%
4510503 · AB 617 Funding	124,158.24	25,122.99	108,208.85	83,085.86	15,949.39	114.74%
4510504 · Prescribed Fire Grant	57,820.49	45,640.36	45,640.36	0.00	12,180.13	126.69%
4510505 · GHG Oil & Gas Funding	6,000.00	6,000.00	6,000.00	0.00	0.00	100.0%
4510506 · Monitoring Grant	25,563.97	38,760.93	38,760.93	0.00	-13,196.96	65.95%
Total 45105 · Direct Grant Funds	222,259.70	124,041.28	207,127.14	15,132.56	15,132.56	107.31%
45109 · Pass Through Grants						
4510904 · FARMER Funding	0.00	0.00	0.00	0.00	0.00	0.0%
4510906 · Carl Moyer Grant	256,250.00	212,500.00	212,500.00	0.00	43,750.00	120.59%
4510908 · CHIRP Grant	0.00	0.00	236,224.00	236,224.00	-236,224.00	0.0%
4510909 · Woodsmoke Grant	0.00	0.00	163,953.50	163,953.50	-163,953.50	0.0%
4510915 · Community Air Program (CAP)	770,536.65	0.00	770,866.65	770,866.65	-330.00	99.96%
Total 45109 · Pass Through Grants	1,026,786.65	212,500.00	1,383,544.15	1,171,044.15	-356,757.50	74.21%
Total 451 · Intergovernmental	2,059,262.95	1,141,841.28	2,397,571.29	1,255,730.01	-338,308.34	85.89%
471 · Miscellaneous Revenue						
4712523 · Other Misc. Revenue						
4712523.2 Late Fees	1,358.44	325.00	950.00	625.00	408.44	142.99%
4610105 · Return Check Fee	275.00		125.00	125.00	150.00	220.0%
4711900 · BCC & Other Reimbursements	17,197.08	17,198.31	17,198.31	0.00	-1.23	99.99%
4711910 · Copy & Other Reimbursement	2,330.79	500.00	1,850.00	1,350.00	480.79	125.99%
Total 4712523 · Other Misc. Revenue	21,161.31	18,023.31	20,123.31	2,100.00	1,038.00	105.16%
4712550 · Implementation Funds						

Butte Co. Air Quality Management Dist.
Profit & Loss Budget vs. Actual
 July 2025 through June 2026 100% of Budget

Accrual Basis

		*New Column		*New Column		
	Actual - YTD	Budget Amounts		Variances (Positive/Negative)		% of Current Budget to Actual
	Jul '25 - June '26	Original Budget	Final Budget	Original vs Final Budget	Final Budget vs Actual	
01 · FARMER Implementation	49,138.17	97,522.53	97,522.53	0.00	-48,384.36	50.39%
02 · Carl Moyer Implementation	44,689.33	44,773.61	44,773.61	0.00	-84.28	99.81%
05 · Community CAP Implementation	81,744.25	72,337.37	72,337.37	0.00	9,406.88	113.0%
Total 4712550 · Implementation Funds	175,571.75	214,633.51	214,633.51	0.00	-39,061.76	81.8%
Total 471 · Miscellaneous Revenue	196,733.06	232,656.82	234,756.82	2,100.00	-38,023.76	83.8%
Total Income	3,238,261.89	2,231,248.10	3,543,750.11	1,312,502.01	-305,488.22	91.38%
Gross Profit	3,238,261.89	2,231,248.10	3,543,750.11	1,312,502.01	-305,488.22	91.38%
Expense						
511 · Payroll Expenses						
511001 · Salaries & Wages	1,043,735.21	1,170,154.96	1,172,618.98	2,464.02	-128,883.77	89.01%
512000 · Extra Help	3,654.00	16,000.00	16,000.00	0.00	-12,346.00	22.84%
514000 · Overtime	0.00	15,431.20	15,431.20	0.00	-15,431.20	0.0%
518 · Employee Benefits						
518008 · Health Care	173,974.45	191,305.01	211,683.39	20,378.38	-37,708.94	82.19%
518009 · Cafeteria	46,265.78	51,711.00	48,121.26	-3,589.74	-1,855.48	96.14%
518010 · Other Employee Benefits	25,531.55	32,545.30	32,545.30	0.00	-7,013.75	78.45%
518011 · Vehicle Allowance	7,440.00	7,440.00	7,440.00	0.00	0.00	100.0%
518700 · Retirement Pension	172,826.36	181,380.72	181,682.47	301.75	-8,856.11	95.13%
518800 · Contrib to Pension Liability	186,533.00	186,533.00	186,533.00	0.00	0.00	100.0%
518900 · Retiree's OPEB	46,725.05	66,007.08	66,007.08	0.00	-19,282.03	70.79%
Total 518 · Employee Benefits	659,296.19	716,922.11	734,012.50	17,090.39	-74,716.31	89.82%
Total 511 · Payroll Expenses	1,706,685.40	1,918,508.27	1,938,062.68	19,554.41	-231,377.28	88.06%
520 · Materials & Supplies						
521104 · Postage	2,000.00	3,450.00	3,450.00	0.00	-1,450.00	57.97%
522201 · Office Supplies	8,259.23	9,000.00	9,000.00	0.00	-740.77	91.77%
523001 · Telecommunications	21,448.55	19,000.00	21,400.00	2,400.00	48.55	100.23%
524544 · Utilities - Elec/Gas/Wtr/Grbge	8,182.63	8,360.00	8,360.00	0.00	-177.37	97.88%
525545 · Auto Fuel Costs/ Road Expense	3,665.71	4,750.00	4,750.00	0.00	-1,084.29	77.17%
Total 520 · Materials & Supplies	43,556.12	44,560.00	46,960.00	2,400.00	-3,403.88	92.75%
530 · Servies & Other Operating						
531201 · Household Janitorial	11,700.00	11,700.00	11,700.00	0.00	0.00	100.0%
532527 · Insurance -Liability & Vehicle	19,346.12	18,893.00	20,000.00	1,107.00	-653.88	96.73%
533533 · Memberships, Dues & Subscript..	9,646.47	13,900.00	13,900.00	0.00	-4,253.53	69.4%
534537 · Public & Legal Notices	500.18	2,500.00	2,500.00	0.00	-1,999.82	20.01%
535540 · Public Outreach	5,751.95	18,600.00	18,600.00	0.00	-12,848.05	30.92%
536101 · Training	6,816.56	19,660.00	19,660.00	0.00	-12,843.44	34.67%
537202 · Travel & Conference Expenses	11,820.19	38,345.00	38,345.00	0.00	-26,524.81	30.83%
Total 530 · Servies & Other Operating	65,581.47	123,598.00	124,705.00	1,107.00	-59,123.53	52.59%
540 · Rents Lease, Repair, NonCapital						
541538 · Property Rents & Leases	1,464.71	1,800.00	1,800.00	0.00	-335.29	81.37%
542539 · Equipment Rents & Leases	3,745.05	3,750.00	3,750.00	0.00	-4.95	99.87%
543103 · Office Furniture & Equip	0.00	1,600.00	1,600.00	0.00	-1,600.00	0.0%
543203 · Computer Equipment	2,753.59	11,900.00	11,900.00	0.00	-9,146.41	23.14%
543204 · Computer Software-Subscriptions	14,944.99	18,378.00	18,378.00	0.00	-3,433.01	81.32%
543541 · Air Monitoring Equipment & Main	63,441.21	41,760.93	91,760.93	50,000.00	-28,319.72	69.14%
544001 · Vehicles Maintenance	2,416.49	6,173.00	6,173.00	0.00	-3,756.51	39.15%
544042 · IT Maintenance	34,681.87	37,348.00	37,348.00	0.00	-2,666.13	92.86%
544103 · Building Maintenance	4,327.19	10,850.00	28,850.00	18,000.00	-24,522.81	15.0%
Total 540 · Rents Lease, Repair, NonCapital	127,775.10	133,559.93	201,559.93	68,000.00	-73,784.83	63.39%

Butte Co. Air Quality Management Dist.
Profit & Loss Budget vs. Actual
July 2025 through June 2026 100% of Budget

Accrual Basis

	*New Column			*New Column		
	Actual - YTD	Budget Amounts		Variances (Positive/Negative)		% of Current Budget to Actual
	Jul '25 - June '26	Original Budget	Final Budget	Original vs Final Budget	Final Budget vs Actual	
550 · Professional/Consulting Service						
551137 · AB2588 Hot Spots Fee	134.00	134.00	134.00	0.00	0.00	100.0%
551536 · Professional Services	38,159.74	42,110.00	42,110.00	0.00	-3,950.26	90.62%
551547 · Legal Services	16,500.00	18,500.00	18,500.00	0.00	-2,000.00	89.19%
555580 · Contingencies	0.00	20,000.00	20,000.00	0.00	-20,000.00	0.0%
Total 550 · Professional/Consulting Service	54,793.74	80,744.00	80,744.00	0.00	-25,950.26	67.86%
560 · Grants						
560006 · Carl Moyer Grant	660,796.85	212,500.00	692,184.97	479,684.97	-31,388.12	95.47%
560007 · Community Air (CAP)	488,488.87	0.00	2,050,596.51	2,050,596.51	-1,562,107.64	23.82%
560008 · CHIRP Grant	0.00	0.00	236,224.00	236,224.00	-236,224.00	0.0%
560009 · WoodSmoke Grant	0.00	0.00	163,953.50	163,953.50	-163,953.50	0.0%
560020 · Special Clean Air Grants	35,903.52	0.00	33,142.51	33,142.51	2,761.01	108.33%
560021 · FARMER	14,494.60	0.00	18,478.80	18,478.80	-3,984.20	78.44%
Total 560 · Grants	1,199,683.84	212,500.00	3,194,580.29	2,982,080.29	-1,994,896.45	37.55%
565 · Debt Service						
565087 · GASB 87 Lease Principal	56,058.00	56,327.00	56,327.00	0.00	-269.00	99.52%
565987 · GASB 87 Lease Interest & Other	722.00	1,058.00	1,058.00	0.00	-336.00	68.24%
Total 565 · Debt Service	56,780.00	57,385.00	57,385.00	0.00	-605.00	98.95%
570 · Capital Outlay						
573105 · Vehicles -Fixed Asset Inventory	30,000.00	0.00	30,000.00	30,000.00	0.00	100.0%
Total 570 · Capital Outlay	30,000.00	0.00	30,000.00	30,000.00	0.00	100.0%
Total Expense	3,284,855.67	2,570,855.20	5,673,996.90	3,103,141.70	-2,389,141.23	57.89%
Net Ordinary Income	-46,593.78	-339,607.10	-2,130,246.79	-1,790,639.69	2,083,653.01	2.19%
Net Income	-46,593.78	-339,607.10	-2,130,246.79	-1,790,639.69	2,083,653.01	2.19%

*Budget Amendments have been adopted on 10/23/2025 and 2/26/2026.

Changes to the attached profit and loss incorporate additional columns to better align with GASB 103 reporting.

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Butte Co. Air Quality Management Dist.
Balance Sheet
As of June 30, 2026

	<u>June 30, 2026</u>
ASSETS	
Current Assets	
Checking/Savings	
1002 · Cash on Hand - Change Box	200.00
1003 · Bank of America - General-0648	563,593.82
1004 · Bank of America - Payroll-0649	5,760.44
1007 · B of A Reserve Acct - 1789	750,331.58
1010 · B of A - 0980 (Grant 1)	46,902.91
1011 · Tri Counties - Carl Moyer 2618	336,314.34
1012 · Tri Counties - FARMER - 6831	305,838.04
1013 · Tri Counties - CAP-6855	1,132,635.39
1017 · Tri Counties - AB 617-6818	119,227.75
1018 · State LAIF Acct	1,389,179.74
Total Checking/Savings	<u>4,649,984.01</u>
Accounts Receivable	
1200 · Accounts Receivable	41,183.44
Total Accounts Receivable	<u>41,183.44</u>
Other Current Assets	
1102 · Due From Other Governments	128,089.56
1500 · Undeposited Funds	0.00
Total Other Current Assets	<u>128,089.56</u>
Total Current Assets	<u>4,819,257.01</u>
TOTAL ASSETS	<u><u>4,819,257.01</u></u>
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
2000 · Accounts Payable	18.00
2001 · A/P - Grantees	820,519.51
Total Accounts Payable	<u>820,537.51</u>
Credit Cards	
2400 · Credit Cards	0.00
Total Credit Cards	<u>0.00</u>
Other Current Liabilities	
2100 · Accrual Payroll & Benefits	
210004 · HI 125	3,808.32
210011 · PERS Survivor Benefits	-10.00
210013 · MED FLEX	-12.60
Total 2100 · Accrual Payroll & Benefits	<u>3,785.72</u>
2107 · Unearned Revenue	
210904 · FARMER	235,693.47
210906 · Carl Moyer	19,359.59
210910 · Community (CAP)	431,405.02
210914 · AB 617	107,715.70
210917 · Prescribed Fire Grant	40,380.98
210918 · Monitoring Grant	78,081.22
Total 2107 · Unearned Revenue	<u>912,635.98</u>
Total Other Current Liabilities	<u>916,421.70</u>
Total Current Liabilities	<u>1,736,959.21</u>
Total Liabilities	1,736,959.21
Equity	
3100 · Reserves	329,626.07
3200 · Restricted Fund	
3004 · Carl Moyer Program	81,991.68
3005 · Reserved FARMER Prgm	4,179.42
3012 · Community (CAP)	1,530,194.27
Total 3200 · Restricted Fund	<u>1,616,365.37</u>
3900 · Retained Earnings	1,182,900.14
Net Income	-46,593.78
Total Equity	<u>3,082,297.80</u>
TOTAL LIABILITIES & EQUITY	<u><u>4,819,257.01</u></u>

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TAMI RITTER, CHAIR
Supervisor, District #3

TOD KIMMELSHUE, VICE CHAIR
Supervisor, District #4

BILL CONNELLY
Supervisor, District #1

PETER DUFEE
Supervisor, District #2

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Councilmember, Chico

BRUCE JOHNSON
Vice Mayor, Gridley

ERIC SMITH
Vice Mayor, Oroville

RON LASSONDE
Councilmember, Paradise



STEPHEN ERTLE
Air Pollution Control Officer

PATRICK LUCEY
Assistant Air Pollution Control Officer

Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Aleah Ing, Administrative Services Officer

Re: **FY 25-26 4th Quarter Grant Revenue Report**

ISSUE:

Quarterly status of Grant Implementation Fund Earnings.

ACTION REQUESTED:

Accept and file report.

DISCUSSION:

Grant implementation funds are awarded and received by the District. These grant funds are budgeted based on projection of staff activity for each grant program over the fiscal year. Budgeted grant funds become earned grant revenue when staff activities to implement the grants are conducted. This report is a quarterly update of earned grant revenue earnings vs budgeted grant funds.

The attached report details earned grant revenues for the Fiscal Year. Due to the timing of implementation of each of the grants, the number of hours and costs related to the implementation will vary between quarters. The District is currently on track, recognizing 92.8% of budgeted (100% of fiscal year at time of reporting), with some grants at less than budgeted and some greater than budgeted.

Agenda Item 3.6

Fiscal Year to Date Grant Implementation Earnings Summary

	Jul 25 - June 26	Budget	\$ Over Budget	% of Budget
AB 617 Implementation Funds	124,158.24	108,208.85	15,949.39	114.7%
Carl Moyer, RAP & Reserve Grant Funds	44,689.33	44,773.61	(84.28)	99.8%
Community CAP Grant Funds	81,744.25	72,337.37	9,406.88	113.0%
FARMER Grant Funds	49,138.17	97,522.53	(48,384.36)	50.4%
	299,729.99	322,842.36	(23,112.37)	92.8%

These are implementation grant funds that are recognized from unearned balances when expenses are summarized in quarterly reports as earned.

Attachments:

Quarterly Grant Report.

Butte Co. Air Quality Management Dist.
Grant Status - Budget vs. Actual
 July 2025- June 2026 -100% of the Year

AB 617 Implementation Funds

	Jul 25 - June 26	Budget	\$ Over Budget	% of Budget
6/30/2026 Projected Balances				
Unearned - Deferred Inflows				
AB617 Implementation Funds				
6/30/2025 Unearned Balance	94,975.78	0.00	94,975.78	
Unearned added during FY 25-26	136,898.16	160,172.41	-23,274.25	85.47%
Implementation Funds Recognized during FY 25-26	124,158.24	108,208.85	15,949.39	114.74%
6/30/2026 Projected Unearned Balance	107,715.70	51,963.56	55,752.14	
 Budgeted Actual vs Budgeted Hours	 295.75	 85.00	 210.75	 347.94%

* Budget amendments by the Board September 25, 2025 with Resolution 2025-13.

Carl Moyer, RAP & Reserve Grant Funds

	Jul 25 - June 26	Budget	\$ Over Budget	% of Budget
6/30/2026 Projected Balances				
Unearned - Deferred Inflows				
Carl Moyer Implementation Funds				
6/30/2025 Unearned Balance	20,229.98	33,400.18	-13,170.20	
Unearned added during FY 25-26	43,818.94	30,000.00	13,818.94	146.06%
Implementation Funds Recognized during FY 25-26	44,689.33	44,773.61	-84.28	99.81%
6/30/2026 Projected Unearned Balance	19,359.59	18,626.57	733.02	
 Budgeted Actual vs Budgeted Hours	 573.00	 320.00	 253.00	 179.06%

Restricted (budget to expend all grant pass through funds)

6/30/2025 Restricted Balance	479,684.97	0.00	479,684.97	
Restricted added during FY 25-26	256,430.65	212,500.00	43,930.65	120.67%
Restricted expended during FY 25-26	654,123.94	692,184.97	-38,061.03	94.5%
Balance	81,991.68	-479,684.97	561,676.65	

Community CAP Grant Funds

	Jul 25 - June 26	Budget	\$ Over Budget	% of Budget
6/30/2026 Projected Balances				
Unearned - Deferred Inflows				
CAP Implementation Funds				
6/30/2025 Unearned Balance	371,742.90	228,042.26	143,700.64	
Unearned added during FY 25-26	141,406.37	0.00	141,406.37	100.0%
Implementation Funds Recognized during FY 25-26	81,744.25	72,337.37	9,406.88	113.0%
6/30/2026 Projected Unearned Balance	431,405.02	155,704.89	275,700.13	
 Budgeted Actual vs Budgeted Hours	 688.75	 508.00	 180.75	 135.58%

Restricted (budget to expend all grant pass through funds)

6/30/2025 Restricted Balance	1,210,548.91	1,981,415.56	-770,866.65	
Restricted added during FY 25-26	808,464.24	770,866.65	37,597.59	104.88%
Restricted expended during FY 25-26	488,818.88	2,050,596.51	-1,561,777.63	23.84%
6/30/2026 Projected Balance	1,530,194.27	701,685.70	828,508.57	

FARMER Grant Funds

	Jul 25 - June 26	Budget	\$ Over Budget	% of Budget
6/30/2026 Projected Balances				
Unearned - Deferred Inflows				
FARMER Implementation Funds				
6/30/2025 Unearned Balance	284,803.75	299,062.86	-14,259.11	
Unearned added during FY 25-26	27.89	0.00	27.89	100.0%
Implementation Funds Recognized during FY 25-26	49,138.17	97,522.53	-48,384.36	50.39%
6/30/2026 Projected Unearned Balance	235,693.47	201,540.33	34,153.14	
 Budgeted Actual vs Budgeted Hours	 444.25	 697.00	 -252.75	 63.74%
 Restricted (budget to expend all grant pass through funds)				
6/30/2025 Restricted Balance	18,478.80	18,478.80	0.00	
Restricted added during FY 25-26	195.22	682.50	-487.28	28.6%
Restricted expended during FY 25-26	14,494.60	19,161.30	-4,666.70	75.65%
6/30/2026 Projected Balance	4,179.42	0.00	4,179.42	



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Councilmember, Paradise

STEPHEN ERTLE
Air Pollution Control Officer

PATRICK LUCEY
Assistant Air Pollution Control Officer

Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Ursula Parker, Senior Air Quality Compliance Inspector

Re: **Prescribed Burn Reporting & Monitoring Support Program Grant
Amendment – Additional Funds**

ISSUE:

Staff requests approval for the acceptance of additional \$45,000 in funding provided by the Prescribed Burn Reporting & Monitoring Support Program (Grant). The Grant was first approved by your Board in April 2019.

ACTION REQUESTED:

Approve Resolution 2026-11 to enter into a Memorandum of Understanding with Lake County Air Quality Management District to accept \$45,000 in Prescribed Burn Grant funding that they were unable to use.

DISCUSSION:

The Grant was established in 2019 under the State's SB 856, to provide funding to local air districts to assist in their implementation of smoke management programs and prescribed burn programs to enhance districts' abilities to monitor smoke and air quality during prescribed fire events, and to provide public awareness regarding prescribed burns. Your Board previously approved Resolution 2019-11, which granted authorization to receive annual funding to implement allowed Grant activities.

The most recent amendment to the Grant award includes an additional \$45,000 of funds which were originally allocated to Lake County Air Quality Management District, who was unable to use the funds, bringing the total allocation since 2019 to \$250,600.

Funding provided from the grant has aided staff in collaborating with Federal, State and local partners to minimize impediments to performing important fuels reduction projects while still protecting the public from smoke impacts. Since the Grant's implementation, over 14,000 acres in Butte County have been treated with prescribed fire, all without exceeding

Agenda Item 3.7

air quality standards. Approval of this additional funding will provide additional support to this historically underfunded program area.

Attachment: Resolution 2026-11.

**RESOLUTION 2026-11
BEFORE THE BOARD OF DIRECTORS OF
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA**

**AUTHORIZATION TO ENTER INTO A MEMORANDUM OF UNDERSTANDING WITH LAKE COUNTY AIR
QUALITY MANAGEMENT DISTRICT TO ACCEPT ADDITIONAL FUNDS FOR
IMPLEMENTATION OF THE DISTRICT'S SMOKE MANAGEMENT PROGRAM AND
ACTIVITIES RELATED TO PRESCRIBED BURNING**

Resolution 2026-11)
Amend Existing Grant Agreement (Resolution) to.....)
Receive Additional Funds for Implementation of the District's.....)
Smoke Management Program and Activities Related to.....)
Prescribed Burning.....)

WHEREAS, Existing Resolution 2019-11 authorizes the acceptance of funds from CARB and/or CAPCOA for implementation of the District's Smoke Management Program, as well as for support of District activities associated with prescribed burning and smoke management; and

WHEREAS, Lake County Air Quality Management District has \$45,000 from their District's allocation of prescribed burn funds available to transfer to Butte County to implement Butte's smoke management programs, to enhance air quality and smoke monitoring, and to provide public awareness regarding prescribed burns; and

WHEREAS, Butte County Air Quality Management District will need to enter into a Memorandum of Understanding with Lake County Air Quality Management District to accept the funds; and

BE IT FURTHER RESOLVED, that the District Board hereby authorizes the Air Pollution Control Officer to negotiate, sign, and amend, as needed, a Memorandum of Understanding between the Lake County Air Quality Management District related to these activities, and to accept funds and to implement associated projects, subject to District Counsel review.

On Motion of _____, and Seconded by _____, the foregoing resolution is hereby PASSED AND ADOPTED by the Air Quality Management District Board of Directors on this 23rd day of July, 2026 by the following:

AYES:
NOES:
ABSTAIN:
ABSENT:

Stephen Ertle, Air Pollution Control Officer
Butte County Air Quality Management District

I hereby attest that this is a true and correct copy of the action taken by the Butte County Air Quality Management District Board of Directors on July 23, 2026.

ATTEST: _____
Kelly Towne, Clerk of the Governing Board

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TAMI RITTER, CHAIR
Supervisor, District #3

TOD KIMMELSHUE, VICE CHAIR
Supervisor, District #4

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Councilmember, Paradise

STEPHEN ERTLE
Air Pollution Control Officer

PATRICK LUCEY
Assistant Air Pollution Control Officer

Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Stephen Ertle, Air Pollution Control Officer

Re: **Authorization to Open New Bank Accounts**

ISSUE:

The District's current banking institutions (Institutions) provide minimal interest, have onerous processes for account additions or deletions, and charge monthly fees for services, including positive pay and remote check deposits.

ACTION REQUESTED:

Authorize District management staff to open accounts as needed to minimize costs and maximize benefits and security of District banking activities.

DISCUSSION:

Staff conducted research and met with many banking institutions and Tri Counties Bank and Bank of Commerce had the best options for security, low fees, and other functionality. These banks require resolutions that specify personnel that are authorized to open or close accounts. The attached resolutions allow for this authorization.

Attachment:

Resolution 2026-12 (July) Authorization to Open Tri Counties Bank Accounts.

Resolution 2026-14 (July) Authorization to Open Bank of Commerce Accounts.

Agenda Item 3.8

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**RESOLUTION 2026-12
BEFORE THE BOARD OF DIRECTORS OF
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA
DESIGNATION OF AUTHORIZED INDIVIDUALS TO OPEN NEW BANK ACCOUNTS**

Resolution 2026-12.....)
Designate Authorized Individuals to)
Act on Behalf of the Agency and)
Open Accounts at Tri Counties Bank)

WHEREAS, the Board of Directors of Butte County Air Quality Management District desires to designate authorized individuals to act on behalf of the agency and to authorize the opening of accounts at Tri Counties Bank;

NOW, THEREFORE, BE IT RESOLVED that the following individuals are hereby authorized to act on behalf of Butte County Air Quality Management District in all matters relating to the opening and management of accounts at Tri Counties Bank:

Authorized Individuals;

1. Stephen Ertle, Air Pollution Control Officer,
2. Patrick Lucey, Assistant Air Pollution Control Officer, and
3. Aleah Ing, Administrative Services Officer,

BE IT FURTHER RESOLVED that Tri Counties Bank is hereby authorized to open and maintain accounts for Butte County Air Quality Management District as directed by the authorized individuals listed

BE IT FURTHER RESOLVED, that the Butte County Air Quality Management District Board, on its own behalf and on behalf of the residents of Butte County,

On Motion of _____, Seconded by _____, the foregoing resolution is hereby PASSED AND ADOPTED by the Air Quality Management District Board of Directors on this 23rd day of July, 2026 by the following:

AYES:
NOES:
ABSTAIN:
ABSENT:

Stephen Ertle, Air Pollution Control Officer
Butte County Air Quality Management District

I hereby attest that this is a true and correct copy of the action taken by the Butte County Air Quality Management District Board of Directors on July 23, 2026.

ATTEST: _____
Kelly Towne, Clerk of the Governing Board

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RESOLUTION 2026-14
BEFORE THE BOARD OF DIRECTORS OF
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA
DESIGNATION OF AUTHORIZED INDIVIDUALS TO OPEN NEW BANK ACCOUNTS

Resolution 2026-14.....)
Designate Authorized Individuals to)
Act on Behalf of the Agency and)
Open Accounts at Bank of Commerce)

WHEREAS, the Board of Directors of Butte County Air Quality Management District desires to designate authorized individuals to act on behalf of the agency and to authorize the opening of accounts at Bank of Commerce;

NOW, THEREFORE, BE IT RESOLVED that the following individuals are hereby authorized to act on behalf of Butte County Air Quality Management District in all matters relating to the opening and management of accounts at Bank of Commerce:

Authorized Individuals;

1. Stephen Ertle, Air Pollution Control Officer,
2. Patrick Lucey, Assistant Air Pollution Control Officer, and
3. Aleah Ing, Administrative Services Officer,

BE IT FURTHER RESOLVED that Bank of Commerce is hereby authorized to open and maintain accounts for Butte County Air Quality Management District as directed by the authorized individuals listed;

BE IT FURTHER RESOLVED, that the Butte County Air Quality Management District Board, on its own behalf and on behalf of the residents of Butte County,

On Motion of _____, Seconded by _____, the foregoing resolution is hereby PASSED AND ADOPTED by the Air Quality Management District Board of Directors on this 23rd day of July, 2026 by the following:

AYES:
NOES:
ABSTAIN:
ABSENT:

Stephen Ertle, Air Pollution Control Officer
Butte County Air Quality Management District

I hereby attest that this is a true and correct copy of the action taken by the Butte County Air Quality Management District Board of Directors on July 23, 2026.

ATTEST: _____
Kelly Towne, Clerk of the Governing Board

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TAMI RITTER, CHAIR
Supervisor, District #3

TOD KIMMELSHUE, VICE CHAIR
Supervisor, District #4

BILL CONNELLY
Supervisor, District #1

PETER DURFEE
Supervisor, District #2

DOUG TEETER
Supervisor, District #5

DOUGLAS ARNOLD
Vice Mayor, Biggs

BRYCE GOLDSTEIN
Councilmember, Chico

J. ANGEL CALDERON
Councilmember, Gridley

ERIC SMITH
Vice Mayor, Oroville

RON LASSONDE
Councilmember, Paradise

STEPHEN ERTLE
Air Pollution Control Officer

PATRICK LUCEY
Assistant Air Pollution Control Officer

Date of Release: July 16, 2025

Board Consideration: July 23, 2025

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Aleah Ing, Administrative Services Officer

Re: **Fiscal Year 2026-2027 Budget Adoption Hearing #2**

ISSUE:

The Board is asked to consider adoption of the Fiscal Year 2026-2027 Budget and related actions.

ACTION REQUESTED:

1. Following a Public Hearing on the Fiscal Year 2026-2027 Budget, accept comment and,
2. Adopt implementing Resolution 2026-04 Adopting the Final Fiscal Year 2026-2027 Budget and,
3. Adopt implementing Resolution 2026-05 Authorizing Contracted Legal Services.

DISCUSSION:

Before your Board is the initial hearing for the purpose of reviewing and receiving comments on the District's Proposed Fiscal Year 2026-2027 Budget. Staff are proposing a budget that relies on past unallocated revenues. The proposed budget outflows is \$4,747,706.48 that includes an operating expense budget of \$2,432,087.06. The grant funds include \$1,616,365.37 in grant funds that are restricted at the end of FY25-26, resulting in re-budgeting of the expenses and an additional in \$400,197.50 in WoodSmoke and CHIRP grant funds that were projected for FY 25-26, but are delayed to the FY 26-27 with inflow and outflows being re-budgeted.

No changes in permanent staffing levels are proposed. Staff proposes a 3.6% CPI fee increase to the hourly rate pursuant to Rule 509 section 2, amending the hourly rate to \$112.35. This hourly rate change would increase fees which have an hourly rate factored into the fee schedule.

Agenda Item 5

Health & Safety Code, Sections 40130 and 40131 require that prior to adoption of the District's annual budget; the District is to hold a public hearing for the purpose of reviewing its budget proposal and providing the public with opportunity to comment. Today's hearing is the second hearing, where the District Governing Board formally considers adopting the annual budget. No public comments have been received.

Changes to the proposed budget include:

- The initial proposed budget was based on an estimated CPI of 3%. The April to April CPI is 3.6% which has resulted in some minor changes to the proposed budget for adoption.
- Re-evaluation of permit fees based on FY25-26 year end, current permit holders, and hourly rate changes has resulted in some changes in estimated revenue for License and Permits by \$27,000.
- Changes to estimated Wages and Benefits due to CPI and updated medical insurance costs are also affecting the proposed budget by \$4,000 increase.
- Decrease in software subscriptions for QuickBooks with the transition to the online version by \$4,000.
- Grant funds for the WoodSmoke and CHIRP programs are also being amended. These funds were previously budgeted in FY25-26, but the request for funds and distribution of the funds will now be occurring during the FY26-27. This does increase the overall inflows and outflows.
- **These changes result in no NET change to the proposed total for Budget Operating Expenses.**

The APCO and staff met with the Board's Budget and Finance Committee (Council Members: Bryce Goldstein & Eric Smith) during the development of this Proposed Budget on March 1st and April 1st. The committee supports the proposed Fiscal Year 2026-2027 Budget.

Attachment:

FY 2026-2027 Comparative Budget (Adoption).

2026-04 FY 2026-2027 Budget Adoption.

2026-05 Contracted Outside Legal Services.

Butte County Air Quality Management District

Budget

FY 2026-2027

		General Fund		Special Revenue Fund					Proposed Budget
		Operating	Non-Operating	FARMER	Carl Moyer	CHIRP	WoodSmoke	CAP	
4000 - OPERATING Revenue									
<u>4210-Licenses & Permits</u>	REVENUE								
4213010 Ag Burn Permits		95,000.00							95,000.00
4213013 Ag Engine Registration Program		350.00							350.00
4213020 Title V Permits		5,672.00							5,672.00
4213030 Operating Permits		686,000.00							686,000.00
4213035 Portable Engine Registration		43,750.00							43,750.00
4213038 Asbestos Program		10,000.00							10,000.00
4213040 Auth to Construct		22,000.00							22,000.00
4213055 Emission Reduction Fee		-							-
4213060 Misc. Other Permits		-							-
4213061 Technical Evaluation Fees		3,000.00							3,000.00
4210 - Licenses & Permits		865,772.00	-	-	-	-	-	-	865,772.00
<u>4330-Fines, Forfeitures & Penalties</u>									
4300001 Civil Settlements		40,000.00							40,000.00
4300 - Fines, Forfeitures & Penalties		40,000.00	-	-	-	-	-	-	40,000.00
<u>4710-Other Revenues (Miscellaneous)</u>									
<u>Misc Revenue</u>									
BCC Secretarial Duties Contract		17,628.29							17,628.29
Reimbursements (Copy & Other)		1,826.71							1,826.71
Fees (Finance Charges, Return Check)		1,035.00							1,035.00
4712523 4712523 Misc Revenue		20,490.00	-	-	-	-	-	-	20,490.00
<u>Implementation Revenue</u>									
Implementation portion of Interest from bank (see ab		-							-
FARMER		62,113.39							62,113.39
Carl Moyer		59,999.81							59,999.81
CHIRP		41,686.00							41,686.00
WoodSmoke		17,542.87							17,542.87
Community Air Protection (CAP)		100,323.77							100,323.77
4712550 4712550 Implementation Administrative Funds		281,665.84	-	-	-	-	-	-	281,665.84
4710 - Other Revenues (Miscellaneous)		302,155.84	-	-	-	-	-	-	302,155.84
SUBTOTAL OPERATING REVENUE	TOTAL REVENUE	1,207,927.84	-	-	-	-	-	-	1,207,927.84

Butte County Air Quality Management District

Budget

FY 2026-2027

	General Fund		Special Revenue Fund					Proposed Budget
	Operating	Non-Operating	FARMER	Carl Moyer	CHIRP	WoodSmoke	CAP	
5000 - OPERATING Expenses	OPERATING EXPENSES							
<u>Wages, Benefits & PR Expenditures</u>								
	<u>Salaries, Wages & PR Taxes</u>							
511000	Wages & PR Taxes	1,235,486.41						1,235,486.41
512000	Extra Help	16,000.00						16,000.00
514000	Overtime	16,175.41						16,175.41
511	Salaries, Wages, PR Taxes	1,267,661.83	-	-	-	-	-	1,267,661.83
<u>Benefits</u>								
518008	Health Care	233,828.16						233,828.16
518009	Cafeteria	46,996.34						46,996.34
518010	Other Employee Benefits	32,923.42						32,923.42
518011	Vehicle Allowance	8,556.00						8,556.00
518700	Retirement (Pension) - includes Classic, Pepra & Def	192,224.33						192,224.33
518800	Contrib to Pension Liability (bal as of 6/30/22 \$2,093,	208,902.00						208,902.00
518900	Retiree's OPEB	42,325.15						42,325.15
518901	Contrib to OPEB Liability (net bal as of 6/30/23 \$314,	-						-
518	Benefits	765,755.40	-	-	-	-	-	765,755.40
<u>Operating Expenditures</u>								
	<u>Materials & Supplies</u>							
521104	Postage	4,829.39						4,829.39
522201	Office Supplies	15,164.00						15,164.00
523001	Telecommunications	23,458.80						23,458.80
524544	Utilities – Electric/Gas, Water, Trash	10,610.80						10,610.80
525545	Auto Fuel Costs/Road Expense	4,092.50						4,092.50
520	Materials & Supplies	58,155.49	-	-	-	-	-	58,155.49
<u>Services & Other Operating</u>								
531201	Household Janitorial	12,051.00						12,051.00
532527	Insurance (Liability & Vehicle)	25,230.00						25,230.00
533533	Memberships, Dues and Subscriptions	15,417.00						15,417.00
534537	Public & Legal Notices	3,825.00						3,825.00
535540	Public Outreach	20,358.00						20,358.00
536101	Training	20,249.80						20,249.80
537202	Travel & Conference expenses	39,495.35						39,495.35
530	Services & Other Operating	136,626.15	-	-	-	-	-	136,626.15
<u>Rents & Leases</u>								
541538	Property Rents & Leases	1,954.00						1,954.00
542539	Equipment Rents & Leases	3,862.50						3,862.50
<u>Noncapitalized Improvements & Equipment</u>								
543103	Office Furniture & Equipment (copier, chairs, conf tat	2,913.00						2,913.00
543203	Computer Equipment	22,557.00						22,557.00

Butte County Air Quality Management District

Budget

FY 2026-2027

		General Fund		Special Revenue Fund					Proposed Budget
		Operating	Non-Operating	FARMER	Carl Moyer	CHIRP	WoodSmoke	CAP	
543204	Computer Software & Subscriptions	32,505.72							32,505.72
543541	Air Monitoring Equipment & Maintenance	9,252.83							9,252.83
	<u>Repairs & Maintenance</u>								
544001	Vehicle Maintenance	7,460.19							7,460.19
544042	IT Maintenance (computer equipment)	48,959.44							48,959.44
544103	Building Maintenance (annual expenditures)	11,815.50							11,815.50
540	Rents, Leases, Repairs & Noncapitalized Improvements	141,280.18	-	-	-	-	-	-	141,280.18
	<u>Professional/Consulting Services</u>								
551137	AB2588 Hot Spots Fee	138.02							138.02
551536	Professional Services	43,415.00							43,415.00
551547	Legal Services	19,055.00							19,055.00
555580	Contingencies	-							-
550	Professional/Consulting Services	62,608.02	-	-	-	-	-	-	62,608.02
SUB OPERATING EXPENSES		Total Operating Expenditures*	2,432,087.06	-	-	-	-	-	2,432,087.06
Operating Subtotal (Income/Loss)		(1,224,159.22)	-	-	-	-	-	-	(1,224,159.22)
6000-SUBSIDIES Inflow Grouping (New Account Numbers Below)		NONCAPITAL SUBSIDIES Revenue (NEW GASB REQUIREMENT)							
<u>4510-Intergovernmental (Inflow-Other Income)</u>									
600001	4510001 State Subvention	73,400.00							73,400.00
600002	4511001 DMV Surcharge	735,000.00							735,000.00
600500	4510500 AB2588 Hot Spots Fee	134.00							134.00
600501	4510501 105 Grant Funding	-							-
600502	4510502 AB 197 Funding	8,583.00							8,583.00
600503	4510503 AB 617 Implementation Funding	69,969.23							69,969.23
600504	4510504 Prescribed Burn Reporting & Monitoring	47,027.17							47,027.17
600505	4510505 GHG Oil & Gas Funding	-							-
600506	4510506 Monitoring Grant	27,573.53							27,573.53
	Direct Intergovernmental Funds	961,686.93	-	-	-	-	-	-	961,686.93
600606	4510906 Carl Moyer				170,000.00				170,000.00
600607	4510904 FARMER			-					-
600608	4510915 Community Air Protection (CAP)							-	-
600609	4510908 CHIRP Grant					236,224.00			236,224.00
600610	4510909 WoodSmoke						163,953.50		163,953.50
	Pass Through Grant Portion of Intergovernmental	-	-	-	170,000.00	236,224.00	163,953.50	-	570,177.50
451 - Intergovernmental		961,686.93	-	-	170,000.00	236,224.00	163,953.50	-	1,531,864.43
Noncapital Subsidies (Revenue)		961,686.93	-	-	170,000.00	236,224.00	163,953.50	-	1,531,864.43

Butte County Air Quality Management District

Budget
FY 2026-2027

			General Fund		Special Revenue Fund					
			Operating	Non-Operating	FARMER	Carl Moyer	CHIRP	WoodSmoke	CAP	Proposed Budget
Noncapital Subsidies Expenses										
6500-SUBSIDIES outflow Grouping (new Account Numbers below)										
Grants (Outflow -other Expense)			Operating							Proposed Budget
650606	560006	Carl Moyer			4,179.42	251,991.68			1,530,194.27	251,991.68
650607	560021	FARMER								4,179.42
650608	560007	Community Air CAP (CAP)								
650609	560008	CHIRP Grant								236,224.00
650610	560009	WoodSmoke								163,953.50
650650	560020	Special Clean Air Grants	60,000.00							60,000.00
560 Total Grants			60,000.00	-	4,179.42	251,991.68	236,224.00	163,953.50	1,530,194.27	2,246,542.87
NONCAPITAL SUBSIDIES SUBTOTAL			901,686.93	-	(4,179.42)	(81,991.68)	-	-	(1,530,194.27)	(714,678.44)
SUBTOTAL OPERATING & NONCAPITAL SUBSIDIES			(322,472.29)	-	(4,179.42)	(81,991.68)	-	-	(1,530,194.27)	(1,938,837.66)
SUBTOTAL: Operating Income (Loss) and NonCapital Subsidies - Note: This is the critical subtotal required by GASB 103 to show if operations are sustainable when including recurring grant support.										
Renumber to 7000 Grouping										
Other NON Operating			Investment Income							
Interest Income										
Interest										
700410	4410	Interest		-						-
441 - Interest (Use of Money & Property)			-	-	-	-	-	-	-	-
Renumber to 7500 Grouping			DEBT							
Debt Service										
750087	565087	Principal		58,048.55						58,048.55
750110	565987	Interest & Other Charges		1,028.00						1,028.00
565 Total Debt Service			-	59,076.55						59,076.55
Other NON Operating Subtotal			-	(59,076.55)	-	-	-	-	-	(59,076.55)
New Accounts in 8000 Series			UNUSUAL or INFREQUENT ITEMS (NEW GASB REQUIREMENT)							
8100		Unusual/Infrequent Inflow (e.g., Disaster Grant) - Other Misc Income								
8200		Unusual/Infrequent Outflow (e.g., Cleanup Costs) - Other Misc Expense								
UNUSUAL or INFREQUENT SUBTOTAL			-	-	-	-	-	-	-	-

Butte County Air Quality Management District

Budget

FY 2026-2027

		General Fund		Special Revenue Fund					
		Operating	Non-Operating	FARMER	Carl Moyer	CHIRP	WoodSmoke	CAP	Proposed Budget
Renumber to 9000 Grouping									
Capital		CAPITAL							
900105	571105	Buildings & Improvements	10,000.00						10,000.00
900263	572563	Equipment (Computer Equipment & Office Furniture >\$25,000)	-						-
900305	573105	Vehicles (Fixed asset Inventory; Listed in Depreciation Schedule >\$25,000)	-						-
570 Total Capital Outlay		-	10,000.00						10,000.00
Inflows		2,169,614.77	-	-	170,000.00	236,224.00	163,953.50	-	2,739,792.27
Outflows		2,492,087.06	69,076.55	4,179.42	251,991.68	236,224.00	163,953.50	1,530,194.27	4,747,706.48
TOTAL Budget (\$ listed in Resolution) - Net Effect to Fund Balance		(322,472.29)	(69,076.55)	(4,179.42)	(81,991.68)	-	-	(1,530,194.27)	(2,007,914.21)

UNEARNED & FUND BALANCE (Assigned Reserves, Restricted & Unassigned)

Unearned		Operating		Proposed Budget	
Restrictions (Fund Balance)					
	Operating expenses for reserve calculation	2,432,087.06		2,491,163.61	
	Estimated reserve based on calculated from above (operating)	608,021.76		608,021.76	
Assigned	Reserve Fund (see Resolution/Policy)	608,022.00		608,022.00	

Butte County Air Quality Management District

Budget

FY 2026-2027

General Fund		Special Revenue Fund					Proposed Budget
Operating	Non-Operating	FARMER	Carl Moyer	CHIRP	WoodSmoke	CAP	

Butte County Air Quality Management District

Fund Balance Summary

FY 2026-2027 Budget

	Operating	Non-Operating	FARMER	Carl Moyer	CHIRP	WoodSmoke	CAP	FY24-25 Proposed Budget
NonSpendable								
AB617 Support Grants	94,975.78							94,975.78
Carl Moyer				479,684.97				479,684.97
Farmer			18,478.80					18,478.80
WoodSmoke								-
CAP							1,210,548.91	1,210,548.91
Reserve Funds	329,626.07							329,626.07
Committed Funds								
Unassigned Fund Balance	957,678.22							957,678.22
Audited Fund Balance 6/30/25	1,382,280.07	-	18,478.80	479,684.97	-	-	1,210,548.91	3,090,992.75
								FY25-26
FY 2025-26 Revenue Budgeted	2,160,205.96			256,250.00	-	-	770,536.65	3,186,992.61
FY 2025-26 Expenses Budgeted	2,512,559.12		14,494.60	660,796.85	-	-	488,488.87	3,676,339.44
Change to Fund Balance	(352,353.16)	-	(14,494.60)	(404,546.85)	-	-	282,047.78	(489,346.83)

	Operating						Proposed Budget
Restricted			4,179.42	81,991.68		1,530,194.27	1,616,365.37
Assigned (reserved increased FY25-26 \$259,963)	589,589.00						589,589.00
Projected Unassigned Audit Balance	440,337.91						440,337.91
Est.Fund Balance 6/30/26	1,029,926.91	-	4,179.42	81,991.68	-	1,530,194.27	2,646,292.28

	Activity FY 2026-27						Activity FY 2026-27
Total Inflows (Revenue)	2,169,614.77	-	-	170,000.00	236,224.00	163,953.50	2,739,792.27
Total Outflows (Expenditures)	2,492,087.06	69,076.55	4,179.42	251,991.68	236,224.00	1,530,194.27	4,747,706.48
Revenue Less Expenses	(322,472.29)	(69,076.55)	(4,179.42)	(81,991.68)	-	(1,530,194.27)	(2,007,914.21)

Est Fund Bal 6/30/27

Est Fund Bal 6/30/27

Resolution 2025-07, Guides the District to maintain 3 months of operating expenses.

Total Assigned & Restricted (reserve increased FY26-27 \$20,231)	608,022.00	-	-	-	-	-	608,022.00
Total unassigned Fund Balance	99,432.62	(69,076.55)	-	0.00	-	-	30,356.07
Fund Balance 6/30/2027	707,454.62	(69,076.55)	-	0.00	-	-	638,378.07

**RESOLUTION 2026-04
BEFORE THE BOARD OF DIRECTORS OF
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA
FY 2026-2027 Fiscal Budget Adoption**

Resolution 2026-04)
Adopting the 2026-2027 Budget.....)
Totaling \$4,747,706.48)
Of the total, \$2,246,542.87 is in Grant funds.....)
The Operating Budget of \$2,432,087.06.....)
Includes Debt Service of \$59,076.55)
And Includes \$10,000 in Capital)

WHEREAS, on July 23, 2026, the Governing Board met in regular session;

AND WHEREAS, the Governing Board reviewed and considered information provided as set out and identified as the FY 2026-2027 Budget; and;

AND WHEREAS, pursuant to Health and Safety Code Sections 40130 and 40131 the Board held an initial Public Hearing on May 28, 2026 for the exclusive purpose of reviewing its budget and providing the public with the opportunity to comment on the proposed District budget;

AND WHEREAS, the Board held a Public Hearing pursuant to the Health and Safety Code Sections 40130 and 40131 on July 23, 2026 to consider adopting the FY 2026-2027 Budget;

THEREFORE, BE IT RESOLVED, that the Board has reviewed and adopts the FY 2026-2027 Budget consisting of an operating budget of \$2,432,087.06, which includes debt service of \$59,076.55 and \$10,000 in Capital for the 2026-2027 District Fiscal Year;

BE IT FURTHER RESOLVED, that to cover program costs, the adoption includes the California Consumer Price Index (CCPI), All Urban Consumers, April 2025 to April 2026 increase in the hourly rate pursuant to Rule 509 Section 2, the hourly rate amended to \$112.35, reflecting 3.6% increase, with Rule 509 being amended to include this change; and,

BE IT FURTHER RESOLVED, that the Board approves receiving unanticipated revenue and expenditures as well as amending the budget for any additional grant funding such as Carl Moyer, State Reserve, FARMER, CAP, AB 617, AB 197, Prescribed Burn Reporting, CHIRP Grant, Monitoring Funds or the Woodsmoke Reduction Program that may become available and accepted by the District; and,

BE IT FURTHER RESOLVED, to adopt changes related to the new GASB requirements that result in the reorganization, renumbering, and new accounts defined in the budget and incorporated in the Administrative Code Section A, section 11.

BE IT FURTHER RESOLVED, the Air Pollution Control Officer is authorized to borrow internally from the Reserve Fund to resolve short-term cash flow needs, with the direction to make repayment by June 30, 2027; and,

AND BE IT FURTHER RESOLVED, the Air Pollution Control Officer is authorized and hereby directed to negotiate and sign the initial and final applications for potential State subvention funds for the Fiscal Year 2026-2027.

On Motion of _____, Seconded by _____, the foregoing resolution is hereby PASSED AND ADOPTED by the Air Quality Management District Board of Directors on this 23 day of July, 2026 by the following:

AYES:

NOES:

ABSTAIN:

ABSENT:

Stephen Ertle, Air Pollution Control Officer
Butte County Air Quality Management District

I hereby attest that this is a true and correct copy of the action taken by the Butte County Air Quality Management District Board of Directors on July 23, 2026.

ATTEST: _____
Kelly Towne, Clerk of the Governing Board

**RESOLUTION 2026-05
BEFORE THE BOARD OF DIRECTORS OF
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA
FY 2026-2027 CONTRACTED OUTSIDE LEGAL SERVICES**

Resolution 2026-05)
Approval and direction to the.....)
Air Pollution Control Officer to contract)
for Outside Legal Services)

WHEREAS, the District is a body corporate and politic and a public agency of the state;

AND WHEREAS, the District, pursuant to the Health and Safety Code Section 40700 et seq. has the power; to have a perpetual successor and to enter into contractual services;

AND WHEREAS, the District is an environmental, regulatory, public agency established pursuant to State statute and is charged with the enforcement of federal, state, regional and local air pollution regulations;

AND WHEREAS, in the course of performing its day-to-day implementation of active and effective air pollution control programs the District has need of legal counsel;

AND WHEREAS, the FY 2026-2027 Budget includes \$18,500 for contract outside legal services;

BE IT FURTHER RESOLVED, the Board hereby authorizes and directs the Air Pollution Control Officer to execute a legal services agreement for legal counsel with current District Counsel Greg Einhorn for FY 2026-2027.

On Motion of _____, Seconded by _____ the foregoing resolution is hereby PASSED AND ADOPTED by the Air Quality Management District Board of Directors on this 23 day of July, 2026 by the following:

AYES:
NOES:
ABSTAIN:
ABSENT:

Stephen Ertle, Air Pollution Control Officer
Butte County Air Quality Management Distr

I hereby attest that this is a true and correct copy of the action taken by the Butte County Air Quality Management District Board of Directors on July 23, 2026.

ATTEST: _____
Kelly Towne, Clerk of the Governing Board

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TAMI RITTER, CHAIR
Supervisor, District #3

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ZACH BROWN
Councilmember, Biggs

BRYCE GOLDSTEIN
Councilmember, Chico

BRUCE JOHNSON
Vice Mayor, Gridley

ERIC SMITH
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RON LASSONDE
Councilmember, Paradise

STEPHEN ERTLE
Air Pollution Control Officer

PATRICK LUCEY
Assistant Air Pollution Control Officer

Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Jason Mandly, Senior Air Quality Planner

Re: **PM_{2.5} Second Maintenance Plan**

ISSUE:

Public Hearing for the Chico, CA / Butte County PM_{2.5} Second Maintenance Plan.

ACTION REQUESTED:

After holding a public hearing, consider comments and approve Resolution 2026-13 adopting the Chico, CA / Butte County PM_{2.5} Second Maintenance Plan and directing staff to forward the Chico, CA / Butte County PM_{2.5} Second Maintenance Plan, including all public comments received, to the California Air Resources Board (CARB) for consideration and submittal to the U.S. Environmental Protection Agency (EPA).

DISCUSSION:

In December 2009 most of Butte County was designated by EPA as nonattainment for the 2006 24-hour fine particulate matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS). U.S. EPA took final action effective October 2013 to determine that the Chico nonattainment area in Butte County, California had attained the 2006 24-hour PM_{2.5} NAAQS.

To be reclassified as an attainment area, the Clean Air Act (CAA) section 175A requires attainment and maintenance of the standard for 20 years, demonstrated in two consecutive 10-year maintenance periods. In December 2017, CARB submitted the "Chico, CA / Butte County PM_{2.5} Nonattainment Area Redesignation Request and Maintenance Plan" to U.S. EPA. U.S. EPA took final action effective August 10, 2018 approving the redesignation request and the first 10-year PM_{2.5} Maintenance Plan for the planning area. CAA Section 175A(b) requires the second maintenance plan to be submitted 8 years after redesignation to attainment. The Chico CA / Butte County PM_{2.5} Second Maintenance Plan, prepared in accordance with Section 175(A) of the CAA, demonstrates how the planning area will continue to maintain the NAAQS throughout the second 10-year Maintenance period.

Agenda Item 6

This second maintenance plan was developed with assistance from staff with CARB's Air Quality Planning & Science Division and EPA's Region 9 office. A proposed version was released for public review on May 22, 2026. The District received two comments from staff with EPA's Region 9 office during the public commenting period. This item includes a final proposed version of the second maintenance plan, and an underline-strikeout version to show changes made during the public commenting period.

Attachments:

Chico CA / Butte County PM_{2.5} Second Maintenance Plan – Final Proposed.

Comments Received During Public Notice.

Chico CA / Butte County PM_{2.5} Second Maintenance Plan – Underline/Strikeout.

Proposed Resolution 2026-13 – Second PM_{2.5} Maintenance Plan.

Public Notice Affidavit of Publication.

Chico, CA/Butte County PM_{2.5} Second Maintenance Plan

Proposed for Adoption July 23, 2026

Date of Release May 22, 2026

Butte County Air Quality Management District

629 Entler Avenue, Suite 15
Chico, CA 95928

Lead Staff

Jason Mandly, Senior Air Quality Planner

Reviewed By

Stephen Ertle, Air Pollution Control Officer

The Butte County Air Quality Management District appreciates the assistance and contributions from staff with the California Air Resources Board and the U.S. EPA Region 9 office.

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1. Executive Summary

In December 2009 most of Butte County was designated by the United States Environmental Protection Agency (U.S. EPA) as nonattainment for the 2006 24-hour fine particulate matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS). Under state and federal law, the Butte County Air Quality Management District (BCAQMD or District) is the local air quality agency responsible for meeting and maintaining compliance with federal air quality standards. The California Air Resources Board (CARB) is tasked with submitting State Implementation Plans (SIPs) to U.S. EPA that demonstrate how nonattainment areas will attain the NAAQS. U.S. EPA took final action effective October 2013 to determine that the Chico nonattainment area in Butte County, California had attained the 2006 24-hour PM_{2.5} NAAQS.

To be reclassified as an attainment area, the Clean Air Act (CAA) section 175A requires attainment and maintenance of the standard for 20 years, demonstrated in two consecutive 10-year maintenance periods. In December 2017, CARB submitted the "Chico, CA/Butte County PM_{2.5} Nonattainment Area Redesignation Request and Maintenance Plan" to U.S. EPA. U.S. EPA took final action effective August 10, 2018 approving the redesignation request and the first 10-year PM_{2.5} Maintenance Plan for the planning area. CAA Section 175A(b) requires the second maintenance plan to be submitted 8 years after redesignation to attainment. This document, Chico CA/Butte County PM_{2.5} Second Maintenance Plan (Second Maintenance Plan), prepared in accordance with Section 175(A) of the CAA, demonstrates how the Planning Area will continue to maintain the NAAQS throughout the second 10-year Maintenance period.

2. Introduction and Background

a. Area Setting

Butte County, California is located in the northeastern portion of the Sacramento Valley Air Basin (Figure 1). The U.S. EPA has designated a portion of Butte County as the Chico, CA/Butte County (partial) PM_{2.5} Planning Area (Planning Area). The PM_{2.5} monitoring site is located in the Planning Area at the eastern edge of the valley floor, on East Avenue in Chico, California, and is assigned an Air Quality System (AQS) number 060070008.

The U.S. EPA defines the Planning Area (Figure 2) as that portion of Butte County which lies west of the line described as follows: (Mount Diablo Base and Meridian) Beginning at the intersection of the Butte-Yuba county line and the township line common to T18N R6E and T19N R6E, west to the township line common to T18N R6E and T19N R6E, then north along the range line common to R5E and R6E, then west along the township line common to T21N and T20N, then north along the range line common to R4E and R5E, then west along the township line common to T24N and T23N to the Butte-Tehama County boundary.

The Sacramento Valley is bound on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada Mountains. These mountain ranges reach heights in excess of 6000 feet above mean sea level (MSL), with individual peaks rising higher. This provides a substantial physical barrier to both locally created pollution and the pollution that has been transported northward on prevailing winds from the metropolitan areas to the south. Although a significant portion of the Planning Area is at elevations higher than 1,000 feet above MSL, the vast majority of its populace lives and works below that elevation. The valley is often subjected to inversion layers that, coupled with geographic barriers, create a high potential for poor air quality conditions.

Figure 1. Sacramento Valley Air Basin

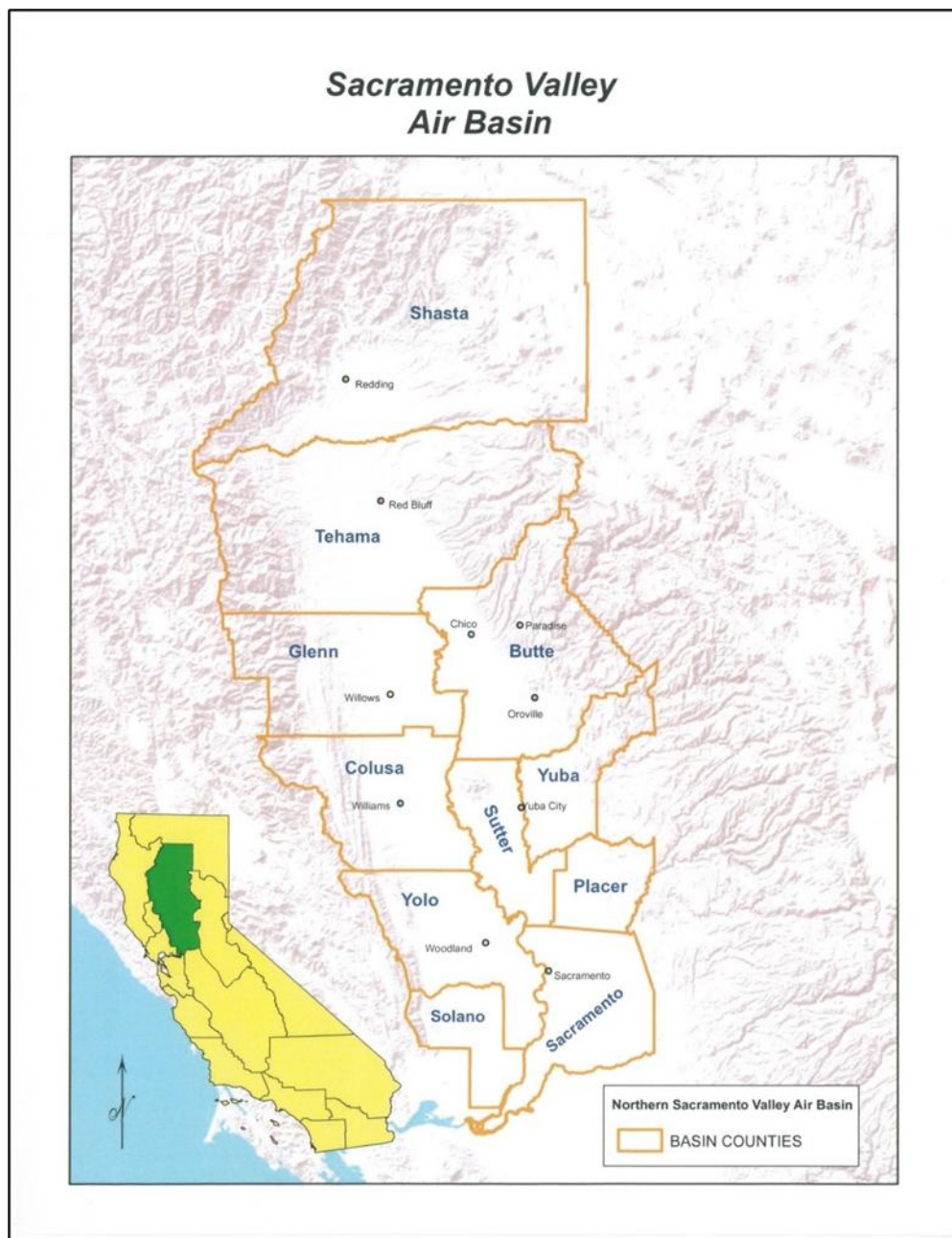
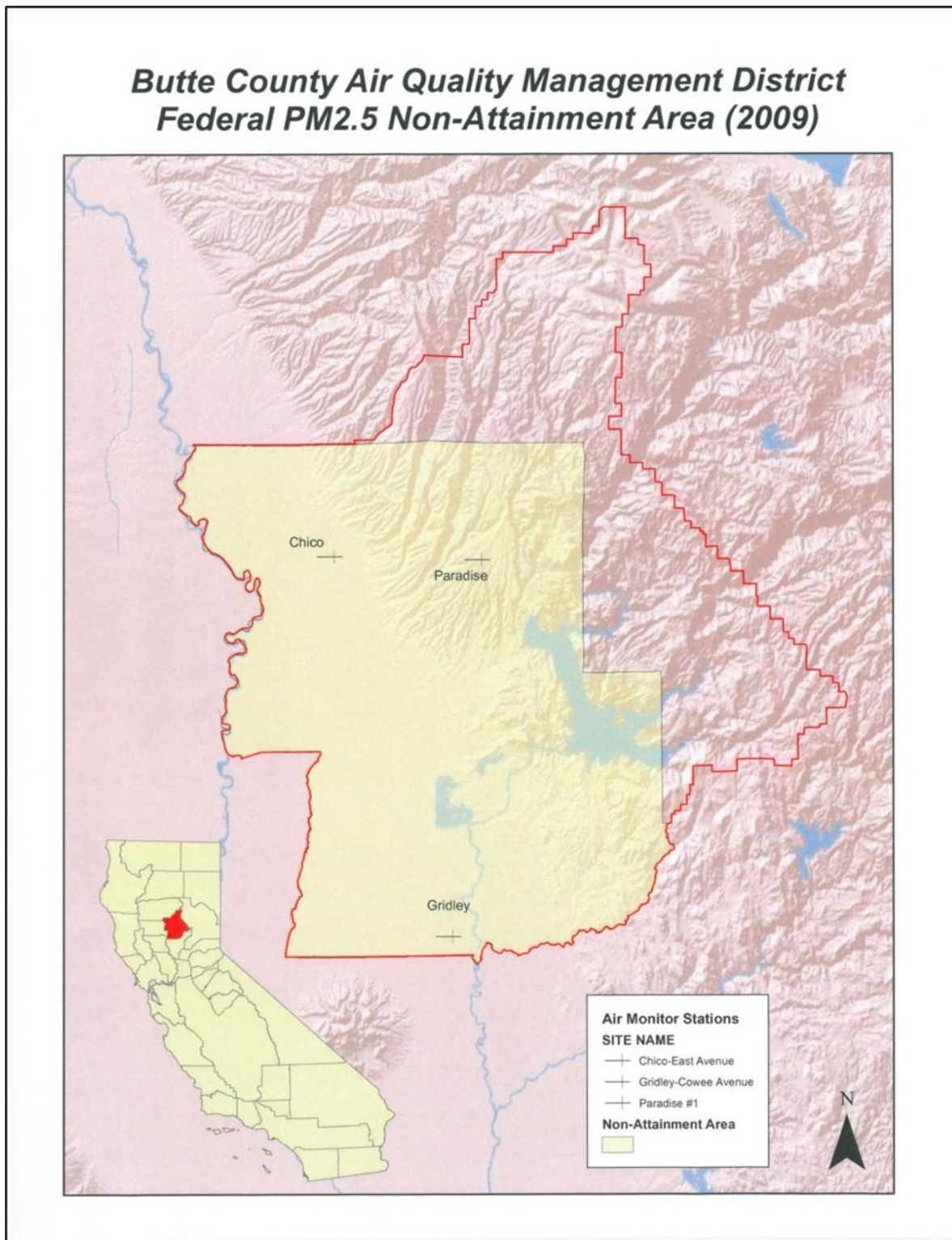


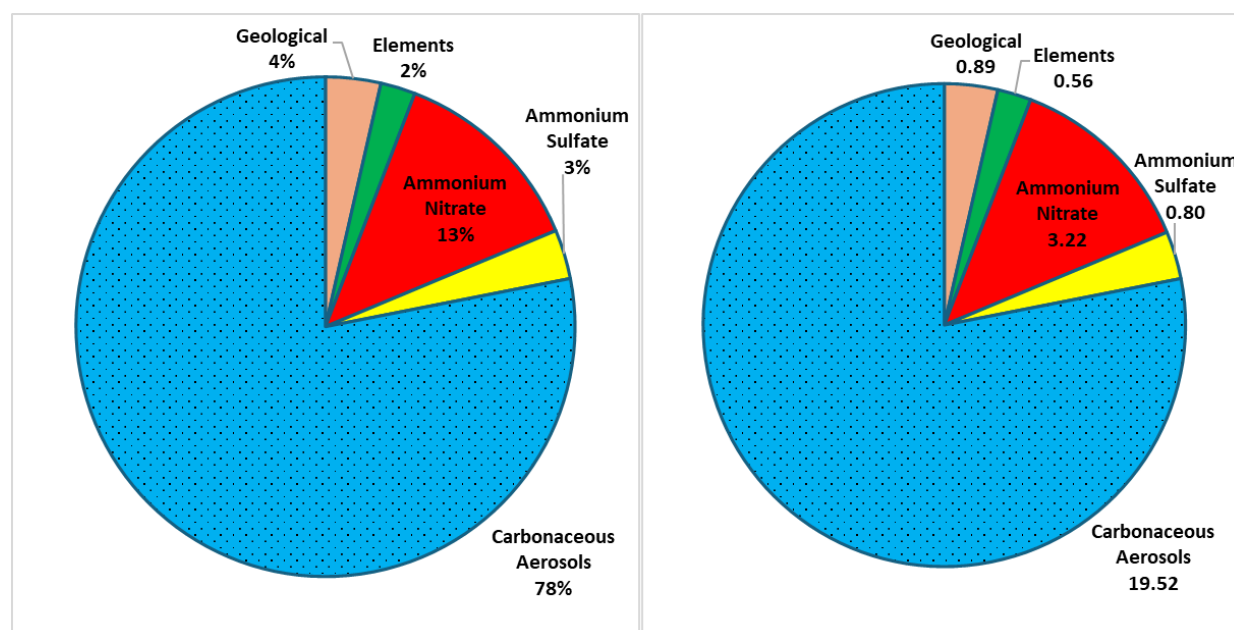
Figure 2. Planning Area



In Butte County, elevated PM_{2.5} levels occur primarily during the winter months due to a combination of meteorological conditions, terrain, and seasonal emission patterns. Wintertime

weather patterns, such as temperature inversions, light winds, and shallow mixing heights, trap pollutants close to the ground, limiting dispersion. At the same time, emissions from residential wood heating increase substantially during cold weather, adding large amounts of fine particulate matter to the air. As a result, most exceedances of the PM_{2.5} standard occur during the winter. Carbonaceous aerosols, which include organic matter and elemental carbon, overwhelmingly drive PM_{2.5} on high pollution days, making up almost 80% of the total PM_{2.5}. They are driven by emissions from combustion sources such as residential wood burning, vehicle emissions, and other incomplete combustion processes. Agricultural and residential open burning are also contributing factors. All other components are comparatively small contributors, with the next highest component, nitrate, contributing about 10% of the mass (Figure 3). While the sources of ammonium nitrate are regional, sources of carbonaceous aerosols are more localized.

Figure 3. 2022-2024 PM_{2.5} Mass and Percent Contribution on 10% of Days with Highest PM_{2.5} Concentrations.



Butte County currently has three (3) monitoring sites operated by the California Air Resources Board that measure PM_{2.5}, located in Chico, Gridley, and Paradise. However, only the Chico site has a federal equivalent method monitor (FEM) that can be used for attainment demonstration purposes. The Chico site collected federal reference method (FRM) data from 1998 to 2019 until the FRM monitor was replaced with an FEM monitor on July 1, 2019. The Chico site also has a PM_{2.5} speciation monitor that identifies the chemical composition of the PM_{2.5}. The PM_{2.5} speciation monitor was considered for relocation in the 2025 Annual Monitoring Network Plan however it is still currently in operation at the Chico site.

b. Regulatory History

Pursuant to the CAA, the U.S. EPA sets primary air quality standards to protect public health, including protection of sensitive populations such as asthmatics, children, and the elderly, and

secondary standards to protect public welfare, including the protection against decreased visibility and damage to crops, animals, vegetation, and buildings. Achieving the federal standards protects public health, reduces the region's health care costs, and improves the quality of life for residents. This section describes U.S. EPA's process for setting health-based standards and designating areas based on those standards, the history of the PM_{2.5} standard and the area designations, and the CAA requirements for areas based on those designations.

National Ambient Air Quality Standards

The Clean Air Act was adopted in 1970. The legislation authorized the development of comprehensive federal and state regulations to limit emissions from stationary and mobile sources. The CAA was amended in 1977 and again in 1990. The CAA and amendments require the U.S. EPA adopt National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. U.S. EPA formally designates areas as "nonattainment" (not meeting the standard), "unclassifiable/attainment" (meeting the standard or expected to be meeting the standard despite a lack of monitoring data), or "unclassifiable" (insufficient data to classify).

Once nonattainment designations take effect, state and local governments develop implementation plans outlining how areas will attain and maintain the standards by reducing air pollutant emissions contributing to fine particle concentrations. The CAA requires U.S. EPA to conduct a periodic review of the standards and the science upon which the standards are based.

Overview of Particulate Matter NAAQS

Particulate matter is one of the six criteria pollutants. U.S. EPA first issued standards for particulate matter in 1971 and subsequently revised the standards in 1987, 1997, 2006, and 2012. The 2006 revision addressed two categories of particle pollution: *fine particles* (PM_{2.5}), which have an aerodynamic diameter of 2.5 micrometers or smaller, and *inhalable coarse particles* (PM₁₀) which have a nominal aerodynamic diameter of less than 10 micrometers.

The U.S. EPA established the separate annual and 24-hour standards for PM_{2.5} in 1997 (62 FR 38652). The annual standard was set at 15.0 micrograms per cubic meter (µg/m³). The 24-hour standard was set at 65 µg/m³, based on a 3-year average of the 98th percentile of 24-hour PM_{2.5} concentrations.

In 2006, U.S. EPA lowered the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ and retained the annual PM_{2.5} standard at 15.0 µg/m³. The revised PM_{2.5} standards were published on October 17, 2006 (71 FR 61144) and became effective on December 18, 2006.

In 2012, U.S. EPA lowered the annual PM_{2.5} standard from 15.0 µg/m³ to 12.0 µg/m³ and retained the 24-hour PM_{2.5} standard at 35 µg/m³. The revised PM_{2.5} standards were published on January 15, 2013 (78 FR 3085) and became effective on March 18, 2013.

In 2024, U.S. EPA lowered the annual PM_{2.5} standard from 12.0 µg/m³ to 9.0 µg/m³ and retained the 24-hour PM_{2.5} standard at 35 µg/m³. The revised PM_{2.5} standards were published on March 6, 2024 (89 FR 16202) and became effective on May 6, 2024.

Designations

On November 13, 2009 (74 FR 58688), U.S. EPA promulgated air quality designations for all areas in the U.S. for the 2006 PM_{2.5} NAAQS, effective December 14, 2009. Based on 2005-2007 monitoring data, the Planning Area was designated nonattainment for the 24-hour PM_{2.5} NAAQS .

U.S. EPA issued a final determination effective October 10, 2013 finding that the Planning Area had attained the 2006 24-hour PM_{2.5} National Ambient Air Quality Standard (78 FR 55225). This determination was based upon complete, quality-assured, and certified ambient air monitoring data showing that this area has monitored attainment of the 2006 24-hour PM_{2.5} NAAQS based on the 2010–2012 monitoring period. Further, U.S. EPA took final action effective June 9, 2017 that the Planning Area met the 2006 24-hour PM_{2.5} standard as required by December 31, 2015 (82 FR 21711). To qualify for redesignation, an area must demonstrate attainment and continued maintenance of the standard for a 20-year period, supported by two consecutive 10-year maintenance plans. U.S. EPA approved the Planning Area's Redesignation Request and first 10-year maintenance plan as a SIP revision effective August 10, 2018 (83 FR 32064). The second maintenance plan is due on August 10, 2026, eight years after approval of the first plan.

To meet Clean Air Act requirements, the District, with the support from CARB, has prepared the Second Maintenance Plan to demonstrate continued attainment and maintenance of the 35 µg/m³ 24-hour PM_{2.5} NAAQS through the second 10-year maintenance period through ending in 2038.

3. Evaluation of the First Maintenance Period

The Planning Area continued to meet the NAAQS through the first 10-year maintenance period when not impacted by smoke from wildfires. Three months after U.S. EPA's approval of the first 10-year maintenance plan, Butte County was impacted by the Camp Fire - the deadliest and most destructive wildfire in California history. Prior to the Camp Fire in 2018 the Planning Area was also impacted by smoke from the Mendocino Complex Fire. The year 2020 brought smoke impacts from the August Complex Fire, currently the largest wildfire complex in California history, as well as the destructive North Complex fire. The Dixie Fire in 2021 started in Butte County and spread into neighboring counties, becoming the largest single wildfire in California history. 2024's Park Fire brought more destruction to Butte County communities however wind conditions limited the smoke impacts within the Planning Area.

Figure 4 and Table 1 show the resulting impacts to the Planning Area's design value. Per the contingency plan in the first 10-year Maintenance Plan, the District evaluated exceedances of the NAAQS and determined that each exceedance of the standard was due to wildfire smoke impacts. When days flagged for wildfire smoke impacts were removed, the modified design value remained below the standard for each year evaluated. The individual days exceeding the 24-hr PM_{2.5} standard due to wildfire smoke impacts between 2018 and 2022 are included in **Attachment A**.

Figure 4. PM_{2.5} 24-hr 98th Percentiles & Design Value Trends

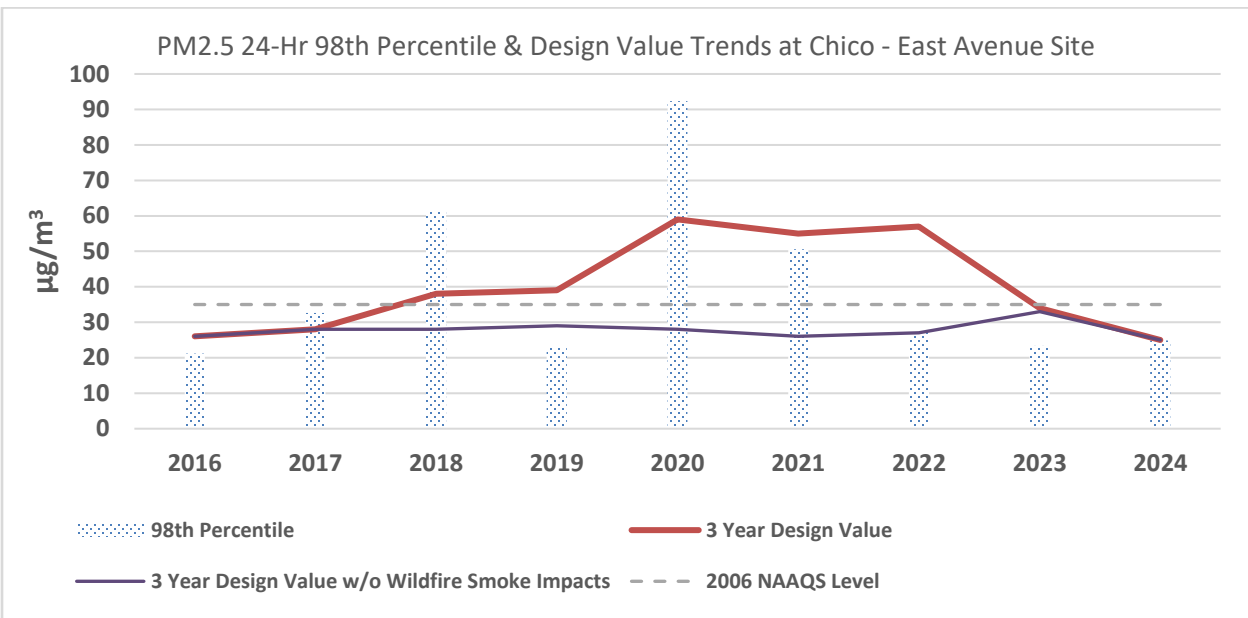


Table 1. 98th Percentiles and 24-hr Design Values with and without Wildfire Smoke Impacts (WSI)

Year	98th Percentile (µg/m³)		DV (µg/m³)	
	All Data	No WSI	All Data	No WSI
2015	29.5	29.5	29	29
2016	21.2	21.2	26	26
2017	32.6	32.6	28	28
2018	61.4	29.0	38	28
2019	23.0	23.0	39	28
2020	92.3	27.6	59	27
2021	50.6	26.1	55	26
2022	27.3	26.5	57	27
2023	23.3	23.3	34	25
2024	24.9	24.9	25	25

The District prepared Exceptional Event Initial Notification submittals for the 2016-2018, 2018-2020, 2019-2021, and 2020-2022 24-hr PM_{2.5} design values which CARB transmitted to U.S. EPA. For each submittal, U.S. EPA determined that data from these wildfire smoke events did not have regulatory significance under the Exceptional Events Rule and therefore placed the submittals on hold. Table 2 provides a summary of the District's actions when the contingency plan was triggered during the fires 10-year period (i.e., when the 24-hour PM_{2.5} design value exceeded the standard). Although the District had 60 days from the date of data certification (May 1) to evaluate exceedances, these reviews were completed each April using preliminary data.

Table 2. Summary of Actions Taken When Contingency Plan Triggered

Date(s)	Actions
12/13/2018 & 4/25/2019	Reports to District Governing Board identifying days in 2018 exceeding the 24-hr PM _{2.5} standard due to wildfire smoke impacts from the Carr, Mendocino Complex, and Camp Fires.
10/19/2019	CARB submittal of Exceptional Event Initial Notification Information Forms for the 2016-2018 design value to U.S. EPA.
2/27/2020	District Governing Board reaffirms through Resolution 2020-03 that the 2016-2018 design value exceeded the standard due to wildfire smoke impacts and that additional measures were not necessary to ensure attainment.
09/24/2020 & 3/25/2021	Reports to District Governing Board identifying days in 2020 exceeding the 24-hr PM _{2.5} standard due to wildfire smoke impacts from the August Complex and North Complex Fires.
3/24/2021	CARB submittal of Exceptional Event Initial Notification Information Forms for the 2018-2020 design value to U.S. EPA.
3/25/2021	District Governing Board reaffirms through Resolution 2021-09 that the 2018-2020 design value exceeded the standard due to wildfire smoke impacts and that additional measures were not necessary to ensure attainment.
9/23/2021 & 3/24/2022	Reports to District Governing Board identifying days in 2021 exceeding the 24-hr PM _{2.5} standard due to wildfire smoke impacts from the Dixie, Monument, and Caldor Fires.
3/24/2022	District Governing Board reaffirms through Resolution 2022-09 that the 2019-2021 design value exceeded the standard due to wildfire smoke impacts and that additional measures were not necessary to ensure attainment.
6/17/2022	CARB submittal of Exceptional Event Initial Notification Information Forms for the 2019-2021 design value to U.S. EPA.
10/27/2022 & 3/23/2023	Reports to District Governing Board identifying days in 2022 exceeding the 24-hr PM _{2.5} standard due to wildfire smoke impacts from Mosquito Fire.
8/23/2023	CARB submittal of Exceptional Event Initial Notification Information Forms for the 2020-2022 design value to U.S. EPA.

In April 2022, U.S. EPA identified the Planning Area as being subject to the mitigation plan requirements of the Exceptional Events Rule. The District developed the Mitigation Plan to Reduce the Impacts of Wildfire Smoke in Butte County, California in December 2023. U.S. EPA determined that the mitigation plan was complete in February 2024.

As shown in Figure 4 above and Table 3 below, PM_{2.5} concentrations in 2020 and 2021 were substantially affected by wildfire smoke, resulting in anomalously high 98th percentile concentrations and correspondingly elevated 24-hour design values. Due to these wildfire driven impacts, 2020, 2021, and 2022 design value periods are not appropriate for modeling applications. Accordingly, 2023 is designated as the Base Year for the emissions inventory and serves as the foundation for the modeling platform for this Second Maintenance Plan. Because 2023 is the central year of the three-year period used to calculate the 2024 PM_{2.5} design value, 2024 is selected as the Reference Year for projecting future design values. The monitoring data for 2022 through 2024 are complete, with the lowest quarterly data capture at 88%, well above the minimum 75% requirement for design value calculations.

Table 3. Summary of 98th Percentiles & Design Value (micrograms per cubic meter)

98 th Percentile (µg/m ³)					24-hr Design Value (µg/m ³)				
2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
92.3*	50.6*	27.3	23.3	24.9	59*	55*	57*	34	25

*Data impacted by wildfires

Although there were significant wildfire smoke impacts during first 10-year maintenance period, air quality trends over the past three years demonstrate that the Planning Area is maintaining the standard going into the second 10-year maintenance period.

4. Second 10-Year PM_{2.5} Maintenance Plan

a. Attainment & Projected Inventories

CARB, with supporting data reported by BCAQMD, maintains sufficient emissions inventories to identify the level of emissions in the Planning Area needed to maintain attainment with the NAAQS. For the Second Maintenance Plan, an emissions inventory (**Attachment B**) was developed from the California Emissions Inventory Data Analysis and Reporting System (CEIDARS) for the 2023 base year, with forecasts extending through the 2038 horizon year (Attachment B). Projections were made using the California Emissions Projection Analysis Model (CEPAM2026 PM_{2.5} Plans Version 1.00). The most recent triennial National Emissions Inventory (NEI) year, 2023, was selected as the base year because it aligns with the middle year of the 2024 attainment-year design value period. Two interim milestone years, 2028 and 2035, were included to help track progress toward maintaining the standard. Because past PM_{2.5} exceedances (excluding wildfire smoke impacted days) occurred primarily during the winter months, the emissions forecasts focused on wintertime emissions. This approach remains consistent with the first 10-year Maintenance Plan. The maintenance demonstration includes emissions from mobile (on- and off-road) sources, stationary point sources, stationary aggregated sources, areawide sources, and natural sources. It covers direct PM_{2.5} emissions (filterable and condensable) and PM_{2.5} precursors including oxides of nitrogen (NO_x), sulfur oxides (SO_x), volatile organic compounds (VOC), and ammonia (NH₃). **Attachment C** provides a detailed discussion of emissions inventory source categories and methodologies used..

Primary PM emissions include both filterable and condensable components. The PM_{2.5} NAAQS final implementation rule ¹ requires SIP emissions inventories to report filterable PM_{2.5}, condensable PM_{2.5}, and total primary PM_{2.5} separately. The distinction between condensable and filterable particulate matter is further summarized in **Attachment D** While mobile sources emit both filterable and condensable PM, the Air Emissions Reporting Requirements (AERR) do not require states to report these components separately for mobile categories. Therefore, the condensable and filterable PM_{2.5} emissions presented in Attachment D reflect only stationary point and area source categories that generate condensable emissions.

¹ 40 CFR 51.1008(a)(1)(iv)

BCAQMD issues Emission Reduction Credits (ERCs) for emission reductions achieved through equipment shutdown or voluntary control. These ERCs may then be used as offsets to compensate for an increase in emissions from a new or modified major source regulated by BCAQMD. To conservatively account for the possibility that banked ERCs may be used during the maintenance period, the balance of the ERC bank was added to the horizon year emission forecasts. Additionally, the current BCAQMD ERC bank contains credits for PM₁₀ but not for PM_{2.5}. As a conservative approach, the bank of PM₁₀ credits was added to the PM_{2.5} emissions forecast even though PM_{2.5} is only a fraction of PM₁₀.

Figure 5 presents total emissions (tons per day), including the ERC bank, for five pollutant groups, PM_{2.5}, NO_x, SO_x, ROG, and ammonia, in the base year, the 2028 and 2035 milestone years, and the 2038 horizon year. The chart illustrates how each pollutant category is expected to change over time and provides a comprehensive view of overall emissions trends across the maintenance period. Figure 6 highlights the projected rate of change for these pollutants, excluding the ERC bank. Among the major pollutants, NO_x shows the most substantial decline, decreasing by roughly 33% over the analysis period. The remaining pollutants exhibit more moderate reductions, ranging from about 3% to 13%, reflecting slower but steady progress toward lower emission levels.

Figure 5. Total Emissions (Including ERC Bank) Over Maintenance Period

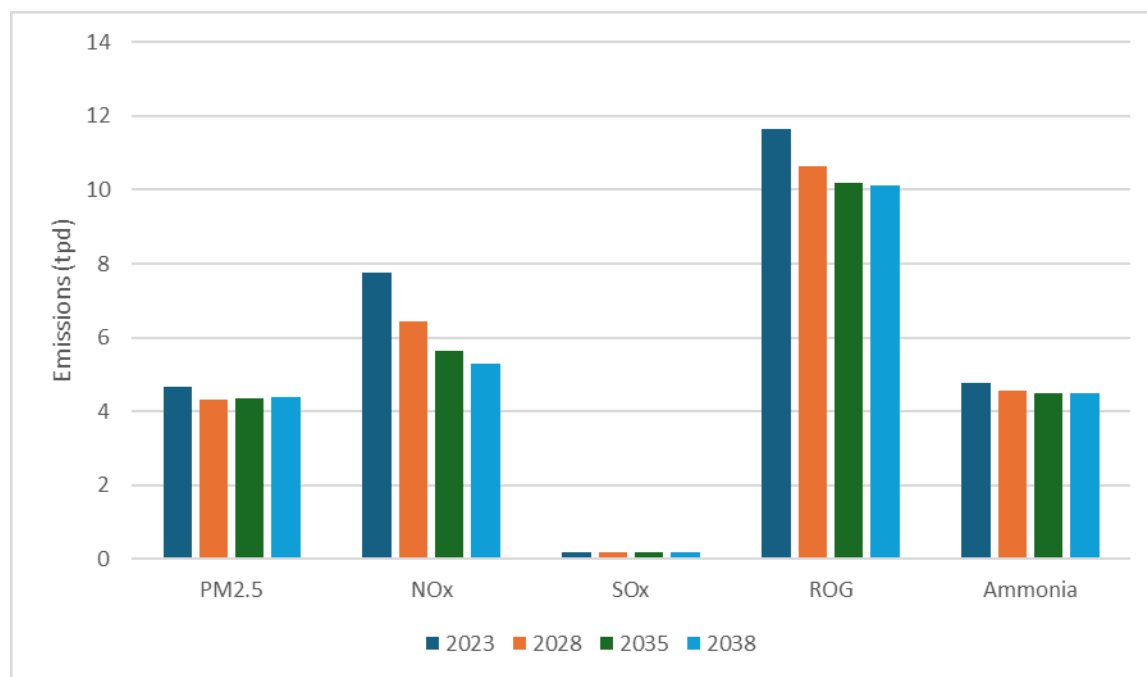
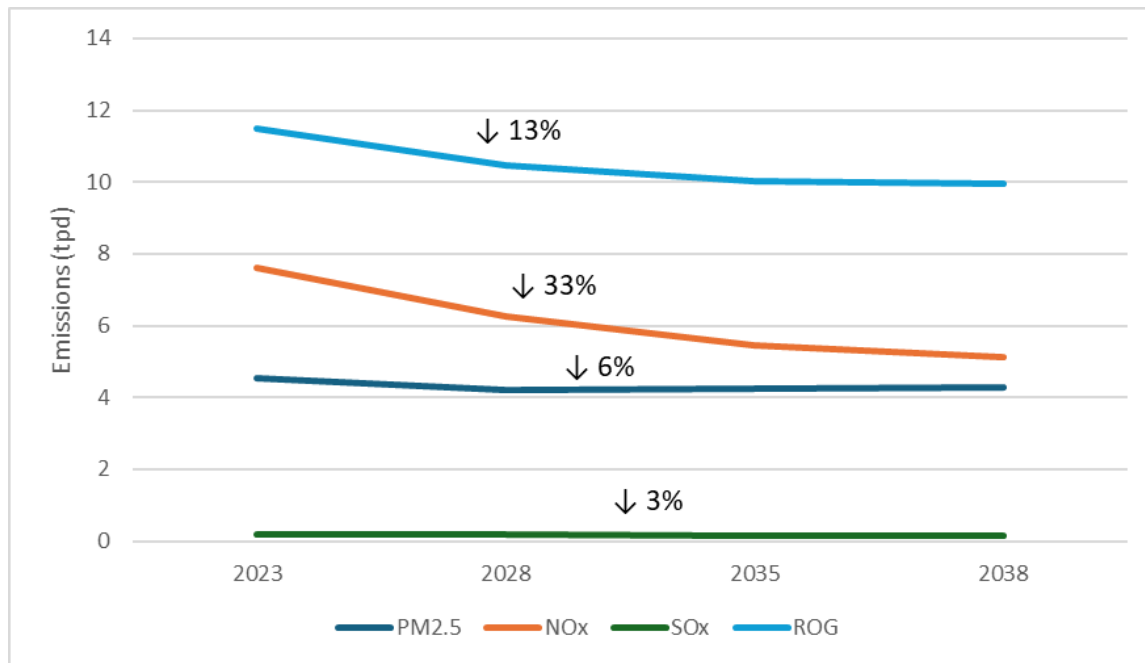


Figure 6. Trends in Projected Emissions Over the Maintenance Period



b. Maintenance Demonstration

Section 175A(a) of the Clean Air Act requires states to demonstrate that an area will maintain the NAAQS for at least 10 years after redesignation. States may show continued maintenance either by demonstrating that future emissions of the pollutant and its precursors will not exceed attainment-year levels or by using air quality modeling to show that future source configurations and emission rates will not result in a violation of the NAAQS.

For this Plan, a rollback model was selected as the primary tool to demonstrate continued attainment of the 2006 24-hour PM_{2.5} standard through 2038 for the Planning Area. This chapter presents projected future PM_{2.5} concentrations and demonstrates that the area will continue to maintain the 2006 24-hour standard through the 2038 horizon year.

The purpose of the maintenance demonstration is to demonstrate that the Planning Area is projected to remain in attainment with the NAAQS throughout the entire 10-year second maintenance period. CARB, with emissions inventory information provided by BCAQMD, developed an inventory for the base year of 2023 and forecast emissions through the horizon year of 2038. Because the finding was made that PM_{2.5} exceedances in the Planning Area primarily occurred during the winter months, wintertime emissions were considered in the emission forecasts. The maintenance demonstration includes emissions of direct PM_{2.5} and the precursors SOx and NOx. Only anthropogenic emissions are included in the rollback model. Emissions from natural sources are excluded from the maintenance demonstration.

The Woodstove Change-out Program also provides a small emission benefit for the base future years on directly emitted PM_{2.5} (**Attachment E**). These emission benefits were deducted from the emission inventory for the rollback model calculation.

The method chosen to demonstrate maintenance of the PM_{2.5} 24-hr NAAQS is a rollback proportional model. The rollback model assumes that there is a direct correlation between emissions of a pollutant and measured concentrations of that pollutant in the same air shed, and that changes in emissions will result in corresponding changes in concentrations. This correlation is then used to predict future concentrations based on future emissions.

The rollback model has two main parts: concentrations and emissions. Ambient monitoring data from speciation samplers located at the Chico monitoring site were used to assess the chemical composition of PM_{2.5}. Two samplers and multiple filter media are used to determine chemical speciation profiles. A Speciation Air Sampling System (SASS) sampler is used to collect PM_{2.5} constituents including ions (sulfate, nitrate, sodium, potassium, and ammonium, etc.) and numerous trace elements. A University Research Glassware 3000N (URG) sampler is used for collecting elemental and organic carbon data. Both speciation samplers (SASS and URG) operate on a 1-in-6 day sampling schedule. PM_{2.5} gravimetric mass and elements are measured by X-ray fluorescence (XRF) on Teflon-membrane filters. Ions were measured by ion chromatography on nylon-membrane filters. Organic and Elemental Carbon (OC and EC respectively) were measured by a Thermal Optical Analyzer on quartz-fiber filters. The data were analyzed by CARB's Monitoring and Laboratory Division and reported to U.S. EPA's Air Quality Systems (AQS) database. Currently applied measurement technology does not quantify all measured components, so the sum of the measured species was always less than the full measured mass. PM mass reconstruction applied multipliers to measured species to estimate unmeasured components.

To reconstruct PM_{2.5} mass concentrations using chemical composition data, assumptions about the molecular form of the species must be made. Table 1 presents assumptions used in this report. Sulfate and nitrate are assumed to be neutralized to ammonium sulfate [(NH₄)₂SO₄] and ammonium nitrate (NH₄NO₃) with the NH₄⁺ fraction accounted for by applying stoichiometric multipliers as specified in Table 1. Geological material is estimated following the formula utilized by the IMPROVE Program. Elements are estimated by summing the remaining elements by XRF, excluding sulfur and geological elements. Carbonaceous aerosols are back-calculated from PM_{2.5} mass as the concentration that would result in reconstructed mass being exactly equal to gravimetric PM_{2.5} mass. Estimates of carbonaceous aerosols are validated by comparing to the sum of the measured elemental carbon (EC) and organic matter, which was estimated as organic carbon times 1.4.

Table 4: Form of PM_{2.5} Chemical Species Assumed in this Report

Component	Formula
Ammonium Nitrate	1.29 x Nitrate
Ammonium Sulfate	1.38 x Sulfate
Geological/Dust	2.2 x Aluminum + 2.49 x Silicon + 1.63 x Calcium + 2.42 x Iron + 1.94 x Titanium
Elements	Sum of remaining elemental species (excluding S, Al, Si, Ca, Fe, and Ti)
Carbonaceous Aerosol	Measured PM _{2.5} Mass - (Ammonium Nitrate + Ammonium Sulfate + Geological + Elements)

PM_{2.5} concentrations used in the rollback model represent average concentrations on the top 10% of days between 2022 and 2024 (Table 5 and Table 10). To remain consistent with the winter emission inventory used in this maintenance plan to project future year design values, only winter days (November to April) were selected. Occasional high PM_{2.5} days during the summer season, which were likely caused by wildfire events, were excluded from the rollback analysis.

Typically, about 60 daily speciation samples are scheduled each year at the Chico monitoring station. For both 2022 and 2024, 58 daily samples were available, and the six samples with the highest PM_{2.5} mass were selected and averaged to represent a typical annual high-day composition for the respective year. Since only 25 samples were collected in 2023, three highest samples were selected to represent this year.

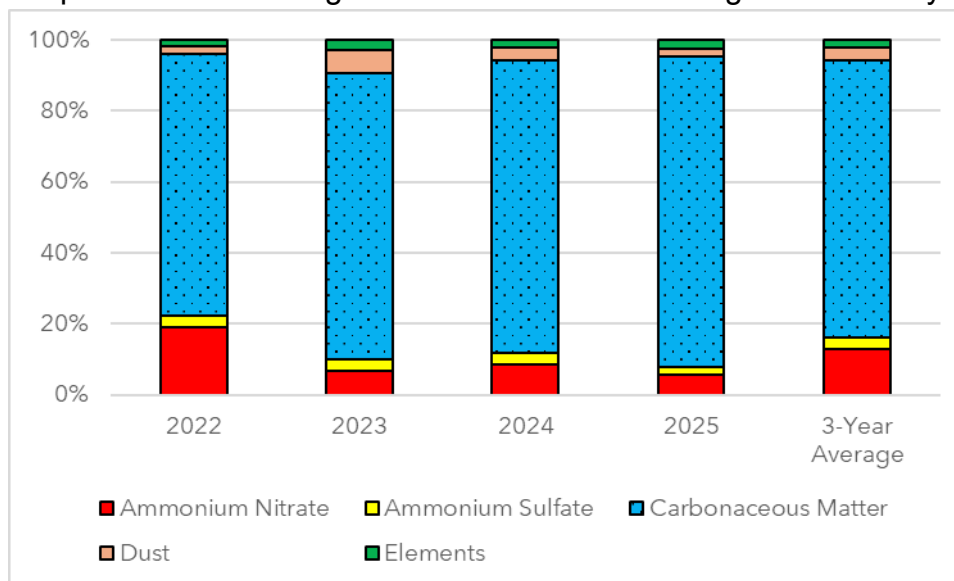
2025 speciation data from the Chico station were also included to assist the rollback model. The annual average concentrations of all the speciation data mentioned above are presented in Table 5. Details of each day can be found in the supporting information at the end of this write-up. (Table 10).

Table 5: Annual and Three-year Average of Highest 10% Days in 2022-2025 ($\mu\text{g}/\text{m}^3$)

Year	Ammonium Nitrate	Ammonium Sulfate	Carbonaceous Matter	Dust	Elements	PM _{2.5}
2022	4.17	0.72	16.05	0.47	0.44	21.85
2023	0.78	0.35	9.22	0.74	0.33	11.43
2024	1.34	0.49	12.79	0.53	0.37	15.52
2025	1.06	0.43	16.63	0.41	0.47	19.00
3-Year Average (2022-2024)	2.10	0.52	12.69	0.58	0.38	16.27
3-Year Average Scaled to 2024 Design Value	3.22	0.80	19.50	0.89	0.58	25

The highest 10% days from 2023 appear to have significantly lower concentrations than other listed years, mainly from the lower levels of carbonaceous matter. However, from the perspective of percentage contribution to the total PM_{2.5}, 2023-2025 were all very similar, while 2022 was the outlier with much higher ammonium nitrate contribution (Figure 7). Given that all the speciation data will be scaled to the 2024 PM_{2.5} 24-hour design value ($25 \mu\text{g}/\text{m}^3$), it is thus determined that the impact of limited data from 2023 is insignificant to this model.

Figure 7: PM_{2.5} Speciation Percentage Contribution to Annual Highest 10% Days in 2022-2025



The rollback model assumes that atmospheric pollutant concentrations in excess of background represent PM_{2.5} mass subject to controls (mass available for rolling) and are proportional to emissions. The mass available for rolling is estimated by subtracting background concentration from the mass assigned to each source. For example, the mass of ammonium nitrate available for rolling is calculated by subtracting the background concentrations of ammonium nitrate.

Background concentrations are concentrations that would occur in the airshed in the absence of local anthropogenic emissions and represent local natural emissions and transported pollutants.

To determine the background PM_{2.5} concentrations, two locations in the IMPROVE network were examined: Lassen National Park (AQS ID: 060893003) and Bliss State Park (AQS ID: 060179000), which is on the western side of Lake Tahoe. Although Lassen National Park is the preferred location due to its proximity to Chico, speciation data were unavailable there in early January of 2022, which included several of the highest PM_{2.5} days at Chico. In addition, data from Lassen National Park in November 2023 showed signs of wildfire influence, making those observations unsuitable for background estimate. Data from Bliss State Park were mostly free of these issues. Thus, speciation data from Bliss State Park were selected for estimating background concentrations.

The 24-hour background concentrations were calculated by averaging PM_{2.5} speciation data collected at the Bliss State Park site on the days corresponding to the highest 10% PM_{2.5} concentrations at Chico. In 2022 and 2024, three of the identified high PM_{2.5} days at Chico did not have matching sampling days at Bliss. Because the effect on the overall average was minimal, no replacement days were selected for those years. However, in 2023, none of the top 3% high-PM_{2.5} days at Chico had corresponding data from Bliss. To ensure representativeness for that year, the closest subsequent sampling days were used as replacement. The resulting annual and three-year average 24-hour background concentrations are listed in Table 6. Details of each day can be found in the supporting information at the end of this section. (Table 11) The background concentrations were very low compared to Chico levels and were very consistent across three years.

Table 6: Speciated Concentrations for Annual and Three-year average Background Concentrations in 2022-2024 from Bliss State Park (µg/m³)

Year	Ammonium Nitrate	Ammonium Sulfate	Carbonaceous Matter	Dust	Elements	PM _{2.5}
2022	0.03	0.14	0.66	0.05	0.01	0.90
2023	0.06	0.19	0.36	0.27	0.03	0.90
2024	0.03	0.13	0.71	0.08	0.02	0.98
3-Year Average	0.04	0.15	0.58	0.14	0.02	0.93

On the emission side, directly emitted PM_{2.5} dust (PM_{2.5} Dust) was separated from all other sources of directly emitted PM_{2.5} (PM_{2.5} Non-Dust), so that changes in dust emissions could be projected on concentrations of fugitive dust and changes in emissions from all other sources of directly emitted PM_{2.5} could be projected on concentrations of carbonaceous aerosols and elements. The emission categories that were counted as PM_{2.5} Dust include Farming Operations, Construction and Demolition, Paved Road Dust, Unpaved Road Dust, and Fugitive Windblown Dust.

The first step in calculating the maintenance year PM_{2.5} design values was to estimate the anticipated increase or decrease in emissions from each source between 2023 (the base year) and 2038 (the maintenance year). The same percentage of increase or decrease in emissions from each source was then applied to the PM_{2.5} mass available for rolling. The future year contributions of each component were calculated by applying the percent change to the mass available for rolling and then adding background concentrations back, as shown in the equation below:

Future Year Concentration

$$= \text{Concentration Available for Rolling} \times (1 + \text{Percent Change from Base Year}) \\ + \text{Background Concentration}$$

The maintenance year design value was determined by summing maintenance year contributions for all the components, as illustrated in *California Emissions Projection Analysis Model (CEPAM2026 PM_{2.5} Plans Version 1.00)

Table 8. As is demonstrated, through the significant decrease in NO_x and non-dust PM_{2.5} emissions, the 2038 PM_{2.5} 24-hour design value in Chico is projected to be 23 µg/m³, which is 2 µg/m³ lower than the 2024 level.

To further solidify the maintenance demonstration, an alternative rollback approach is presented in Table 9. This approach uses the same assumptions and initial year conditions as the default rollback model presented in Table 8, with the exception of the treatment of secondary PM precursors (NO_x and SO_x). Because the response of ammonium nitrate and ammonium sulfate concentrations to changes in precursor emissions is uncertain, a proportional rollback may not accurately reflect future changes in these secondary PM components. To ensure a conservative outcome, the alternative approach holds 2038 NO_x and SO_x emissions at their 2023 levels. Under this conservative scenario, the Chico area continues to demonstrate maintenance, with the 2038 PM_{2.5} 24-hour design value declining to 24 µg/m³, well below the NAAQS.

Together, the default and alternative rollback analyses demonstrate that the Chico, CA/Butte County Planning Area will continue to maintain the 24-hour PM_{2.5} National Ambient Air Quality Standard through 2038. Both approaches, one reflecting projected emission reductions and one using a fully conservative assumption that holds PM_{2.5} precursor emissions constant at 2023 levels, show design values well below the 35 µg/m³ standard in the maintenance year. These results provide a robust and credible demonstration of continued attainment through 2038, even under a conservative assessment of PM_{2.5} precursor behavior.

Table 7: 2023 and 2038 Speciated Emission Inventory Used for the Rollback Model (tons per day)

	NOx	SOx	Dust	Non-Dust PM _{2.5}
2023				
CEPAM*	7.601	0.181	0.706	3.843
ERC	0.164	0.008	N/A	0.107
Woodstove Change-out Benefit (Deduction)				0.033
2023 Total	7.765	0.189	0.706	3.917
2038				
CEPAM	5.129	0.176	0.720	3.567
ERC	0.164	0.008	N/A	0.107
Woodstove Change-out Benefit (Deduction)				0.054
2038 Total	5.293	0.184	0.720	3.620
Percentage Emission Change (2038 from 2023)				
	-31.8%	-2.6%	1.9%	-7.6%

*California Emissions Projection Analysis Model (CEPAM2026 PM2.5 Plans Version 1.00)

Table 8: 2038 Maintenance Demonstration Using Proportional Rollback Model

Emissions	PM _{2.5} Components	2024 DV (µg/m³)	Background (µg/m³)	Available for Rolling (µg/m³)	Emission Change (%)	2038 DV (µg/m³)
Secondary PM_{2.5}						
NOx	Ammonium Nitrate	3.22	0.04	3.18	-31.8%	2.21
SOx	Ammonium Sulfate	0.80	0.15	0.65	-2.6%	0.78
Primary PM_{2.5}						
Dust	Fugitive Dust	0.89	0.14	0.76	1.9%	0.91
Non-Dust PM _{2.5}	Carbonaceous Aerosols+Elements	20.09	0.61	19.48	-7.6%	18.60
DV Calculations (µg/m³)		25	0.93	24.08		22.51
Rounded 2038 DV (µg/m³)						23
Decrease in DV (µg/m³)						2

Table 9: 2038 Maintenance Demonstration Using Proportional Rollback Model with 2023 NOx and SOx Emissions Held Constant Through 2038 (Alternative Version)

Emissions	PM _{2.5} Components	2024 DV (µg/m³)	Background (µg/m³)	Available for Rolling (µg/m³)	Emission Change (%)	2038 DV (µg/m³)
Secondary PM_{2.5}						
NOx	Ammonium Nitrate	3.22	0.04	3.18	0%	3.22
SOx	Ammonium Sulfate	0.80	0.15	0.65	0%	0.80
Primary PM_{2.5}						
Dust	Fugitive Dust	0.89	0.14	0.76	1.9%	0.91
Non-Dust PM _{2.5}	Carbonaceous Aerosols+Elements	20.08	0.60	19.49	-7.6%	18.60
DV Calculations (µg/m³)		25	0.93	24.08		23.54
Rounded 2038 DV (µg/m³)						24
Decrease in DV (µg/m³)						1

Supporting Information

Table 10: List of Top 10% PM_{2.5} Concentration Days from 2022-2025 at Chico Monitoring Station and Speciation Details (µg/m³).²

Date	PM _{2.5}	Ammonium Nitrate	Ammonium Sulfate	Dust	Carbonaceous (Back-calculated)	Elements
1/11/2022	16.4	0.97	0.36	0.59	14.06	0.42
1/17/2022	20.8	1.19	0.39	0.60	18.21	0.41
11/27/2022	16.6	1.03	0.40	0.58	14.22	0.36
12/13/2022	17.8	0.67	0.30	0.55	15.77	0.50
12/19/2022	20.9	7.48	1.01	0.20	11.88	0.33
12/25/2022	38.6	13.67	1.88	0.27	22.18	0.60
1/24/2023	11.5	0.97	0.30	0.65	9.26	0.32
2/19/2023	10.9	0.61	0.36	0.58	9.02	0.34
11/3/2023	11.9	0.77	0.40	1.01	9.38	0.34
1/7/2024	11.4	0.61	0.25	0.17	10.08	0.29
1/15/2024	12.8	0.92	0.44	0.37	10.76	0.32
2/12/2024	12.4	0.98	0.32	0.46	10.38	0.26
11/10/2024	17	1.78	0.79	1.35	12.62	0.46
12/2/2024	28.8	2.76	0.79	0.59	24.09	0.57
12/8/2024	10.7	1.01	0.35	0.26	8.81	0.28
1/1/2025	19.7	1.65	0.69	0.41	16.01	0.94
1/19/2025	27.2	1.86	0.66	0.38	23.73	0.57
2/6/2025	13.2	0.67	0.22	0.36	11.69	0.26
2/18/2025	12.8	0.58	0.25	0.28	11.46	0.23
12/3/2025	14.7	1.07	0.44	0.53	12.29	0.37
12/28/2025	26.4	0.55	0.32	0.48	24.58	0.46

² 2025 data was preliminary at the time when this write-up was drafted and was not included in the rollback model.

Table 11: List of Coincide days at Bliss State Park Monitoring Site that Match Chico Top 10% PM_{2.5} Concentration Days and Speciation Details (µg/m³).

Bliss Date	PM _{2.5}	Ammonium Nitrate	Ammonium Sulfate	Dust	Carbonaceous (Back-calculated)	Elements
1/11/2022	0.8	0.04	0.09	0.07	0.59	0.01
1/17/2022	1.1	0.04	0.10	0.06	0.88	0.03
12/13/2022	0.2	0.02	0.03	0.01	0.14	0.00
12/19/2022	1.1	0.03	0.36	0.10	0.60	0.01
12/25/2022	1.3	0.04	0.13	0.03	1.10	0.01
2/2/2023	0.9	0.05	0.14	0.23	0.45	0.04
2/20/2023	1.3	0.10	0.27	0.51	0.37	0.05
11/5/2023	0.5	0.02	0.15	0.06	0.26	0.00
1/7/2024	0.2	0.01	0.04	0.02	0.11	0.02
2/12/2024	1.4	0.05	0.17	0.24	0.90	0.04
12/2/2024	1.5	0.04	0.21	0.06	1.18	0.01
12/8/2024	0.8	0.01	0.11	0.03	0.64	0.01

c. Monitoring Network

The existing PM_{2.5} monitoring network in the Chico-Butte County attainment/maintenance area includes a PM_{2.5} FEM monitor located at 984 East Avenue in Chico, CA operating on a continuous daily schedule. The District is committed to working with CARB in the continued operation of the Chico-East Avenue monitoring station and maintaining compliance with federal law on Ambient Air Quality Surveillance (40 CFR Part 58).

d. Verification of Continued Attainment

CARB is responsible for monitoring PM_{2.5} in the Chico-Butte County Planning Area. CARB also oversees the quality assurance of PM_{2.5} data and submits annual monitoring network plans to the US EPA on behalf of the District. CARB commits to maintaining an appropriate PM_{2.5} monitoring network through the maintenance period, with any potential changes to be developed in collaboration with the U.S. EPA and subject to stakeholder review. To verify continued attainment of the PM_{2.5} standard, CARB will continue to conduct PM_{2.5} monitoring and expeditiously review data as it becomes available. The District will track the progress of the maintenance plan through the acquisition of ambient and source emission data. All permitted stationary sources within the District are required to submit annual thorough data that the District uses to compile the emissions inventory. The District will commit to reviewing the emissions inventory for unexpected growth in primary PM_{2.5} or NO_x that may jeopardize the maintenance of the 2006 PM_{2.5} NAAQS.

The District develops a comprehensive stationary source emission inventory every three years to submit to CARB under 40 CFR Part 51, Subpart A.

e. Transportation Conformity

This chapter provides the regulatory basis and technical justification for determining whether on-road emissions of nitrogen oxides (NO_x) and directly emitted particulate matter (PM_{2.5}) are significant contributors to the 24-hour PM_{2.5} design value for the Planning Area, consistent with the requirements of 40 CFR Part 93. Under 40 CFR 93.119(f), a regional emissions analysis in a PM_{2.5} nonattainment or maintenance area must include direct PM_{2.5} and its precursors, most notably NO_x, unless the applicable SIP or maintenance plan demonstrates that these pollutants are insignificant contributors to the PM_{2.5} air quality problem. Because these pollutants would otherwise be required elements of the regional emissions analysis, the plan includes an insignificance demonstration for NO_x and direct PM_{2.5} in particular, which provides the regulatory foundation for the technical analysis presented in the following section. The Planning Area attained and continues to maintain the 24-hour PM_{2.5} NAAQS primarily due to substantial emission reductions from residential wood combustion and open burning. No specific on-road motor vehicle control measures were adopted or relied upon to bring the area into attainment..

Under Section [40 CFR 93.109\(f\)](#) of the conformity, an area is not required to conduct a regional emissions analysis under 93.118 or 93.119 if the maintenance plan demonstrates that regional motor vehicle emissions of a pollutant or precursor are an insignificant contributor to the air quality problem for the applicable NAAQS. To make such a determination, the SIP or a maintenance plan must demonstrate that it is unreasonable to expect motor vehicle emissions growth sufficient to cause a future violation of the standard. The rule identifies four criteria that must be considered when evaluating insignificance for a given pollutant or precursor:

- The contribution of on-road emissions to the total SIP inventory
- The current state of air quality in the region
- The absence of any on-road control measures in the plan that are required to attain or maintain the NAAQS and,
- Historical and future projections of on-road emissions of that pollutant/precursor

A finding of insignificance applies only to the regional emissions analysis requirements; all other elements of transportation conformity, including interagency consultation, hot-spot analysis, fiscal constraints, and project-level conformity, continue to apply. Transportation conformity also remains applicable for any other NAAQS for which the area is designated nonattainment or maintenance.

This maintenance plan concludes that regional NO_x emissions and direct PM_{2.5} are insignificant contributors to PM_{2.5} air quality in Butte County. The following sections summarize air quality conditions in the region and apply the insignificance criteria listed above to on-road NO_x and direct PM_{2.5} emissions within the Planning Area.

On-Road Contributions to PM_{2.5}

On-road mobile sources contribute to ambient PM_{2.5} concentrations through NO_x emissions, a precursor to ammonium nitrate formation, and through directly emitted PM_{2.5} from exhaust, brake wear, and tire wear. Evaluation of these contributions is necessary to determine whether motor vehicle emissions may threaten continued attainment of the 24-hour PM_{2.5} National Ambient Air Quality Standard (NAAQS).

Current monitoring data, shown in Figure 3, indicate that ammonium nitrate represents a measurable portion of the 24-hour PM_{2.5} design value. Based on the emissions inventory, on-road mobile sources account for approximately 33% of total NO_x emissions and contribute an estimated 1.06 µg/m³, or about 4%, of the design value as ammonium nitrate. On-road mobile sources account for approximately 2% of directly emitted non-dust PM_{2.5}, contributing an estimated 0.39 µg/m³, or 2% of the design value. This means on-road emissions make up only about 6% of the total design value.

On-Road Emissions Trends for NO_x and Direct PM_{2.5}

Inventory data for the Planning Area show a clear, sustained downward trend in on-road emissions of both NO_x and directly emitted PM_{2.5} over the full duration of the maintenance period. Table 12 summarizes winter on-road NO_x and direct PM_{2.5} emissions for all analysis years, and the percentage contribution of the on-road sector to the total NO_x and PM_{2.5} inventory. The consistent and substantial decline in on-road NO_x and PM_{2.5} emissions supports the conclusion that these pollutants are not expected to cause future violations of the PM_{2.5} NAAQS, a key consideration for an insignificance finding.

Table 12. Trend Summary of On-Road and Total PM_{2.5} and NO_x Winter Emissions (2015-2038) tpd*

Year	PM _{2.5} Total	PM _{2.5} On-Road	% PM _{2.5} from On-Road	NO _x Total	NO _x On-Road	% NO _x from On-Road
2015	4.925	0.144	2.9%	12.734	6.381	50.1%
2016	4.456	0.137	3.1%	11.966	6.002	50.2%
2017	4.027	0.129	3.2%	11.407	5.517	48.4%
2018	4.508	0.119	2.6%	10.377	4.912	47.3%
2019	5.014	0.107	2.1%	9.710	4.209	43.3%
2020	4.310	0.083	1.9%	8.660	3.317	38.3%
2021	4.476	0.082	1.8%	8.385	3.145	37.5%
2022	4.605	0.078	1.7%	7.944	2.885	36.3%
2023	4.549	0.076	1.7%	7.601	2.565	33.8%
2024	4.297	0.073	1.7%	7.212	2.292	31.8%
2025	4.273	0.071	1.7%	6.858	2.063	30.1%
2026	4.249	0.069	1.6%	6.633	1.918	28.9%
2027	4.227	0.068	1.6%	6.445	1.796	27.9%
2028	4.209	0.067	1.6%	6.263	1.680	26.8%
2029	4.195	0.066	1.6%	6.128	1.591	26.0%
2030	4.179	0.066	1.6%	6.005	1.511	25.2%
2031	4.189	0.065	1.5%	5.886	1.437	24.4%
2032	4.201	0.064	1.5%	5.775	1.377	23.8%
2033	4.214	0.064	1.5%	5.670	1.321	23.3%
2034	4.227	0.063	1.5%	5.560	1.270	22.9%
2035	4.242	0.063	1.5%	5.468	1.231	22.5%
2036	4.255	0.062	1.5%	5.332	1.192	22.4%
2037	4.270	0.061	1.4%	5.212	1.157	22.2%
2038	4.287	0.061	1.4%	5.129	1.128	22.0%
% Reduction	13.0%	57.6%	51.3%	59.7%	82.3%	56.1%

*ERC's are not included.

Between 2015, the base year of the first maintenance plan and 2038, the horizon year for the second maintenance plan, total PM_{2.5} emissions decline modestly (approximately 13 percent). In contrast, on-road PM_{2.5} emissions fall sharply, nearly 58%, reflecting continuing fleet turnover, federal and state mobile-source standards, and improved vehicle technologies. As shown in Table 12, this decline leads to a substantial reduction in the relative contribution of on-road sources to total PM_{2.5} emissions, dropping from just under 3% in 2015 to roughly 1.4% in 2038. This represents a 51% reduction in the on-road sector's proportional share of PM_{2.5} emissions.

NO_x emissions exhibit an even more pronounced downward trend. Total NO_x emissions decrease by nearly 60% during the maintenance period, while on-road NO_x emissions drop by more than 82%. As demonstrated in Table 12, the on-road sector's share of total NO_x emissions decreases from approximately 50% in 2015 to about 22% in 2038, a reduction of 56% in relative contribution. This sustained decline is driven by continued implementation of mobile-source emissions standards and the natural progression of fleet turnover.

The consistent downward trend in both total and on-road emissions, combined with the decreasing fraction of PM_{2.5} and NO_x attributable to mobile sources, demonstrates that on-road emissions will not pose a risk of causing or contributing to future violations of the 24-hour PM_{2.5} NAAQS. These findings meet the criteria for insignificance under 40 CFR 93.109(f) and reinforce that future PM_{2.5} concentrations will continue to be driven primarily by non-mobile sectors, especially residential wood combustion, which is the dominant source affecting the design value.

Rollback Analysis for NO_x and Directly Emitted PM_{2.5}

To evaluate whether on-road emissions could reasonably threaten continued attainment of the 24-hr PM_{2.5} NAAQS, CARB conducted a series of rollback simulations designed to quantify the magnitude of on-road emission increases that would be required to produce a design value exceedance. These simulations are intentionally conservative and represent conditions well beyond any reasonably foreseeable future scenario.

In the first scenario (Table 13), on-road NO_x and directly emitted PM_{2.5} were increased by 500%, while emissions from all other source categories were held constant at projected levels. Even under this extreme increase, the resulting design value was 30 µg/m³, well below the 35 µg/m³ NAAQS.

A second scenario (Table 14) evaluated an even more extreme assumption, a 900% increase in on-road emissions relative to 2023 levels. Under this hypothetical condition, the resulting design value would rise to 36 µg/m³, exceeding the standard. However, such an increase is not reasonably foreseeable. Achieving it would require on-road NO_x emissions to reach a level approximately 2.5 times greater than the entire Sacramento Valley's total 2023 NO_x emissions, which is inconsistent with all historical data and projected emissions trends.

Table 13. Rollback Scenario with 500% Increase in On-road Emissions

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	15.390	500%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	19.56	152%	8.05
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.45	500%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	4.01	2%	20.57
Final DV		25.00	0.93	24.07				30.32
Final DV Rounded								30.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Table 14. Rollback Scenario with 900% Increase in On-road Emissions

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	25.650	900%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	29.82	284%	12.26
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.76	900%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	4.32	10%	22.08
Final DV		25.00	0.93	24.07				36.03
Final DV Rounded								36.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Projected Emissions Through 2038

In contrast to hypothetical rollback scenarios, projected emissions show a substantial decline in motor vehicle emissions and a corresponding reduction in contributions to the design values over the maintenance period. Between 2023 and 2038, on-road NOx emissions are expected to decrease by approximately 56%, and direct on-road PM_{2.5} emissions by about 20% (Table 15). Assuming a proportional relationship between NOx emissions and ammonium nitrate formation, the ammonium nitrate contribution to the design value is projected to decrease to approximately 2.21 µg/m³ by 2038, with the on-road portion declining to approximately 0.47 µg/m³. Direct PM_{2.5} on-road PM_{2.5} is similarly projected to decline from 0.40 µg/m³ in 2023 to 0.32 µg/m³. Table 16 summarizes these changes in on-road emissions and their contribution to the 24-hr design value.

Table 15. Rollback using 2023 and 2038 emissions.

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	1.128	-56%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	5.29	-32%	2.21
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.06	-20%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	3.62	-8%	18.61
Final DV		25.00	0.93	24.07				22.51
Final DV Rounded								23.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Table 16. Changes in On-Road Emissions and Contributions to the Design Value

Emission Category	2023 Emissions (tpd)	2038 Emissions (tpd)	2024 DV Contribution (µg/m³)	2038 DV Contribution (µg/m³)
NOx – On-Road	2.565	1.128	1.06	0.47
Direct PM _{2.5} – On-Road	0.076	0.061	0.39	0.31
Total			1.45	0.78

On-road Control Measures are not Required to Maintain the PM_{2.5} Standard

Under 40 CFR 93.109(f), an insignificance finding is appropriate when a SIP or maintenance plan does not rely on on-road motor vehicle controls to ensure attainment or continued maintenance of the standard.

Because photochemical modeling is not available for this area, we do not have a quantitative, future-year estimate of NOx-to-nitrate or SOx-to-sulfate conversion efficiency. To maintain a conservative approach, we evaluated a worst-case-scenario in which all NOx emissions (including on-road), all SOx emissions, and directly emitted on-road PM_{2.5} are held constant at 2023 levels through 2038, rather than declining as

projected. As shown in Table 17, even under this deliberately conservative assumption, the 2038 design value still decreases to 24 $\mu\text{g}/\text{m}^3$, well below the 35 $\mu\text{g}/\text{m}^3$ NAAQS.

This analysis demonstrates that:

- No on-road emission controls are needed for maintenance, and
- On-road contributions are too small to be relevant for the maintenance demonstration.

Table 17. Rollback Scenario with 2023 NO_x, SO_x, and On-Road PM_{2.5} Emissions Held Constant Through 2038

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	2.565	0%	N/A
NOx Other					5.200	5.200	0%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	7.77	0%	3.22
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.19	0%	0.80
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.08	0%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	3.64	-7%	18.69
Final DV		25.00	0.93	24.07				23.62
Final DV Rounded								24.00

Conclusion Regarding NO_x and Direct PM_{2.5} Significance

The evidence demonstrates that, based on the rollback modeling, the composition of the current design value, and projected emissions through the maintenance year, on-road NO_x and directly emitted PM_{2.5} are not significant contributors to the 24-hr PM_{2.5} design value in Butte County. The PM_{2.5} problem in the region is driven primarily by sources other than on--road mobile emissions, as on--road NO_x accounts for only about 4% of the design value through ammonium nitrate formation and directly emitted on--road PM_{2.5} contributes only about 2%. Even extreme, hypothetical increases in motor vehicle emissions would not produce concentrations high enough to threaten the NAAQS. Future year projections show substantial declines in on--road emissions, and a fully conservative scenario holding all precursor and direct PM_{2.5} on-road emissions constant through 2038 still results in a design value well below the standard. This maintenance plan fully satisfied the criteria under 40 CFR 93.109(f) by demonstrating that on--road contributions are minimal, current air quality is well below the standard, the plan does not rely on on--road controls, future projections show declining on--road emissions, and no reasonable scenario exists in which on--road emissions could cause a future violation. Therefore,

transportation conformity budgets for on-road NO_x and PM_{2.5} are not required in this maintenance plan.

f. Contingency Plan

The CAA requires that a contingency plan be incorporated into the maintenance plan to assure that the District will promptly correct any violation of the standard which occurs during the maintenance period. BCAQMD will continue to use the 24-hour PM_{2.5} design value (the 3-year average of the 98th percentile) at the Chico-East Avenue monitoring station as the contingency plan trigger threshold. Implementation of the contingency plan is triggered when the 24-hour PM_{2.5} design value based on quality assured data submitted to the U.S. EPA's Air Quality System (AQS) exceeds 35 µg/m³, the level of the NAAQS.

BCAQMD will annually assess whether the contingency plan has been triggered within 60 days of annual data certification or May 1st, whichever is sooner. Correspondence will be sent to CARB and U.S. EPA during this same timeframe with an assessment indicating whether the standard has been exceeded, and if so, whether the contingency measures are triggered or if potential exceptional events are suspected to be the cause of the exceedance. If the contingency plan is triggered, BCAQMD will begin implementing the contingency plan as described in Section 4.f.iii below.

i. Treatment of Exceedances Suspected to be Caused by an Exceptional Event

In some cases, exceedances leading to violations of the NAAQS could be caused by events such as wildfires that are not reasonably controllable or preventable, i.e., exceptional events. In consultation with CARB and U.S. EPA, BCAQMD can exclude such exceedances from the contingency plan trigger calculation. To avoid triggering the contingency plan unnecessarily, BCAQMD will follow the procedure described below to determine if an exceedance was likely caused by a possible exceptional event and can therefore be excluded from the contingency plan trigger calculation.

This procedure utilizes the Initial Notification of Exceptional Event "Initial Notification" (INI) process set forth in 40 CFR 50.14(c)(2) to identify exceedances BCAQMD wishes to exclude from the contingency plan trigger calculation. If BCAQMD wishes to exclude an exceedance from the contingency plan trigger calculation, BCAQMD will submit the INI form and supporting documentation to CARB within 60 days of annual data certification or May 1st, whichever is sooner. Prior to the INI form submittal, BCAQMD will submit a request to CARB to flag data in AQS and may confer with CARB and U.S. EPA regarding the appropriate supporting documentation to provide with the INI form.

INI forms will initially be submitted to CARB). CARB and/or U.S. EPA may require additional supporting documentation to allow for a sufficient evaluation. Additional supporting documentation can include, but is not limited to:

- A list of days potentially influenced by exceptional events;
- Identification of the event(s) responsible, including wildfire names and locations;
- Evidence of smoke transport to the monitors (e.g., upwind wind speed and direction, satellite imaging, remote sensing analyses, or HYSPLIT trajectories);
- Evidence of ground-level impact (daily PM concentrations and comparison to historical seasonal levels, including percent ranking);
- PM₁₀ and/or PM_{2.5} concentrations from regulatory and non-regulatory monitors in the area;
- Relevant news or media reports;
- Fire agency reports or Air Resource Advisor reports; and,
- Any additional supporting information identified through coordination with CARB and U.S. EPA.

CARB will review the INI and supporting documentation and submit it to U.S.EPA within 60 days of receiving it from BCAQMD. During this 60-day period, CARB may request supplemental documentation from BCAQMD. U.S. EPA will review the INI and supporting documentation and notify CARB and BCAQMD if it has determined one of the following:

- The exceedance was likely caused by an exceptional event and can be excluded from the contingency plan trigger calculation;
- U.S. EPA does not have sufficient information to evaluate the exceedance (BCAQMD and CARB can submit additional supplemental information within 30 days of notification of U.S. EPA's determination); or,
- The exceedance does not appear to have been caused by an exceptional event and should be included in the contingency plan trigger calculation.

If BCAQMD or CARB still believes the exceedance is due to an exceptional event and should not be included in the contingency plan trigger calculation, they may submit an exceptional event demonstration pursuant to 40 CFR 50.14(c)(3). U.S. EPA will review the exceptional event demonstration and either concur (exceedance is excluded from contingency plan trigger calculation) or not concur (exceedance is included in contingency plan trigger calculation).

ii. Contingency Plan Implementation

In the event that the contingency plan is triggered, BCAQMD will consult with interested parties, community organizations, and industry to identify voluntary and incentive based measures to reduce directly emitted PM_{2.5} or precursors that can be implemented within nine months of the contingency plan being triggered (May 1st or the annual data certification, whichever is sooner). BCAQMD will make its analyses and summary of voluntary measures available to the public at a Governing Board meeting.

If voluntary and incentive based measures fail to result in attainment with the 24-hour PM_{2.5} NAAQS 12 months after the contingency plan is triggered (the following year's design value), BCAQMD will complete sufficient analyses to begin consideration of necessary rules for ensuring attainment and maintenance of the 24-hour PM_{2.5} NAAQS within 18 months of trigger date. If new rules are necessary, they will be proposed to the BCAQMD Governing Board for adoption and will provide for implementation within 24 months of the trigger date.

iii. Contingency Provisions

Actions that BCAQMD may consider include, but are not limited to, the measures found in Table 18. The measures chosen for consideration would depend on BCAQMD analysis as to the source of the exceedance.

Table 18. Potential Measures to be Considered if Contingency Plan is Triggered

Potential Voluntary and Incentive Measures
Consider issuing additional Check Before You Light advisories.
Expand outreach regarding burning in a fireplace or woodstove.
Provide additional incentives to change out older wood-burning devices.
Potential Rule Adoption Measures
Reasonable Available Control Technology (RACT) for existing stationary sources emitting PM _{2.5} or PM _{2.5} precursors.
Additional fugitive dust measures for construction activities and stationary sources.
Additional opacity restrictions.
Additional open burning restrictions for residential, agricultural, and prescribed burning.
Additional curtailment measures for residential wood-burning devices.

5. Environmental Impact

The District determined that pursuant to California Environmental Quality Act (CEQA) Guidelines § 15061(b)(2) and 15308, this Redesignation Request and Maintenance Plan is categorically exempt from CEQA as a Class 8 action taken by a regulatory agency to assure the maintenance, restoration, enhancement, and protection of the environment and application of the exemption is not barred by one of the exceptions set forth in CEQA Guidelines § 15300.2.

6. Conclusion

The Chico, CA/Butte County (partial) PM_{2.5} Planning Area continues to maintain the 35 µg/m³ 24-hr PM_{2.5} NAAQS, as confirmed by recent air quality monitoring trends. This Second Maintenance Plan further demonstrates continued attainment and maintenance through 2038 by developing future year emissions inventories and projecting their associated contributions to PM_{2.5} concentrations. Even under the most conservative scenario, one that assumes no reductions in precursor emissions, the area is projected to maintain the standard with a design value of 24 µg/m³, well below the NAAQS.

Together, these analyses show that the Planning Area will continue to meet the standard for an additional ten years beyond the first maintenance period.

The Chico, CA/Butte County PM_{2.5} Second Maintenance Plan meets all applicable requirements of Clean Air Act Section 175A . The Butte County Air Quality Management District requests that CARB submit this plan to U.S. EPA as a revision to the California State Implementation Plan.

Attachment A

Days Influenced by Wildfire Smoke 2018 - 2022

Butte County, California - Days Influenced by Wildfire Smoke (2018 through 2022)

As submitted with the Federal PM2.5 NAAQS Exceptional Event Initial Notification Sheets (2018-2022)

Event Date	Type of Event	AQS Flag	Monitor AQS ID	AQS POC	Site Name	Pollutant	Concentration	Units	Event Name
7/30/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	38.4	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
7/31/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	42.8	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
8/1/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	42.7	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
8/4/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	61.4	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
8/5/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	42.7	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
8/6/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	42.9	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
8/7/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	52.6	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
8/8/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	49.2	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
8/9/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	54.2	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
8/10/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	41.4	µg/m3	Impacts from Carr Fire & Mendocino Complex Fires
11/14/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	197	µg/m3	Impacts from Camp Fire
11/15/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	299.9	µg/m3	Impacts from Camp Fire
11/16/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	411.7	µg/m3	Impacts from Camp Fire
11/17/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	192.5	µg/m3	Impacts from Camp Fire
11/18/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	139.9	µg/m3	Impacts from Camp Fire
11/19/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	60.3	µg/m3	Impacts from Camp Fire
11/20/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	89.1	µg/m3	Impacts from Camp Fire
11/21/2018	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	41.4	µg/m3	Impacts from Camp Fire
8/19/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	39.3	ug/m3	Impacts from August Complex & North Complex Fires
8/20/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	81.9	ug/m3	Impacts from August Complex & North Complex Fires
8/21/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	134.4	ug/m3	Impacts from August Complex & North Complex Fires
8/22/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	118.6	ug/m3	Impacts from August Complex & North Complex Fires
8/23/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	92.4	ug/m3	Impacts from August Complex & North Complex Fires
8/24/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	77.2	ug/m3	Impacts from August Complex & North Complex Fires
8/25/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	73.5	ug/m3	Impacts from August Complex & North Complex Fires
8/26/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	44.8	ug/m3	Impacts from August Complex & North Complex Fires
8/28/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	40.7	ug/m3	Impacts from August Complex & North Complex Fires
8/29/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	54.2	ug/m3	Impacts from August Complex & North Complex Fires
8/30/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	35.6	ug/m3	Impacts from August Complex & North Complex Fires
9/5/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	39.7	ug/m3	Impacts from August Complex & North Complex Fires
9/6/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	47.4	ug/m3	Impacts from August Complex & North Complex Fires
9/7/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	50.4	ug/m3	Impacts from August Complex & North Complex Fires
9/9/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	42.6	ug/m3	Impacts from August Complex & North Complex Fires
9/10/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	127.4	ug/m3	Impacts from August Complex & North Complex Fires

9/11/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	124.7	ug/m3	Impacts from August Complex & North Complex Fires
9/12/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	227.7	ug/m3	Impacts from August Complex & North Complex Fires
9/13/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	329.3	ug/m3	Impacts from August Complex & North Complex Fires
9/14/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	169.9	ug/m3	Impacts from August Complex & North Complex Fires
9/15/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	67.8	ug/m3	Impacts from August Complex & North Complex Fires
9/16/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	59.0	ug/m3	Impacts from August Complex & North Complex Fires
9/17/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	50.4	ug/m3	Impacts from August Complex & North Complex Fires
9/20/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	52.0	ug/m3	Impacts from August Complex & North Complex Fires
9/21/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	69.8	ug/m3	Impacts from August Complex & North Complex Fires
9/29/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	46.6	ug/m3	Impacts from August Complex & North Complex Fires
9/30/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	50.5	ug/m3	Impacts from August Complex & North Complex Fires
10/1/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	76.0	ug/m3	Impacts from August Complex & North Complex Fires
10/2/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	59.9	ug/m3	Impacts from August Complex & North Complex Fires
10/3/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	76.6	ug/m3	Impacts from August Complex & North Complex Fires
10/4/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	68.0	ug/m3	Impacts from August Complex & North Complex Fires
10/5/2020	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	37.8	ug/m3	Impacts from August Complex & North Complex Fires
8/6/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	68.0	ug/m3	Impacts from Dixie Fire
8/7/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	102.7	ug/m3	Impacts from Dixie Fire
8/8/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	75.0	ug/m3	Impacts from Dixie Fire
8/16/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	45.5	ug/m3	Impacts from Dixie, Monument, McFarland, & River Complex Fires
8/18/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	44.2	ug/m3	Impacts from Dixie Fire
8/19/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	62.5	ug/m3	Impacts from Dixie Fire
8/20/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	50.6	ug/m3	Impacts from Dixie Fire
8/27/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	56.7	ug/m3	Impacts from Dixie Fire
8/28/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	62.5	ug/m3	Impacts from Dixie & Caldor Fires
8/29/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	66.5	ug/m3	Impacts from Dixie, Monument, River Complex, & Caldor Fires
8/30/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	42.7	ug/m3	Impacts from Dixie, Monument, River Complex, & Caldor Fires
8/31/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	37.0	ug/m3	Impacts from Monument, River Complex, & Caldor Fires
9/14/2021	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	38.5	ug/m3	Impacts from Dixie, Monument, River Complex, & Caldor Fires
9/10/2022	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	35.5	ug/m3	Impacts from Mosquito Fire
9/11/2022	Wildfire	IT	60070008	3	Chico - East Avenue	PM2.5	42.9	ug/m3	Impacts from Mosquito Fire

Attachment B

Emissions Inventory

Anthropogenic Winter Season Emission Projections for Butte County, California (Tons per Day)

Source: California Emissions Projection Analysis Model (CEPAM2026 PM2.5 Plans Version 1.00) using CEIDARS 2023 base year inventory. Emissions grown and controlled (includes external adjustments).

Stationary Sources																				
	PM2.5				NOx				SOx				ROG				Ammonia			
	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038
FUEL COMBUSTION SUBCATEGORIES																				
ELECTRIC UTILITIES	0.000	0.000	0.000	0.000	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
COGENERATION	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OIL AND GAS PRODUCTION (COMBUSTION)	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MANUFACTURING AND INDUSTRIAL	0.007	0.007	0.007	0.007	0.160	0.161	0.170	0.178	0.010	0.010	0.011	0.011	0.015	0.015	0.015	0.016	0.000	0.000	0.000	0.000
FOOD AND AGRICULTURAL PROCESSING	0.009	0.007	0.006	0.006	0.205	0.174	0.156	0.155	0.001	0.001	0.000	0.000	0.017	0.014	0.013	0.013	0.000	0.000	0.000	0.000
SERVICE AND COMMERCIAL	0.032	0.031	0.032	0.032	0.663	0.647	0.652	0.657	0.017	0.017	0.017	0.017	0.049	0.048	0.048	0.048	0.000	0.000	0.000	0.000
OTHER (FUEL COMBUSTION)	0.000	0.000	0.000	0.000	0.029	0.029	0.029	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FUEL COMBUSTION SUBTOTAL	0.048	0.046	0.045	0.045	1.060	1.015	1.009	1.021	0.028	0.028	0.029	0.029	0.081	0.078	0.077	0.077	0.000	0.000	0.000	0.000
WASTE DISPOSAL SUBCATEGORIES																				
SEWAGE TREATMENT	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.004	0.005	0.005	0.005	0.001	0.001	0.001	0.001
LANDFILLS	0.003	0.004	0.004	0.004	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.003	0.000	0.000	0.000	0.000	0.025	0.025	0.026	0.027
INCINERATORS	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SOIL REMEDIATION	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER (WASTE DISPOSAL)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.044	0.043	0.043	0.063	0.064	0.065	0.066
WASTE DISPOSAL SUBTOTAL	0.006	0.006	0.006	0.006	0.006	0.007	0.007	0.007	0.003	0.003	0.003	0.003	0.049	0.049	0.048	0.048	0.090	0.090	0.092	0.094
CLEANING AND SURFACE COATINGS SUBCATEGORIES																				
LAUNDRING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.006	0.006	0.006	0.000	0.000	0.000	0.000
DEGREASING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.516	0.558	0.628	0.671	0.000	0.000	0.000	0.000
COATINGS AND RELATED PROCESS SOLVENTS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.351	0.368	0.396	0.420	0.000	0.000	0.000	0.000
PRINTING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.045	0.047	0.048	0.000	0.000	0.000	0.000
ADHESIVES AND SEALANTS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.113	0.104	0.103	0.104	0.000	0.000	0.000	0.000
OTHER (CLEANING AND SURFACE COATINGS)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.004	0.005	0.005	0.000	0.000	0.000	0.000
CLEANING AND SURFACE COATINGS SUBTOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.035	1.087	1.185	1.253	0.000	0.000	0.000	0.000
PETROLEUM PRODUCTION & MARKETING SUBCATEGORIES																				
OIL AND GAS PRODUCTION	0.000	0.000	0.000	0.000	0.046	0.040	0.032	0.030	0.001	0.001	0.000	0.000	0.085	0.073	0.060	0.055	0.017	0.015	0.012	0.011
PETROLEUM REFINING	0.000	0.000	0.000	0.000	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.038	0.038	0.038	0.038	0.000	0.000	0.000	0.000
PETROLEUM MARKETING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.271	0.246	0.227	0.226	0.000	0.000	0.000	0.000
OTHER (PETROLEUM PRODUCTION & MARKETING)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.094	0.100	0.111	0.116	0.000	0.000	0.000	0.000
PETROLEUM PRODUCTION & MARKETING SUBTOTAL	0.000	0.000	0.000	0.000	0.048	0.042	0.034	0.032	0.001	0.001	0.000	0.000	0.489	0.458	0.436	0.435	0.017	0.015	0.012	0.011
INDUSTRIAL PROCESSES SUBCATEGORIES																				
CHEMICAL	0.002	0.002	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.004	0.004	0.005	0.003	0.004	0.004	0.005
FOOD AND AGRICULTURE	0.514	0.573	0.659	0.703	0.010	0.012	0.013	0.014	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.002	0.000	0.000	0.000	0.000
MINERAL PROCESSES	0.101	0.101	0.105	0.109	0.018	0.018	0.018	0.019	0.015	0.015	0.015	0.016	0.014	0.014	0.014	0.015	0.000	0.000	0.000	0.000
METAL PROCESSES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000
WOOD AND PAPER	0.052	0.052	0.054	0.057	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
OTHER (INDUSTRIAL PROCESSES)	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.022	0.023	0.024	0.026	0.000	0.000	0.000	0.000
INDUSTRIAL PROCESSES SUBTOTAL	0.672	0.730	0.823	0.875	0.030	0.031	0.034	0.036	0.015	0.015	0.015	0.016	0.041	0.042	0.046	0.048	0.003	0.004	0.004	0.005
Stationary Sources Subtotal	0.725	0.782	0.874	0.926	1.145	1.094	1.084	1.095	0.047	0.047	0.048	0.049	1.695	1.714	1.791	1.862	0.110	0.109	0.108	0.109

Areawide Sources																				
	PM2.5				NOx				SOx				ROG				Ammonia			
	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038
SOLVENT EVAPORATION SUBCATEGORIES																				
CONSUMER PRODUCTS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.387	1.464	1.548	1.601	0.000	0.000	0.000	0.000
ARCHITECTURAL COATINGS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.261	0.277	0.288	0.291	0.000	0.000	0.000	0.000
PESTICIDES/FERTILIZERS	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.258	0.270	0.264	0.262	3.084	3.033	2.969	2.944
ASPHALT PAVING / ROOFING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.200	0.185	0.196	0.199	0.000	0.000	0.000	0.000
SOLVENT EVAPORATION SUBTOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.105	2.197	2.296	2.353	3.084	3.033	2.969	2.944
MISCELLANEOUS PROCESSES																				
RESIDENTIAL FUEL COMBUSTION	1.617	1.504	1.459	1.458	0.615	0.617	0.609	0.603	0.043	0.043	0.043	0.043	2.944	2.944	2.944	2.944	0.089	0.089	0.089	0.089
FARMING OPERATIONS	0.202	0.198	0.194	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.295	0.283	0.269	0.264	0.487	0.473	0.458	0.453
CONSTRUCTION AND DEMOLITION	0.200	0.186	0.197	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PAVED ROAD DUST	0.159	0.169	0.180	0.184	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UNPAVED ROAD DUST	0.124	0.123	0.123	0.122	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FUGITIVE WINDBLOWN DUST	0.022	0.021	0.021	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
FIRES	0.012	0.013	0.013	0.013	0.002	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.010	0.011	0.011	0.011	0.004	0.004	0.004	0.004
MANAGED BURNING AND DISPOSAL	1.224	1.001	0.993	0.991	0.500	0.461	0.455	0.452	0.048	0.045	0.045	0.045	1.403	1.005	0.998	0.995	0.357	0.170	0.169	0.169
COOKING	0.056	0.056	0.058	0.059	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.010	0.011	0.011	0.000	0.000	0.000	0.000
OTHER (MISCELLANEOUS PROCESSES)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.370	0.375	0.386	0.394
MISCELLANEOUS PROCESSES SUBTOTAL	3.615	3.271	3.238	3.241	1.117	1.079	1.066	1.057	0.090	0.088	0.088	0.087	4.663	4.253	4.233	4.225	1.307	1.111	1.107	1.109
Areawide Sources Subtotal	3.615	3.271	3.238	3.241	1.117	1.079	1.066	1.057	0.090	0.088	0.088	0.087	6.769	6.449	6.529	6.578	4.391	4.144	4.076	4.053
Mobile Sources																				
	PM2.5				NOx				SOx				ROG				Ammonia			
	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038
ON-ROAD MOTOR VEHICLES SUBCATEGORIES																				
LIGHT DUTY PASSENGER (LDA)	0.013	0.013	0.014	0.014	0.222	0.151	0.127	0.123	0.006	0.006	0.006	0.006	0.336	0.261	0.213	0.200	0.067	0.082	0.097	0.100
LIGHT DUTY TRUCKS - 1 (LDT1)	0.002	0.001	0.001	0.001	0.099	0.051	0.018	0.013	0.001	0.001	0.000	0.000	0.131	0.078	0.039	0.029	0.009	0.008	0.006	0.006
LIGHT DUTY TRUCKS - 2 (LDT2)	0.007	0.007	0.007	0.007	0.206	0.134	0.092	0.083	0.004	0.004	0.003	0.003	0.210	0.173	0.138	0.131	0.039	0.044	0.049	0.050
MEDIUM DUTY TRUCKS (MDV)	0.006	0.005	0.004	0.004	0.224	0.125	0.074	0.063	0.004	0.003	0.003	0.002	0.239	0.175	0.124	0.109	0.029	0.029	0.029	0.029
LIGHT HEAVY DUTY TRUCKS - 1 (LHDT1)	0.019	0.014	0.009	0.008	0.634	0.364	0.161	0.110	0.002	0.002	0.001	0.001	0.107	0.073	0.041	0.033	0.029	0.025	0.022	0.020
LIGHT HEAVY DUTY TRUCKS - 2 (LHDT2)	0.005	0.004	0.003	0.002	0.109	0.070	0.041	0.032	0.001	0.000	0.000	0.000	0.015	0.011	0.008	0.007	0.009	0.008	0.008	0.007
MEDIUM HEAVY DUTY TRUCKS (MHDT)	0.003	0.002	0.002	0.002	0.160	0.094	0.064	0.058	0.001	0.001	0.001	0.001	0.009	0.005	0.003	0.003	0.014	0.015	0.017	0.018
HEAVY HEAVY DUTY TRUCKS (HHDT)	0.020	0.020	0.022	0.022	0.831	0.637	0.623	0.620	0.005	0.005	0.005	0.005	0.018	0.020	0.021	0.022	0.067	0.076	0.084	0.085
MOTORCYCLES (MCY)	0.000	0.000	0.000	0.000	0.021	0.017	0.013	0.012	0.000	0.000	0.000	0.000	0.146	0.130	0.111	0.106	0.000	0.000	0.000	0.000
BUSES	0.001	0.001	0.000	0.000	0.041	0.026	0.012	0.010	0.000	0.000	0.000	0.000	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002
MOTOR HOMES (MH)	0.000	0.000	0.000	0.000	0.018	0.012	0.007	0.006	0.000	0.000	0.000	0.000	0.005	0.003	0.001	0.001	0.001	0.000	0.000	0.000
ON-ROAD MOTOR VEHICLES SUBTOTAL	0.076	0.067	0.063	0.061	2.565	1.680	1.231	1.128	0.023	0.021	0.020	0.019	1.221	0.931	0.700	0.642	0.266	0.291	0.315	0.317
OTHER MOBILE SOURCES SUBCATEGORIES																				
AIRCRAFT	0.003	0.003	0.003	0.003	0.102	0.103	0.103	0.103	0.016	0.016	0.016	0.016	0.055	0.056	0.057	0.057	0.000	0.000	0.000	0.000
TRAINS	0.022	0.022	0.020	0.016	1.039	1.104	1.079	0.911	0.001	0.001	0.001	0.001	0.045	0.045	0.042	0.035	0.001	0.001	0.001	0.001
RECREATIONAL BOATS	0.029	0.024	0.019	0.018	0.145	0.138	0.134	0.132	0.000	0.000	0.000	0.000	0.622	0.510	0.400	0.360	0.000	0.000	0.000	0.000
OFF-ROAD RECREATIONAL VEHICLES	0.001	0.001	0.001	0.001	0.007	0.007	0.008	0.008	0.000	0.000	0.000	0.000	0.085	0.065	0.047	0.043	0.000	0.000	0.000	0.000
OFF-ROAD EQUIPMENT	0.028	0.017	0.012	0.011	0.585	0.493	0.412	0.391	0.002	0.002	0.001	0.001	0.720	0.513	0.316	0.270	0.001	0.001	0.001	0.001

OFF-ROAD EQUIPMENT (PERP)	0.001	0.001	0.001	0.001	0.045	0.032	0.030	0.030	0.000	0.000	0.000	0.000	0.005	0.004	0.005	0.005	0.000	0.000	0.000	0.000
FARM EQUIPMENT	0.047	0.021	0.012	0.010	0.851	0.532	0.321	0.273	0.001	0.001	0.001	0.001	0.202	0.145	0.082	0.068	0.001	0.001	0.001	0.001
FUEL STORAGE AND HANDLING	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.049	0.045	0.045	0.000	0.000	0.000	0.000
OTHER MOBILE SOURCES SUBTOTAL	0.132	0.089	0.068	0.059	2.774	2.409	2.087	1.849	0.020	0.020	0.020	0.020	1.788	1.388	0.993	0.882	0.003	0.003	0.003	0.003
Mobile Sources Subtotal	0.208	0.157	0.131	0.120	5.340	4.089	3.318	2.977	0.044	0.042	0.040	0.039	3.009	2.319	1.693	1.524	0.269	0.294	0.318	0.320

Total for All Categories	PM2.5				NOx				SOx				ROG				Ammonia			
	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038
	4.549	4.209	4.242	4.287	7.601	6.263	5.468	5.129	0.181	0.177	0.176	0.176	11.473	10.483	10.013	9.964	4.770	4.546	4.502	4.482

ERC BANK	PM2.5*				NOx				SOx				ROG			
	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038
	0.107	0.107	0.107	0.107	0.164	0.164	0.164	0.164	0.008	0.008	0.008	0.008	0.164	0.164	0.164	0.164
*BCAQMD currently has an ERC bank for PM10 but not for PM2.5. As PM2.5 is a fraction of PM10, this is a conservative projection.																

BENEFIT OF WOODSTOVE CHANGEOUT*	PM2.5			
*see Attachment E	2023	2028	2035	2038
	-0.033	-0.054	-0.054	-0.054

GRAND TOTAL INCLUDING ERC BANK AND WOODSTOVE CHANGEOUT	PM2.5				NOx				SOx				ROG				Ammonia			
	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038
	4.623	4.262	4.295	4.340	7.765	6.427	5.632	5.293	0.189	0.185	0.184	0.184	11.637	10.647	10.177	10.128	4.770	4.546	4.502	4.482

Natural Winter Season Emission Projections for Butte County, California (Tons per Day)																				
Source: California Emissions Projection Analysis Model (CEPAM2026 PM2.5 Plans Version 1.00) using CEIDARS 2023 base year inventory. Emissions grown and controlled (includes external adjustments).																				
Category Name	PM2.5				NOx				SOx				ROG				Ammonia			
	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038
BIOGENIC SOURCES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.046	7.046	7.046	7.046	0.000	0.000	0.000	0.000
GEOGENIC SOURCES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.764	0.764	0.764	0.764
WILDFIRES	0.008	20.538	20.538	20.538	0.001	1.557	1.557	1.557	0.000	0.783	0.783	0.783	0.010	26.397	26.397	26.397	0.000	1.368	1.368	1.368
TOTAL FOR NATURAL SOURCES	0.008	20.538	20.538	20.538	0.001	1.557	1.557	1.557	0.000	0.783	0.783	0.783	7.056	33.443	33.443	33.443	0.764	2.131	2.131	2.131
Category Name					NOx															
					2023	2028	2035	2038												
SOIL NOx*					0.841	0.841	0.841	0.841												
*Soil NOx estimate calculated separately from CEPAM using the MEGAN Model.																				
GRAND TOTAL INCLUDING ANTHROPOGENIC SOURCES	PM2.5				NOx				SOx				ROG				Ammonia			
	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038	2023	2028	2035	2038
	4.631	24.800	24.833	24.878	8.607	8.825	8.030	7.691	0.189	0.968	0.967	0.967	18.693	44.090	43.620	43.571	5.534	6.677	6.633	6.613

Attachment C

Emissions Inventory: Supporting Documentation

CARB Chico, CA/Butte County PM2.5 Second Maintenance Plan Emissions Inventory Write-Up CEPAM 2026 PM2.5 Plans v1.00

(March 2026)

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Emissions Inventory Background

The Clean Air Act (Act) identifies specific requirements that states must submit to U.S. EPA as part of their State Implementation Plan (SIP) to attain and maintain the National Ambient Air Quality Standards (NAAQS). Section 175(A)* of the Act and the United States Environmental Protection Agency (U.S. EPA) guidance sets the general framework for maintenance plans. These requirements include the development of an emission inventory. This document describes the emission inventory included in the Chico, CA/Butte County PM2.5 Second Maintenance Plan (Plan).

Emissions Inventory Overview

Emissions inventories are estimates of the amount and type of pollutants emitted into the atmosphere by facilities, mobile sources, and areawide sources. They are fundamental components of an air quality plan and serve critical functions such as:

1. the primary input to air quality modeling used in attainment demonstrations;
2. the emissions data used for developing control strategies; and
3. a means to track progress in meeting the emission reduction commitments.

The California Air Resources Board (CARB) in conjunction with Butte County Air Quality Management District (District) have developed a comprehensive emissions inventory consistent with the requirements set forth in Section 172(C)[†] of the Act. CARB and District staff conducted a thorough review of the inventory to ensure that the emission estimates reflect accurate emissions reports for point sources and that estimates for mobile and areawide sources are based on the most recent approved models and methodologies.

CARB also reviewed the growth profiles for point and areawide source categories and updated them as necessary to ensure that the emission projections are based on data that reflect historical trends, current conditions, and recent economic and demographic forecasts.

U.S. EPA requires that the emission inventory for a PM2.5 Plan contain emissions data for directly emitted PM2.5 and its precursors: oxides of nitrogen (NOx), sulfur oxides (SOx), volatile organic compounds (VOC), and ammonia (NH3)[‡]. The inventory included in this Plan substitutes VOC with reactive organic gases (ROG), which in general represent a slightly broader group of compounds than those in U.S. EPA's list of VOCs.

* Section 175 (A) of the Act. <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapl-partD-subpart1-sec7505a.htm>

[†] Section 172(C)(3) of the Act. <https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapl-partD-subpart1-sec7502.htm>

Inventory Base Year

The attainment base year inventory for the maintenance demonstration should reflect emissions during one of the three years for which monitoring data showed compliance with the standard[§]. Since this Plan is showing maintenance using the 2024 design values, which includes the years 2022, 2023 and 2024, CARB selected the base year 2023, as it is also the most recent triennial inventory year conducted for the National Emissions Inventory (NEI).

Forecasted Inventories

In addition to base year emissions, emissions projections are needed for a variety of reasons, including redesignation maintenance plans, the attainment projected inventory for a nonattainment area (NAA), and air quality modeling for attainment plans. The future years included in this Plan are 2028, 2035, and 2038.

For stationary and areawide sources, forecasted inventories are a projection of the base year inventory that reflects expected growth trends for each source category and emission reductions due to adopted control measures. CARB develops emission forecasts by applying growth and control profiles to the base year inventory. The stationary and areawide source emissions inventory for the Plan is modeled by the California Emission Projection Analysis Model (CEPAM), 2026 PM2.5 Plans, Version 1.00.

Growth profiles for point and areawide sources are derived from surrogates, such as economic activity, fuel usage, population, and housing units, that best reflect the expected growth trends for each specific source category. Growth projections were obtained primarily from government entities with expertise in developing forecasts for specific sectors, or, in some cases, from econometric models. Control profiles, which account for emission reductions resulting from adopted rules and regulations, are derived from data provided by the regulatory agencies responsible for the affected emission categories.

Projections for on-road mobile source emissions are generated by CARB's EMFAC2021 model, which predicts activity rates and vehicle fleet turnover by vehicle model year, along with activity inputs from the metropolitan planning organization (MPO). Off-road mobile sources are forecasted with category-specific model or, where not available, CARB's OFFROAD2007 model. CEPAM integrates the emission projections derived from these mobile source models to develop a comprehensive forecasted emissions inventory. As with stationary sources, the mobile source models include control algorithms that account for adopted regulatory actions.

[§] 40 CFR 51.1008(a)(1)(i). [https://www.ecfr.gov/current/title-40/part-51/section-51.1008#p-51.1008\(a\)\(1\)\(i\)](https://www.ecfr.gov/current/title-40/part-51/section-51.1008#p-51.1008(a)(1)(i))

Temporal Resolution

Planning inventories typically include annual as well as seasonal (summer and winter) emission estimates. Annual emission inventories represent the total emissions over an entire year (tons per year), or the daily emissions produced on an average day (tons per day) basis. Seasonal inventories account for temporal activity variations throughout the year, as determined by category-specific temporal profiles. Since PM_{2.5} concentrations tend to be highest during the winter months, the emission inventory used in this Plan is based on the winter season (November through April).

Geographic Scope

The inventory presented in this plan includes emissions for the Chico, CA/Butte County (partial) PM_{2.5} Planning Area (Planning Area).. Since the Butte County portion is split into a region not defined by county, air basin, or district boundaries, the emissions had to be spatially allocated for the portion in the Planning Area. The county level emissions were allocated to the nonattainment area using the approach described below.

Stationary Point Sources:

Emissions from stationary point sources were designated as being inside or outside the nonattainment area based on a district assessment of latitude and longitude coordinates.

Beginning with this plan, CARB is using a new approach to spatially allocate emissions for stationary aggregated, areawide, off-road mobile, and natural source categories for sub-county nonattainment areas with geographical boundaries that do not align with CARB's standard county/air basin/district definitions. This change better aligns geographical representation of planning inventories with the approaches used by CARB in their air quality modeling.

The inventory presented in this plan includes emissions for the Planning Area. Since the Planning Area represents only part of Butte County, the portion of county emissions associated with the Planning Area had to be determined. This was done using a variation of the approach that is used for spatial surrogate fraction calculations for air quality modeling. Surrogate fractions are the fraction of a region's emissions associated with each model grid cell. These are calculated based on the portion of underlying geographic weighting data in each grid cell (e.g., coordinates representing restaurants for charbroiling-related emissions). A similar process was used for calculating the fraction of emissions associated with the sub-county Planning Area, except that the Planning Area boundary was the intersecting boundary used, instead of the typical model grid cells used for air quality modeling. This process resulted in fractions of emissions inside the Planning Area region. These Planning Area region fractions were multiplied by the county-level emission totals to yield emissions inside the Planning Area region. The underlying weighting data differed by source and sector but were consistent with CARB's air quality modeling inventories and the most recent available spatial surrogate snapshot 20260127, along with their respective assignments file last updated on 2026-03-13. This assignments file cross-references inventory categories to spatial surrogate assignments. The methodology document describing weighting data used and spatial surrogates-related files are available on CARB's

Air Quality Modeling Spatial Repository (CARB, 2026a, b)^[1] with the latest updates available upon request. The final data product from this spatial analysis was the production of a fraction dataset for the Planning Area sub-area defined at the Emission Inventory Code (EIC) level.

Special Treatment Sectors

Natural Sources

Surrogates are not typically used to spatially allocate biogenic sources in CARB's air quality modeling. Most biogenic source emissions are provided directly by the Model of Emissions of Gases and Aerosols from Nature (MEGAN). For purposes of calculating emissions fractions within the Planning Area, MEGAN gridded 1km model output for year 2017 was used as weighting data.

Coordinates of prescribed fires used to construct CARB's 2023 inventory weighted by the sum of smoldering and flaming PM 2.5 emissions were used as weighting data to calculate the sub-county Planning Area fractions for the prescribed fire sector.

Wildfire boundaries data (2023) weighted by the sum of smoldering and flaming PM 2.5 emissions were used as weighting data to calculate the sub-county Planning Area fractions for the wildfire sector.

Quality Assurance and Quality Control

CARB has established a quality assurance and quality control (QA/QC) process to ensure the integrity and accuracy of the emission inventories used in the development of air quality plans. QA/QC occurs at multiple stages of the Plan's emission inventory development. Base year emissions are assembled and maintained in the California Emission Inventory Development and Reporting System (CEIDARS). CARB inventory staff works with District staff, who are responsible for developing and reporting point source emission estimates, to verify these data are accurate. The locations of point sources, including stacks, are checked to ensure they are valid. Area-wide source emissions estimates are developed by both CARB and District staff, and the methodologies are reviewed by both agencies before their inclusion in the emissions inventory. On-road mobile categories are direct outputs of CARB's EMFAC model. For off-road mobile categories, the inventory for this plan is based on a suite of category specific off-road models. Additionally, CEIDARS is designed with automatic system checks to prevent errors, such as double counting of emission sources. At the final stage, CEPAM is thoroughly reviewed to validate the accuracy of growth and control application, and the output emissions are compared against prior approved versions of CEPAM to identify data anomalies.

Emission Inventory Components

A summary of the components that make up the Chico, CA/Butte County PM2.5 Second Maintenance Plan emissions inventory is presented in the following sections. These include mobile (on- and off-road) sources, stationary point sources, areawide sources, and natural sources.

Mobile Source Emissions

CARB develops the emission inventory for mobile sources using various modeling methods. These models account for the effects of various adopted regulations, technology types, fleet turnover, and seasonal conditions on emissions. Mobile sources in the emission inventory are composed of both on-road and off-road sources, described in the sections below.

On-Road Mobile Source Emissions

EMFAC2021 and Its Approval by U.S. EPA

EMFAC is California's federally approved on-road mobile source emissions inventory model. It supports CARB's regulatory and air quality planning efforts and fulfills requirements under the federal Clean Air Act. On November 15, 2022, U.S. EPA approved EMFAC2021 v1.0.2 for use in SIP development and conformity analyses, which reflected CARB's latest understanding of California's on-road vehicle emissions, activities, and the benefits of regulations adopted prior to March 31, 2021. The model accounts for the effects of regulations approved by the Board as of the release of EMFAC2021 v1.0.2 on January 15, 2021. Please note that EMFAC2021 with the adjustment factors that EPA approved on November 21, 2025 is the latest approved method for modeling emissions in California, per 40 CFR 93.111 (see section "EMFAC Off-Model Adjustment Factors to Remove Emissions Benefits of Advanced Clean Trucks, Zero-Emission Airport Shuttle, Warranty Phase 1, and Heavy-Duty Omnibus Regulations" for more information).

Emissions from on-road mobile sources, including passenger vehicles, buses, and trucks, were estimated using the EMFAC2021 v1.0.2 model by applying model emission factors to transportation activity data provided by local MPOs based on the 2022 Regional Transportation Plan. The model incorporates California-specific data on vehicle fleets and travel activity. For light-duty vehicles, population data was drawn from 2019 California Department of Motor Vehicles (DMV) data, with updated emission rates based on test data and the inclusion of plug-in hybrid electric vehicles. For heavy-duty vehicles, model year-specific emission factors based on new test data were used, along with population estimates from DMV data for in-state trucks and International Registration Plan (IRP) data for out-of-state vehicles. The model uses a socio-econometric regression approach to forecast new vehicle sales and future fleet mix. It also reflects emissions benefits of CARB's rulemakings including the Advanced Clean Trucks, Heavy-Duty Omnibus regulations, the Truck and Bus Rule, and previously adopted rules for other on-road diesel fleets.

Additional information on the EMFAC2021 model is available at: <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-road-documentation>

EMFAC Off-Model Adjustment Factors to Remove Emissions Benefits of Advanced Clean Trucks, Zero-Emission Airport Shuttle, Warranty Phase 1, and Heavy-Duty Omnibus Regulations

On June 12, 2025, three Congressional Resolutions purported to disapprove U.S. EPA's decisions to grant California waivers for several regulations in the EMFAC2021 v1.0.2 baseline, including Advanced Clean Trucks (ACT), Zero-Emission Airport Shuttle, Heavy-Duty Vehicle and Engine Emission Warranty and Maintenance Provisions (Warranty Phase 1), and Heavy-Duty Omnibus (Omnibus) regulations. While these illegal actions are being contested, CARB staff developed adjustment factors to remove these regulations from EMFAC2021 v1.0.2 solely for the purposes of State Implementation Plan (SIP) development and conformity determinations, including regional emissions analysis for transportation plan and transportation improvement program conformity determinations, as well as hot-spot analysis for project-level conformity determinations.

To remove the impact of ACT, Zero-Emission Airport Shuttle, Warranty Phase 1, and Omnibus regulations on criteria pollutant emissions, CARB staff used the methodology implemented in EMFAC2021 v1.0.2. Using the "Annual" setting, the model was run for calendar years 2022 through 2050 to estimate emissions under two scenarios: (1) a "Remove Regulations" scenario, which excludes the emissions benefits of these regulations; and (2) an "Include Regulations" scenario, which reflects the benefits of these regulations along with all other adopted regulations at the time the model was finalized. These adjustment factors, provided in the form of multipliers applied to emissions outputs from the EMFAC2021 model, were approved by U.S. EPA on November 21, 2025. In the CEPAM planning projection inventory used for the Butte PM2.5 Plan, we executed scenario (1) by removing the benefits of the aforementioned regulations. These off-model adjustment factors that remove the emission benefits of these regulations were applied to the EMFAC2021 baseline emission outputs using the CEPAM external adjustment module.

EMFAC Off-Model Adjustment Factors to Account for Emissions Benefits of Clean Truck Check

On December 9, 2021, CARB adopted the Clean Truck Check Program (CTC), also known as the Heavy-Duty Inspection and Maintenance Program (HD I/M), to control tailpipe emissions of oxides of nitrogen (NOx) and total direct-vehicle particulate matter (PM) effectively from non-gasoline on-road heavy-duty vehicles with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The CTC regulation was approved by the Office of Administrative Law (OAL) on October 5, 2022, and implementation began on January 1, 2023. Starting from calendar year 2023, the program drastically reduces NOx and PM2.5 emissions by enforcing periodic testing and inspections for heavy-duty trucks operating in California.

In January 2026, U.S. EPA took final action to partially approve and partially disapprove the inclusion of CARB's CTC in the California SIP. The disapproval applies only to portions of the regulation affecting out-of-state vehicles and does not impact CARB's authority to implement and enforce the program for trucks registered in the state of California.

Since CTC was adopted after the release of EMFAC2021, its emissions benefits are not included in EMFAC2021. Therefore, CARB staff used the methodology implemented in the latest U.S. EPA-approved version of the EMFAC model, EMFAC2021 v1.0.2 with the November 2025 adjustment factors, to assess the NOx and PM emissions benefits of CTC.

Using the "Annual" setting, the model was run for calendar years 2023 through 2050 to estimate emissions under two scenarios: (1) an "Adjusted Baseline" scenario where emissions are estimated without accounting for the benefits of CTC. This scenario was achieved by applying EMFAC2021 off-model adjustment factors to the output of the public version of the EMFAC2021 v1.0.2 model to remove the benefits of ACT, Omnibus, Warranty Phase 1, and Zero-Emission Airport Shuttle; and (2) an "Include Regulations" scenario where the "Adjusted Baseline" scenario was updated off-model to reflect emissions reductions from CTC only for in-state vehicle categories. The in-state emissions reductions were estimated based on a modeled decrease in high-emitting vehicles operating on the road due to CTC requirements (e.g., periodic vehicle testing). Emissions for out-of-state vehicle categories (e.g., T6 out-of-state, Class 4-7, T7 non-neighboring out-of-state Class 8, T7 neighboring out-of-state Class 8) were kept the same as the "Adjusted Baseline" scenario.

These adjustment factors, provided in the form of multipliers, were applied to emissions outputs from the EMFAC2021 model with the November 2025 adjustment factors to account for the impact of partial SIP approval of the HD I/M program. These off-model adjustment factors account only for emissions reductions associated with in-state vehicle categories subject to CTC. Please note that these adjustment factors are pending EPA approval (expected April 2026). These off-model adjustment factors for "partial" implementation of HD I/M were applied to the EMFAC2021 baseline outputs using the CEPAM external adjustment module.

Off-Road Mobile Source Emissions

Emissions from off-road sources are estimated using a suite of category-specific models. In the case where a new model was not available, the OFFROAD2007 model was used. Many of the newer models were developed to support recent regulations, including in-use off-road equipment, ocean-going vessels, and others. The sections below summarize the updates made by CARB to specific off-road categories.

Aircraft

CAI2024 uses activity data from the U.S. Federal Aviation Administration's (FAA) 2023 Terminal Area Forecast (TAF) and the Bureau of Transportation Statistics (BTS) from 2024 to project the growth of most metropolitan and international airports in California. Detailed activity data was acquired from FlightAware for 857 aviation facilities in California, separated by airframe and engine, and utilized to run FAA Aviation Environmental Design Tool version 3e (AEDT). AEDT's emission factors are based on data from the Base of Aircraft Data version 3 (BADA 3) which consists of performance data maintained by the European Organization for the Safety of Air Navigation (EUROCONTROL).

This combination of these data sources allowed a comprehensive modeling of the landing and take-off (LTO) aircraft emissions from all active aviation facilities encompassing a broad spectrum of aircraft types in California, including Air Carriers, Air Taxis, General Aviation, and Helicopters (also known as Rotorcraft). Additionally, CAI2024 includes the emissions inventory for Military and Agricultural (Crop Dusters also known as Aerial Applicators) aircraft. Since the release of CAI2024, the inventory has been updated to break-out APU emissions and correct the SFO allocation to San Mateo County.

Additional information is available at:

[*\(CAI2024\) California Aircraft Emissions Inventory*](#)

Recreational Marine Vessels

Pleasure craft or recreational marine vessel (RMV) is a broad category of marine vessel that includes gasoline-powered spark-ignition marine watercraft (SIMW) and diesel-powered marine watercraft. It includes outboards, sterndrives, personal watercraft, jet boats, and sailboats with auxiliary engines. This emissions inventory was last updated in 2014 to support the evaporative control measures. The population, activity, and emission factors were revised using new surveys, DMV registration information, and emissions testing.

Staff used economic data from a 2014 UCLA Economic Forecast to estimate the near-term annual sales of RMV (2014 to 2019). To forecast long-term annual sales (2020 and later), staff used an estimate of California's annual population growth as a surrogate.

Additional information is available at:

[*https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-offroad*](https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-offroad)

Recreational Vehicles

Off-highway recreational vehicles include off-highway motorcycles (OHMC), all-terrain vehicles (ATV), off-road sport vehicles, off-road utility vehicles, sand cars, golf carts, and snowmobiles. A new model was developed in 2018 to update emissions from recreational vehicles. Input factors such as population, activity, and emission factors were re-assessed using new surveys, DMV registration

information, and emissions testing. OHMC population growth is determined from two factors: incoming population as estimated by future annual sales and the scrapped vehicle population as estimated by the survival rate.

Additional information is available at:

<https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-offroad>

Small Off-Road Engines (SORE)

Small off-road engines (SORE) are spark-ignition engines rated at or below 19 kilowatts (i.e., 25 horsepower). Typical engines in this category are used in lawn and garden equipment as well as other outdoor power equipment and cover a broad range of equipment. Most of this equipment belongs to the Lawn & Garden (e.g., lawnmower, leaf blower, trimmer) and Light Commercial (e.g., compressor, pressure washer, generator) categories of CARB's SORE emissions inventory model.

The newly developed, stand-alone SORE2020 Model reflects the recovering California economy from the 2008 economic recession and incorporates emission results from CARB's recent in-house testing as well as CARB's most recent Certification Database. CARB also has conducted an extensive survey of SORE operating within California through the Social Science Research Center (SSRC) at the California State University, Fullerton (CSUF). Data collected through this survey provides the most up-to-date information regarding the population and activity of SORE equipment in California. The final SORE emissions included the adopted SORE rule in December 2021 as well as the 15-day changes after the Board hearing which allowed the pressure washers (greater than 5 hp) extra time for meeting the regulation. The SORE annual sales were forecasted using historic growth of the number of California households (DOF household forecasts, 2000 – 2008 and 2009 - 2018).

Additional information on SORE baseline emissions (without the adopted rule and 15-day changes) is available at:

https://ww2.arb.ca.gov/sites/default/files/2020-09/SORE2020_Technical_Documentation_2020_09_09_Final_Cleaned_ADA.pdf

Fuel Storage and Handling

Emissions from portable fuel containers (gas cans) were estimated based on past surveys and CARB in-house testing. This inventory uses a composite growth rate that depends on occupied household (or business units), percent of households (or businesses) with gas cans, and average number of gas cans per household (or business) units.

Additional information is available at:

<https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-offroad>

Locomotives

All locomotive inventories were updated in 2020 and include linehaul (large national companies), switchers (used in railyards), passenger, and Class 3 locomotives (smaller regional companies). Data for each sector was supplied by rail operations, including Union Pacific and Burlington Northern, and Santa Fe Railway (BNSF) for linehaul and switcher operations. Data for other categories was supplied by the locomotive owners. Emission factors for all categories were based on U.S. EPA emission factors for locomotives. The inventory reflects the 2005 memorandum of understanding (MOU) with Union Pacific and BNSF. Growth rates were primarily developed from the FAF.

More information is available at:

<https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-documentation-road>

In-Use Off-Road Equipment

This category covers off-road diesel vehicles over 25 horsepower in construction, mining, industrial, and oiling drilling categories. The inventory was updated in 2022 for population and activity based on the DOORS registration program. Activity was updated based on a 2021 survey of registered equipment owners, but emission factors were updated based on the 2025 off-road diesel emission factor update. The inventory reflects the In-Use Off-Road Equipment Regulations, as amended in 2011.

Additional information on the methodology is available at:

<https://ww2.arb.ca.gov/sites/default/files/2025-09/2025%20In-Use%20Off-Road%20Inventory%20Update%20-%202025%20ADA%20FINAL.pdf>

Transportation Refrigeration Units - Diesel

The Transportation Refrigeration Units (TRU) inventory was updated in 2025 based on the TRU reporting program at CARB. The activity was developed based on 2010 surveys of facilities served by TRUs and 2017 to 2019 telematics data purchased from TRU manufacturers. Emission factors were developed specifically for TRUs based on TRU engine certification data reported to U.S. EPA as of 2024, as well as testing data. The inventory reflects the TRU ATCM and 2021 amendments. Forecasting was based on historical trends in reporting, projections of population and agricultural production.

Additional information is available at:

<https://ww2.arb.ca.gov/sites/default/files/2025-07/2025TRUInventory.pdf>

Large Spark Ignition/Forklifts

The large spark ignition (LSI) inventory includes gasoline and propane forklifts, sweeper/scrubbers, and tow tractors. The inventory was updated in 2023 based on the LSI/forklift registration in the DOORS reporting system at CARB, and the sales data was provided by the Industrial Truck Association (ITA). Activity was based on a survey of equipment owners in the DOORS system, and emission factors were based on U.S. EPA's latest guidance for gasoline and propane engines. The inventory reflects the LSI regulation requirements and 2016 amendments, but does not reflect zero emission requirements.

The updated methodology is currently in the process of being posted online. When it is completed, the methodology will be available at:

<https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/zeforklifts/appd.pdf>

Forestry Equipment

The new 2025 forestry diesel equipment emissions inventory includes equipment used in forestry and in milling. This includes foresting operations, such as feller/bunchers and dragline operations, equipment used to build roads to reach forested areas, and forklifts or loaders used in milling operations. The inventory was based on a 2019 survey of forestry operations and mills (for calendar year 2017), as well as the 2019 California Department of Tax and Fee Administration data on the annual timber harvest. Updates include emission factors from the 2025 off-road diesel emission factor update. This sector does not include any emission reduction measures or strategies. The model projects forestry equipment population and emissions in future years by predicting the retirement and purchasing habits of forestry equipment. The model attempts to predict a business as usual (BAU) behavior based on the 2017 survey data.

Additional information is available at:

<https://ww2.arb.ca.gov/sites/default/files/2025-09/2025%20Forestry%20Inventory%20Update%20-%202025%20ADA%20FINAL.pdf>

Portable Equipment

Portable equipment inventory includes non-mobile diesel, such as generators, pumps, air compressors, chippers, and other miscellaneous equipment over 50 horsepower. This inventory was developed in 2017 based on CARB's registration program, 2017 survey of registered owners for activity and fuel, and the 2017 off-road diesel emission factor update. The inventory also reflects the Portable ATCM and 2017 amendments.

Because registration in PERP is voluntary, the PERP registration data was used as the basis for equipment population, with an adjustment factor used to represent the remaining portable equipment in the state. Estimates of future emissions beyond the base year were made by adjusting base year estimates for population growth, activity growth, and the purchases of new equipment (i.e. natural and accelerated turnover).

Additional information is available at:

<https://ww3.arb.ca.gov/msei/ordiesel/perp2017report.pdf>

Diesel Agricultural Equipment

The agricultural equipment inventory covers all off-road vehicles used on farms or first processing facilities (of all fuel types). It was updated in 2025 using a 2024 survey of California farmers and rental facilities, and the 2022 U.S. Department of Agriculture (USDA) agricultural census. Emission factors are based on the 2025 off-road diesel emission factor update. The inventory reflects incentive programs

for agricultural equipment that were implemented earlier than August 2024. Agricultural growth rates were developed using historical data from the County Agricultural Commissioners' reports.

Additional information will be available in May, 2026, at:

<https://ww2.arb.ca.gov/our-work/programs/msei/road-categories/road-diesel-models-and-documentation>

Stationary Sources Overview

The stationary source inventory is composed of point sources, stationary aggregated sources, and area-wide sources. The data elements in the inventory are consistent with the data elements required by U.S. EPA's Air Emissions Reporting Requirements (AERR)**. The inventory reflects actual emissions from industrial point sources reported to the District by the facility operators through calendar year 2023.

Estimation methods for point sources include source testing, direct measurement by continuous emissions monitoring systems, or engineering calculations.

As mentioned above, the stationary source inventory is classified into three components: point sources (individual facilities), stationary aggregated sources and area-wide sources. The emission estimates for point sources and stationary aggregated sources are closely interrelated. These components of the CEIDARS emissions inventory are evolving, and the associated reporting process is currently in transition. Historically, reporting of point sources has generally been limited to those emitting greater than or equal to 10 tons per year of any criteria pollutant. While some air districts have voluntarily reported facilities below this threshold, such reporting was not previously required. Under the Criteria and Toxics Reporting (CTR) program and the AB 2588 Air Toxics "Hot Spots" Emission Inventory Criteria and Guidelines (EICG) regulation guidance, air districts are now required to report point sources at significantly lower emission levels.

Complementing the stationary point source inventory is the stationary aggregated source inventory. This inventory represents a compilation of smaller emission sources across a county, air basin, or district, and is treated as "area sources" estimated using top-down methodologies applied at a regional scale. Examples include non-agricultural internal combustion engines, auto body refinishing operations, gasoline service stations, and dry cleaning facilities.

Because emissions within a given source category are often represented as a combination of reported point sources and estimated aggregated sources, a reconciliation process is required within CEIDARS.

** AERR, 40 CFR part 51, subpart A. <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-51/subpart-A>

This process subtracts the point source emissions from the corresponding area source totals to prevent double counting within the regional inventory.

With the implementation of CTR and EICG requirements, an increasing number of smaller facilities are now reported as point sources. A key driver of this shift is the need to better characterize emission sources and their proximity to communities that experience disproportionate air pollution burdens. As more facilities are captured in the point source inventory, the corresponding stationary aggregated emissions decrease through the reconciliation process.

Over time, as point source reporting becomes more comprehensive and granular, the reliance on area source methodologies may diminish. However, the program is currently in a transitional phase, and area source methodologies remain necessary to ensure complete emissions coverage. The long-term role of these methodologies will become clearer after several years of CTR and EICG implementation.

In the interim, as smaller facilities continue to be incorporated into the point source inventory, the reconciliation process will continue to be applied wherever an associated area source methodology exists for a given category. Once it is determined that a source category or process is fully represented within the point source inventory, CARB will be positioned to evaluate whether the corresponding unreconciled area source estimates can be removed from the inventory altogether.

Stationary Aggregated Sources

Estimates for the categories below were developed by CARB and have been reviewed by CARB staff to reflect the most up-to-date information.

Stationary Nonagricultural Internal Combustion Diesel Engines

This category includes emissions from backup and prime generators and pumps, air compressors, and other miscellaneous stationary diesel engines that are widely used throughout the industrial, service, institutional, and commercial sectors. The emission estimates, including emission forecasts, are based on a 2003 CARB methodology derived from the OFFROAD2007 model.

Additional information on this methodology is available at:

<https://ww3.arb.ca.gov/ei/areasrc/arbfuelcombothier.htm>

Agricultural Internal Combustion Diesel Irrigation Pumps

This category includes emissions from the operation of diesel-fueled stationary and mobile agricultural irrigation pumps. The emission estimates are based on a 2003 CARB methodology using statewide population and include replacements due to the Carl Moyer Program. Emissions are grown based on

projected acreage for irrigated farmland from the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP), 2008.

Additional information on this category is available at: <https://ww3.arb.ca.gov/ei/areasrc/fullpdf/full1-1.pdf>

Laundering

This category includes emissions from perchloroethylene (perc) dry cleaning establishments. The emission estimates are based on a 2002 CARB methodology that used nationwide perc consumption rates allocated to the county level based on population and an emission factor of 10.125 pounds per gallon used. Emissions were grown based on the California Department of Finance (DOF) population forecasts, 2020.

Additional information on this methodology is available at: <https://ww3.arb.ca.gov/ei/areasrc/arbcleanlaund.htm>

Degreasing

This category includes emissions from solvents in degreasing operations in the manufacturing and maintenance industries. The emissions estimates are based on a 2000 CARB methodology using survey and industry data, activity factors, emission factors and a user's fraction. Emissions were grown based on CARB/REMI industry-specific economic output, version 2.4.5.

Additional information on this methodology is available at: <https://ww3.arb.ca.gov/ei/areasrc/arbcleandegreas.htm>

Coatings and Thinners

This category includes emissions from coatings and related process solvents. Auto refinishing emissions estimates are based on a CARB methodology using production data and a composite emission factor derived from a 2002 survey. These estimates were grown based on CARB's on-road mobile sources model (EMFAC2017). Estimates for industrial coatings emissions are based on a 1990 CARB methodology using production and survey data, and emission factors derived from surveys. Estimates for thinning and cleaning solvents are based on a 1991 CARB methodology, census data and a default emission factor developed by CARB. These estimates were grown based on REMI county economic forecasts, version 2.4.5.

Additional information on these methodologies is available at: <https://ww3.arb.ca.gov/ei/areasrc/arbcleancoatproc.htm>

Adhesives and Sealants

This category includes emissions from solvent-based and water-based solvents contained in adhesives and sealants. Emissions are estimated based on a 1990 CARB methodology using production data and default emission factors. Estimates were grown based on REMI county economic forecasts, version 2.4.5.

Additional information on this methodology is available at:

<https://ww2.arb.ca.gov/carb-cleaning-and-surface-coating-methodologies-adhesives-and-sealants>

Gasoline Dispensing Facilities

This category uses a 2015 CARB methodology to estimate emissions from fuel transfer and storage operations at gasoline dispensing facilities (GDFs). The methodology addresses emissions from underground storage tanks, vapor displacement during vehicle refueling, customer spillage, and hose permeation. The updated methodology uses emission factors developed by CARB staff that reflect more current in-use test data and also accounts for the emission reduction benefits of onboard refueling vapor recovery (ORVR) systems. The emission estimates are based on 2012 statewide gasoline sales data from the California Board of Equalization that were apportioned to the county level using fuel consumption estimates from EMFAC 2014. Emissions were grown based on EMFAC2017.

Additional information on this category is available at:

<https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>

Gasoline Cargo Tank

This category uses a 2002 CARB methodology to estimate emissions from gasoline cargo tanks. These emissions do not include the emissions from loading and unloading of gasoline cargo tanks; they are included in the gasoline terminal inventory and gasoline service station inventory. Pressure-related fugitive emissions are volatile organic vapors leaking from three points: fittings, valves, and other connecting points in the vapor collection system on a cargo tank. 1997 total gasoline sales were obtained from the California Department of Transportation. The emission factors are derived from the data in the report, "Emissions from Gasoline Cargo Tanks, First Edition," published by the Air and Waste Management Association in 2002.

The initial emission estimates for 1997 were grown to 2012 using a growth parameter developed by Pechan based on gasoline and oil expenditures data. Emissions were grown according to fuel consumption from CARB's EMFAC 2017 mobile sources emission factors model.

Additional information on this methodology is available at:

<https://ww2.arb.ca.gov/arb-petroleum-production-and-marketing-methodologies-petroleum-marketing>

Oil and Gas Production

The oil and natural gas production inventory is estimated by a 2015 CARB methodology. This category is related to fugitive emissions from production-related fuel consumption, fugitive losses (sumps, pits, pumps, compressors, well heads, separators, valves and fittings), vapor recovery and flares, tank and truck working and breathing losses, wastewater treatment, tertiary production, and wet and dry gas stripping. Emissions were calculated using U.S. EPA's Oil and Natural Gas Tool v1.4 with default emissions factors from ENVIRON Int'l Corp's 2012 report, "2011 Oil and Gas Emission Inventory

Enhancement Project for CenSARA States,” and activity data taken from California’s Division of Oil, Gas, and Geothermal Resources (DOGGR) (which was renamed to Geologic Energy Management Division (CalGEM) in 2020). CARB also incorporated data from the 2007 Oil and Gas Industry Survey (e.g., typical component counts) and feedback from individual air districts (e.g., minimum controls required to operate in a certain district, with associated control factors) to improve these parameters and further adjust the tool’s output. Emissions were grown to 2017 based on CalGEM historical statewide production. Growth in future years an assumed 2.9% annual decline, which reflects the statewide CalGEM trend from 2000 through 2016.

Additional information on this methodology is available at:

<https://ww2.arb.ca.gov/resources/documents/oil-and-gas-industry-survey>

<https://ww3.arb.ca.gov/ei/areasrc/oilandgaseifinalreport.pdf>

Area-Wide Sources

Area-wide sources include categories where emissions take place over a wide geographic area, such as consumer products. Emissions from these sources are estimated using various models and methodologies. Estimation methods are based on engineering calculations. Emissions for these categories are estimated by both CARB and the District.

Estimates for the categories below were developed by CARB and have been reviewed by CARB staff to reflect the most up-to-date information:

Consumer Products and Aerosol Coatings

The Consumer Product (CP) emission estimates utilized sales and formulation data from the CARB’s mandatory survey of all consumer products sold in California for calendar years 2013 through 2015 (2015 Consumer Product Survey). The aerosol coatings estimates utilized sales and formulation data from a survey conducted by CARB in 2010. Based on the survey data, CARB staff determined the total product sales and total VOC emissions for the various product categories. Growth for personal care products are based on real disposable personal income projections per REMI version 2.4.5. No growth is assumed for aerosol coatings. Growth for all other consumer products are based on DOF population projections, 2024. This Butte plan includes the impact of the 2021 consumer product regulation that targets a subgroup of CP as well as aerosol coatings (see Table 2).

Additional information on CARB’s consumer products surveys is available at:

<https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/consumer-commercial-product-surveys>

Architectural Coatings

Architectural coatings are coatings applied to stationary structures and their accessories. They include house paints, stains, industrial maintenance coatings, traffic coatings, and many other products. Industrial maintenance coatings are high performance architectural coatings formulated for application to substrates, including floors, exposed to extreme environmental conditions (e.g., immersion in water,

chronic exposure to corrosive agents, frequent exposure to temperatures above 121°C, repeated heavy abrasion). The architectural coatings category reflects emission estimates based on a 2014 comprehensive CARB survey for the 2013 calendar year. The emission estimates include benefits of the 2007 CARB Suggested Control Measures. These emissions are grown based on DOF households forecast, 2020.

Additional information about CARB's architectural coatings program is available at:

<https://ww2.arb.ca.gov/carb-solvent-evaporation-methodologies-architectural-coatings-and-cleaningthinning-solvents>

Pesticides

The California Department of Pesticide Regulation (DPR) develops month-specific emission estimates for agricultural and structural pesticides. Each calendar year, DPR updates the inventory based on the Pesticides Use Report, which provides updated information from 1990 through the 2023 calendar year. Agricultural pesticide emission forecasts for years 2024 and beyond are based on the average of the most recent five years. Growth for agricultural pesticides is based on CARB projections of farmland acres per FMMP, 2016. Growth for structural pesticides is based on DOF households growth projections, 2020.

Additional information about CARB's pesticides program is available at:

<https://ww2.arb.ca.gov/carb-solvent-evaporation-methodologies-agricultural-and-non-agricultural-pesticides>

Residential Wood Combustion

This update incorporates new device fractions from EPA's 2023 Wagon Wheel BETA, improved estimates of both primary and supplemental wood heating, updated emission factors, and revised burn rates. Supplemental heating use is now inferred by comparing American Housing Survey counts of primary wood-heated households with total estimated device use, filling a key gap in the earlier approach. Emission factors have been refreshed using the latest Northeast States for Coordinated Air Use Management (NESCAUM) test data compiled in the 2023 Wagon Wheel. Burn rates, previously based on outdated surveys, were updated using recent data from woodsmoke reduction programs in parts of California, while values for remaining regions were estimated through a regression model incorporating factors such as population density and heating degree days. In addition to the revised Wagon Wheel methodological approach, CARB has redefined the emission inventory code (EIC) landscape to delineate catalyzed and noncatalyzed woodstoves and fireplace inserts. In this update there is no change to the monthly temporal activity profiles, so the seasonality aspect of the inventory remains the same. Butte County Rule 207 is accounted for in the emission projections for this plan (see Table 2).

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Residential Natural Gas Combustion

CARB staff updated the methodology to reflect 2017 fuel use from the California Energy Consumption Database. Residential natural gas consumption by county was obtained from the 2019 California Energy Commission (CEC) California Energy Consumption Database. The heat content of natural gas reflects the 2017 values per the Energy Information Administration (EIA) State Energy Consumption, Price, and Expenditure Estimates. The emissions estimates reflect the most recent emissions factors from U.S. EPA's AP-42 for residential natural gas combustion. Growth is based on California Energy Commission (CEC) projections for natural gas consumption, 2019.

Additional information on this methodology is available at:

<https://ww2.arb.ca.gov/carb-miscellaneous-process-methodologies-residential-fuel-combustion>

Residential Distillate Oil and Liquefied Petroleum Gas

The residential distillate oil/liquefied petroleum gas (LPG) category includes emissions occurring in the residential sector. Distillate oil for heating is generally used in older homes and remote areas where natural gas lines are not available.

Activity is based on the number of housing units, population, and LPG and distillate oil capacities. The 1991 Fuels Report Working Paper published by the CEC was used to determine energy demand by fuel type in terms of the number of houses heated by a specific fuel in a particular area. Heating degree days (HDD) are used to estimate how many heating days are likely to occur in a particular area.

This category uses emission factors from U.S. EPA's AP-42. The emissions were initially calculated in 1993 then grown to 2012 using housing unit data from the DOF, 2013. Emissions were grown from 2012 to 2017 using a 'no growth' profile developed by Pechan (2012). Emissions post-2017 were grown based on EIA – State Energy Data System (SEDS), and no growth was assumed.

Additional information on this methodology is available at:

<https://ww2.arb.ca.gov/carb-miscellaneous-process-methodologies-residential-fuel-combustion>

Farming Operations

Tilling and Harvesting

Farming operation dust refers to particulate matter (PM) emissions generated during agricultural land preparation activities such as tilling, and during harvest operations including crop picking and initial post-harvest handling (e.g., packing house activities). Estimating emissions for this category requires crop-specific harvested acreage and crop calendars that describe land preparation and harvest timing for each crop. PM emissions are calculated by multiplying harvested acreage by crop-specific emission factors, which are derived from operation types and crop calendar information.

To better characterize crop-specific dust emissions, this update retires the previously used aggregated EICs and replaces them with crop-specific EICs. We now have 21 crop-specific EICs for tilling dust and

21 crop-specific EICs for harvest operations, for a total of 42 farming-operation-dust EICs. These EICs were developed based on the 2016 crop calendar and reviewed with air district experts.

In addition to the EIC updates, we also updated activity data. The 2022 California Department of Food and Agriculture (CDFA) harvested acreage data now replaces the 2012 dataset previously used. We also implemented major improvements to spatial allocation. In the current methodology, emissions for counties spanning multiple air basins were apportioned using land area or population. In this update, we instead allocate county-level harvested acreage to each air basin based on the true spatial distribution of crops, using multiple years of cropland data layers averaged together and overlaying them with CARB's COABDIS boundary shapefile. This substantially improves spatial accuracy.

Temporal profiles for both land preparation and harvest operations remain unchanged, as there are no updates to the crop calendar. Likewise, there are no updates to control assumptions unless districts provide new information for this category.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[*Area Source Methodologies by Major Category | California Air Resources Board*](#)

Livestock

CARB staff updated the non-cattle Livestock Husbandry methodology to reflect livestock population data based on the USDA's 2017 Census of Agriculture. Cattle emissions are primarily based on the 2012 Census of Agriculture. A seasonal adjustment was added to account for the suppression of dust emissions in months in which rainfall occurs. Growth profiles are based on CARB's projections of Census of Agriculture's historical livestock population trends, 2012. No growth is assumed for dairy and feedlots.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[*Area Source Methodologies by Major Category | California Air Resources Board*](#)

Dairy Cattle

Dairy cattle populations have been updated to reflect dairy facility reporting of head count by animal subtype for calendar year 2023 which affects all dairy emissions. All dairy emissions include VOCs, NH₃, PM₁₀, PM_{2.5}, and PM for all dairy cattle in accordance with the new methodology document.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[*Area Source Methodologies by Major Category | California Air Resources Board*](#)

Manure Land Application – Dairy cattle

For dairy cropland manure application specifically, ammonia emissions are now being accounted for using a previously published emission factor along with the latest dairy population numbers.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Dairy Silage

For dairy silage emissions specifically, VOCs are the only pollutant that has been quantified, and this updated methodology uses SJVAPCD's silage pile and bunker feed VOC emissions factors as well as observations of onsite dairy silage storage via Google Earth images. When combined with the dairy facility head counts previously mentioned, this enables dairy silage VOC emissions to be estimated statewide, including assigning zero silage VOC emissions to dairies that do not appear to use or store silage onsite.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Construction and Demolition

The Building Dust category includes particulate matter (PM) emissions from building construction activities. For this update, we made substantial changes to EICs, variables, data sources, and methodology to better estimate emissions from building construction dust. Previously, the inventory included five EICs for building construction dust. In this update, we are retiring the building construction dust EIC associated with governmental buildings; all government-related construction emissions are now classified under the institutional category, consistent with U.S. EPA's approach.

For construction activity data, we are using 2023 and 2022 Construction Industry Research Board (CIRB) Building Permit data. For the acre-basis conversion, which translates building permit units into the acres disturbed by construction activities, we apply unit-to-acre factors for single-family and two-family homes, and dollar-to-acre factors for apartments and non-residential buildings. Project duration estimates are updated using 2023 data from the U.S. Census Bureau. We also added a soil moisture adjustment factor for this update, applying information from the 2024 EPA Wagon Wheel Tool. Emission factors used to estimate emissions are also derived from the 2024 EPA Wagon Wheel Tool. Temporal profiles for building construction remain unchanged, as working hours and construction schedules are relatively consistent over time. There are currently no updates to control factors unless new information is provided by the districts.

Additional information on this methodology can be found at:

<https://ww2.arb.ca.gov/area-source-methodologies-major-category>

Paved Road Dust

Paved road dust emissions for 2023 were estimated in 2025 using a CARB methodology consistent with the current U.S. EPA method (AP-42). Data from CARB's EMFAC2021 model, the District, and the Valley MPOs were used to estimate region specific vehicle miles traveled (VMT). VMT were distributed using 2022 travel fractions calculated using California Department of Transportation (Caltrans) Highway

Performance Monitoring System (HPMS) data for each of the four road types: freeway, major, collector, and local. Emissions were grown using EMFAC2021 default VMT activity.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Unpaved Road Dust – Farm Roads

Fugitive dust from unpaved farm roads refers to particulate matter (PM) emissions generated from vehicle travel on unpaved agricultural roads. This category specifically focuses on emissions caused by the mechanical disturbance of roadway surfaces. Activity data required for this category includes harvested acreage, crop calendars, and crop-specific VMT factors. The crop-specific VMT factor represents the level of agricultural traffic on farm roads (expressed as VMT per acre per year) and is used to estimate annual VMT for each crop. PM emissions from unpaved farm roads are estimated by first calculating the activity data for each crop and road type. The resulting VMT values are then multiplied by emission factors (pounds of PM per VMT) to generate county-level emissions, which are subsequently allocated to air basins and air districts.

For this update, we are using 2022 CDFA harvested acreage data in place of the previously used 2012 dataset. We have also updated the spatial allocation approach. Consistent with the farming operations category, the county-to-air-basin-to-air-district allocation is now based on crop distributions and actual geographic locations rather than general proportional methods. Temporal profiles for unpaved farm roads remain unchanged because there are no updates to the crop calendar. There are currently no updates to control assumptions unless additional information is provided by air districts.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Unpaved Nonfarm Road Dust

Fugitive dust from unpaved non-farm roads refers to particulate matter (PM) emissions generated by vehicles traveling on unpaved roads not associated with agricultural operations. These roads include city and county roads, forest roads, park roads, and other non-farm unpaved routes. For this update, we transitioned to a completely new data source for obtaining unpaved road miles and corresponding VMT: REPLICA's big-data platform. REPLICA specializes in mobility and transportation analytics for urban planning. Using REPLICA data, we were able to identify the geographic locations of unpaved roads, determine their lengths, and obtain traffic activity levels for each segment. As a result, all unpaved roads included in this update are actual mapped unpaved roads rather than scaled estimates from paved roads, and the previous assumption of 10 passes per day is no longer needed. These changes are reflected in both the activity data and methodology.

Previously, the category included five EICs for unpaved non-farm road dust. With the new methodology and unified data source, all unpaved road information can be obtained from a single

dataset—REPLICA—eliminating the need to collect data by individual road types. Consequently, we retired all road-type-specific EICs except for the city and county road EIC, which must be retained for motor vehicle emissions budget purposes. The updated structure now includes two EICs: one for city and county unpaved roads and one for all other unpaved non-farm roads. We also updated the spatial allocation approach. As with other categories in this update, REPLICA GIS data is combined with CARB's county/air-basin/air-district (COABDIS) boundary shapefile to allocate unpaved road segments and VMT across air basin and air district boundaries. This replaces the previous spatial allocation method based on land area or population. Temporal profile for this category has been updated with the most recent precipitation data. There are currently no updates to control assumptions unless additional information is provided by air districts.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Fugitive Windblown Dust from Open Areas and Non-pasture Agriculture Lands

Fugitive windblown dust emissions were estimated using CARB's 1997 methodology. The methodology is based on 1993 harvested crop acreage and a wind erosion equation that incorporates climate, soil, and vegetative cover attributes. Emissions for agricultural lands were grown based on projections of acreage from FMMP, 2016. No growth is assumed for non-agricultural lands.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Windblown Dust from Unpaved Roads and Associated Areas

Emissions for this source category were estimated based on a 1997 CARB methodology reflecting unpaved road mileage and local parameters that affect wind erosion. The estimates assume no growth.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Fires (Isolated Structures & Vehicle Fire Incidents Not Associated with Wildfire)

Emissions from structural and vehicle fires were estimated based on an updated CARB methodology using individual fire incidents reported by firefighters into the National Fire Incident Reporting System (NFIRS) database. Estimates for structural fires are calculated using the reported square footage of each structure that is burned. The square footage burned is converted to combustible material using fuel loading factors from Holder et al. 2023 and consumption factors from NFIRS. The fuel loading factors account for both the structure itself (frame, walls, doors, etc.) and the contents (such as furniture). Emission factors from Holder et al. are used to estimate emissions from the consumed material. Estimates for vehicle fires are calculated for each reported vehicle burned using the consumption factors reported in NFIRS and fuel loading factors from Holder et al. 2023. These factors

provide the amount of combustible material for each vehicle. Emissions factors from Holder et al. 2023 are used to estimate air pollutants from the consumed material of each vehicle burned. Structural fire emissions growth is based on DOF housing unit forecasts, and vehicle fire emissions growth is based on EMFAC vehicle population forecasts.

Additional information on this methodology is available at:

[Fires | California Air Resources Board](#)

Managed Burning – Forest Management and Range Improvement (Collectively Known as Prescribed Fire)

The prescribed fire category provides emission estimates for planned and carefully managed fire ignited in natural vegetation to reduce wildfire risk, restore ecosystem health, and support landscapes that depend on periodic burning. In CEPAM, the inventory is broken out into two sub-categories: forest management (forest- and woodland-dominated landscapes) and rangeland improvement (primarily grasslands).

For the 2023 inventory, activity data from multiple reporting systems were integrated together and reconciled to build a comprehensive and non-duplicative record of prescribed fire activity statewide: Prescribed Fire Information Reporting System (PFIRS), prescribed fire records maintained by local air districts and compiled by the California Air Pollution Control Officers Association (CAPCOA), state/federal land management agencies' own databases (via the Wildfire and Forest Resilience Task Force's Interagency Treatment Tracking System), and satellite-based Visible Infrared Imaging Radiometer Suite (VIIRS) active fire product. CARB staff developed a multi-stage decision framework to evaluate data completeness, resolve spatial and temporal inconsistencies in activity records, and avoid potential double-/triple-counting between overlapping datasets.

CARB staff characterizes fuel loading information for each prescribed burn by sampling Fuel Characteristic Classification System (FCCS) fuel beds using multiple spatial frameworks. Fuel consumption assumptions are derived from the First Order Fire Effects Model (FOFEM) framework. The inventory incorporates multiple prescribed fire emissions estimation pathways, including broadcast burns, pile burns, and air curtain incinerator (ACI) operations. The inventory applies an expanded set of emission factors that explicitly include smoldering-phase emissions, enabling more complete accounting of particulate matter and trace gas production.

For inventory years prior to 2023, burn project perimeters and ignition dates or date ranges were provided by the California Department of Forestry and Fire Protection's (CAL FIRE) Fire History Geodatabase. Prescribed burning emissions were estimated using the FOFEM (version 6.7) and a custom geoprocessing tool (Emission Estimation System, EES) developed for CARB by researchers at UC Berkeley.

Future year estimates are based on a 10-year average, held flat in the forecast.

Additional information on this methodology is available at:

[Fires | California Air Resources Board](#)

Managed Burning & Disposal – Agricultural Burning

The Agricultural Burning Managed Burning and Disposal category includes the open burning of agricultural residues (such as crop stubble and orchard pruning), weed abatement (such as ditch and

canal bank burning), and other materials. CARB updated the emissions inventory to reflect burn data reported by air district staff for 2017. Emissions are calculated using crop specific emission factors and fuel loadings. Temporal profiles reflect monthly burn activity. Growth for agricultural burning is based on CARB projections of FMMP farmland acres, 2016. No growth is assumed for burning associated with weed abatement.

Additional information on this methodology is available at:

<https://ww2.arb.ca.gov/district-miscellaneous-process-methodologies-managed-burning-and-disposal>

Residential Backyard Burning (Non-agricultural Open Burning)

The residential backyard burning methodology estimates emissions from the open burning of household-generated materials—specifically yard waste since burning trash is prohibited. CARB staff lead district wide working group to develop the methodology and ended in early 2025. The methodology applies a bottom-up framework that combines the following activity indicators: population, forested acreage, and average leaf and brush generation. Emissions factors are provided by the EPA Wagon Wheel compendium that are separated by leaf and brush. While CARB staff used existing temporal profiles to populate this methodology, several districts requested updated profiles to reflect local burning restrictions.

Additional information on this methodology is available at:

[Fires | California Air Resources Board](#)

Commercial Cooking

The commercial cooking methodology estimates emissions from food preparation at restaurants and other commercial establishments, focusing on major equipment types such as charbroilers, fryers, and griddles, which are the primary sources of emissions. Activity is based on the amount of food cooked, using the 2001 *Charbroiling Activity Estimation Report* by Dr. Michel Potepan^[2] and restaurant count data from Dun & Bradstreet. Emission factors are taken from the 1997 study by Joseph Norbeck^[3] and applied to the activity estimates to calculate pollutant emissions.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Domestic Ammonia

The domestic ammonia (NH₃) methodology estimates emissions from a suite of diffuse, non-agricultural area sources—such as human respiration and perspiration, household ammonia use, and pet waste—that are not captured in other inventory categories but collectively contribute to statewide totals. It applies a bottom-up framework that combines population-based and activity-based indicators with literature-derived emission factors to quantify emissions, with particular attention to volatilization processes that govern NH₃ release. The methodology relies on surrogate data and generalized assumptions where direct measurement is not feasible. Although uncertainties remain due to

variability in human behavior and environmental conditions, pet ownership and pet waste ammonia volatilization, the approach provides a practical, policy-relevant estimate that can be updated as improved data and science become available.

CARB is in the process of publishing this new methodology document and it will be available soon at the web link below:

[Area Source Methodologies by Major Category | California Air Resources Board](#)

Natural Sources

Biogenic Vegetation (ROG) and Soil (NO_x)

Biogenic emissions were generated using the Model of Emissions of Gases and Aerosols from Nature (MEGAN3.0) biogenics emissions model. MEGAN3.0 incorporates a new pre-processor (MEGAN-EFP) for estimating biogenic emission factors based on available landcover and emissions data. The MEGAN3.0 default datasets for plant growth form, eco-type, and emissions were utilized. Leaf Area Index (LAI) for non-urban grid cells was based on the 8-day 500 m resolution Moderate Resolution Imaging Spectroradiometer (MODIS) Terra/Aqua combined product (MCD15A2H) for 2017^{††}.^[4] The LAI data was converted to LAI_v, which represents the LAI for the vegetated fraction within each grid cell, by dividing the gridded MODIS LAI values by the Maximum Green Vegetation Fraction for each grid cell^{‡‡}. The MODIS LAI product does not provide information on LAI in urban regions, so urban LAI_v was estimated from the US Forest Service's Forest Inventory and Analysis urban tree plot data, processed through the i-Tree v6 software^{§§}.^[5] Hourly meteorology for MEGAN was provided by the 4 km WRF simulation described above, and all stress factor adjustments were turned off.

MEGAN implemented the parameterized scheme Yiener-Levy (YL95) to estimate soil NO_x.^[6] Main features include separate exponential temperature dependence for wet soils and linear dependence for dry soils. An optimal temperature above which flux becomes temperature independent, scalar adjustments to account for both "pulsing" and canopy reduction, synoptic-scale temperature and precipitation forcing, an explicit linear dependence of emission on fertilizer rate.

Wildfires – Vegetations

This wildfire category provides emission estimates for vegetations burned in wildfires. Starting with 2026 edition inventory (covering 2015-2024 activity), the vegetation wildfire emission inventory has day-by-day wildfire emissions and fuel consumption information. CARB staff models daily fire perimeters using VIIRS active fire product in conjunction with the CAL FIRE's Fire History Geodatabase. For each day's fire perimeter, fuel information is based on FCCS fuelbeds and stacked with fuel moisture rasters. Using these data as inputs, FOFEM produces estimates of flaming emissions,

^{††} <https://earthdata.nasa.gov/>

^{‡‡} https://archive.usgs.gov/archive/sites/landcover.usgs.gov/green_veg.html

^{§§} <https://www.itreetools.org/tools/i-tree-eco>

smoldering emissions, and fuel consumption. Where VIIRS data are available, smoldering emissions are empirically allocated over time for each day using VIIRS fire radiative power data.

Future year estimates are based on a 10-year average, held flat in the forecast.

Additional information on this methodology is available at:

<https://ww2.arb.ca.gov/wildfire-emissions>

Point and Areawide Source Emissions Forecasting

Emission forecasts (2021 and subsequent years) are based on growth profiles that in many cases incorporate historical trends up to the base year or beyond. The growth surrogates used to forecast the emissions from these categories are presented below in Table 1. The emissions inventory also reflects emission reductions from point and areawide sources subject to District rules and CARB regulations. The rules and regulations reflected in the inventory are listed below in Table 2.

Table 1: Growth Surrogates for Point and Areawide Sources

Source Category	Subcategory	Growth Surrogate
Electric Utilities	Natural Gas	California Energy Commission (CEC) Integrated Energy Policy Report forecast, 2019
	Other Fuels	Energy Information Administration (EIA) Annual Energy Outlook, 2019
Cogeneration	All	CEC forecast, 2019
Oil and Gas Production (Combustion)	All	CalGEM statewide total oil production. Assumed 2.9% annual decline reflecting CalGEM historical trend, 2000 through 2016
Manufacturing and Industrial	Natural Gas	CEC forecast, 2019
	Other Fuels	EIA forecast, 2018
Food and Agricultural Processing	Ag Irrigation I. C. Engines	FMMP irrigated farmland acreage, 2008
	Natural Gas	CEC forecast, 2019
	Others	REMI economic forecast, version 2.4.5; EIA forecast, 2018
Service and Commercial	Natural Gas	CEC forecast, 2019
	Other Fuels	EIA forecast, 2018
Other (Fuel Combustion)	Diesel	Modeled estimate, 2003
	Other than diesel	EIA forecast, 2018

Source Category	Subcategory	Growth Surrogate
Waste Disposal	All	DOF population forecast, 2024
Laundering	Dry Cleaning	DOF population forecast, 2024
Degreasing	All	CARB/REMI economic forecast, version 2.4.5
Coatings & Thinners	Auto Refinishing	Vehicles from CARB EMFAC2017 model
	Others	REMI economic forecast, version 2.4.5
Printing	All	REMI economic forecast, version 2.4.5
Adhesives & Sealants	All	REMI economic forecast, version 2.4.5
Oil and Gas Production	All	Assumed 2.9% annual decline reflecting CalGEM historical trend, 2000 through 2016
Petroleum Refining	All	No growth assumption
Petroleum Marketing	Natural Gas Transmission	CEC forecast, 2019
	Gas Dispensing Facilities and Cargo Tanks	Fuel use from CARB EMFAC2021 model
	Other Point Sources	REMI economic forecast, version 2.4.5
Chemical	All	REMI economic forecast, version 2.4.5
Food & Agriculture	All	REMI economic forecast, version 2.4.5
Mineral Processes	All	REMI version 2.4.5; EIA forecast, 2018
Metal Processes	All	REMI economic forecast, version 2.4.5
Wood and Paper		REMI economic forecast, version 2.4.5
Other Industrial Processes	All	REMI economic forecast, version 2.4.5
Consumer Products	Personal Care Products	Real Disposable Personal Income per REMI, version 2.4.5
	Other Consumer Products	DOF population forecast, 2024
	Aerosol Coatings	No growth

Source Category	Subcategory	Growth Surrogate
Architectural Coatings & Related Process Solvents	All	DOF households forecast, 2020
Pesticides & Fertilizers	Agricultural Pesticides	CARB projection of farmland acres per FMMP, 2016
	Structural Pesticides	DOF households forecast, 2020
Asphalt Paving & Roofing	All	DOF construction jobs forecast, 2020; CARB projection
Residential Fuel Combustion	Natural Gas	CEC forecast, 2019
	Other Fuels	EIA – SEDS – No growth
Farming Operations	Tilling and Harvesting	CARB projection of farmland acres per FMMP, 2016
	Dairy / Feedlots	No growth
	Other Livestock	CARB projection of livestock population per Census of Agriculture, 2012
Construction and Demolition	Building Construction	REMI economic forecast, version 2.4.5
	Road Construction	REMI economic forecast, version 2.4.5
Paved Road Dust	All	EMFAC2021 VMT
Unpaved Road Dust	City and County Roads, U.S. Forest, B.L.M	No Growth
	Farm Roads	FMMP Acreage, 2016
Fugitive Windblown Dust	Agricultural Lands (Non-Pasture)	FMMP Acreage, 2016 FMMP Grazing, 2016
Fires	Structural	DOF households forecast, 2020
	Automobile	DOF population forecast, 2024

Source Category	Subcategory	Growth Surrogate
Managed Burning and Disposal	Agricultural Burning, Pruning & Field Crops	FMMP farmland acreage projection, 2016
	Non-Agricultural Open Burning	No Growth
	Unspecified Waste Burning	DOF population forecast, 2024
	Forest Management and Range Improvement	10-year average, held flat
	Others	No growth
Cooking	All	DOF population forecast, 2024
Natural Sources:	Biogenics Vegetation	Held flat in the projection
	Soil NOx	Held flat in the projection. Soil NOx is being presented as a line item in the plan
	Wildfires	10-year average, held flat

Table 2: District and CARB Control Rules and Regulations Included in the Inventory for Stationary and Areawide Sources

(see note re: control profiles below)

Agency	Rule/Reg No.	Rule Title	Source Categories Impacted
BUT_AQMD	207	Wood Burning Devices Control Rule	Wood burning devices
CARB	ARB_R003 & ARB_R003_A	Consumer Product Regulations & Amendments	Consumer products
CARB	ARB_R007	Aerosol Coating Regulations	Aerosol coatings

Agency	Rule/Reg No.	Rule Title	Source Categories Impacted
CARB	CP_2021REG	CARB 2021 Consumer Products Regulation	Selected CP categories and aerosol coatings
CARB	GDF_HOSREG	Gasoline Dispensing Facility Hose Emission Regulation	Petroleum marketing - gasoline dispensing facility hoses
CARB	ORVR	Fueling emissions from ORVR vehicles	Petroleum marketing - fueling emissions from ORVR vehicles
CARB	AG_IC_ENG	AG IC Engine Emission Scalars	Agricultural IC Engines
CARB	NONAGICENG	Non-Ag IC Engine Emission Scalars	Non-agricultural IC Engines

- ❖ For this plan, the CEPAM emission projections incorporate control profiles reflecting the specific rules above in a full time series from 2000-2050. This enables backcasting and forecasting of emissions to provide a comprehensive emission projection inventory. The phased implementation of each rule is unique and is described in the control profiles which can be provided upon request. The CEPAM projections for this plan were based on the 2023 CEIDARS base year inventory thus the control profiles for the rules above reflected post-2023 emission benefits resulting in the future year emission inventories for 2028, 2035, and 2038 documented in Attachment B.

External Adjustments

External adjustments were made in CEPAM to account for unaccounted regulatory emission reduction benefits. The external adjustments reflected in the CEPAM2026 PM2.5 Plans v1.00 Butte 2006 24-Hour 35 ug PM2.5 Maintenance Plan inventory are listed below in Table 3.

Table 3: External Adjustment IDs and Descriptions

Adjustment ID	Adjustment Description
DEL_ACTOMN	Undo ACT Omnibus Warranty Combined Adjustment Factors
PART_HD_IM	Partial HD IM Regulation for application to the EMFAC2021 baseline
NonAg_ICE	Update non-ag internal combustion engines to reflect 2003 ATCM and 2010 rule amend

- ❖ The additional benefits of the wood changeout program were handled as a post-processed external adjustment to the CEPAM2026 PM2.5 Plans v1.00 baseline projection inventory and are described in Attachment E.

Condensable Particulate Matter

Background

Condensable particulate matter (PM) is material that is vapor phase at stack conditions, but which condenses and/or reacts upon cooling and dilution in the ambient air to form solid or liquid PM immediately after discharge from the stack. Condensable PM is a component of primary PM, which is the sum of condensable and filterable PM. Filterable PM comprises particles that are directly emitted by a source as a solid or liquid [aerosol] at stack or release conditions. All condensable PM is assumed to be smaller than 2.5 microns (µm) in diameter.

The AERR requires states to report annual emissions of filterable and condensable components of PM2.5 and PM10, “as applicable,” for large sources every inventory year and for all sources every third inventory year, beginning with 2011.^{***} Subsequent emissions inventory guidance^{†††} from the U.S. EPA clarifies the meaning of the phrase “as applicable” by providing a list of source types for which condensable PM is expected by the AERR. These stationary point and nonpoint combustion sources, including commercial cooking, fuel combustion at electric generating utilities, industrial processes like cement or chemical manufacturing, are expected to generate condensable PM. The condensable PM from stationary and areawide sources in this inventory is calculated using the methodology outlined below. Condensable PM is not required to be calculated for mobile sources.

^{***} 40 CFR §51.15(a)(1) and §51.30(b)(1)

^{†††} U.S. EPA. Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations. May 2017.
https://www.epa.gov/sites/production/files/2017-07/documents/ei_guidance_may_2017_final_rev.pdf

Methodology

For the current inventory, the District has collected data on primary PM only, containing both filterable and condensable components without distinguishing between the two. Consequently, to be able to report emissions of the condensable component of PM_{2.5} separately as required by the AERR, primary PM_{2.5} is augmented to condensable PM using recommended fractions from U.S. EPA, which are published within their Emissions Inventory System (EIS) Gateway⁺⁺⁺. Because these factors are assigned to Source Classification Codes (SCC), CARB Emission Inventory Codes (EICs) are crosswalked to SCC codes. These factors are then directly applied to primary PM_{2.5} from CEPAM2026 version 1.00 for years 2028, 2035, and 2038.

⁺⁺⁺ EIS Gateway downloaded on 08/20.2022. <https://www.epa.gov/air-emissions-inventories/emissions-inventory-system-eis-gateway>

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Attachment D

Emissions Inventory: PM_{2.5} Condensable Emissions

Primary, Condensable, and Filterable PM2.5 Winter Emissions by Major Source Categories (tons per day)

Area Sources		Winter Emissions (tons per day)								
		PM2.5			PM2.5 Condensable			PM2.5 Filterable		
		2028	2035	2038	2028	2035	2038	2028	2035	2038
EICSUMN	EICSOUN									
COOKING	COMMERCIAL CHARBROILING	0.047516	0.048993	0.049959	0.047369	0.048842	0.049805	0.000147	0.000151	0.000154
COOKING	COOKING (UNSPECIFIED)	0.008820	0.009094	0.009273	0.008797	0.009070	0.009249	0.000023	0.000024	0.000024
FOOD AND AGRICULTURAL PROCESSING	AG. IRRIGATION I.C. ENGINES	0.004460	0.002741	0.002410	0.000103	0.000063	0.000055	0.004358	0.002678	0.002355
MANUFACTURING AND INDUSTRIAL	OTHER	0.004890	0.005174	0.005405	0.003064	0.003237	0.003385	0.001824	0.001935	0.002017
MINERAL PROCESSES	CEMENT CONCRETE MANUFACTURING AND FABRICATION	0.006873	0.006970	0.007144	0.000712	0.000722	0.000740	0.006161	0.006247	0.006404
MINERAL PROCESSES	OTHER	0.030198	0.031395	0.032706	0.003129	0.003253	0.003388	0.027069	0.028142	0.029317
OIL AND GAS PRODUCTION (COMBUSTION)	COMPRESSORS LEAN BURN	0.000002	0.000001	0.000001	0.000002	0.000001	0.000001	0.000000	0.000000	0.000000
OIL AND GAS PRODUCTION (COMBUSTION)	COMPRESSORS RICH BURN	0.000010	0.000008	0.000008	0.000005	0.000004	0.000004	0.000005	0.000004	0.000004
OIL AND GAS PRODUCTION (COMBUSTION)	PROCESS HEATERS	0.000018	0.000015	0.000014	0.000014	0.000011	0.000010	0.000005	0.000004	0.000003
RESIDENTIAL FUEL COMBUSTION	FUEL COMBUSTION - COOKING	0.001084	0.001064	0.001046	0.000806	0.000792	0.000778	0.000278	0.000273	0.000268
RESIDENTIAL FUEL COMBUSTION	FUEL COMBUSTION - SPACE HEATING	0.021028	0.020662	0.020315	0.015559	0.015287	0.015029	0.005469	0.005375	0.005286
RESIDENTIAL FUEL COMBUSTION	FUEL COMBUSTION - WATER HEATING	0.009875	0.009698	0.009530	0.007343	0.007212	0.007087	0.002531	0.002486	0.002443
RESIDENTIAL FUEL COMBUSTION	OTHER	0.003112	0.003094	0.003078	0.002311	0.002298	0.002286	0.000800	0.000796	0.000792
RESIDENTIAL FUEL COMBUSTION	WOOD COMBUSTION - FIREPLACES	0.294515	0.285637	0.285637	0.013842	0.013425	0.013425	0.280672	0.272212	0.272212
RESIDENTIAL FUEL COMBUSTION	WOOD COMBUSTION - PELLET STOVES	0.004564	0.004426	0.004426	0.000215	0.000208	0.000208	0.004349	0.004218	0.004218
RESIDENTIAL FUEL COMBUSTION	WOOD COMBUSTION - WOOD STOVES	0.662920	0.642937	0.642937	0.031157	0.030218	0.030218	0.631763	0.612719	0.612719
RESIDENTIAL FUEL COMBUSTION	WOOD COMBUSTION - WOODSTOVES	0.506667	0.491394	0.491394	0.023813	0.023096	0.023096	0.482853	0.468298	0.468298
SERVICE AND COMMERCIAL	OTHER	0.012882	0.012995	0.013119	0.009580	0.009663	0.009756	0.003302	0.003331	0.003363
Total Area Sources		1.619432	1.576297	1.578401	0.167820	0.167401	0.168520	1.451610	1.408893	1.409878

Primary, Condensable, and Filterable PM2.5 Winter Emissions by Major Source Categories (tons per day)

Point Sources		PM2.5			PM2.5 Condensable			PM2.5 Filterable		
EICSUMN	EICSOUN	2028	2035	2038	2028	2035	2038	2028	2035	2038
CHEMICAL	CHEMICAL MANUFACTURING	0.001673	0.002016	0.002211	0.000070	0.000084	0.000092	0.001603	0.001932	0.002118
COGENERATION	I.C. RECIPROCATING ENGINES	0.000028	0.000031	0.000033	0.000011	0.000013	0.000014	0.000016	0.000018	0.000020
ELECTRIC UTILITIES	OTHER	0.000238	0.000254	0.000275	0.000017	0.000019	0.000020	0.000220	0.000235	0.000255
FOOD AND AGRICULTURAL PROCESSING	BOILERS	0.002194	0.002528	0.002695	0.001364	0.001572	0.001676	0.000830	0.000956	0.001019
FOOD AND AGRICULTURAL PROCESSING	PROCESS HEATERS	0.000465	0.000501	0.000524	0.000272	0.000293	0.000307	0.000193	0.000208	0.000218
FOOD AND AGRICULTURAL PROCESSING	SPACE HEATING	0.000036	0.000041	0.000044	0.000022	0.000026	0.000028	0.000013	0.000015	0.000016
FOOD AND AGRICULTURE	AGRICULTURAL CROP PROCESSING LOSSES	0.054730	0.062926	0.067209	0.002791	0.003209	0.003428	0.051939	0.059717	0.063781
FOOD AND AGRICULTURE	AGRICULTURAL PRODUCTS PROCESSING LOSSES	0.032920	0.037851	0.040427	0.000097	0.000112	0.000119	0.032823	0.037739	0.040307
INCINERATORS	FLARES	0.000350	0.000363	0.000367	0.000002	0.000002	0.000002	0.000348	0.000361	0.000365
INCINERATORS	OTHER	0.001752	0.001806	0.001842	0.000042	0.000043	0.000044	0.001709	0.001763	0.001797
LANDFILLS	FLARES	0.001664	0.001634	0.001630	0.000502	0.000493	0.000492	0.001162	0.001141	0.001138
LANDFILLS	FUGITIVE DUST	0.001838	0.001895	0.001932	0.000008	0.000008	0.000008	0.001830	0.001886	0.001924
MANUFACTURING AND INDUSTRIAL	BOILERS	0.000247	0.000260	0.000273	0.000162	0.000170	0.000179	0.000085	0.000090	0.000094
MANUFACTURING AND INDUSTRIAL	I.C. RECIPROCATING ENGINES	0.001241	0.001243	0.001245	0.000198	0.000199	0.000200	0.001043	0.001044	0.001045
MANUFACTURING AND INDUSTRIAL	OVEN HEATERS (FORCE DRYING SURFACE COATINGS)	0.000028	0.000028	0.000028	0.000018	0.000018	0.000018	0.000011	0.000011	0.000011
MANUFACTURING AND INDUSTRIAL	PROCESS HEATERS	0.000322	0.000334	0.000345	0.000170	0.000178	0.000185	0.000152	0.000156	0.000160
MINERAL PROCESSES	ASPHALTIC CONCRETE PRODUCTION	0.004173	0.004338	0.004519	0.001353	0.001407	0.001465	0.002820	0.002931	0.003054
MINERAL PROCESSES	CEMENT CONCRETE MANUFACTURING AND FABRICATION	0.000425	0.000434	0.000446	0.000067	0.000068	0.000070	0.000358	0.000366	0.000376
MINERAL PROCESSES	CRUSHED STONE EXCAVATION AND PROCESSING (AGGREGATE PRODUCTION)	0.000167	0.000173	0.000181	0.000000	0.000000	0.000000	0.000166	0.000173	0.000180
OIL AND GAS PRODUCTION	FUGITIVE LOSSES - COMPRESSORS	0.000108	0.000088	0.000080	0.000031	0.000025	0.000023	0.000077	0.000063	0.000057
OTHER (INDUSTRIAL PROCESSES)	OTHER	0.000548	0.000598	0.000638	0.000214	0.000234	0.000250	0.000334	0.000364	0.000388
OTHER (WASTE DISPOSAL)	OTHER	0.000091	0.000094	0.000096	0.000015	0.000015	0.000015	0.000077	0.000079	0.000081
SERVICE AND COMMERCIAL	BOILERS	0.001050	0.001059	0.001069	0.000691	0.000697	0.000704	0.000359	0.000362	0.000366
SERVICE AND COMMERCIAL	I.C. RECIPROCATING ENGINES	0.015414	0.015399	0.015395	0.006599	0.006597	0.006597	0.008816	0.008802	0.008798
SERVICE AND COMMERCIAL	OTHER	0.000675	0.000675	0.000675	0.000049	0.000049	0.000049	0.000626	0.000626	0.000626
SERVICE AND COMMERCIAL	SPACE HEATING	0.001397	0.001410	0.001423	0.000876	0.000884	0.000892	0.000521	0.000526	0.000531
WOOD AND PAPER	PAPERBOARD/FIBERBOARD MANUFACTURING	0.004537	0.004742	0.004967	0.002835	0.002963	0.003103	0.001702	0.001779	0.001864
WOOD AND PAPER	SAWMILL/WOODWORKING OPERATIONS	0.042901	0.044838	0.046964	0.019465	0.020344	0.021309	0.023436	0.024494	0.025656
Total Point Sources		0.171213	0.187559	0.197533	0.037943	0.039722	0.041288	0.133270	0.147837	0.156245

Primary, Condensable, and Filterable PM2.5 Winter Emissions By EICSUM in tons per day

	PM2.5			PM2.5 Condensable			PM2.5 Filterable		
Area Sources	2028	2035	2038	2028	2035	2038	2028	2035	2038
COOKING	0.056336	0.058087	0.059232	0.056166	0.057911	0.059053	0.000170	0.000175	0.000179
FOOD AND AGRICULTURAL PROCESSING	0.004460	0.002741	0.002410	0.000103	0.000063	0.000055	0.004358	0.002678	0.002355
MANUFACTURING AND INDUSTRIAL	0.004890	0.005174	0.005405	0.003064	0.003237	0.003385	0.001824	0.001935	0.002017
MINERAL PROCESSES	0.037071	0.038364	0.039850	0.003841	0.003975	0.004129	0.033230	0.034390	0.035721
OIL AND GAS PRODUCTION (COMBUSTION)	0.000030	0.000025	0.000023	0.000021	0.000017	0.000015	0.000010	0.000008	0.000007
RESIDENTIAL FUEL COMBUSTION	1.503763	1.458912	1.458363	0.095047	0.092535	0.092127	1.408716	1.366377	1.366236
SERVICE AND COMMERCIAL	0.012882	0.012995	0.013119	0.009580	0.009663	0.009756	0.003302	0.003331	0.003363
Area Sources Total	1.619432	1.576297	1.578401	0.167820	0.167401	0.168520	1.451610	1.408893	1.409878
Point Sources	2028	2035	2038	2028	2035	2038	2028	2035	2038
CHEMICAL	0.001673	0.002016	0.002211	0.000070	0.000084	0.000092	0.001603	0.001932	0.002118
COGENERATION	0.000028	0.000031	0.000033	0.000011	0.000013	0.000014	0.000016	0.000018	0.000020
ELECTRIC UTILITIES	0.000238	0.000254	0.000275	0.000017	0.000019	0.000020	0.000220	0.000235	0.000255
FOOD AND AGRICULTURAL PROCESSING	0.002695	0.003070	0.003263	0.001659	0.001891	0.002010	0.001036	0.001179	0.001253
FOOD AND AGRICULTURE	0.087650	0.100777	0.107636	0.002888	0.003321	0.003547	0.084762	0.097456	0.104089
INCINERATORS	0.002101	0.002169	0.002209	0.000044	0.000045	0.000046	0.002057	0.002124	0.002163
LANDFILLS	0.003502	0.003529	0.003562	0.000510	0.000501	0.000500	0.002992	0.003028	0.003062
MANUFACTURING AND INDUSTRIAL	0.001839	0.001865	0.001891	0.000548	0.000565	0.000581	0.001291	0.001300	0.001310
MINERAL PROCESSES	0.004764	0.004945	0.005145	0.001420	0.001475	0.001535	0.003344	0.003470	0.003610
OIL AND GAS PRODUCTION	0.000108	0.000088	0.000080	0.000031	0.000025	0.000023	0.000077	0.000063	0.000057
OTHER (INDUSTRIAL PROCESSES)	0.000548	0.000598	0.000638	0.000214	0.000234	0.000250	0.000334	0.000364	0.000388
OTHER (WASTE DISPOSAL)	0.000091	0.000094	0.000096	0.000015	0.000015	0.000015	0.000077	0.000079	0.000081
SERVICE AND COMMERCIAL	0.018537	0.018544	0.018563	0.008215	0.008228	0.008243	0.010322	0.010316	0.010320
WOOD AND PAPER	0.047438	0.049580	0.051931	0.022300	0.023306	0.024412	0.025138	0.026273	0.027519
Point Sources Total	0.171213	0.187559	0.197533	0.037943	0.039722	0.041288	0.133270	0.147837	0.156245

Attachment E

Emissions Reductions Achieved from the Wood Stove Change-out Program

Emissions Reductions Achieved from the Wood Stove Change-out Program

To calculate PM2.5 emission benefits from the Greenhouse Gas Reduction Fund (GGRF) Woodsmoke Reduction Program (WRP) changeout activities in Butte County, we followed the methodology described in Section 7.1 Residential Wood Combustion (RWC) of CARB’s Emission Inventory updated in December 2025. CARB is in the process of publishing this new methodology document which will soon be available at the following link: [Area Source Methodologies by Major Category | California Air Resources Board](#).

Because the WRP collects information on both the old and the replacement devices, emission calculations were based on actual program-reported device types rather than the device fractions included in CARB’s RWC methodology. Through the WRP, Butte County replaced 122 existing devices (including uncertified woodstoves/inserts and fireplaces) with lower-polluting home heating devices by December 31, 2022. By December 31, 2025, this number increased to 207. Table 1 lists the number of devices removed by type. Table 2 lists the number of newly installed devices by type.

Table 1: Number of devices removed by device type.

Device Type	Number of Devices by 12/31/2022	Number of Devices by 12/31/2025
Fireplace	17	55
Uncertified woodstove or insert	105	152

Table 2: Number of newly installed devices by device type.

Device Type	Number of Devices by 12/31/2022	Number of Devices by 12/31/2025
Certified catalytic wood stove or insert	58	94
Certified hybrid (catalytic/non-catalytic) wood stove or insert	NA*	6
Certified non-catalytic wood stove or insert	39	45
Certified pellet stove or insert	2	14
Electric heat pump, old fireplace retained	NA*	12
Electric heat pump, old wood stove or insert retained	NA*	9
Electric heating stove or insert	NA*	2
Electric heat pump, old device removed	NA*	2
Natural gas home heating device	20	20
Propane home heating device	3	3

*These types of devices were not offered through the WRP before 2023.

All replacement devices, except those involving an electric heat pump with the old device retained, are assumed to be used for primary heating only based on the WRP program guidelines. For cases where an electric heat pump is installed but the old device is retained, the electric heat pump is assumed to serve as the primary heating while the retained old device is treated as supplemental heating.

Emissions for electric, natural gas and propane heating devices are assumed to be zero. According to AP 42 Chapter 1.4 (Natural Gas Combustion), total PM emissions for natural gas include both filterable (1.9 lb per million cubic feet) and condensable (5.7 lb per million cubic feet) fractions^[1]. In residential settings (e.g. gas stoves or furnaces), PM is typically filterable, and the condensable fraction is negligible, effectively oxidized before leaving the stack. Since

stoves have no ash and rely on high-temperature combustion, nearly all PM2.5 is filterable, which is already extremely low, and the condensable fraction can be ignored. This supports the assumption that PM2.5 emissions from residential natural gas stoves are effectively zero.

Because the program does not differentiate between uncertified wood stoves and fireplace inserts, they are treated the same in the emission calculations. Wood usage, burn rate ratios and PM2.5 emission factors for each device type can be found in CARB's RWC methodology.

After annual PM2.5 emission benefits are estimated, monthly benefits are calculated with the default temporal allocation factors. Summer and winter PM2.5 emission benefits are then determined by summing the appropriate months. The PM2.5 emission benefits from the WRP in Butte County are summarized in Table 3 and Table 4.

Table 3: PM2.5 emission benefits from all changeouts completed by 12/31/2022.

Time Period	PM2.5 Emission Benefit	Unit
Year	6.623	tons/year
Summer (May-Oct)	0.603	tons/summer
Winter (Nov-Apr)	6.020	tons/winter
Winter (Nov-Apr)	0.033	tons/day

Table 4: PM2.5 emission benefits from all changeouts completed by 12/31/2025.

Time Period	PM2.5 Emission Benefit	Unit
Year	10.792	tons/year
Summer (May-Oct)	0.982	tons/summer
Winter (Nov-Apr)	9.810	tons/winter
Winter (Nov-Apr)	0.054	tons/day

The emission reductions achieved from the WRP were subtracted from the residential wood combustion emission estimates as a line item prior to performing the rollback analysis.

^[1] https://www.epa.gov/sites/default/files/2020-09/documents/1.4_natural_gas_combustion.pdf

MP Section 4 a

- Both attainment and projected inventories are discussed in this section. Therefore, recommends to change the section heading to reflect that.
- Please clearly identify here the data sources used for the base year EI (CEIDARS 2023 ?) and the project years (CEPAM Version....).

MP Section 4 b

- Table 7: CEPAM

Please include the full model version name as a table footnote

Attachment B:

- Areawide sources: other misc. processes
Are all dust categories (unpaved road dust, paved road dust, construction dust, etc.) combined in this line? Recommends expanding the area sources into more sub-source categories to reflect sub-categories important for this plan area.
- Areawide sources: Subtotal
It is not clear why the reduction from the wood stove change program is not reflected in the planning EI totals of the base year and projected years.
Recommends to update the EI totals to reflect those reductions (similar to Table 7 EI totals), so that EI totals are consistent across the plan.

Attachment C:

- Page 29: “The rules and regulations reflected in the inventory are listed below in Table 1”. This should be Table 2.
- Table 2:
Table heading should reflect both stationary and area sources are covered here. Please note which inventory year/years these measures apply to (baseline years vs. forecast years)
- External adjustments:
Please include a discussion on the woodstove change-out program adjustment here. Is it accurate to say it is an EI adjustment but a not a CEPAM adjustment? Recommends to briefly describe the EI years that the woodstove program adjustment applies to and cite attachment E.

Attachment E:

- Page 2: Please expand or provide a citation for the following assumption.
“Emissions for ,natural gas and propane heating devices are assumed to be zero”

e. Transportation Conformity

This chapter provides the regulatory basis and technical justification for determining whether on-road emissions of nitrogen oxides (NOx) and directly emitted particulate matter (PM_{2.5}) are significant contributors to the 24-hour PM_{2.5} design value for the Planning Area, consistent with the requirements of 40 CFR Part 93. Based on the analysis presented below, both NOx and directly emitted PM_{2.5} from motor vehicles are determined to be insignificant for regional emissions analysis under transportation conformity.

Under Section [40 CFR 93.109\(f\)](#) of the conformity, an area is not required to conduct a regional emissions analysis under 93.118 or 93.119 if the maintenance plan demonstrates that regional motor vehicle emissions of a pollutant or precursor are an insignificant contributor to the air quality problem for the applicable NAAQS. To make such a determination, the SIP or a maintenance plan must demonstrate that it is unreasonable to expect motor vehicle emissions growth sufficient to cause a future violation of the standard. The rule identifies four criteria that must be considered when evaluating insignificance for a given pollutant or precursor:

- The contribution of on-road emissions to the total SIP inventory
- The current state of air quality in the region
- The absence of any on-road control measures in the plan that are required to attain or maintain the NAAQS and,
- Historical and future projections of on-road emissions of that pollutant/precursor

A finding of insignificance applies only to the regional emissions analysis requirements; all other elements of transportation conformity, including interagency consultation, hot-spot analysis, fiscal constraints, and project-level conformity, continue to apply. Transportation conformity also remains applicable for any other NAAQS for which the area is designated nonattainment or maintenance.

This maintenance plan concludes that regional NOx emissions and direct PM_{2.5} are insignificant contributors to PM_{2.5} air quality in Butte County. The following sections summarize air quality conditions in the region and apply the insignificance criteria listed above to on-road NOx and direct PM_{2.5} emissions within the Planning Area.

On-Road Contributions to PM_{2.5}

On-road mobile sources contribute to ambient PM_{2.5} concentrations through NOx emissions, a precursor to ammonium nitrate formation, and through directly emitted PM_{2.5} from exhaust, brake wear, and tire wear. Evaluation of these contributions is necessary to determine whether motor vehicle emissions may threaten continued attainment of the 24-hour PM_{2.5} National Ambient Air Quality Standard (NAAQS).

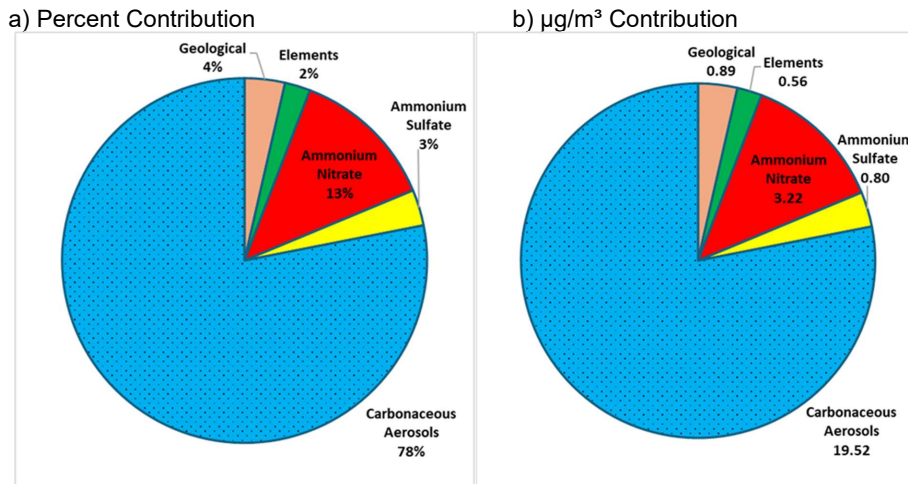
Current monitoring data, shown in Figure 8, indicate that ammonium nitrate represents a measurable portion of the 24-hour PM_{2.5} design value. Based on the emissions inventory, on-road mobile sources account for approximately 33% of total NOx emissions and contribute an estimated 1.06 µg/m³, or about 4%, of the design value as ammonium

Commented [MD1]: This appears to be unaddressed in the following section. Please identify if any area-specific on-road control measures were adopted for the purpose of bringing the area into attainment/continued maintenance. Additionally, please mention which type of control measures were/are relied on primarily to bring the area into attainment/ensure continued maintenance (e.g. residential wood burning measures, etc.)

Commented [MD2]: Reference here to 40 CFR 93.119(f) and briefly identify which pollutants for which a regional emissions analysis must be performed for a PM_{2.5} area. This sets up a regulatory reason for why the plan includes a insignificance demonstration for NOx and direct PM_{2.5} in particular, which segways into the technical explanation in the next paragraph.

nitrate. On-road mobile sources account for approximately 2% of directly emitted non-dust PM_{2.5}, contributing an estimated 0.39 µg/m³, or 2% of the design value.

Figure 8. Figure 1. PM_{2.5} Composition on Top 10% of Days (2022-2024)



Commented [MD3]: This appears to be a duplicate of Figure 3, to which you can point toward instead.

Rollback Analysis for NO_x and Directly Emitted PM_{2.5}

To evaluate whether on-road emissions could reasonably threaten continued attainment of the 24-hr PM_{2.5} NAAQS, CARB conducted a series of rollback simulations designed to quantify the magnitude of on-road emission increases that would be required to produce a design value exceedance. These simulations are intentionally conservative and represent conditions well beyond any reasonably foreseeable future scenario.

In the first scenario (Table 11), on-road NO_x and directly emitted PM_{2.5} were increased by 500%, while emissions from all other source categories were held constant at projected levels. Even under this extreme increase, the resulting design value was 30 µg/m³, well below the 35 µg/m³ NAAQS.

A second scenario (Table 12) evaluated an even more extreme assumption, a 900% increase in on-road emissions relative to 2023 levels. Under this hypothetical condition, the resulting design value would rise to 36 µg/m³, exceeding the standard. However, such an increase is not reasonably foreseeable because it would require on-road NO_x emissions to reach a level approximately 2.5 times higher than the total 2023 NO_x emissions for the entire Sacramento Valley and is inconsistent with all historical and projected emissions trends.

Table 11. Rollback Scenario with 500% Increase in On-road Emissions

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	15.390	500%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	19.56	152%	8.05
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.45	500%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	4.01	2%	20.57
Final DV		25.00	0.93	24.07				30.32
Final DV Rounded								30.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Table 12. Rollback Scenario with 900% Increase in On-road Emissions

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	25.650	900%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	29.82	284%	12.26
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.76	900%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	4.32	10%	22.08
Final DV		25.00	0.93	24.07				36.03
Final DV Rounded								36.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Projected Emissions Through 2038

In contrast to hypothetical rollback scenarios, projected emissions show a substantial decline in motor vehicle emissions and a corresponding reduction in contributions to the design values over the maintenance period. Between 2023 and 2038, on-road NOx emissions are expected to decrease by approximately 56%, and direct on-road PM_{2.5} emissions by about 20% (Table 13). Assuming a proportional relationship between NOx emissions and ammonium nitrate formation, the ammonium nitrate contribution to the design value is projected to decrease to approximately 2.21 µg/m³ by 2038, with the on-road portion declining to approximately 0.47 µg/m³. Direct PM_{2.5} on-road PM_{2.5} is similarly projected to decline from 0.40 µg/m³ in 2023 to 0.32 µg/m³. Table 14 summarizes these changes in on-road emissions and their contribution to the 24-hr design value.

Commented [MD4]: As there is an inventory-based trend of both decreasing on-road emissions of NOx and direct PM_{2.5}, and decreasing relative contribution of the on-road emission of NOx and PM_{2.5} to the overall inventory throughout the duration of the maintenance period, I think it would be helpful to have a discussion of these data prior and separately from the proportional rollback analysis.

Moreover, this could include tables compiling this data that is separate from information from data tables meant for rollback analysis. This would be to easier reference rather than combined case of Table 13.

The existing discussion on the potential decreases in design value associated with decreases in on-road emissions can remain in this proportional rollback section.

Table 13. Rollback using 2023 and 2038 emissions.

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	1.128	-56%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	5.29	-32%	2.21
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.06	-20%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	3.62	-8%	18.61
Final DV		25.00	0.93	24.07				22.51
Final DV Rounded								23.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Table 14. Changes in On-Road Emissions and Contributions to the Design Value

Emission Category	2023 Emissions (tpd)	2028 Emissions (tpd)	2024 DV Contribution (ug/m³)	2038 DV Contribution (ug/m³)
NOx – On-Road	2.565	1.128	1.06	0.47
Direct PM _{2.5} – On-Road	0.076	0.061	0.40	0.32
Total			1.46	0.79

Conclusion Regarding NOx and Direct PM_{2.5} Significance

Based on the rollback modeling, the composition of the current design value, and projected emissions through the maintenance year, on-road NOx and directly emitted PM_{2.5} emissions cannot reasonably be expected to increase to levels that would jeopardize continued attainment of the 24-hour PM_{2.5} NAAQS. Instead, emissions from these categories are projected to decline substantially throughout the maintenance period. Therefore, consistent with [40 CFR 93.102](#), both NOx and directly emitted PM_{2.5} from motor vehicles are determined to be insignificant for purposes of regional emissions analysis under transportation conformity and transportation conformity budgets for these pollutants are not required in this maintenance

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Chico, CA/Butte County PM_{2.5} Second Maintenance Plan

Proposed for Adoption ~~June~~ July 25, 2026

Date of Release May 22, 2026

Butte County Air Quality Management District

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The Butte County Air Quality Management District appreciates the assistance and contributions from staff with the California Air Resources Board and the U.S. EPA Region 9 office.

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1. Executive Summary

In December 2009 most of Butte County was designated by the United States Environmental Protection Agency (U.S. EPA) as nonattainment for the 2006 24-hour fine particulate matter (PM_{2.5}) National Ambient Air Quality Standard (NAAQS). Under state and federal law, the Butte County Air Quality Management District (BCAQMD or District) is the local air quality agency responsible for meeting and maintaining compliance with federal air quality standards. The California Air Resources Board (CARB) is tasked with submitting State Implementation Plans (SIPs) to U.S. EPA that demonstrate how nonattainment areas will attain the NAAQS. U.S. EPA took final action effective October 2013 to determine that the Chico nonattainment area in Butte County, California had attained the 2006 24-hour PM_{2.5} NAAQS.

To be reclassified as an attainment area, the Clean Air Act (CAA) section 175A requires attainment and maintenance of the standard for 20 years, demonstrated in two consecutive 10-year maintenance periods. In December 2017, CARB submitted the "Chico, CA/Butte County PM_{2.5} Nonattainment Area Redesignation Request and Maintenance Plan" to U.S. EPA. U.S. EPA took final action effective August 10, 2018 approving the redesignation request and the first 10-year PM_{2.5} Maintenance Plan for the planning area. CAA Section 175A(b) requires the second maintenance plan to be submitted 8 years after redesignation to attainment. This document, Chico CA/Butte County PM_{2.5} Second Maintenance Plan (Second Maintenance Plan), prepared in accordance with Section 175(A) of the CAA, demonstrates how the Planning Area will continue to maintain the NAAQS throughout the second 10-year Maintenance period.

2. Introduction and Background

a. Area Setting

Butte County, California is located in the northeastern portion of the Sacramento Valley Air Basin (~~Figure 1~~~~Figure-1~~). The U.S. EPA has designated a portion of Butte County as the Chico, CA/Butte County (partial) PM_{2.5} Planning Area (Planning Area). The PM_{2.5} monitoring site is located in the Planning Area at the eastern edge of the valley floor, on East Avenue in Chico, California, and is assigned an Air Quality System (AQS) number 060070008.

The U.S. EPA defines the Planning Area (~~Figure 2~~~~Figure-2~~) as that portion of Butte County which lies west of the line described as follows: (Mount Diablo Base and Meridian) Beginning at the intersection of the Butte-Yuba county line and the township line common to T18N R6E and T19N R6E, west to the township line common to T18N R6E and T19N R6E, then north along the range line common to R5E and R6E, then west along the township line common to T21N and T20N, then north along the range line common to R4E and R5E, then west along the township line common to T24N and T23N to the Butte-Tehama County boundary.

The Sacramento Valley is bound on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada Mountains. These mountain ranges reach heights in excess of 6000 feet above mean sea level (MSL), with individual peaks rising higher. This provides a substantial physical barrier to both locally created pollution and the pollution that has been transported northward on prevailing winds from the metropolitan areas to the south. Although a significant portion of the Planning Area is at elevations higher than 1,000 feet above MSL, the vast majority of its populace lives and works below that elevation. The valley is often subjected to inversion layers that, coupled with geographic barriers, create a high potential for poor air quality conditions.

Figure 1. Sacramento Valley Air Basin

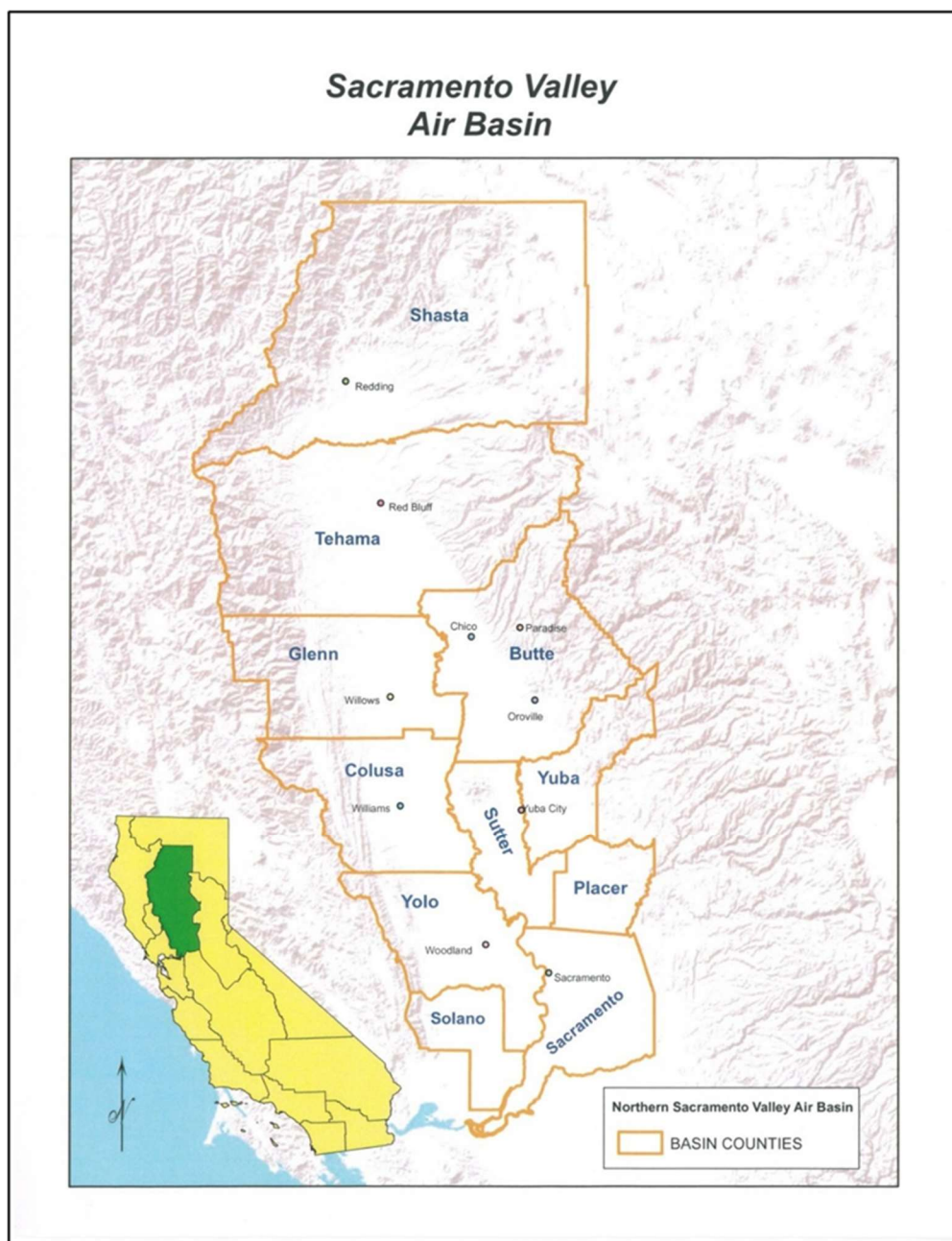
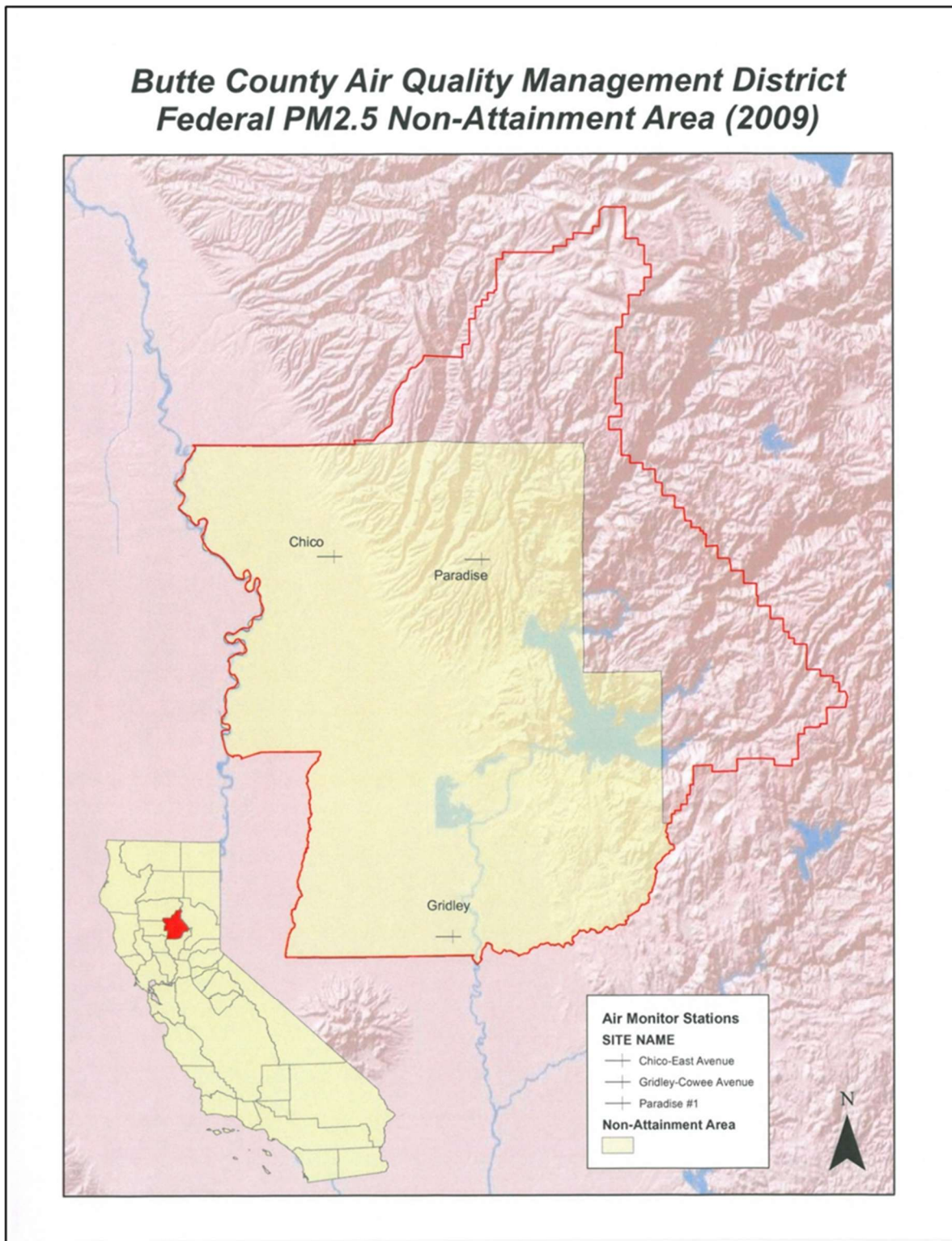


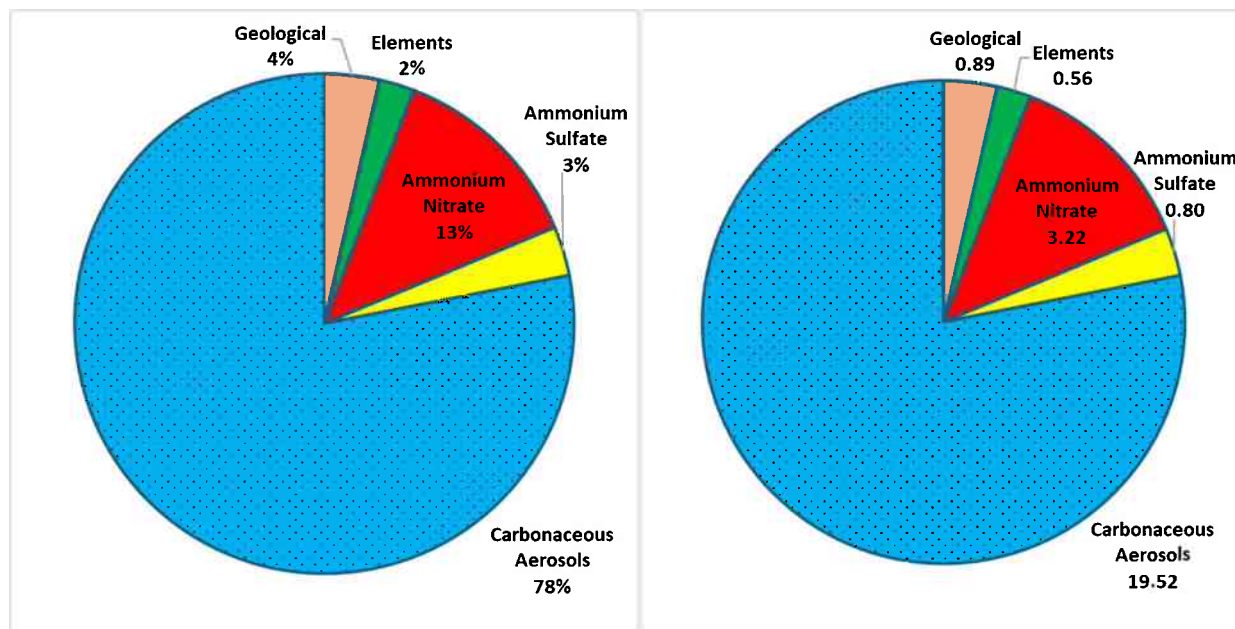
Figure 2. Planning Area



In Butte County, elevated PM_{2.5} levels occur primarily during the winter months due to a combination of meteorological conditions, terrain, and seasonal emission patterns. Wintertime

weather patterns, such as temperature inversions, light winds, and shallow mixing heights, trap pollutants close to the ground, limiting dispersion. At the same time, emissions from residential wood heating increase substantially during cold weather, adding large amounts of fine particulate matter to the air. As a result, most exceedances of the PM_{2.5} standard occur during the winter. Carbonaceous aerosols, which include organic matter and elemental carbon, overwhelmingly drive PM_{2.5} on high pollution days, making up almost 80% of the total PM_{2.5}. They are driven by emissions from combustion sources such as residential wood burning, vehicle emissions, and other incomplete combustion processes. Agricultural and residential open burning are also contributing factors. All other components are comparatively small contributors, with the next highest component, nitrate, contributing about 10% of the mass (Figure 3). While the sources of ammonium nitrate are regional, sources of carbonaceous aerosols are more localized.

Figure 3. 2022-2024 PM_{2.5} Mass and Percent Contribution on 10% of Days with Highest PM_{2.5} Concentrations.



Butte County currently has three (3) monitoring sites operated by the California Air Resources Board that measure PM_{2.5}, located in Chico, Gridley, and Paradise. However, only the Chico site has a federal equivalent method monitor (FEM) that can be used for attainment demonstration purposes. The Chico site collected federal reference method (FRM) data from 1998 to 2019 until the FRM monitor was replaced with an FEM monitor on July 1, 2019. The Chico site also has a PM_{2.5} speciation monitor that identifies the chemical composition of the PM_{2.5}. The PM_{2.5} speciation monitor was considered for relocation in the 2025 Annual Monitoring Network Plan however it is still currently in operation at the Chico site.

b. Regulatory History

Pursuant to the CAA, the U.S. EPA sets primary air quality standards to protect public health, including protection of sensitive populations such as asthmatics, children, and the elderly, and

secondary standards to protect public welfare, including the protection against decreased visibility and damage to crops, animals, vegetation, and buildings. Achieving the federal standards protects public health, reduces the region's health care costs, and improves the quality of life for residents. This section describes U.S. EPA's process for setting health-based standards and designating areas based on those standards, the history of the PM_{2.5} standard and the area designations, and the CAA requirements for areas based on those designations.

National Ambient Air Quality Standards

The Clean Air Act was adopted in 1970. The legislation authorized the development of comprehensive federal and state regulations to limit emissions from stationary and mobile sources. The CAA was amended in 1977 and again in 1990. The CAA and amendments require the U.S. EPA adopt National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. U.S. EPA formally designates areas as "nonattainment" (not meeting the standard), "unclassifiable/attainment" (meeting the standard or expected to be meeting the standard despite a lack of monitoring data), or "unclassifiable" (insufficient data to classify).

Once nonattainment designations take effect, state and local governments develop implementation plans outlining how areas will attain and maintain the standards by reducing air pollutant emissions contributing to fine particle concentrations. The CAA requires U.S. EPA to conduct a periodic review of the standards and the science upon which the standards are based.

Overview of Particulate Matter NAAQS

Particulate matter is one of the six criteria pollutants. U.S. EPA first issued standards for particulate matter in 1971 and subsequently revised the standards in 1987, 1997, 2006, and 2012. The 2006 revision addressed two categories of particle pollution: *fine particles* (PM_{2.5}), which have an aerodynamic diameter of 2.5 micrometers or smaller, and *inhalable coarse particles* (PM₁₀) which have a nominal aerodynamic diameter of less than 10 micrometers.

The U.S. EPA established the separate annual and 24-hour standards for PM_{2.5} in 1997 (62 FR 38652). The annual standard was set at 15.0 micrograms per cubic meter (µg/m³). The 24-hour standard was set at 65 µg/m³, based on a 3-year average of the 98th percentile of 24-hour PM_{2.5} concentrations.

In 2006, U.S. EPA lowered the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ and retained the annual PM_{2.5} standard at 15.0 µg/m³. The revised PM_{2.5} standards were published on October 17, 2006 (71 FR 61144) and became effective on December 18, 2006.

In 2012, U.S. EPA lowered the annual PM_{2.5} standard from 15.0 µg/m³ to 12.0 µg/m³ and retained the 24-hour PM_{2.5} standard at 35 µg/m³. The revised PM_{2.5} standards were published on January 15, 2013 (78 FR 3085) and became effective on March 18, 2013.

In 2024, U.S. EPA lowered the annual PM_{2.5} standard from 12.0 µg/m³ to 9.0 µg/m³ and retained the 24-hour PM_{2.5} standard at 35 µg/m³. The revised PM_{2.5} standards were published on March 6, 2024 (89 FR 16202) and became effective on May 6, 2024.

Designations

On November 13, 2009 (74 FR 58688), U.S. EPA promulgated air quality designations for all areas in the U.S. for the 2006 PM_{2.5} NAAQS, effective December 14, 2009. Based on 2005-2007 monitoring data, the Planning Area was designated nonattainment for the 24-hour PM_{2.5} NAAQS .

U.S. EPA issued a final determination effective October 10, 2013 finding that the Planning Area had attained the 2006 24-hour PM_{2.5} National Ambient Air Quality Standard (78 FR 55225). This determination was based upon complete, quality-assured, and certified ambient air monitoring data showing that this area has monitored attainment of the 2006 24-hour PM_{2.5} NAAQS based on the 2010–2012 monitoring period. Further, U.S. EPA took final action effective June 9, 2017 that the Planning Area met the 2006 24-hour PM_{2.5} standard as required by December 31, 2015 (82 FR 21711). To qualify for redesignation, an area must demonstrate attainment and continued maintenance of the standard for a 20-year period, supported by two consecutive 10-year maintenance plans. U.S. EPA approved the Planning Area's Redesignation Request and first 10-year maintenance plan as a SIP revision effective August 10, 2018 (83 FR 32064). The second maintenance plan is due on August 10, 2026, eight years after approval of the first plan.

To meet Clean Air Act requirements, the District, with the support from CARB, has prepared the Second Maintenance Plan to demonstrate continued attainment and maintenance of the 35 µg/m³ 24-hour PM_{2.5} NAAQS through the second 10-year maintenance period through ending in 2038.

3. Evaluation of the First Maintenance Period

The Planning Area continued to meet the NAAQS through the first 10-year maintenance period when not impacted by smoke from wildfires. Three months after U.S. EPA's approval of the first 10-year maintenance plan, Butte County was impacted by the Camp Fire - the deadliest and most destructive wildfire in California history. Prior to the Camp Fire in 2018 the Planning Area was also impacted by smoke from the Mendocino Complex Fire. The year 2020 brought smoke impacts from the August Complex Fire, currently the largest wildfire complex in California history, as well as the destructive North Complex fire. The Dixie Fire in 2021 started in Butte County and spread into neighboring counties, becoming the largest single wildfire in California history. 2024's Park Fire brought more destruction to Butte County communities however wind conditions limited the smoke impacts within the Planning Area.

Figure 4 and Table 1 show the resulting impacts to the Planning Area's design value. Per the contingency plan in the first 10-year Maintenance Plan, the District evaluated exceedances of the NAAQS and determined that each exceedance of the standard was due to wildfire smoke impacts. When days flagged for wildfire smoke impacts were removed, the modified design value remained below the standard for each year evaluated. The individual days exceeding the 24-hr PM_{2.5} standard due to wildfire smoke impacts between 2018 and 2022 are included in **Attachment A**.

Figure 4. PM_{2.5} 24-hr 98th Percentiles & Design Value Trends

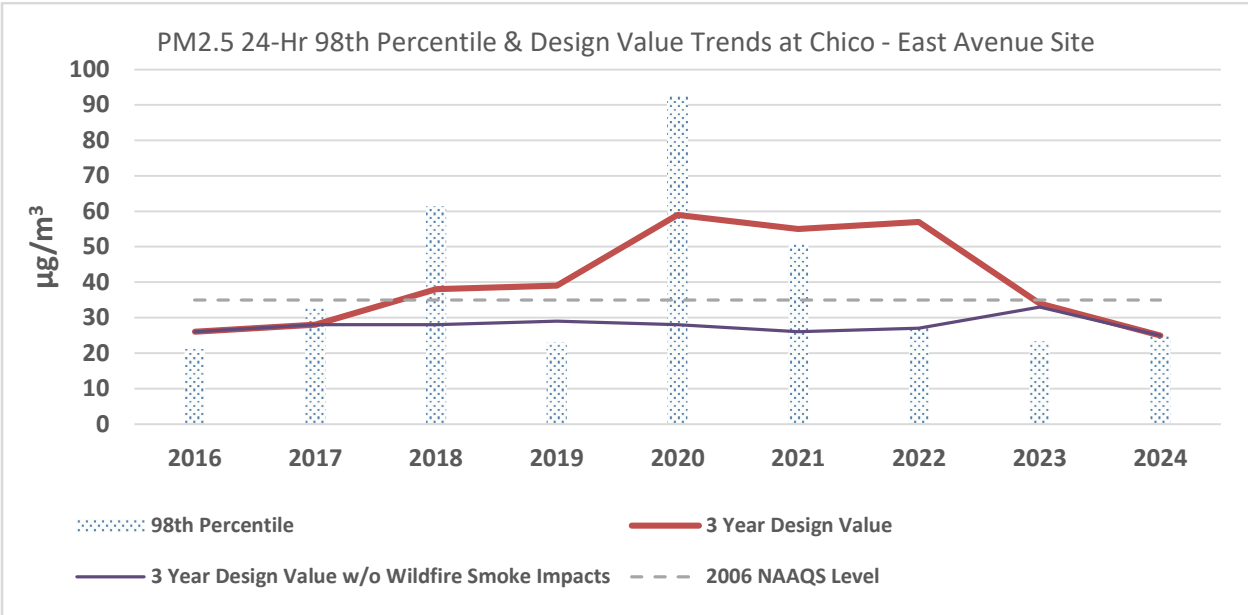


Table 1. 98th Percentiles and 24-hr Design Values with and without Wildfire Smoke Impacts (WSI)

Year	98th Percentile (µg/m³)		DV (µg/m³)	
	All Data	No WSI	All Data	No WSI
2015	29.5	29.5	29	29
2016	21.2	21.2	26	26
2017	32.6	32.6	28	28
2018	61.4	29.0	38	28
2019	23.0	23.0	39	28
2020	92.3	27.6	59	27
2021	50.6	26.1	55	26
2022	27.3	26.5	57	27
2023	23.3	23.3	34	25
2024	24.9	24.9	25	25

The District prepared Exceptional Event Initial Notification submittals for the 2016-2018, 2018-2020, 2019-2021, and 2020-2022 24-hr PM_{2.5} design values which CARB transmitted to U.S. EPA. For each submittal, U.S. EPA determined that data from these wildfire smoke events did not have regulatory significance under the Exceptional Events Rule and therefore placed the submittals on hold. [Table 2](#) provides a summary of the District's actions when the contingency plan was triggered during the fires 10-year period (i.e., when the 24-hour PM_{2.5} design value exceeded the standard). Although the District had 60 days from the date of data

certification (May 1) to evaluate exceedances, these reviews were completed each April using preliminary data.

Table 2. Summary of Actions Taken When Contingency Plan Triggered

Date(s)	Actions
12/13/2018 & 4/25/2019	Reports to District Governing Board identifying days in 2018 exceeding the 24-hr PM _{2.5} standard due to wildfire smoke impacts from the Carr, Mendocino Complex, and Camp Fires.
10/19/2019	CARB submittal of Exceptional Event Initial Notification Information Forms for the 2016-2018 design value to U.S. EPA.
2/27/2020	District Governing Board reaffirms through Resolution 2020-03 that the 2016-2018 design value exceeded the standard due to wildfire smoke impacts and that additional measures were not necessary to ensure attainment.
09/24/2020 & 3/25/2021	Reports to District Governing Board identifying days in 2020 exceeding the 24-hr PM _{2.5} standard due to wildfire smoke impacts from the August Complex and North Complex Fires.
3/24/2021	CARB submittal of Exceptional Event Initial Notification Information Forms for the 2018-2020 design value to U.S. EPA.
3/25/2021	District Governing Board reaffirms through Resolution 2021-09 that the 2018-2020 design value exceeded the standard due to wildfire smoke impacts and that additional measures were not necessary to ensure attainment.
9/23/2021 & 3/24/2022	Reports to District Governing Board identifying days in 2021 exceeding the 24-hr PM _{2.5} standard due to wildfire smoke impacts from the Dixie, Monument, and Caldor Fires.
3/24/2022	District Governing Board reaffirms through Resolution 2022-09 that the 2019-2021 design value exceeded the standard due to wildfire smoke impacts and that additional measures were not necessary to ensure attainment.
6/17/2022	CARB submittal of Exceptional Event Initial Notification Information Forms for the 2019-2021 design value to U.S. EPA.
10/27/2022 & 3/23/2023	Reports to District Governing Board identifying days in 2022 exceeding the 24-hr PM _{2.5} standard due to wildfire smoke impacts from Mosquito Fire.
8/23/2023	CARB submittal of Exceptional Event Initial Notification Information Forms for the 2020-2022 design value to U.S. EPA.

In April 2022, U.S. EPA identified the Planning Area as being subject to the mitigation plan requirements of the Exceptional Events Rule. The District developed the Mitigation Plan to Reduce the Impacts of Wildfire Smoke in Butte County, California in December 2023. U.S. EPA determined that the mitigation plan was complete in February 2024.

As shown in [Figure 4](#) above and [Table 3](#) below, PM_{2.5} concentrations in 2020 and 2021 were substantially affected by wildfire smoke, resulting in anomalously high 98th percentile concentrations and correspondingly elevated 24-hour design values. Due to these wildfire driven impacts, 2020, 2021, and 2022 design value periods are not appropriate for modeling applications. Accordingly, 2023 is designated as the Base Year for the emissions inventory and serves as the foundation for the modeling platform for this Second Maintenance Plan. Because 2023 is the central year of the three-year period used to calculate the 2024 PM_{2.5} design value, 2024 is selected as the Reference Year for projecting future design values. The

monitoring data for 2022 through 2024 are complete, with the lowest quarterly data capture at 88%, well above the minimum 75% requirement for design value calculations.

Table 3. Summary of 98th Percentiles & Design Value (micrograms per cubic meter)

98 th Percentile (µg/m ³)					24-hr Design Value (µg/m ³)				
2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
92.3*	50.6*	27.3	23.3	24.9	59*	55*	57*	34	25

*Data impacted by wildfires

Although there were significant wildfire smoke impacts during first 10-year maintenance period, air quality trends over the past three years demonstrate that the Planning Area is maintaining the standard going into the second 10-year maintenance period.

4. Second 10-Year PM_{2.5} Maintenance Plan

a. Attainment ~~& Projected Inventory~~Inventories

CARB, with supporting data reported by BCAQMD, maintains sufficient emissions inventories to identify the level of emissions in the Planning Area needed to maintain attainment with the NAAQS. For the Second Maintenance Plan, an emissions inventory (**Attachment B**) was ~~developed~~developed from the California Emissions Inventory Data Analysis and Reporting System (CEIDARS) for the 2023 base year, with forecasts extending through the 2038 horizon year (Attachment B). Projections were made using the California Emissions Projection Analysis Model (CEPAM2026 PM2.5 Plans Version 1.00). The most recent triennial National Emissions Inventory (NEI) year, 2023, was selected as the base year because it aligns with the middle year of the 2024 attainment-year design value period. Two interim milestone years, 2028 and 2035, were included to help track progress toward maintaining the standard. Because past PM_{2.5} exceedances (excluding wildfire smoke impacted days) occurred primarily during the winter months, the emissions forecasts focused on wintertime emissions. This approach remains consistent with the first 10-year Maintenance Plan. The maintenance demonstration includes emissions from mobile (on- and off-road) sources, stationary point sources, stationary aggregated sources, areawide sources, and natural sources. It covers direct PM_{2.5} emissions (filterable and condensable) and PM_{2.5} precursors including oxides of nitrogen (NO_x), sulfur oxides (SO_x), volatile organic compounds (VOC), and ammonia (NH₃). **Attachment C** provides a detailed discussion of emissions inventory source categories and methodologies used..

Primary PM emissions include both filterable and condensable components. The PM_{2.5} NAAQS final implementation rule ¹ requires SIP emissions inventories to report filterable PM_{2.5}, condensable PM_{2.5}, and total primary PM_{2.5} separately. The distinction between condensable and filterable particulate matter is further summarized in **Attachment D** While mobile sources emit both filterable and condensable PM, the Air Emissions Reporting Requirements (AERR) do not require states to report these components separately for mobile categories. Therefore, the

¹ 40 CFR 51.1008(a)(1)(iv)

condensable and filterable PM_{2.5} emissions presented in Attachment D reflect only stationary point and area source categories that generate condensable emissions.

BCAQMD issues Emission Reduction Credits (ERCs) for emission reductions achieved through equipment shutdown or voluntary control. These ERCs may then be used as offsets to compensate for an increase in emissions from a new or modified major source regulated by BCAQMD. To conservatively account for the possibility that banked ERCs may be used during the maintenance period, the balance of the ERC bank was added to the horizon year emission forecasts. Additionally, the current BCAQMD ERC bank contains credits for PM₁₀ but not for PM_{2.5}. As a conservative approach, the bank of PM₁₀ credits was added to the PM_{2.5} emissions forecast even though PM_{2.5} is only a fraction of PM₁₀.

Figure 5 presents total emissions (tons per day), including the ERC bank, for five pollutant groups, PM_{2.5}, NO_x, SO_x, ROG, and ammonia, in the base year, the 2028 and 2035 milestone years, and the 2038 horizon year. The chart illustrates how each pollutant category is expected to change over time and provides a comprehensive view of overall emissions trends across the maintenance period. **Figure 6** highlights the projected rate of change for these pollutants, excluding the ERC bank. Among the major pollutants, NO_x shows the most substantial decline, decreasing by roughly 33% over the analysis period. The remaining pollutants exhibit more moderate reductions, ranging from about 3% to 13%, reflecting slower but steady progress toward lower emission levels.

Figure 5. Total Emissions (Including ERC Bank) Over Maintenance Period

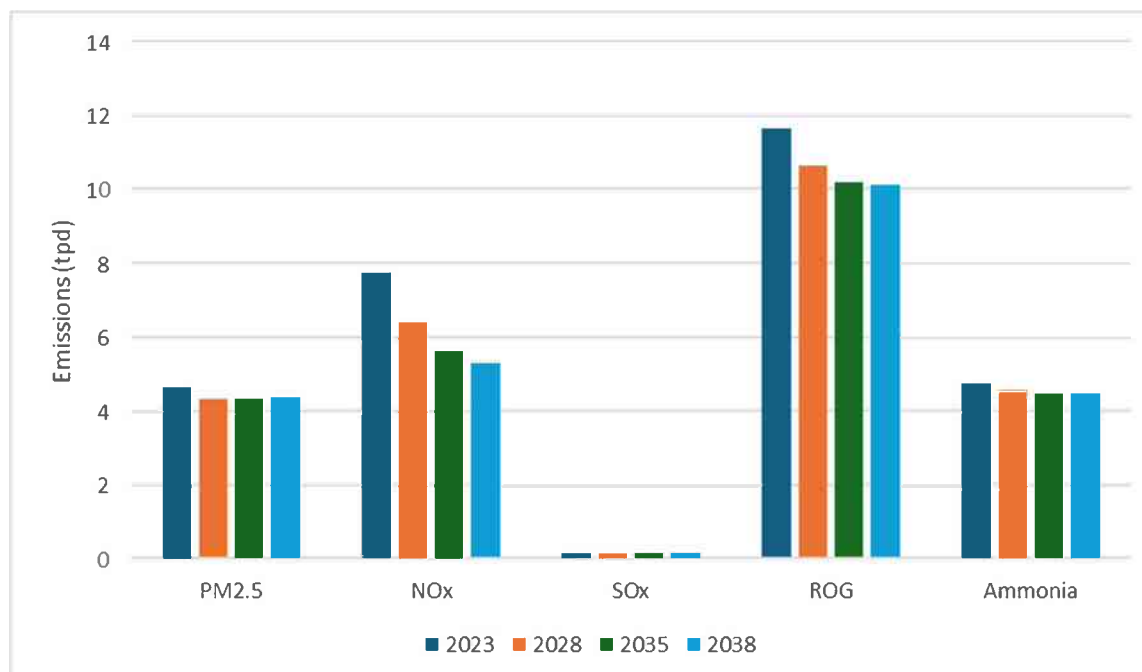
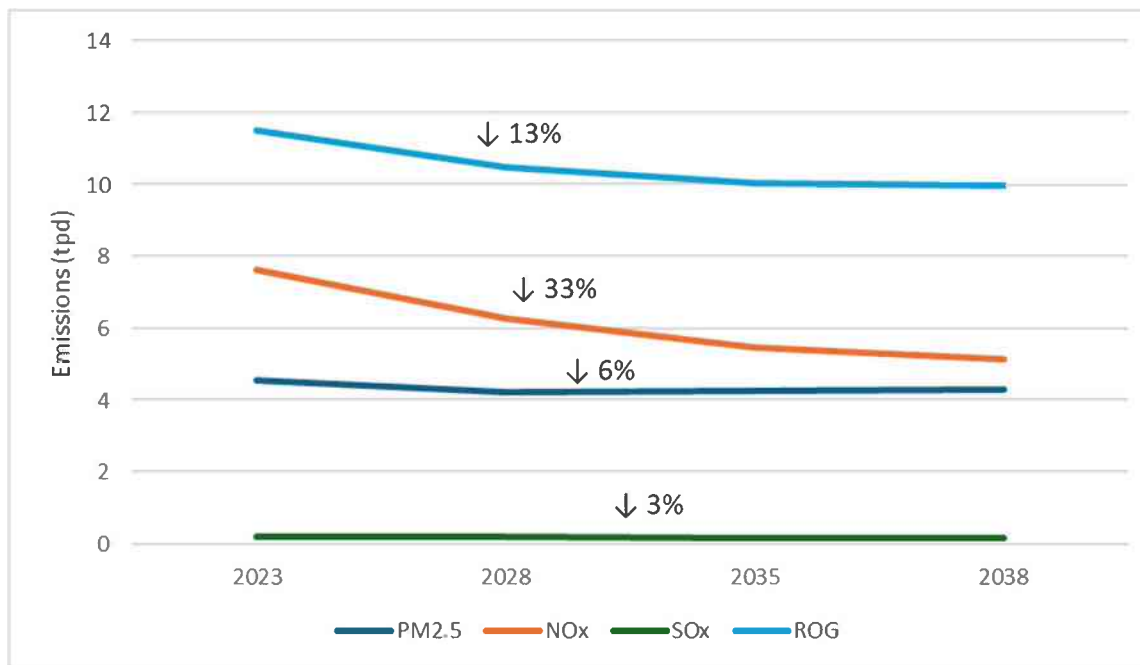


Figure 6. Trends in Projected Emissions Over the Maintenance Period



b. Maintenance Demonstration

Section 175A(a) of the Clean Air Act requires states to demonstrate that an area will maintain the NAAQS for at least 10 years after redesignation. States may show continued maintenance either by demonstrating that future emissions of the pollutant and its precursors will not exceed attainment-year levels or by using air quality modeling to show that future source configurations and emission rates will not result in a violation of the NAAQS.

For this Plan, a rollback model was selected as the primary tool to demonstrate continued attainment of the 2006 24-hour PM_{2.5} standard through 2038 for the Planning Area. This chapter presents projected future PM_{2.5} concentrations and demonstrates that the area will continue to maintain the 2006 24-hour standard through the 2038 horizon year.

The purpose of the maintenance demonstration is to demonstrate that the Planning Area is projected to remain in attainment with the NAAQS throughout the entire 10-year second maintenance period. CARB, with emissions inventory information provided by BCAQMD, developed an inventory for the base year of 2023 and forecast emissions through the horizon year of 2038. Because the finding was made that PM_{2.5} exceedances in the Planning Area primarily occurred during the winter months, wintertime emissions were considered in the emission forecasts. The maintenance demonstration includes emissions of direct PM_{2.5} and the precursors SOx and NOx. Only anthropogenic emissions are included in the rollback model. Emissions from natural sources are excluded from the maintenance demonstration.

The Woodstove Change-out Program also provides a small emission benefit for the base future years on directly emitted PM_{2.5} (**Attachment E**). These emission benefits were deducted from the emission inventory for the rollback model calculation.

The method chosen to demonstrate maintenance of the PM_{2.5} 24-hr NAAQS is a rollback proportional model. The rollback model assumes that there is a direct correlation between emissions of a pollutant and measured concentrations of that pollutant in the same air shed, and that changes in emissions will result in corresponding changes in concentrations. This correlation is then used to predict future concentrations based on future emissions.

The rollback model has two main parts: concentrations and emissions. Ambient monitoring data from speciation samplers located at the Chico monitoring site were used to assess the chemical composition of PM_{2.5}. Two samplers and multiple filter media are used to determine chemical speciation profiles. A Speciation Air Sampling System (SASS) sampler is used to collect PM_{2.5} constituents including ions (sulfate, nitrate, sodium, potassium, and ammonium, etc.) and numerous trace elements. A University Research Glassware 3000N (URG) sampler is used for collecting elemental and organic carbon data. Both speciation samplers (SASS and URG) operate on a 1-in-6 day sampling schedule. PM_{2.5} gravimetric mass and elements are measured by X-ray fluorescence (XRF) on Teflon-membrane filters. Ions were measured by ion chromatography on nylon-membrane filters. Organic and Elemental Carbon (OC and EC respectively) were measured by a Thermal Optical Analyzer on quartz-fiber filters. The data were analyzed by CARB's Monitoring and Laboratory Division and reported to U.S. EPA's Air Quality Systems (AQS) database. Currently applied measurement technology does not quantify all measured components, so the sum of the measured species was always less than the full measured mass. PM mass reconstruction applied multipliers to measured species to estimate unmeasured components.

To reconstruct PM_{2.5} mass concentrations using chemical composition data, assumptions about the molecular form of the species must be made. Table 1 presents assumptions used in this report. Sulfate and nitrate are assumed to be neutralized to ammonium sulfate [(NH₄)₂SO₄] and ammonium nitrate (NH₄NO₃) with the NH₄⁺ fraction accounted for by applying stoichiometric multipliers as specified in Table 1. Geological material is estimated following the formula utilized by the IMPROVE Program. Elements are estimated by summing the remaining elements by XRF, excluding sulfur and geological elements. Carbonaceous aerosols are back-calculated from PM_{2.5} mass as the concentration that would result in reconstructed mass being exactly equal to gravimetric PM_{2.5} mass. Estimates of carbonaceous aerosols are validated by comparing to the sum of the measured elemental carbon (EC) and organic matter, which was estimated as organic carbon times 1.4.

Table 4: Form of PM_{2.5} Chemical Species Assumed in this Report

Component	Formula
Ammonium Nitrate	1.29 x Nitrate
Ammonium Sulfate	1.38 x Sulfate
Geological/Dust	2.2 x Aluminum + 2.49 x Silicon + 1.63 x Calcium + 2.42 x Iron + 1.94 x Titanium
Elements	Sum of remaining elemental species (excluding S, Al, Si, Ca, Fe, and Ti)
Carbonaceous Aerosol	Measured PM _{2.5} Mass - (Ammonium Nitrate + Ammonium Sulfate + Geological + Elements)

PM_{2.5} concentrations used in the rollback model represent average concentrations on the top 10% of days between 2022 and 2024 (~~Table 5~~ and ~~Table 10~~). To remain consistent with the winter emission inventory used in this maintenance plan to project future year design values, only winter days (November to April) were selected. Occasional high PM_{2.5} days during the summer season, which were likely caused by wildfire events, were excluded from the rollback analysis.

Typically, about 60 daily speciation samples are scheduled each year at the Chico monitoring station. For both 2022 and 2024, 58 daily samples were available, and the six samples with the highest PM_{2.5} mass were selected and averaged to represent a typical annual high-day composition for the respective year. Since only 25 samples were collected in 2023, three highest samples were selected to represent this year.

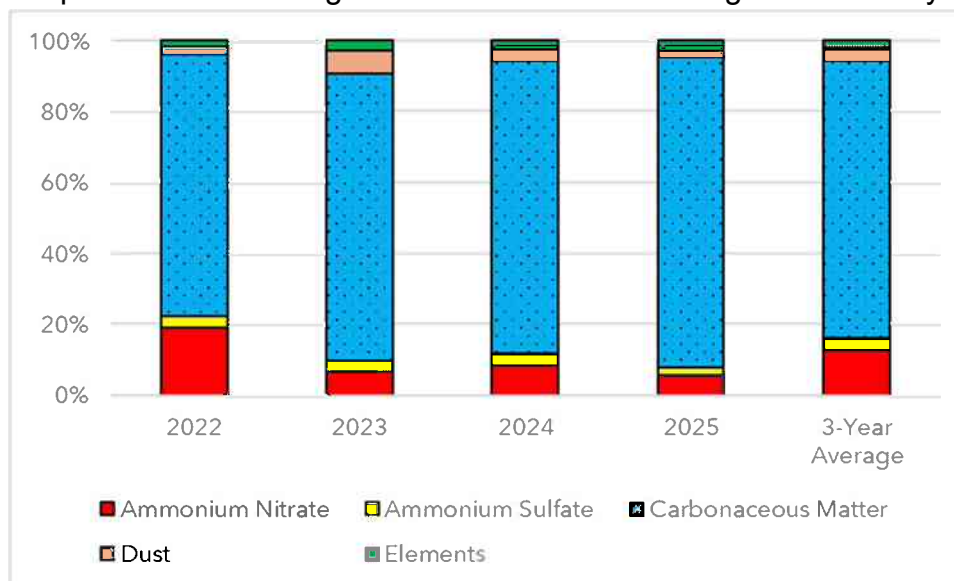
2025 speciation data from the Chico station were also included to assist the rollback model. The annual average concentrations of all the speciation data mentioned above are presented in ~~Table 5~~ ~~Table 5~~. Details of each day can be found in the supporting information at the end of this write-up. (~~Table 10~~ ~~Table 10~~).

Table 5: Annual and Three-year Average of Highest 10% Days in 2022-2025 ($\mu\text{g}/\text{m}^3$)

Year	Ammonium Nitrate	Ammonium Sulfate	Carbonaceous Matter	Dust	Elements	PM _{2.5}
2022	4.17	0.72	16.05	0.47	0.44	21.85
2023	0.78	0.35	9.22	0.74	0.33	11.43
2024	1.34	0.49	12.79	0.53	0.37	15.52
2025	1.06	0.43	16.63	0.41	0.47	19.00
3-Year Average (2022-2024)	2.10	0.52	12.69	0.58	0.38	16.27
3-Year Average Scaled to 2024 Design Value	3.22	0.80	19.50	0.89	0.58	25

The highest 10% days from 2023 appear to have significantly lower concentrations than other listed years, mainly from the lower levels of carbonaceous matter. However, from the perspective of percentage contribution to the total PM_{2.5}, 2023-2025 were all very similar, while 2022 was the outlier with much higher ammonium nitrate contribution (Figure 7). (Figure 7). Given that all the speciation data will be scaled to the 2024 PM_{2.5} 24-hour design value ($25 \mu\text{g}/\text{m}^3$), it is thus determined that the impact of limited data from 2023 is insignificant to this model.

Figure 7: PM_{2.5} Speciation Percentage Contribution to Annual Highest 10% Days in 2022-2025



The rollback model assumes that atmospheric pollutant concentrations in excess of background represent PM_{2.5} mass subject to controls (mass available for rolling) and are proportional to emissions. The mass available for rolling is estimated by subtracting background concentration from the mass assigned to each source. For example, the mass of ammonium nitrate available

for rolling is calculated by subtracting the background concentrations of ammonium nitrate. Background concentrations are concentrations that would occur in the airshed in the absence of local anthropogenic emissions and represent local natural emissions and transported pollutants.

To determine the background PM_{2.5} concentrations, two locations in the IMPROVE network were examined: Lassen National Park (AQS ID: 060893003) and Bliss State Park (AQS ID: 060179000), which is on the western side of Lake Tahoe. Although Lassen National Park is the preferred location due to its proximity to Chico, speciation data were unavailable there in early January of 2022, which included several of the highest PM_{2.5} days at Chico. In addition, data from Lassen National Park in November 2023 showed signs of wildfire influence, making those observations unsuitable for background estimate. Data from Bliss State Park were mostly free of these issues. Thus, speciation data from Bliss State Park were selected for estimating background concentrations.

The 24-hour background concentrations were calculated by averaging PM_{2.5} speciation data collected at the Bliss State Park site on the days corresponding to the highest 10% PM_{2.5} concentrations at Chico. In 2022 and 2024, three of the identified high PM_{2.5} days at Chico did not have matching sampling days at Bliss. Because the effect on the overall average was minimal, no replacement days were selected for those years. However, in 2023, none of the top 3% high-PM_{2.5} days at Chico had corresponding data from Bliss. To ensure representativeness for that year, the closest subsequent sampling days were used as replacement. The resulting annual and three-year average 24-hour background concentrations are listed in [Table 6](#)~~Table-6~~. Details of each day can be found in the supporting information at the end of this section. ([Table 11](#)~~Table-11~~) The background concentrations were very low compared to Chico levels and were very consistent across three years.

Table 6: Speciated Concentrations for Annual and Three-year average Background Concentrations in 2022-2024 from Bliss State Park (µg/m³)

Year	Ammonium Nitrate	Ammonium Sulfate	Carbonaceous Matter	Dust	Elements	PM _{2.5}
2022	0.03	0.14	0.66	0.05	0.01	0.90
2023	0.06	0.19	0.36	0.27	0.03	0.90
2024	0.03	0.13	0.71	0.08	0.02	0.98
3-Year Average	0.04	0.15	0.58	0.14	0.02	0.93

On the emission side, directly emitted PM_{2.5} dust (PM_{2.5} Dust) was separated from all other sources of directly emitted PM_{2.5} (PM_{2.5} Non-Dust), so that changes in dust emissions could be projected on concentrations of fugitive dust and changes in emissions from all other sources of directly emitted PM_{2.5} could be projected on concentrations of carbonaceous aerosols and elements. The emission categories that were counted as PM_{2.5} Dust include Farming

Operations, Construction and Demolition, Paved Road Dust, Unpaved Road Dust, and Fugitive Windblown Dust.

The first step in calculating the maintenance year PM_{2.5} design values was to estimate the anticipated increase or decrease in emissions from each source between 2023 (the base year) and 2038 (the maintenance year). The same percentage of increase or decrease in emissions from each source was then applied to the PM_{2.5} mass available for rolling. The future year contributions of each component were calculated by applying the percent change to the mass available for rolling and then adding background concentrations back, as shown in the equation below:

Future Year Concentration

$$= \text{Concentration Available for Rolling} \times (1 + \text{Percent Change from Base Year}) \\ + \text{Background Concentration}$$

The maintenance year design value was determined by summing maintenance year contributions for all the components, as illustrated in [_*California Emissions Projection Analysis Model \(CEPAM2026 PM2.5 Plans Version 1.00\)_](#)

Table 8

~~Table 8~~. As is demonstrated, through the significant decrease in NO_x and non-dust PM_{2.5} emissions, the 2038 PM_{2.5} 24-hour design value in Chico is projected to be 23 µg/m³, which is 2 µg/m³ lower than the 2024 level.

To further solidify the maintenance demonstration, an alternative rollback approach is presented in ~~Table 9~~Table 9. This approach uses the same assumptions and initial year conditions as the default rollback model presented in ~~Table 8~~Table 8, with the exception of the treatment of secondary PM precursors (NO_x and SO_x). Because the response of ammonium nitrate and ammonium sulfate concentrations to changes in precursor emissions is uncertain, a proportional rollback may not accurately reflect future changes in these secondary PM components. To ensure a conservative outcome, the alternative approach holds 2038 NO_x and SO_x emissions at their 2023 levels. Under this conservative scenario, the Chico area continues to demonstrate maintenance, with the 2038 PM_{2.5} 24-hour design value declining to 24 µg/m³, well below the NAAQS.

Together, the default and alternative rollback analyses demonstrate that the Chico, CA/Butte County Planning Area will continue to maintain the 24-hour PM_{2.5} National Ambient Air Quality Standard through 2038. Both approaches, one reflecting projected emission reductions and one using a fully conservative assumption that holds PM_{2.5} precursor emissions constant at 2023 levels, show design values well below the 35 µg/m³ standard in the maintenance year. These

results provide a robust and credible demonstration of continued attainment through 2038, even under a conservative assessment of PM_{2.5} precursor behavior.

Table 7: 2023 and 2038 Speciated Emission Inventory Used for the Rollback Model (tons per day)

	NOx	SOx	Dust	Non-Dust PM _{2.5}
2023				
CEPAM*	7.601	0.181	0.706	3.843
ERC	0.164	0.008	N/A	0.107
Woodstove Change-out Benefit (Deduction)				0.033
2023 Total	7.765	0.189	0.706	3.917
2038				
CEPAM	5.129	0.176	0.720	3.567
ERC	0.164	0.008	N/A	0.107
Woodstove Change-out Benefit (Deduction)				0.054
2038 Total	5.293	0.184	0.720	3.620
Percentage Emission Change (2038 from 2023)				
	-31.8%	-2.6%	1.9%	-7.6%

*California Emissions Projection Analysis Model (CEPAM2026 PM_{2.5} Plans Version 1.00)

Table 8: 2038 Maintenance Demonstration Using Proportional Rollback Model

Emissions	PM _{2.5} Components	2024 DV (µg/m ³)	Background (µg/m ³)	Available for Rolling (µg/m ³)	Emission Change (%)	2038 DV (µg/m ³)
Secondary PM_{2.5}						
NOx	Ammonium Nitrate	3.22	0.04	3.18	-31.8%	2.21
SOx	Ammonium Sulfate	0.80	0.15	0.65	-2.6%	0.78
Primary PM_{2.5}						
Dust	Fugitive Dust	0.89	0.14	0.76	1.9%	0.91
Non-Dust PM _{2.5}	Carbonaceous Aerosols+Elements	20.09	0.61	19.48	-7.6%	18.60
DV Calculations (µg/m³)		25	0.93	24.08		22.51
Rounded 2038 DV (µg/m³)						23
Decrease in DV (µg/m³)						2

Table 9: 2038 Maintenance Demonstration Using Proportional Rollback Model with 2023 NOx and SOx Emissions Held Constant Through 2038 (Alternative Version)

Emissions	PM _{2.5} Components	2024 DV (µg/m³)	Background (µg/m³)	Available for Rolling (µg/m³)	Emission Change (%)	2038 DV (µg/m³)
Secondary PM_{2.5}						
NOx	Ammonium Nitrate	3.22	0.04	3.18	0%	3.22
SOx	Ammonium Sulfate	0.80	0.15	0.65	0%	0.80
Primary PM_{2.5}						
Dust	Fugitive Dust	0.89	0.14	0.76	1.9%	0.91
Non-Dust PM _{2.5}	Carbonaceous Aerosols+Elements	20.08	0.60	19.49	-7.6%	18.60
DV Calculations (µg/m³)		25	0.93	24.08		23.54
Rounded 2038 DV (µg/m³)						24
Decrease in DV (µg/m³)						1

Supporting Information

Table 10: List of Top 10% PM_{2.5} Concentration Days from 2022-2025 at Chico Monitoring Station and Speciation Details (µg/m³).²

Date	PM _{2.5}	Ammonium Nitrate	Ammonium Sulfate	Dust	Carbonaceous (Back-calculated)	Elements
1/11/2022	16.4	0.97	0.36	0.59	14.06	0.42
1/17/2022	20.8	1.19	0.39	0.60	18.21	0.41
11/27/2022	16.6	1.03	0.40	0.58	14.22	0.36
12/13/2022	17.8	0.67	0.30	0.55	15.77	0.50
12/19/2022	20.9	7.48	1.01	0.20	11.88	0.33
12/25/2022	38.6	13.67	1.88	0.27	22.18	0.60
1/24/2023	11.5	0.97	0.30	0.65	9.26	0.32
2/19/2023	10.9	0.61	0.36	0.58	9.02	0.34
11/3/2023	11.9	0.77	0.40	1.01	9.38	0.34
1/7/2024	11.4	0.61	0.25	0.17	10.08	0.29
1/15/2024	12.8	0.92	0.44	0.37	10.76	0.32
2/12/2024	12.4	0.98	0.32	0.46	10.38	0.26
11/10/2024	17	1.78	0.79	1.35	12.62	0.46
12/2/2024	28.8	2.76	0.79	0.59	24.09	0.57
12/8/2024	10.7	1.01	0.35	0.26	8.81	0.28
1/1/2025	19.7	1.65	0.69	0.41	16.01	0.94
1/19/2025	27.2	1.86	0.66	0.38	23.73	0.57
2/6/2025	13.2	0.67	0.22	0.36	11.69	0.26
2/18/2025	12.8	0.58	0.25	0.28	11.46	0.23
12/3/2025	14.7	1.07	0.44	0.53	12.29	0.37
12/28/2025	26.4	0.55	0.32	0.48	24.58	0.46

² 2025 data was preliminary at the time when this write-up was drafted and was not included in the rollback model.

Table 11: List of Coincide days at Bliss State Park Monitoring Site that Match Chico Top 10% PM_{2.5} Concentration Days and Speciation Details (µg/m³).

Bliss Date	PM _{2.5}	Ammonium Nitrate	Ammonium Sulfate	Dust	Carbonaceous (Back-calculated)	Elements
1/11/2022	0.8	0.04	0.09	0.07	0.59	0.01
1/17/2022	1.1	0.04	0.10	0.06	0.88	0.03
12/13/2022	0.2	0.02	0.03	0.01	0.14	0.00
12/19/2022	1.1	0.03	0.36	0.10	0.60	0.01
12/25/2022	1.3	0.04	0.13	0.03	1.10	0.01
2/2/2023	0.9	0.05	0.14	0.23	0.45	0.04
2/20/2023	1.3	0.10	0.27	0.51	0.37	0.05
11/5/2023	0.5	0.02	0.15	0.06	0.26	0.00
1/7/2024	0.2	0.01	0.04	0.02	0.11	0.02
2/12/2024	1.4	0.05	0.17	0.24	0.90	0.04
12/2/2024	1.5	0.04	0.21	0.06	1.18	0.01
12/8/2024	0.8	0.01	0.11	0.03	0.64	0.01

c. Monitoring Network

The existing PM_{2.5} monitoring network in the Chico-Butte County attainment/maintenance area includes a PM_{2.5} FEM monitor located at 984 East Avenue in Chico, CA operating on a continuous daily schedule. The District is committed to working with CARB in the continued operation of the Chico-East Avenue monitoring station and maintaining compliance with federal law on Ambient Air Quality Surveillance (40 CFR Part 58).

d. Verification of Continued Attainment

CARB is responsible for monitoring PM_{2.5} in the Chico-Butte County Planning Area. CARB also oversees the quality assurance of PM_{2.5} data and submits annual monitoring network plans to the US EPA on behalf of the District. CARB commits to maintaining an appropriate PM_{2.5} monitoring network through the maintenance period, with any potential changes to be developed in collaboration with the U.S. EPA and subject to stakeholder review. To verify continued attainment of the PM_{2.5} standard, CARB will continue to conduct PM_{2.5} monitoring and expeditiously review data as it becomes available. The District will track the progress of the maintenance plan through the acquisition of ambient and source emission data. All permitted stationary sources within the District are required to submit annual thorough data that the District uses to compile the emissions inventory. The District will commit to reviewing the emissions inventory for unexpected growth in primary PM_{2.5} or NO_x that may jeopardize the maintenance of the 2006 PM_{2.5} NAAQS.

The District develops a comprehensive stationary source emission inventory every three years to submit to CARB under 40 CFR Part 51, Subpart A.

e. Transportation Conformity

This chapter provides the regulatory basis and technical justification for determining whether on-road emissions of nitrogen oxides (NO_x) and directly emitted particulate matter (PM_{2.5}) are significant contributors to the 24-hour PM_{2.5} design value for the Planning Area, consistent with the requirements of 40 CFR Part 93. Under 40 CFR 93.119(f), a regional emissions analysis in a PM_{2.5} nonattainment or maintenance area must include direct PM_{2.5} and its precursors, most notably NO_x, unless the applicable SIP or maintenance plan demonstrates that these pollutants are insignificant contributors to the PM_{2.5} air quality problem. Because these pollutants would otherwise be required elements of the regional emissions analysis, the plan includes an insignificance demonstration for NO_x and direct PM_{2.5} in particular, which provides the regulatory foundation for the technical analysis presented in the following section. Based on the analysis presented below, both NO_x and directly emitted PM_{2.5} from motor vehicles are determined to be insignificant for regional emissions analysis under transportation conformity. The Planning Area attained and continues to maintain the 24-hour PM_{2.5} NAAQS primarily due to substantial emission reductions from residential wood combustion and open burning. No specific on-road motor vehicle control measures were adopted or relied upon to bring the area into attainment..

Under Section 40 CFR 93.109(f) of the conformity, an area is not required to conduct a regional emissions analysis under 93.118 or 93.119 if the maintenance plan demonstrates that regional motor vehicle emissions of a pollutant or precursor are an insignificant contributor to the air quality problem for the applicable NAAQS. To make such a determination, the SIP or a maintenance plan must demonstrate that it is unreasonable to expect motor vehicle emissions growth sufficient to cause a future violation of the standard. The rule identifies four criteria that must be considered when evaluating insignificance for a given pollutant or precursor:

- The contribution of on-road emissions to the total SIP inventory
- The current state of air quality in the region
- The absence of any on-road control measures in the plan that are required to attain or maintain the NAAQS and,
- Historical and future projections of on-road emissions of that pollutant/precursor

A finding of insignificance applies only to the regional emissions analysis requirements; all other elements of transportation conformity, including interagency consultation, hot-spot analysis, fiscal constraints, and project-level conformity, continue to apply. Transportation conformity also remains applicable for any other NAAQS for which the area is designated nonattainment or maintenance.

This maintenance plan concludes that regional NO_x emissions and direct PM_{2.5} are insignificant contributors to PM_{2.5} air quality in Butte County. The following sections summarize air quality conditions in the region and apply the insignificance criteria listed above to on-road NO_x and direct PM_{2.5} emissions within the Planning Area.

On-road mobile sources contribute to ambient PM_{2.5} concentrations through NO_x emissions, a precursor to ammonium nitrate formation, and through directly emitted PM_{2.5} from exhaust, brake wear, and tire wear. Evaluation of these contributions is necessary to determine whether motor vehicle emissions may threaten continued attainment of the 24-hour PM_{2.5} National Ambient Air Quality Standard (NAAQS).

Figure 8. PM_{2.5} Composition on Top 10% of Days (2022-2024)



Inventory data for the Planning Area show a clear, sustained downward trend in on-road emissions of both NO_x and directly emitted PM_{2.5} over the full duration of the maintenance period. ~~Table 12~~Table 12 summarizes winter on-road NO_x and direct PM_{2.5} emissions for all analysis years, and the percentage contribution of the on-road sector to the total NO_x and PM_{2.5} inventory. The consistent and substantial decline in on-road NO_x and PM_{2.5} emissions supports the conclusion that these pollutants are not

expected to cause future violations of the PM_{2.5} NAAQS, a key consideration for an insignificance finding.

Table 1242. Trend Summary of On-Road and Total PM_{2.5} and NO_x Emissions (2015-2038)*

Year	PM _{2.5} Total	PM _{2.5} On-Road	% PM _{2.5} from On-Road	NO _x Total	NO _x On-Road	% NO _x from On-Road
2015	4.925	0.144	2.92%	12.734	6.381	50.11%
2016	4.456	0.137	3.07%	11.966	6.002	50.16%
2017	4.027	0.129	3.21%	11.407	5.517	48.36%
2018	4.508	0.119	2.64%	10.377	4.912	47.33%
2019	5.014	0.107	2.14%	9.710	4.209	43.35%
2020	4.310	0.083	1.92%	8.660	3.317	38.30%
2021	4.476	0.082	1.83%	8.385	3.145	37.50%
2022	4.605	0.078	1.70%	7.944	2.885	36.32%
2023	4.549	0.076	1.67%	7.601	2.565	33.75%
2024	4.297	0.073	1.70%	7.212	2.292	31.78%
2025	4.273	0.071	1.65%	6.858	2.063	30.09%
2026	4.249	0.069	1.63%	6.633	1.918	28.92%
2027	4.227	0.068	1.61%	6.445	1.796	27.86%
2028	4.209	0.067	1.60%	6.263	1.680	26.83%
2029	4.195	0.066	1.58%	6.128	1.591	25.96%
2030	4.179	0.066	1.57%	6.005	1.511	25.16%
2031	4.189	0.065	1.55%	5.886	1.437	24.41%
2032	4.201	0.064	1.53%	5.775	1.377	23.85%
2033	4.214	0.064	1.51%	5.670	1.321	23.30%
2034	4.227	0.063	1.49%	5.560	1.270	22.85%
2035	4.242	0.063	1.47%	5.468	1.231	22.51%
2036	4.255	0.062	1.46%	5.332	1.192	22.35%
2037	4.270	0.061	1.44%	5.212	1.157	22.20%
2038	4.287	0.061	1.42%	5.129	1.128	21.99%
% Reduction	12.95%	57.64%	51.33%	59.72%	82.32%	56.12%

*ERC's are not included.

Between 2015, the base year of the first maintenance plan and 2038, the horizon year for the second maintenance plan, total PM_{2.5} emissions decline modestly (approximately 13 percent). In contrast, on-road PM_{2.5} emissions fall sharply, nearly 58%, reflecting continuing fleet turnover, federal and state mobile-source standards, and improved vehicle technologies. As shown in **Table 1242**, this decline leads to a substantial reduction in the relative contribution of on-road sources to total PM_{2.5} emissions, dropping from just under 3% in 2015 to roughly 1.4% in 2038. This represents a 51% reduction in the on-road sector's proportional share of PM_{2.5} emissions.

NO_x emissions exhibit an even more pronounced downward trend. Total NO_x emissions decrease by nearly 60% during the maintenance period, while on-road NO_x emissions drop by more than 82%. As demonstrated in ~~Table 12~~Table 12, the on-road sector's share of total NO_x emissions decreases from approximately 50% in 2015 to about 22% in 2038, a reduction of 56% in relative contribution. This sustained decline is driven by continued implementation of mobile-source emissions standards and the natural progression of fleet turnover.

The consistent downward trend in both total and on-road emissions, combined with the decreasing fraction of PM_{2.5} and NO_x attributable to mobile sources, demonstrates that on-road emissions will not pose a risk of causing or contributing to future violations of the 24-hour PM_{2.5} NAAQS. These findings meet the criteria for insignificance under 40 CFR 93.109(f) and reinforce that future PM_{2.5} concentrations will continue to be driven primarily by non-mobile sectors, especially residential wood combustion, which is the dominant source affecting the design value.

Rollback Analysis for NO_x and Directly Emitted PM_{2.5}

To evaluate whether on-road emissions could reasonably threaten continued attainment of the 24-hr PM_{2.5} NAAQS, CARB conducted a series of rollback simulations designed to quantify the magnitude of on-road emission increases that would be required to produce a design value exceedance. These simulations are intentionally conservative and represent conditions well beyond any reasonably foreseeable future scenario.

In the first scenario (~~Table 13~~Table 13~~Table 12~~), on-road NO_x and directly emitted PM_{2.5} were increased by 500%, while emissions from all other source categories were held constant at projected levels. Even under this extreme increase, the resulting design value was 30 µg/m³, well below the 35 µg/m³ NAAQS.

A second scenario (~~Table 14~~Table 14~~Table 13~~) evaluated an even more extreme assumption, a 900% increase in on-road emissions relative to 2023 levels. Under this hypothetical condition, the resulting design value would rise to 36 µg/m³, exceeding the standard. However, such an increase is not reasonably foreseeable. Achieving it would require on-road NO_x emissions to reach a level approximately 2.5 times greater than the entire Sacramento Valley's total 2023 NO_x emissions, which is inconsistent with all historical data and projected emissions trends.

Table ~~1313~~12. Rollback Scenario with 500% Increase in On-road Emissions

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	15.390	500%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	19.56	152%	8.05
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.45	500%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	4.01	2%	20.57
Final DV		25.00	0.93	24.07				30.32
Final DV Rounded								30.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Table ~~141413~~. Rollback Scenario with 900% Increase in On-road Emissions

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	25.650	900%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	29.82	284%	12.26
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.76	900%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	4.32	10%	22.08
Final DV		25.00	0.93	24.07				36.03
Final DV Rounded								36.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Projected Emissions Through 2038

In contrast to hypothetical rollback scenarios, projected emissions show a substantial decline in motor vehicle emissions and a corresponding reduction in contributions to the design values over the maintenance period. Between 2023 and 2038, on-road NOx emissions are expected to decrease by approximately 56%, and direct on-road PM_{2.5} emissions by about 20% (~~Table 15Table 15Table 14~~). Assuming a proportional relationship between NOx emissions and ammonium nitrate formation, the ammonium nitrate contribution to the design value is projected to decrease to approximately 2.21 µg/m³ by 2038, with the on--road portion declining to approximately 0.47 µg/m³. Direct PM_{2.5} on-road PM_{2.5} is similarly projected to decline from 0.40 µg/m³ in 2023 to 0.32 µg/m³. ~~Table 16Table 16Table 15~~ summarizes these changes in on-road emissions and their contribution to the 24-hr design value.

Table ~~151514~~14. Rollback using 2023 and 2038 emissions.

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	1.128	-56%	N/A
NOx Other					5.200	4.165	-20%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	5.29	-32%	2.21
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.18	-3%	0.78
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.06	-20%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	3.62	-8%	18.61
Final DV		25.00	0.93	24.07				22.51
Final DV Rounded								23.00

* The "Dust" category includes emissions from farming activities, construction and demolition, paved and unpaved road dust, and fugitive windblown dust.

Table ~~161615~~15. Changes in On-Road Emissions and Contributions to the Design Value

Emission Category	2023 Emissions (tpd)	2038 Emissions (tpd)	2024 DV Contribution (µg/m³)	2038 DV Contribution (µg/m³)
NOx – On-Road	2.565	1.128	1.06	0.47
Direct PM _{2.5} – On-Road	0.076	0.061	0.39	0.31
Total			1.45	0.78

On-road Control Measures are not Required to Maintain the PM_{2.5} -Standard

Under 40 CFR 93.109(f), an insignificance finding is appropriate when a SIP or maintenance plan does not rely on on-road motor vehicle controls to ensure attainment or continued maintenance of the standard.

Because photochemical modeling is not available for this area, we do not have a quantitative, future-year estimate of NOx-to-nitrate or SOx-to-sulfate conversion efficiency. To maintain a conservative approach, we evaluated a worst-case-scenario in which all NOx emissions (including on--road), all SOx emissions, and directly emitted on-road PM_{2.5} are held constant at 2023 levels through 2038, rather than declining as projected. As shown in ~~Table 17Table 17Table 16~~16, even under this deliberately

conservative assumption, the 2038 design value still decreases to 24 $\mu\text{g}/\text{m}^3$, well below the 35 $\mu\text{g}/\text{m}^3$ NAAQS.

This analysis demonstrates that:

- No on-road emission controls are needed for maintenance, and
- On-road contributions are too small to be relevant for the maintenance demonstration.

Table ~~171716~~ 171716. Rollback Scenario with 2023 NO_x, SO_x, and On-Road PM_{2.5} Emissions Held Constant Through 2038

Emissions Category	PM2.5 Component	2024 DV (ug/m3)	Background (ug/m3)	Available for Rolling (ug/m3)	Emissions			2038 DV (ug/m3)
					2023 (tpd)	2038 (tpd)	% Change	
Secondary PM2.5								
NOx On-Road	N/A	N/A	N/A	N/A	2.565	2.565	0%	N/A
NOx Other					5.200	5.200	0%	
NOx Total	Ammonium Nitrate	3.22	0.04	3.18	7.77	7.77	0%	3.22
SOx	Ammonium Sulfate	0.80	0.15	0.65	0.19	0.19	0%	0.80
Primary PM2.5								
Dust*	Fugitive Dust	0.89	0.14	0.76	0.71	0.72	2%	0.91
Non-Dust On-Road	N/A	N/A	N/A	N/A	0.08	0.08	0%	N/A
Non-Dust Other					3.84	3.56	-7%	
Non-Dust Total	Carbonaceous Aerosols + Elements	20.09	0.61	19.48	3.92	3.64	-7%	18.69
Final DV		25.00	0.93	24.07				23.62
Final DV Rounded								24.00

Conclusion Regarding NO_x and Direct PM_{2.5} Significance

The evidence demonstrates that, based on the rollback modeling, the composition of the current design value, and projected emissions through the maintenance year, on-road NO_x and directly emitted PM_{2.5} are not significant contributors to the 24-hr PM_{2.5} design value in Butte County. The PM_{2.5} problem in the region is driven primarily by sources other than on--road mobile emissions, as on--road NO_x accounts for only about 4% of the design value through ammonium nitrate formation and directly emitted on--road PM_{2.5} contributes only about 2%. Even extreme, hypothetical increases in motor vehicle emissions would not produce concentrations high enough to threaten the NAAQS. Future year projections show substantial declines in on--road emissions, and a fully conservative scenario holding all precursor and direct PM_{2.5} on-road emissions constant through 2038 still results in a design value well below the standard. This maintenance plan fully satisfied the criteria under 40 CFR 93.109(f) by demonstrating that on--road contributions are minimal, current air quality is well below the standard, the plan does not rely on on--road controls, future projections show declining on--road emissions, and no reasonable scenario exists in which on--road emissions could cause a future violation. Therefore,

transportation conformity budgets for on-road NO_x and PM_{2.5} are not required in this maintenance plan.

f. Contingency Plan

The CAA requires that a contingency plan be incorporated into the maintenance plan to assure that the District will promptly correct any violation of the standard which occurs during the maintenance period. BCAQMD will continue to use the 24-hour PM_{2.5} design value (the 3-year average of the 98th percentile) at the Chico-East Avenue monitoring station as the contingency plan trigger threshold. Implementation of the contingency plan is triggered when the 24-hour PM_{2.5} design value based on quality assured data submitted to the U.S. EPA's Air Quality System (AQS) exceeds 35 µg/m³, the level of the NAAQS.

BCAQMD will annually assess whether the contingency plan has been triggered within 60 days of annual data certification or May 1st, whichever is sooner. Correspondence will be sent to CARB and U.S. EPA during this same timeframe with an assessment indicating whether the standard has been exceeded, and if so, whether the contingency measures are triggered or if potential exceptional events are suspected to be the cause of the exceedance. If the contingency plan is triggered, BCAQMD will begin implementing the contingency plan as described in Section 4.f.iii below.

i. Treatment of Exceedances Suspected to be Caused by an Exceptional Event

In some cases, exceedances leading to violations of the NAAQS could be caused by events such as wildfires that are not reasonably controllable or preventable, i.e., exceptional events. In consultation with CARB and U.S. EPA, BCAQMD can exclude such exceedances from the contingency plan trigger calculation. To avoid triggering the contingency plan unnecessarily, BCAQMD will follow the procedure described below to determine if an exceedance was likely caused by a possible exceptional event and can therefore be excluded from the contingency plan trigger calculation.

This procedure utilizes the Initial Notification of Exceptional Event "Initial Notification" (INI) process set forth in 40 CFR 50.14(c)(2) to identify exceedances BCAQMD wishes to exclude from the contingency plan trigger calculation. If BCAQMD wishes to exclude an exceedance from the contingency plan trigger calculation, BCAQMD will submit the INI form and supporting documentation to CARB within 60 days of annual data certification or May 1st, whichever is sooner. Prior to the INI form submittal, BCAQMD will submit a request to CARB to flag data in AQS and may confer with CARB and U.S. EPA regarding the appropriate supporting documentation to provide with the INI form.

INI forms will initially be submitted to CARB). CARB and/or U.S. EPA may require additional supporting documentation to allow for a sufficient evaluation. Additional supporting documentation can include, but is not limited to:

- A list of days potentially influenced by exceptional events;
- Identification of the event(s) responsible, including wildfire names and locations;
- Evidence of smoke transport to the monitors (e.g., upwind wind speed and direction, satellite imaging, remote sensing analyses, or HYSPLIT trajectories);
- Evidence of ground-level impact (daily PM concentrations and comparison to historical seasonal levels, including percent ranking);
- PM₁₀ and/or PM_{2.5} concentrations from regulatory and non-regulatory monitors in the area;
- Relevant news or media reports;
- Fire agency reports or Air Resource Advisor reports; and,
- Any additional supporting information identified through coordination with CARB and U.S. EPA.

CARB will review the INI and supporting documentation and submit it to U.S.EPA within 60 days of receiving it from BCAQMD. During this 60-day period, CARB may request supplemental documentation from BCAQMD. U.S. EPA will review the INI and supporting documentation and notify CARB and BCAQMD if it has determined one of the following:

- The exceedance was likely caused by an exceptional event and can be excluded from the contingency plan trigger calculation;
- U.S. EPA does not have sufficient information to evaluate the exceedance (BCAQMD and CARB can submit additional supplemental information within 30 days of notification of U.S. EPA's determination); or,
- The exceedance does not appear to have been caused by an exceptional event and should be included in the contingency plan trigger calculation.

If BCAQMD or CARB still believes the exceedance is due to an exceptional event and should not be included in the contingency plan trigger calculation, they may submit an exceptional event demonstration pursuant to 40 CFR 50.14(c)(3). U.S. EPA will review the exceptional event demonstration and either concur (exceedance is excluded from contingency plan trigger calculation) or not concur (exceedance is included in contingency plan trigger calculation).

ii. Contingency Plan Implementation

In the event that the contingency plan is triggered, BCAQMD will consult with interested parties, community organizations, and industry to identify voluntary and incentive based measures to reduce directly emitted PM_{2.5} or precursors that can be implemented within nine months of the contingency plan being triggered (May 1st or the annual data certification, whichever is sooner). BCAQMD will make its analyses and summary of voluntary measures available to the public at a Governing Board meeting.

If voluntary and incentive based measures fail to result in attainment with the 24-hour PM_{2.5} NAAQS 12 months after the contingency plan is triggered (the following year's design value), BCAQMD will complete sufficient analyses to begin consideration of necessary rules for ensuring attainment and maintenance of the 24-hour PM_{2.5} NAAQS within 18 months of trigger date. If new rules are necessary, they will be proposed to the BCAQMD Governing Board for adoption and will provide for implementation within 24 months of the trigger date.

iii. Contingency Provisions

Actions that BCAQMD may consider include, but are not limited to, the measures found in ~~Table 18~~~~Table 18~~~~Table 17~~. The measures chosen for consideration would depend on BCAQMD analysis as to the source of the exceedance.

Table ~~18~~~~18~~~~17~~. Potential Measures to be Considered if Contingency Plan is Triggered

Potential Voluntary and Incentive Measures
Consider issuing additional Check Before You Light advisories.
Expand outreach regarding burning in a fireplace or woodstove.
Provide additional incentives to change out older wood-burning devices.
Potential Rule Adoption Measures
Reasonable Available Control Technology (RACT) for existing stationary sources emitting PM _{2.5} or PM _{2.5} precursors.
Additional fugitive dust measures for construction activities and stationary sources.
Additional opacity restrictions.
Additional open burning restrictions for residential, agricultural, and prescribed burning.
Additional curtailment measures for residential wood-burning devices.

5. Environmental Impact

The District determined that pursuant to California Environmental Quality Act (CEQA) Guidelines § 15061(b)(2) and 15308, this Redesignation Request and Maintenance Plan is categorically exempt from CEQA as a Class 8 action taken by a regulatory agency to assure the maintenance, restoration, enhancement, and protection of the environment and application of the exemption is not barred by one of the exceptions set forth in CEQA Guidelines § 15300.2.

6. Conclusion

The Chico, CA/Butte County (partial) PM_{2.5} Planning Area continues to maintain the 35 µg/m³ 24-hr PM_{2.5} NAAQS, as confirmed by recent air quality monitoring trends. This Second Maintenance Plan further demonstrates continued attainment and maintenance through 2038 by developing future year emissions inventories and projecting their associated contributions to PM_{2.5} concentrations. Even under the most conservative scenario, one that assumes no reductions in precursor emissions, the area is projected to maintain the standard with a design value of 24 µg/m³, well below the NAAQS.

Together, these analyses show that the Planning Area will continue to meet the standard for an additional ten years beyond the first maintenance period.

The Chico, CA/Butte County PM_{2.5} Second Maintenance Plan meets all applicable requirements of Clean Air Act Section 175A . The Butte County Air Quality Management District requests that CARB submit this plan to U.S. EPA as a revision to the California State Implementation Plan.

Attachment E

Emissions Reductions Achieved from the Wood Stove Change-out Program

Emissions Reductions Achieved from the Wood Stove Change-out Program

To calculate PM2.5 emission benefits from the Greenhouse Gas Reduction Fund (GGRF) Woodsmoke Reduction Program (WRP) changeout activities in Butte County, we followed the methodology described in Section 7.1 Residential Wood Combustion (RWC) of CARB’s Emission Inventory updated in December 2025. CARB is in the process of publishing this new methodology document which will soon be available at the following link: [Area Source Methodologies by Major Category | California Air Resources Board](#).

Because the WRP collects information on both the old and the replacement devices, emission calculations were based on actual program-reported device types rather than the device fractions included in CARB’s RWC methodology. Through the WRP, Butte County replaced 122 existing devices (including uncertified woodstoves/inserts and fireplaces) with lower-polluting home heating devices by December 31, 2022. By December 31, 2025, this number increased to 207. Table 1 lists the number of devices removed by type. Table 2 lists the number of newly installed devices by type.

Table 1: Number of devices removed by device type.

Device Type	Number of Devices by 12/31/2022	Number of Devices by 12/31/2025
Fireplace	17	55
Uncertified woodstove or insert	105	152

Table 2: Number of newly installed devices by device type.

Device Type	Number of Devices by 12/31/2022	Number of Devices by 12/31/2025
Certified catalytic wood stove or insert	58	94
Certified hybrid (catalytic/non-catalytic) wood stove or insert	NA*	6
Certified non-catalytic wood stove or insert	39	45
Certified pellet stove or insert	2	14
Electric heat pump, old fireplace retained	NA*	12
Electric heat pump, old wood stove or insert retained	NA*	9
Electric heating stove or insert	NA*	2
Electric heat pump, old device removed	NA*	2
Natural gas home heating device	20	20
Propane home heating device	3	3

*These types of devices were not offered through the WRP before 2023.

All replacement devices, except those involving an electric heat pump with the old device retained, are assumed to be used for primary heating only based on the WRP program guidelines. For cases where an electric heat pump is installed but the old device is retained, the electric heat pump is assumed to serve as the primary heating while the retained old device is treated as supplemental heating.

Emissions for electric, natural gas and propane heating devices are assumed to be zero. According to AP 42 Chapter 1.4 (Natural Gas Combustion), total PM emissions for natural gas include both filterable (1.9 lb per million cubic feet) and condensable (5.7 lb per million cubic feet) fractions^[1]. In residential settings (e.g. gas stoves or furnaces), PM is typically filterable, and the condensable fraction is negligible, effectively oxidized before leaving the stack. Since

stoves have no ash and rely on high-temperature combustion, nearly all PM2.5 is filterable, which is already extremely low, and the condensable fraction can be ignored. This supports the assumption that PM2.5 emissions from residential natural gas stoves are effectively zero.

Because the program does not differentiate between uncertified wood stoves and fireplace inserts, they are treated the same in the emission calculations. Wood usage, burn rate ratios and PM2.5 emission factors for each device type can be found in CARB's RWC methodology.

After annual PM2.5 emission benefits are estimated, monthly benefits are calculated with the default temporal allocation factors. Summer and winter PM2.5 emission benefits are then determined by summing the appropriate months. The PM2.5 emission benefits from the WRP in Butte County are summarized in Table 3 and Table 4.

Table 3: PM2.5 emission benefits from all changeouts completed by 12/31/2022.

Time Period	PM2.5 Emission Benefit	Unit
Year	6.623	tons/year
Summer (May-Oct)	0.603	tons/summer
Winter (Nov-Apr)	6.020	tons/winter
Winter (Nov-Apr)	0.033	tons/day

Table 4: PM2.5 emission benefits from all changeouts completed by 12/31/2025.

Time Period	PM2.5 Emission Benefit	Unit
Year	10.792	tons/year
Summer (May-Oct)	0.982	tons/summer
Winter (Nov-Apr)	9.810	tons/winter
Winter (Nov-Apr)	0.054	tons/day

The emission reductions achieved from the WRP were subtracted from the residential wood combustion emission estimates as a line item prior to performing the rollback analysis.

^[1] https://www.epa.gov/sites/default/files/2020-09/documents/1.4_natural_gas_combustion.pdf

**RESOLUTION 2026-13
BEFORE THE BOARD OF DIRECTORS OF
BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA
CHICO, CA / BUTTE COUNTY
PM_{2.5} SECOND MAINTENANCE PLAN**

Resolution 2026-13.....)
Chico, CA / Butte County.....)
PM_{2.5} Second Maintenance Plan.....)

WHEREAS, California Health and Safety Code Section 40000 declares that local and regional authorities have the primary responsibility for control of air pollution from all sources, other than motor vehicles;

AND WHEREAS, the U.S. Environmental Protection Agency (EPA) promulgated the 2006 National Ambient Air Quality Standard (NAAQS) for particulate matter 2.5 micrometers and smaller (PM_{2.5}) determining a standard of 35 micrometers per cubic meter of ambient air is necessary in order to protect public health (71 FR 61144 published October 17, 2006, effective December 18, 2006);

AND WHEREAS, on November 13, 2009 EPA promulgated air quality designations for all areas in the U.S. for the 2006 PM_{2.5} NAAQS, designating the Chico/Butte County Planning Area as nonattainment based on 2005-2007 monitoring data (74 FR 58688);

AND WHEREAS, on May 10, 2017 EPA determined that the Chico/Butte County Planning Area met the 2006 24-hour PM_{2.5} standard beginning in the 2010-2012 monitoring period as required by December 31, 2015 (82 FR 21711);

AND WHEREAS, EPA approved the redesignation request and first 10-year maintenance plan for the Chico/Butte County Planning Area effective August 10, 2018 (83 FR 32064);

AND WHEREAS, to be reclassified as an attainment area, Section 175 of the federal Clean Air Act requires attainment and maintenance of the standard for 20 years, demonstrated in two consecutive 10-year maintenance periods with the second maintenance plan to be submitted 8 years after redesignation to attainment;

AND WHEREAS, the Butte County Air Quality Management District published a notice of availability of the PM_{2.5} Second Maintenance Plan on May 22, 2026 to request public comments for consideration at the July 23, 2026 public hearing;

THEREFORE, BE IT RESOLVED, that the Butte County Air Quality Management District Board hereby adopts the Chico, CA / Butte County PM_{2.5} Second Maintenance Plan;

BE IT FURTHER RESOLVED, that the Butte County Air Quality Management District Board directs staff to submit the Chico, CA / Butte County PM_{2.5} Second Maintenance Plan, including all public comments received, to the California Air Resources Board (CARB) for consideration and submittal to EPA.

On Motion of _____, Seconded by _____, the foregoing resolution is hereby PASSED AND ADOPTED by the Air Quality Management District Board of Directors on this 23rd day of July, 2026 by the following:

AYES:

NOES:

ABSTAIN:

ABSENT:

Stephen Ertle, Air Pollution Control Officer
Butte County Air Quality Management District

I hereby attest that this is a true and correct copy of the action taken by the Butte County Air Quality Management District Board of Directors on July 23, 2026.

ATTEST: _____
Kelly Towne, Clerk of the Governing Board

Chico Enterprise-Record

P.O. Box 9
Chico, CA 95927
530-896-7714
erlegal@chicoer.com

2120551

BUTTE COUNTY AIR QUALITY MANAGEMENT
DISTRICT
ATTN: ACCOUNTS PAYABLE
629 ENTLER AVENUE
STE 15
CHICO, CA 95928

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA, IN AND FOR THE COUNTY OF BUTTE

In The Matter Of

**May 2026 - Notice of Public hearing on
06-25-2026**

FILE NO. #PN2026-57

AFFIDAVIT OF PUBLICATION

STATE OF CALIFORNIA

COUNTY OF BUTTE



SS.

The undersigned resident of the county of Butte, State of California, says:

That I am, and at all times herein mentioned was a citizen of the United States and not a party to nor interested in the above entitled matter; that I am the principal clerk of the printer and publisher of

**The Chico Enterprise-Record
The Oroville Mercury-Register**

That said newspaper is one of general circulation as defined by Section 6000 Government Code of the State of California, Case No. 26796 by the Superior Court of the State of California, in and for the County of Butte; that said newspaper at all times herein mentioned was printed and published daily in the City of Chico and County of Butte; that the notice of which the annexed is a true printed copy, was published in said newspaper on the following days:

05/22/2026

Dated May 22, 2026 at Chico, California

(Signature)

Legal No. **0006969551**

NOTICE OF PUBLIC HEARING

The Governing Board of the Butte County Air Quality Management District (District) will hold a Public Hearing on June 25, 2026 at 10:00 a.m. at the Butte County Association of Governments Board Room, 326 Huss Drive, Suite 100, Chico, CA to consider the Chico, CA/Butte County PM2.5 Second Maintenance Plan. The Second Maintenance Plan, prepared in accordance with Section 175(A) of the Federal Clean Air Act, demonstrates how the Chico, CA/Butte County planning area will continue to maintain the 2006 24-hour fine particulate matter (PM2.5) National Ambient Air Quality Standard throughout a required second 10-year maintenance period.

The Second Maintenance Plan may be reviewed at the District office at the address below or on the District website: www.bcaqmd.org. For additional information please contact Jason Mandly at (530) 332-9400, ext. 108. Written comments should be submitted by June 18, 2026 to: Board Clerk, Butte County Air Quality Management District, 629 Entler Avenue, Suite 15, Chico, CA 95928.

Dated: May 22, 2026
STEPHEN ERTLE
AIR POLLUTION CONTROL OFFICER

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TAMI RITTER, CHAIR
Supervisor, District #3

TOD KIMMELSHUE, VICE CHAIR
Supervisor, District #4

BILL CONNELLY
Supervisor, District #1

PETER DURFEE
Supervisor, District #2

DOUG TEETER
Supervisor, District #5

ZACH BROWN
Councilmember, Biggs

BRYCE GOLDSTEIN
Councilmember, Chico

BRUCE JOHNSON
Vice Mayor, Gridley

ERIC SMITH
Vice Mayor, Oroville

RON LASSONDE
Councilmember, Paradise

STEPHEN ERTLE
Air Pollution Control Officer

PATRICK LUCEY
Assistant Air Pollution Control Officer

Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Aleah Ing, Administrative Services Officer

Re: **CalPERS Pension Contract Amendment to Include PEPR
Provisions**

ISSUE:

PEPRA provisions need to be incorporated into the Districts California Public Employees' Retirement System (CalPERS) Pension contracts.

ACTION REQUESTED:

Approve Resolution to amend the CalPERS Pension contracts to incorporate the Public Employees' Pension Reform Act of 2013 (PEPRA) provisions and language.

DISCUSSION:

In 2013, CalPERS implemented mandated benefit formulas to align with the changes set forth by PEPRA. These include new benefit formulas and retirement age changes, resulting in new defined benefit formulas for all new miscellaneous (non-safety) and safety members. At the time of the implementation, no formal contract amendment was required for our contracting agencies. CalPERS is now requesting we amend the pension contract.

CalPERS requires a two (2) step process for these types of amendments; Approve Resolution of Intention and then adoption of Final Resolution at least 20 days later. The Final Resolution is presented to your Board as an attachment.

Attachment:

Amendment to Contract.

Resolution Authorizing an Amendment.

Certification of Final Action.

Agenda Item 7

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California
Public Employees' Retirement System

AMENDMENT TO CONTRACT

**Between the
Board of Administration
California Public Employees' Retirement System
and the
Board of Directors
Butte County Air Quality Management District**

The Board of Administration, California Public Employees' Retirement System, hereinafter referred to as Board, and the governing body of the above public agency, hereinafter referred to as Public Agency, having entered into a contract effective July 1, 1999, and witnessed June 27, 1999, and as amended effective May 25, 2001, and May 25, 2002, which provides for participation of Public Agency in said System, Board and Public Agency hereby agree as follows:

- A. Paragraphs 1 through 11 are hereby stricken from said contract as executed, effective May 25, 2002, and hereby replaced by the following paragraphs numbered 1 through 13 inclusive:
1. All words and terms used herein which are defined in the Public Employees' Retirement Law shall have the meaning as defined therein unless otherwise specifically provided. "Normal retirement age" shall mean age 55 for classic local miscellaneous members and age 62 for new local miscellaneous members.
 2. Public Agency shall participate in the Public Employees' Retirement System from and after July 1, 1999, making its employees as hereinafter provided, members of said System subject to all provisions of the Public Employees' Retirement Law except such as apply only on election of a contracting agency and are not provided for herein and to all amendments to said Law hereafter enacted except those, which by express provisions thereof, apply only on the election of a contracting agency.

3. Public Agency agrees to indemnify, defend and hold harmless the California Public Employees' Retirement System (CalPERS) and its trustees, agents and employees, the CalPERS Board of Administration, and the California Public Employees' Retirement Fund from any claims, demands, actions, losses, liabilities, damages, judgments, expenses and costs, including but not limited to interest, penalties and attorney fees that may arise as a result of any of the following:
 - (a) Public Agency's election to provide retirement benefits, provisions or formulas under this Contract that are different than the retirement benefits, provisions or formulas provided under the Public Agency's prior non-CalPERS retirement program.
 - (b) Any dispute, disagreement, claim, or proceeding (including without limitation arbitration, administrative hearing, or litigation) between Public Agency and its employees (or their representatives) which relates to Public Agency's election to amend this Contract to provide retirement benefits, provisions or formulas that are different than such employees' existing retirement benefits, provisions or formulas.
 - (c) Public Agency's agreement with a third party other than CalPERS to provide retirement benefits, provisions, or formulas that are different than the retirement benefits, provisions or formulas provided under this Contract and provided for under the California Public Employees' Retirement Law.
4. Employees of Public Agency in the following classes shall become members of said Retirement System except such in each such class as are excluded by law or this agreement:
 - a. Employees other than local safety members (herein referred to as local miscellaneous members).
5. Any exclusion(s) shall remain in effect until such time as the Public Employees' Retirement System determines that continuing said exclusion(s) would risk a finding of non-compliance with any federal tax laws or regulations. If such a determination is contemplated, the Public Employees' Retirement System will meet with the Public Agency to discuss the matter and coordinate any required changes or amendments to the contract.

In addition to the classes of employees excluded from membership by said Retirement Law, the following classes of employees shall not become members of said Retirement System:

- a. **SAFETY EMPLOYEES.**

6. This contract shall be a continuation of the contract of the County of Butte, hereinafter referred to as "Former Agency". A function of the County of Butte has been transferred to Butte County Air Quality Management District. The accumulated contributions, assets and liability for prior and current service under the Former Agency's contract shall be merged pursuant to Section 20508 of the Government Code.
7. The percentage of final compensation to be provided for each year of credited prior and current service as a classic local miscellaneous member shall be determined in accordance with Section 21354 of said Retirement Law (2% at age 55 Full).
8. The percentage of final compensation to be provided for each year of credited prior and current service as a new local miscellaneous member shall be determined in accordance with Section 7522.20 of said Retirement Law (2% at age 62 Full).
9. Public Agency elected and elects to be subject to the following optional provisions:
 - a. Section 20938 (Limit Prior Service to Members Employed on Contract Date).
 - b. Section 20042 (One-Year Final Compensation) for classic members only.
 - c. Section 20965 (Credit for Unused Sick Leave).
 - d. Section 21024 (Military Service Credit as Public Service).
10. Public Agency shall contribute to said Retirement System the contributions determined by actuarial valuations of prior and future service liability with respect to local miscellaneous members of said Retirement System.
11. Public Agency shall also contribute to said Retirement System as follows:
 - a. Contributions required per covered member on account of the 1959 Survivor Benefits provided under Section 21573 of said Retirement Law. (Subject to annual change.) In addition, all assets and liabilities of Public Agency and its employees shall be pooled in a single account, based on term insurance rates, for survivors of all local miscellaneous members.
 - b. A reasonable amount, as fixed by the Board, payable in one installment within 60 days of date of contract to cover the costs of administering said System as it affects the employees of Public Agency, not including the costs of special valuations or of the periodic investigation and valuations required by law.

- c. A reasonable amount, as fixed by the Board, payable in one installment as the occasions arise, to cover the costs of special valuations on account of employees of Public Agency, and costs of the periodic investigation and valuations required by law.
12. Contributions required of Public Agency and its employees shall be subject to adjustment by Board on account of amendments to the Public Employees' Retirement Law, and on account of the experience under the Retirement System as determined by the periodic investigation and valuation required by said Retirement Law.
13. Contributions required of Public Agency and its employees shall be paid by Public Agency to the Retirement System within fifteen days after the end of the period to which said contributions refer or as may be prescribed by Board regulation. If more or less than the correct amount of contributions is paid for any period, proper adjustment shall be made in connection with subsequent remittances. Adjustments on account of errors in contributions required of any employee may be made by direct payments between the employee and the Board.

B. This amendment shall be effective on the _____ day of _____, _____.

BOARD OF ADMINISTRATION
PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BOARD OF DIRECTORS
BUTTE COUNTY AIR QUALITY
MANAGEMENT DISTRICT

BY _____
MELODY BENAVIDES, CHIEF
PENSION CONTRACTS AND PREFUNDING
PROGRAMS DIVISION
PUBLIC EMPLOYEES' RETIREMENT SYSTEM

BY _____
PRESIDING OFFICER

Witness Date

Attest:

Clerk

AMENDMENT CalPERS ID #3225653892
PERS-CON-702A



**CERTIFICATION
OF
FINAL ACTION OF GOVERNING BODY**

I hereby certify that the _____ of the
(governing body)

(public agency)

considered and adopted on _____, _____, by an affirmative vote of a
(date)

majority of the members of said Governing Body, **Ordinance / Resolution** No. _____
approving the attached contractual agreement between the Governing Body of said Agency and
the Board of Administration of the California Public Employees' Retirement System, a certified
copy of said **Ordinance / Resolution** in the form furnished by said Board of Administration being
attached hereto.

Adoption of the retirement benefit increase/change was not placed on the consent calendar.

Clerk/Secretary

Title

Date _____

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BUTTE COUNTY AIR QUALITY MANAGEMENT DISTRICT

**RESOLUTION
AUTHORIZING AN AMENDMENT TO THE CONTRACT**

No. _____

WHEREAS, the Board of Administration of the California Public Employees' Retirement System and the Board of Directors of the Butte County Air Quality Management District entered into a contract effective on July 1, 1999, providing for the participation of said public agency in the California Public Employees' Retirement System; and

WHEREAS, it is now desirable to take advantage of certain benefits provided under said Retirement System and not included in said contract;

NOW, THEREFORE, BE IT RESOLVED, that said governing body authorized, and it does hereby authorize, an amendment to said contract, a copy of said amendment attached hereto and by such reference made a part hereof as though herein set out in full; and

NOW, THEREFORE, BE IT FURTHER RESOLVED, that the presiding officer of said governing body is hereby authorized, empowered and directed to execute said amendment for and on behalf of said public agency.

Adopted this _____ day of _____, _____.

Presiding Officer

Attest:

Clerk/Secretary

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TAMI RITTER, CHAIR
Supervisor, District #3

TOD KIMMELSHUE, VICE CHAIR
Supervisor, District #4

BILL CONNELLY
Supervisor, District #1

PETER DURFEE
Supervisor, District #2

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Vice Mayor, Gridley

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Vice Mayor, Oroville

RON LASSONDE
Councilmember, Paradise

STEPHEN ERTLE
Air Pollution Control Officer

PATRICK LUCEY
Assistant Air Pollution Control Officer

Date of Release: July 16, 2026

Board Consideration: July 23, 2026

To: Butte County Air Quality Management District Board of Directors

From: Stephen Ertle, Air Pollution Control Officer

Staff Contact: Stephen Ertle, Air Pollution Control Officer

Re: **APCO Report**

ISSUE:

Report from the Air Pollution Control Officer on current areas of potential interest to your Board, including air-quality related activities at the local, State, and Federal level.

ACTION REQUESTED:

None. This item is provided for information and discussion.

Attachment:

None.

Agenda Item 8

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BCAQMD ACRONYM REFERENCE

Updated May 2024

-Board of Director's Meeting -

Summarized below are acronyms commonly used in Board folders and accompanying staff reports.

A/C or ATC	Authority to Construct Permit
AB	Assembly Bill
AERR	U.S. EPA Air Emissions Reporting Requirements
AMOS	Automatic Meteorological Observation Stations
AP-42	EPA technical reference specifying specific Air Pollutant Emission Factors
APCD	Air Pollution Control District
APCO	Air Pollution Control Officer
AQMD	Air Quality Management District
ATCM	Airborne Toxic Control Measure
AQI	Air Quality Index
BACT	Best Available Control Technology
BAM	Beta Attenuation Monitor (records hourly ambient particulate data)
BCAG	Butte County Association of Governments
BCAQMD	Butte County Air Quality Management District
BCC	Sacramento Valley Basinwide Air Pollution Control Council
BOS	Board of Supervisors
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAP	Climate Action Plan
Cal-EPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CARPA	California Air Response Planning Alliance
CBYL	Check Before You Light
Cd	Cadmium
CEQA	California Environmental Quality Act
CI	Compression Ignition
CO	Chemical symbol for carbon monoxide
CO2	Chemical symbol for carbon dioxide
CPA	Certified Public Accountant
CPI	Consumer Price Index
CSAC	California State Association of Counties
CTR	Criteria Pollutant and Toxic Emissions Reporting Regulation
CUA	Chico Urbanized Area
DMV	Department of Motor Vehicles
DTSC	California Department of Toxic Substance Control
EG	Emission Guidelines
EICG	Emission Inventory Criteria and Guideline Regulation
EI	Emission Inventory
Emfac	Emission Factor Computer Model
EPA	Environmental Protection Agency (Federal)
ERC	Emission Reduction Credit
ESA	Endangered Species Act
EVR	Enhanced Vapor Recovery
FIP	Federal Implementation Plan
FRM	Federal Reference Method
FY	Fiscal Year (June 30-July 1, unless otherwise stated)
GASB	Governmental Accounting Standards Board
GDF	Gasoline Dispensing Facilities
GFOA	Governmental Finance Officers Association
GHG	Greenhouse Gases
GWP	Global Warming Potential
HAP	Hazardous Air Pollutants

BCAQMD ACRONYM REFERENCE

Updated May 2024

-Board of Director's Meeting -

Hg	Mercury
HRA	Health Risk Assessments
HSC	Health & Safety Code
ICE	Internal Combustion Engine
ISD	In-Station Diagnostics
ISR	Indirect Source Review
LESB	Lower Emission School Bus program
Mb	Millibar
Mg/Yr	Milligrams per year
Micron	Abbreviation of Micrometer or 1,000,000th of a meter in size
MPO	Metropolitan Planning Organization
Msl	Mean sea level
MMT CO2	Million Metric Tons of Carbon Dioxide equivalent emissions
MSW	Municipal Solid Waste
NAAQS	National Ambient Air Quality Standard
NACAA	National Association of Clean Air Agencies
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NMOC	Non-Methane Organic Compound
NON	Notice of Noncompliance
NOx	Oxides of Nitrogen
NSPS	New Source Performance Standards
NSR	New Source Review
NTA	Notice to Apply for a Permit
NTC	Notice to Comply
OEHHA	California Office of Environmental Health Hazard Assessment
OAL	Office of Administrative Law
ORVR	Onboard Refueling Vapor Recovery
PERP	Portable Equipment Registration Program
Pb	Lead
PCBTf	Para-chloro-benzo-tri-fluoride
PM	Particulate Matter
PM 10-2.5	Particulate Matter 10 Microns in Size and smaller, but greater than 2.5 Microns
PM10	Particulate Matter 10 Microns in Size and smaller
PM2.5	Particulate Matter 2.5 Microns in Size and smaller
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RICE	Reciprocating Internal Combustion Engine
RCRC	Regional Council of Rural Counties
RRF	Relative Reduction Factor
RSD	Remote Sensing Device
SB	Senate Bill
SCM	Suggested Control Measure
SDRMA	Special District Risk Management Authority
SF	Square Foot
SIC	Standardized Industrial Classification
SIP	State Implementation Plan
SLCP	Short-lived Climate Pollutant
SO2	Chemical symbol for sulfur dioxide
SSI	Size Selective Inlet (applies to particulate samplers)
TAC	Technical Advisory Committee of the BCC
TARMAC	CAPCOA Toxics and Risk Managers Committee
TEIP	Toxic Emission Inventory Plan
TEIR	Toxic Emission Inventory Report

BCAQMD ACRONYM REFERENCE

Updated May 2024

-Board of Director's Meeting -

Title 17	California Code of Regulations, Administrative Law adopted by the California Air Resources Board, and referencing in this Board folder the Agricultural burn guidelines
ug/m3	Micrograms per cubic meter
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
VEE	Visible Emission Evaluation Certification
VOC	Volatile Organic Compound
WUI	Wildland Urban Interface
YTD	Year to Date

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