

Air Quality & what Local Governments can do

Presented by the Regional Air Quality Council

Dave Sabados, Tom Moore, Evans Councilmember Ally Johnson,
Lakewood Councilmember Jacob LaBure, and Sammy Herdman



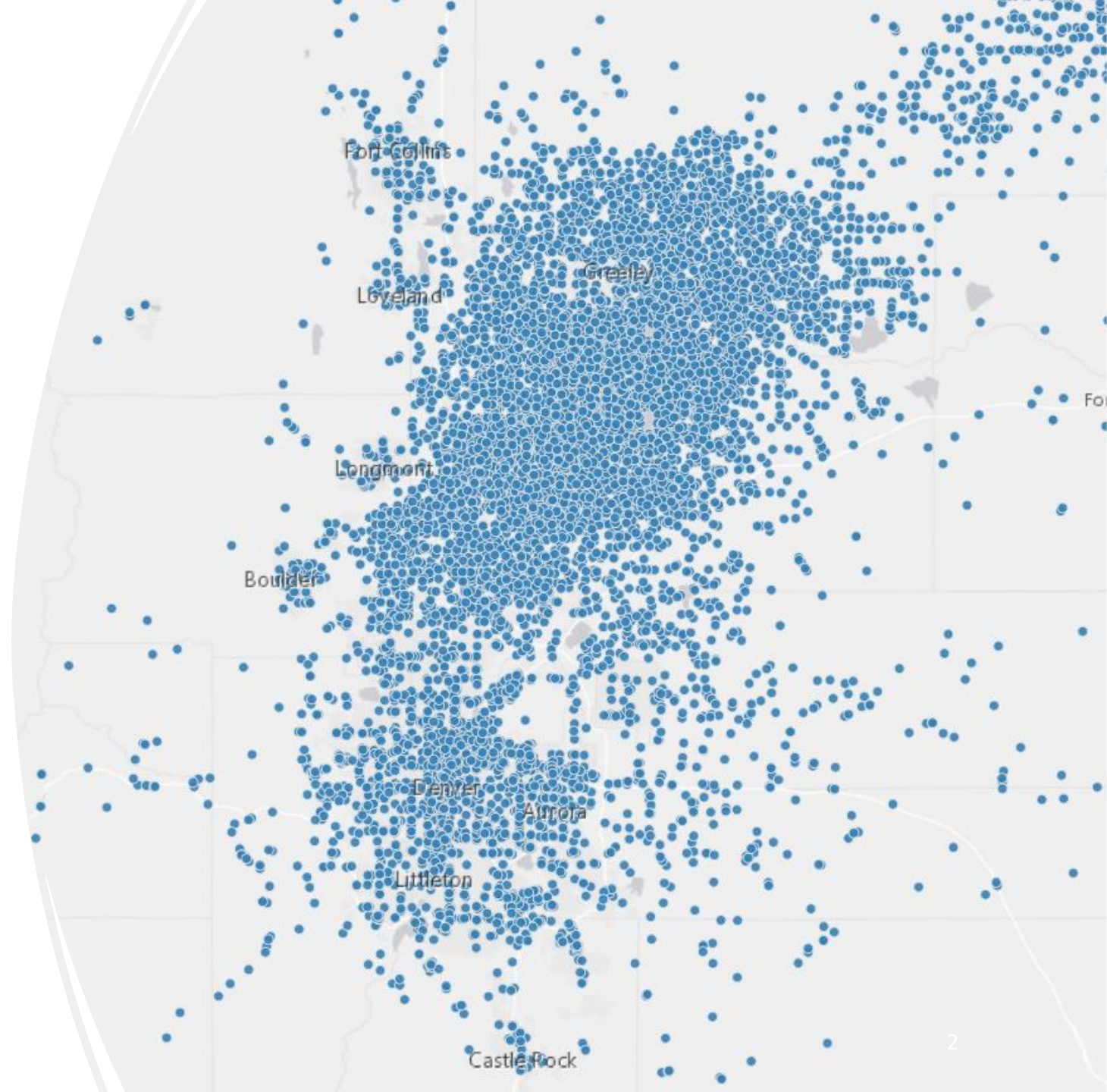
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Where do ozone precursors come from?

- This is a map of emissions facilities tracked by CDPHE
- There are anthropogenic sources in urban areas, suburban areas, rural areas, and everything in between
- Transportation is a leading cause and would fill in the entire map as blue in between the dots
- Air pollution doesn't know political boundaries -pollutants travel across the front range.
- Air Quality is a regional issue!



What is the regional air quality problem?

Monitored Ozone Days over the EPA standards in the Denver Metro / North Front Range planning area

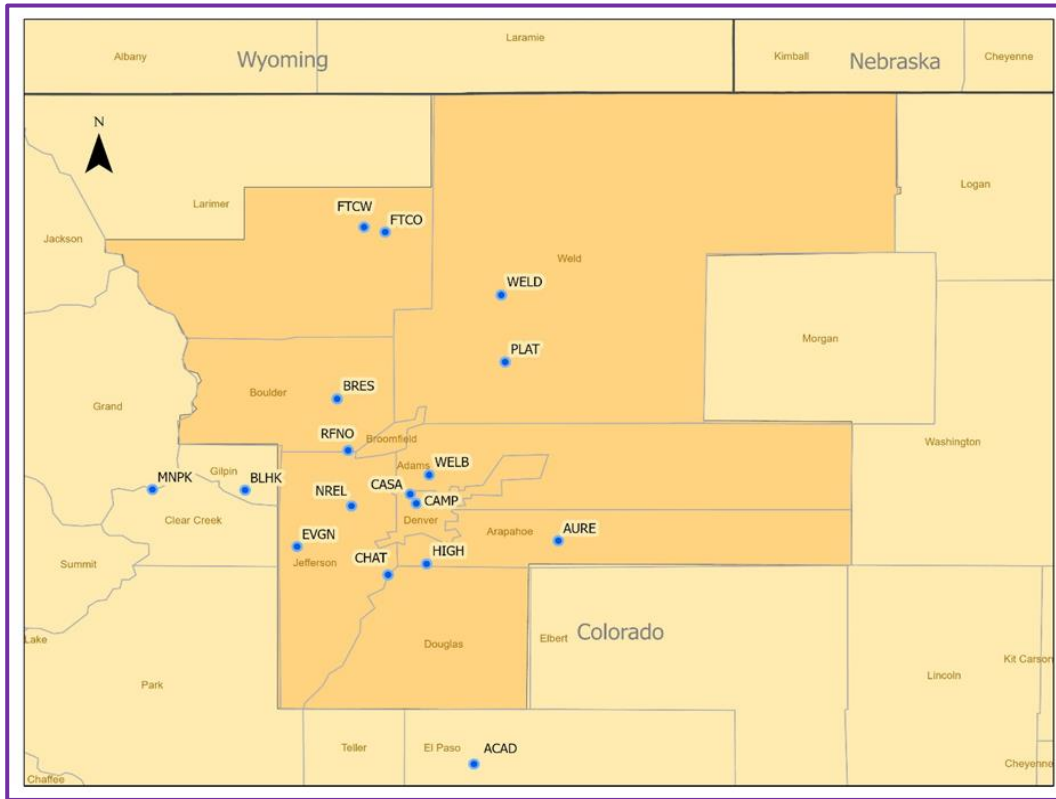
- **Day Selection Criteria:** Maximum daily average 8-hour (MDA8) ozone concentrations \geq 70 ppb
- **Analysis Period:** 2016 to 2022, June to August

Site ID	Site Name	2020-2022 DV	Days with MDA8 \geq 70 ppb						
			2016	2017	2018	2019	2020	2021	2022
NREL	NREL – South Table Mtn.	84	19	14	26	16	22	43	23
RFNO	Rocky Flats - North	83	15	16	32	9	16	42	20
CHAT	Chatfield Park	83	17	17	28	10	14	36	17
HIGH	Highland	80	6	8	15	6	13	34	12
FTCW	Fort Collins – West	77	10	11	29	4	9	32	9
WELB	Welby	77	1	1	2	0	10	23	18
WELD	Greeley – Weld Co. Tower	72	1	8	7	0	5	17	4
BRES	Boulder Reservoir	76	0	8	28	2	10	30	8
PLAT	Platteville	77	*	*	*	*	6	31	13
EVGN	Evergreen	NA	*	*	*	*	*	20	9
AURE	Aurora - East	74	1	2	6	1	7	22	6

* Site not in operation

Who is the Regional Air Quality Council?

Dave Sabados, RAQC, Programs, Communications, and Government Affairs

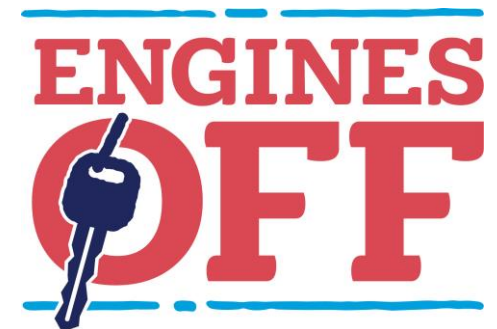


- 9-county region
- 2022 population = 3,968,747
- Map of area violating ozone standards with monitoring sites operated by CDPHE

What does the RAQC do?

- Lead air quality planning agency in Colorado
- Develops the State Implementation Plan (SIP)
- Programs/Incentives
- Advocacy
- Education

Learn more at: www.RAQC.org



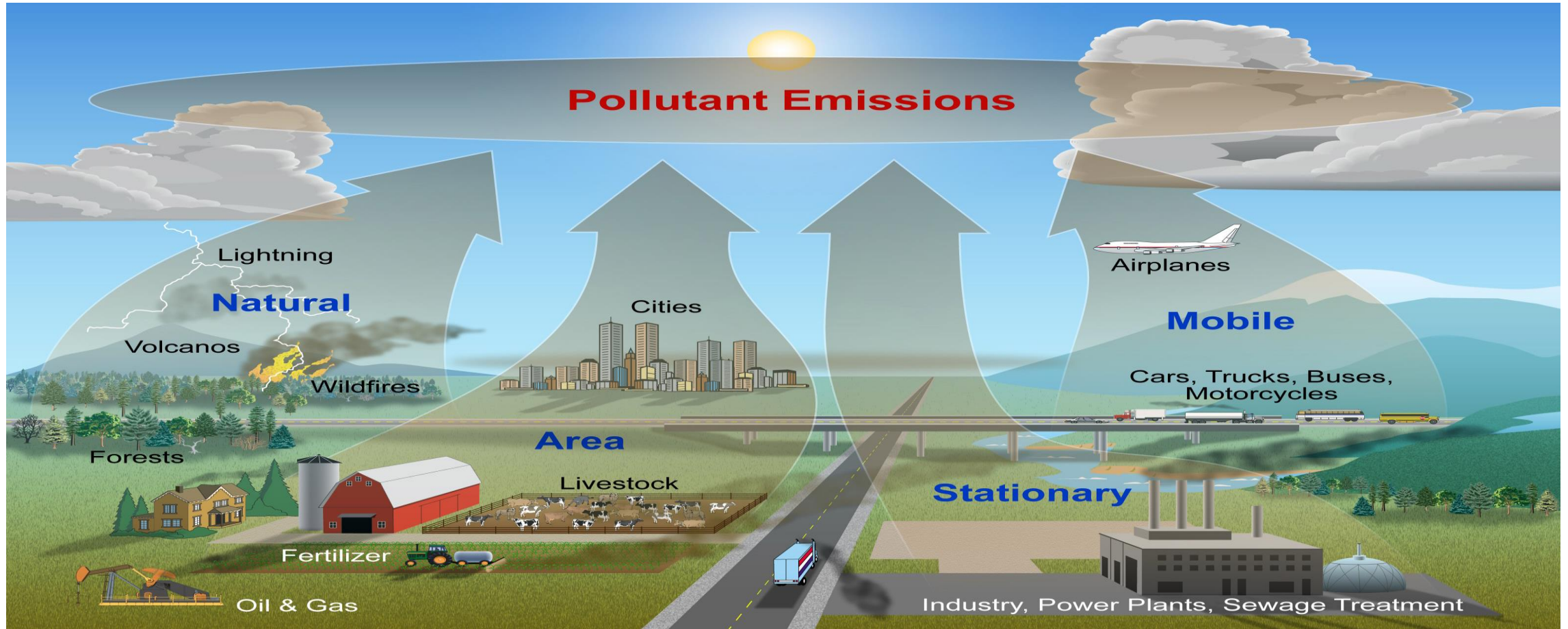
Now let's talk about emissions & air quality

Tom Moore, RAQC, Planning

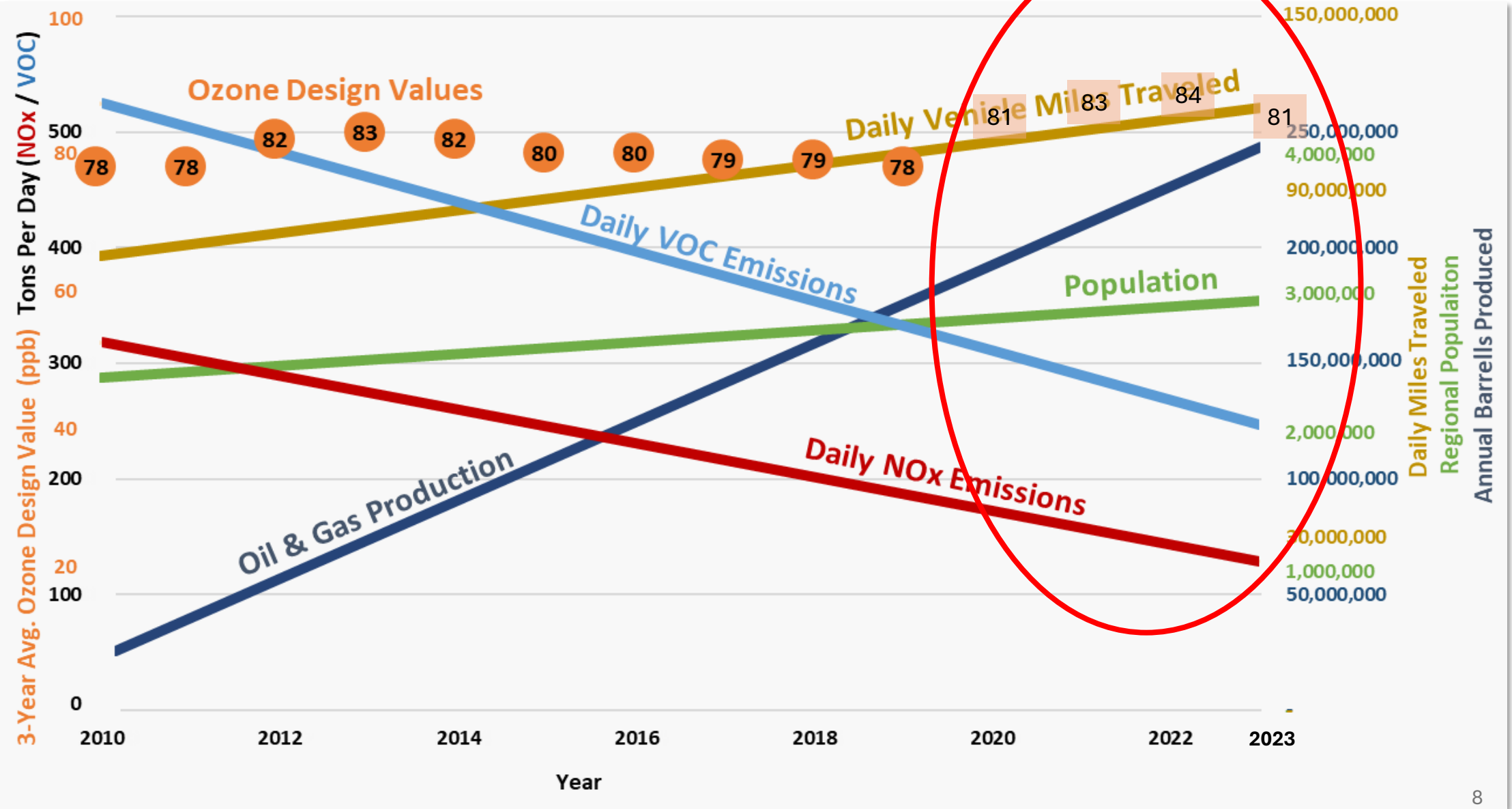


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Where do emissions come from?



Denver Metro / North Front Range Regional Trends (2010-2023)

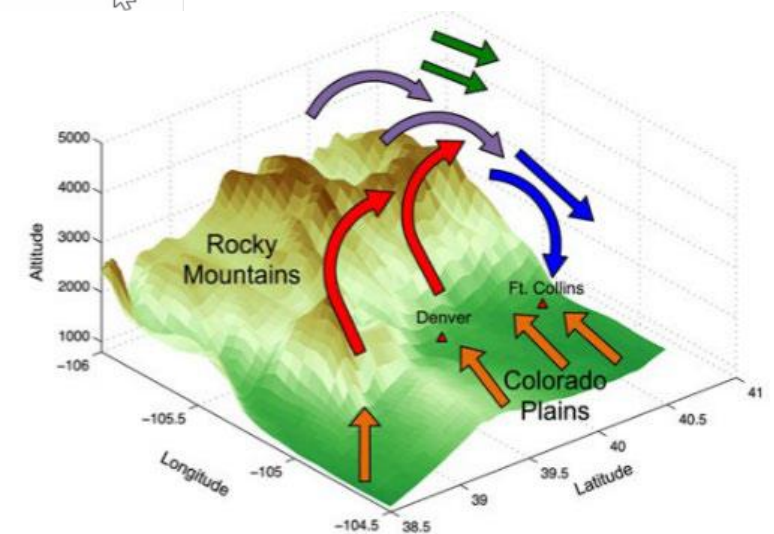


Contributions to ozone

Historic Source Type Contributions to Summertime Ozone Concentrations

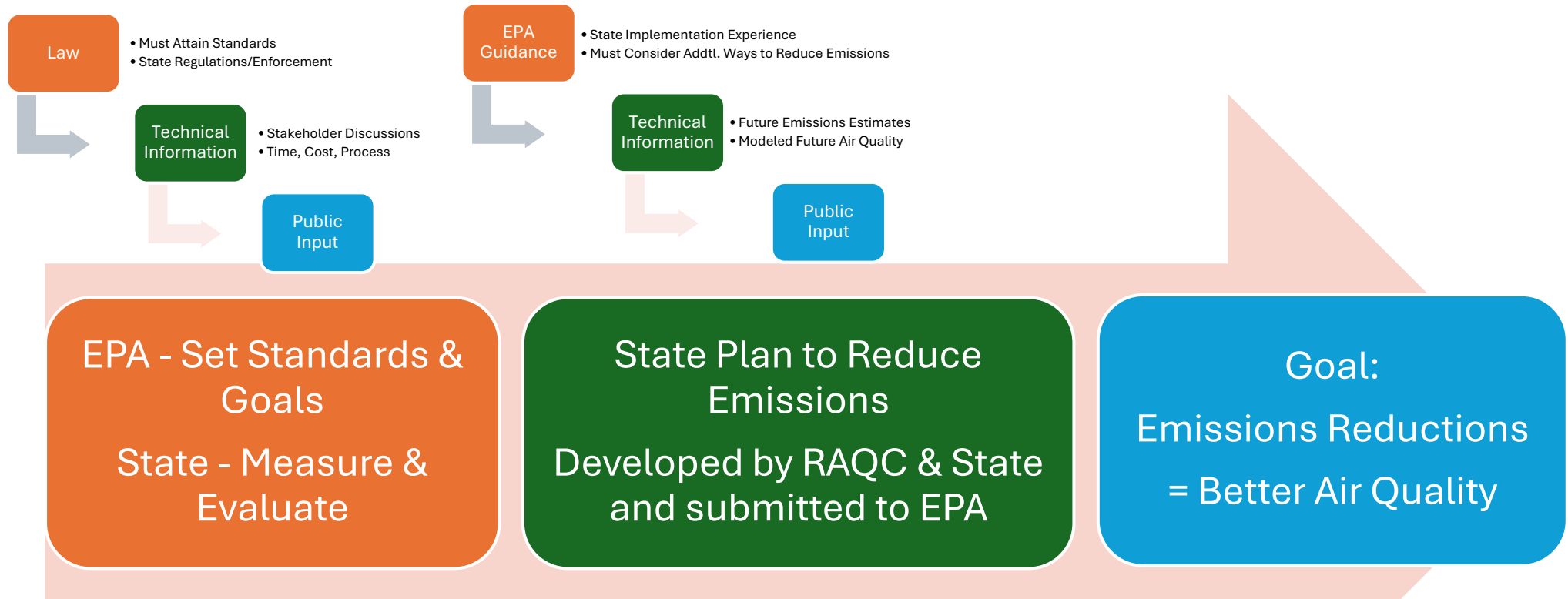
Ozone Source	Contribution	Includes
Oil & Gas	8.6 ppb	Area and point sources (operations, storage facilities, drilling, trucking and engine exhaust)
On-Road Vehicles	6.8 ppb	Light/Medium/Heavy Duty Vehicles (SUVs, cars, pickup trucks)
Non-Road Sources	5.4 ppb	Construction operations, rail/train operations, agriculture
Point Sources	5.3 ppb	Industrial sources and electricity generation
Lawn & Garden	2.5 ppb	Commercial lawn equipment and residential lawn and garden equipment (mowers, leaf blowers, trimmers, etc.)
Area	1.2 ppb	Personal care products, cleaning products, paints, and solvents
Background and Natural	48.6 ppb	Background ozone, transport, local fires, plant-based emissions

complex transport meteorology



Source: Sullivan et al., (2016)

State Implementation Plan



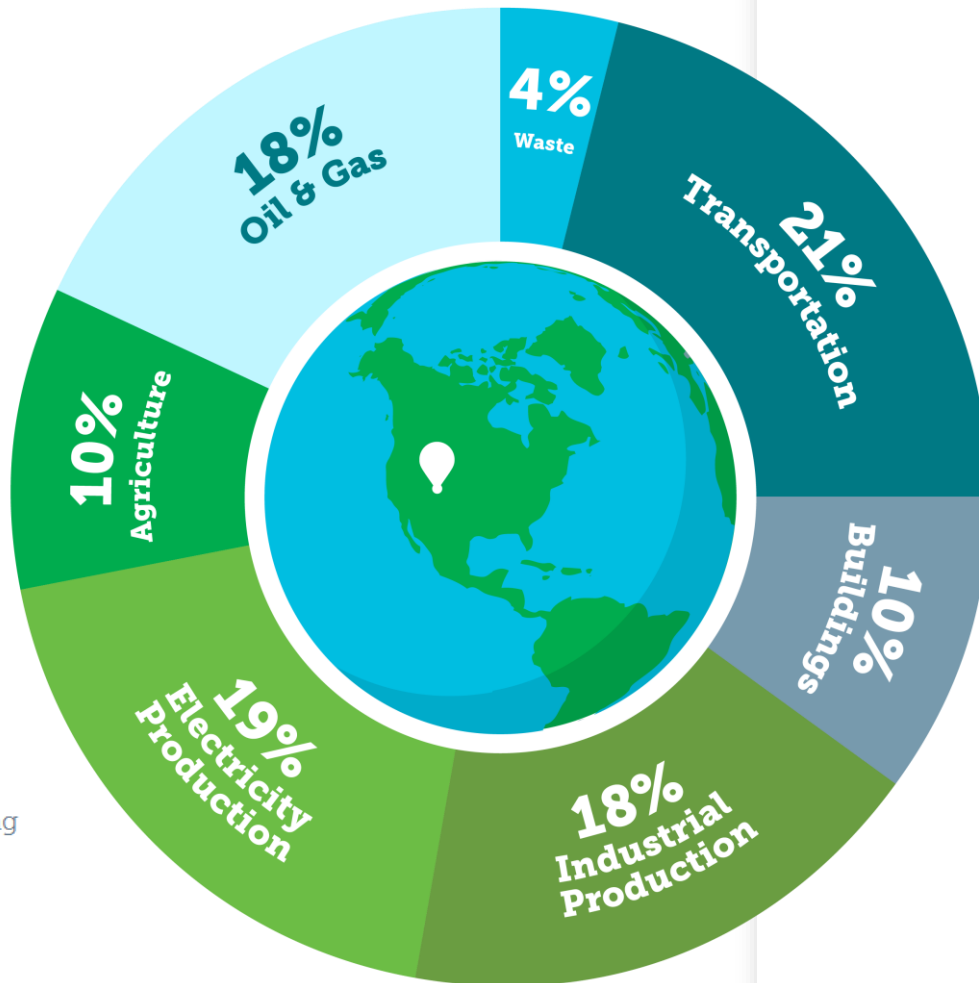
Ozone analysis-modeling-planning: Major milestones

OZONE PLANNING NEXT STEPS (January 2024 update)		2024				2025				2026				2027			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
2015 EPA 70 ppb Ozone NAAQS - moving from Moderate into Serious Nonattainment Planning Milestones																	
1	Technical Analysis and Modeling work for expected Serious 2015 NAAQS Re-Classification <i>Inventory, Modeling, and Analysis - new 2022 base year platform contracting (January - February 2024)</i> <i>Inventory and met data preparation and evaluation, base year model testing (February - August 2024)</i> <i>Attainment Modeling - 2026 design value, source attribution, control strategies (Summer 2024 - Fall 2025)</i>																
2	SIP Preparation work for expected Serious 2015 NAAQS Re-Classification <i>EPA reclassifies area from Moderate to Serious for failing to attain on time (late 2024 / early 2025)</i> <i>Develop / analyze existing / additional ozone-reducing control measures (through Summer 2025)</i> <i>Develop Serious area ozone SIP modeling attainment of the 70 ppb NAAQS in 2026 (August 2024 through Fall 2025)</i>																
3	RAQC and AQCC consideration and actions <i>Board consideration of revisions (July - August)</i> <i>Submit Board-approved documents to AQCC (Fall)</i> <i>AQCC rulemaking hearings (Fall)</i>																
4	Submit Serious ozone SIP revision to EPA following legislative review																
5	Monitor ozone to achieve attainment (by August 3, 2027) <i>2024-26 fourth highest averages equal to or less than 70 ppb at each monitoring site</i>																

Colorado's Current Emission Profile

Colorado's largest sources of GHG emissions, from highest to lowest are:

- Transportation
- Electricity Generation
- Oil & Gas Production
- Industry and Manufacturing
- Fuel use in Homes & Buildings



Let's tackle the emissions:

Local government can impact large sectors:

- Road Transport 21%
- Commercial & Residential buildings 10%
- Waste 4%

Local Government Solutions

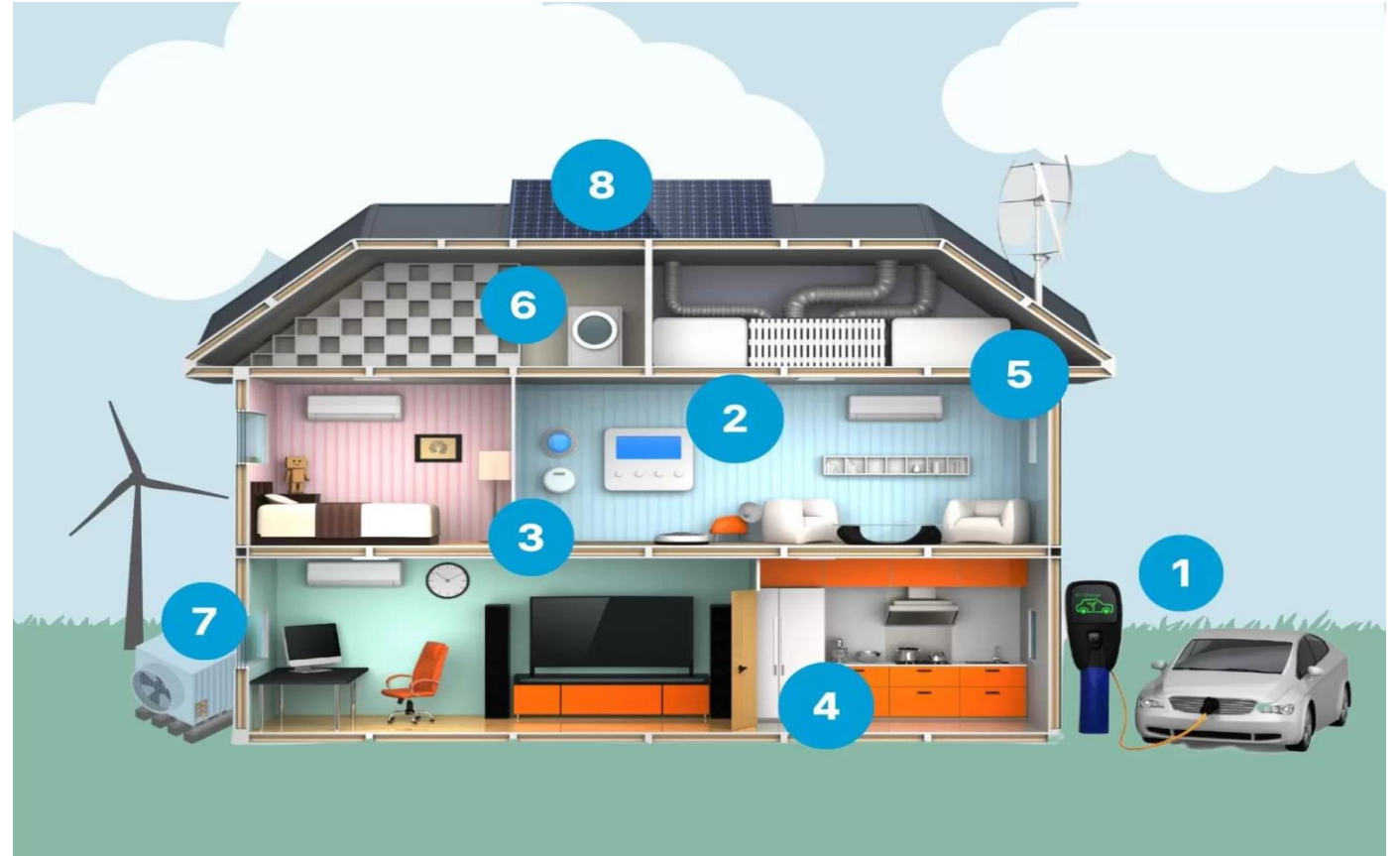
Councilmember Jacob LaBure / Councilmember Ally Johnson / Sammy Herdman, RAQC



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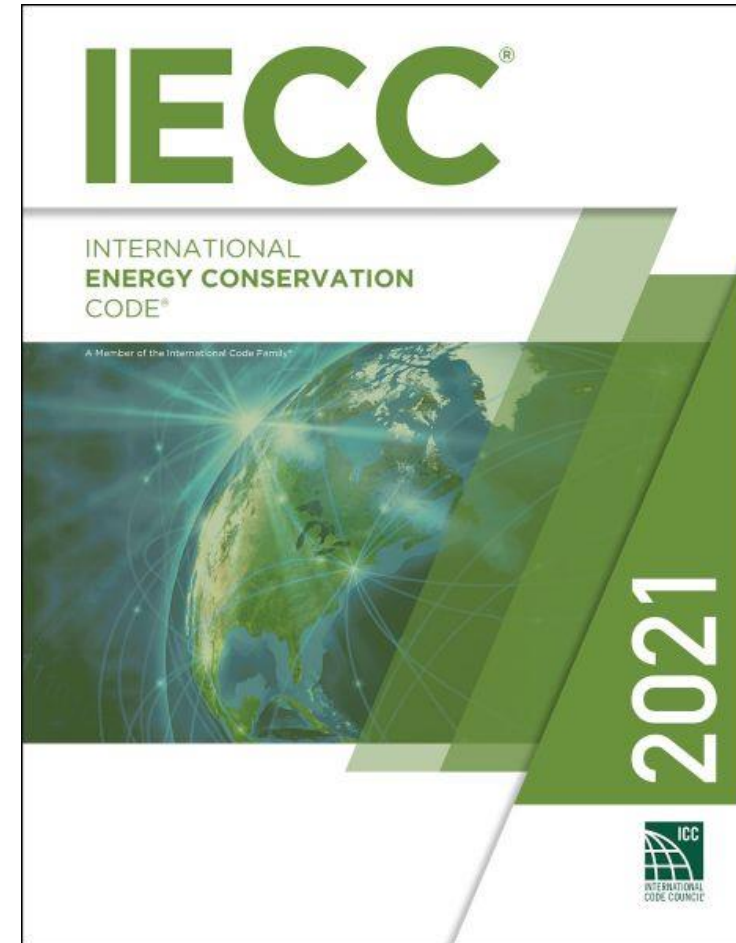
Incentive programs

- Examples
 - HVAC - Heat Pumps
 - Hot water heaters
 - Insulation and window film
 - E-Bikes
 - Electric panels
 - Efficient appliances
 - Solar
 - Landscaping equipment
- View existing incentives at energysmartcolorado.org



Requirements

- Update building codes
- Local governments can go farther than the state required adoption of the IECC Energy Conservation Code
 - Reflective roofing
 - Solar panels
 - Electric space conditioning
 - Electric water heating
 - Dark sky friendly lighting
 - LEED Certification





COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT

Comply with AQCC Reg 29

- Passed by Air Quality Control Commission in January.
- Goes into effect June 2025.
- Requires local governments to electrify handheld lawn and garden equipment and push mowers that are 10hp and under.



Mixed use zoning

- Reduces energy use and pollution.
- Improves health and well-being.
- Decreased traffic congestion and vehicle miles traveled.
- Prioritize pedestrian & bicycle infrastructure.
- Limit drive-thrus.



Expand micromobility

- Reduces vehicles miles traveled by cars.
 - Reduces traffic
 - Reduces pollution
- Benefits public transit
 - First and last mile solution.
- Affordable
 - Incentives.
- Metro Denver: 20,000 daily in summer.



Data from Ride Report

DISRUPTING THE CAR

Alternatives to car ownership by trip length

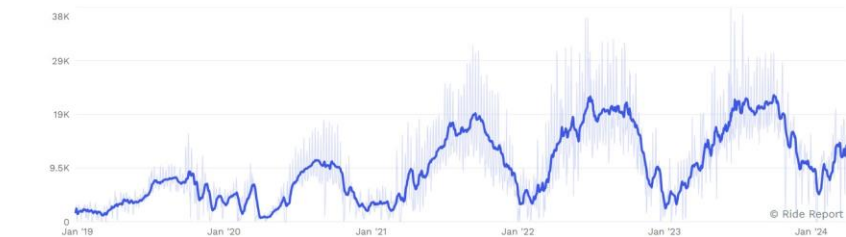


Source: NHTS

All Vehicle Trips Per Day

All Data | 12/28/2018 - 3/31/2024

AVERAGE	MAXIMUM	MINIMUM	TOTAL
9,700 TRIPS	37,800 TRIPS	0 TRIPS	18,083,600 TRIPS



Number of trips on each day and the 14-day average.

Limiting ozone-causing & toxic air emissions



Separate people from pollution.

Reduce exposure.

- Limit fuel stations and implement distance requirements.
- Reduce industrial zoning.
- Oil & gas setbacks.
- Buffer zones.

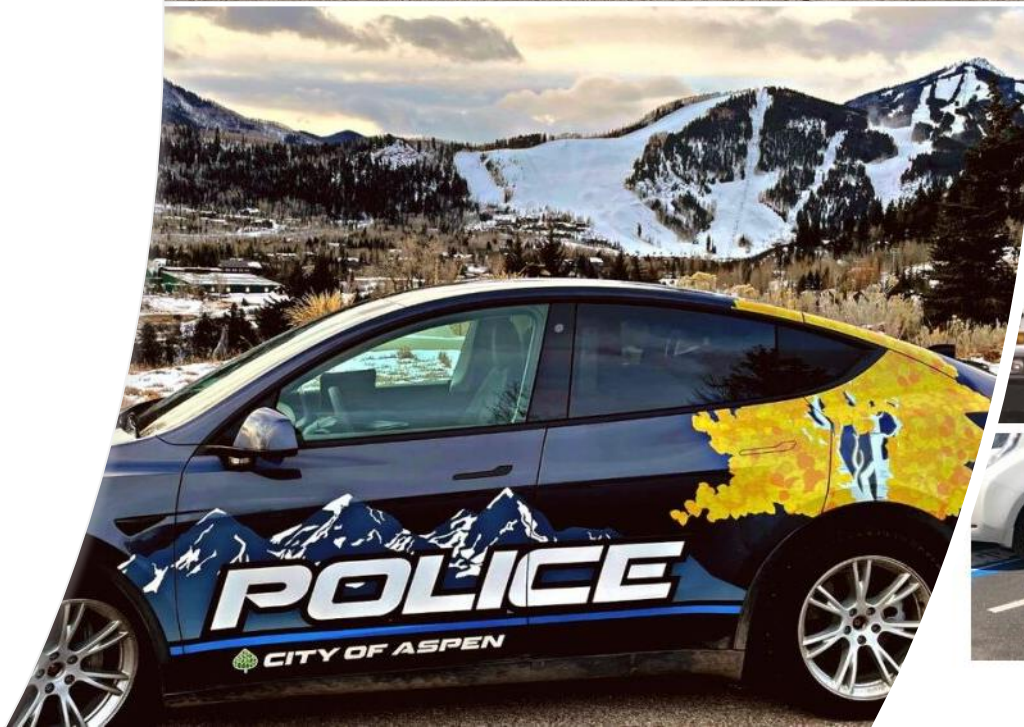
Expand transit options

- 3 new laws will raise approximately \$170 million dollars annually for transit.
- 70% for operations and service to increase ridership.
- 10% funds a competitive grant to support transit capital or operations.



Hybrid / electrify your fleet

- City vehicles are used heavily.
- Hybrids can reduce police cars fuel consumption by 30%.
- Cities like Golden and Ft. Collins are creating strategies.
- Many environmental, financial, and performance benefits.



Municipal Fleet Electric Vehicle and Equipment Master Plan



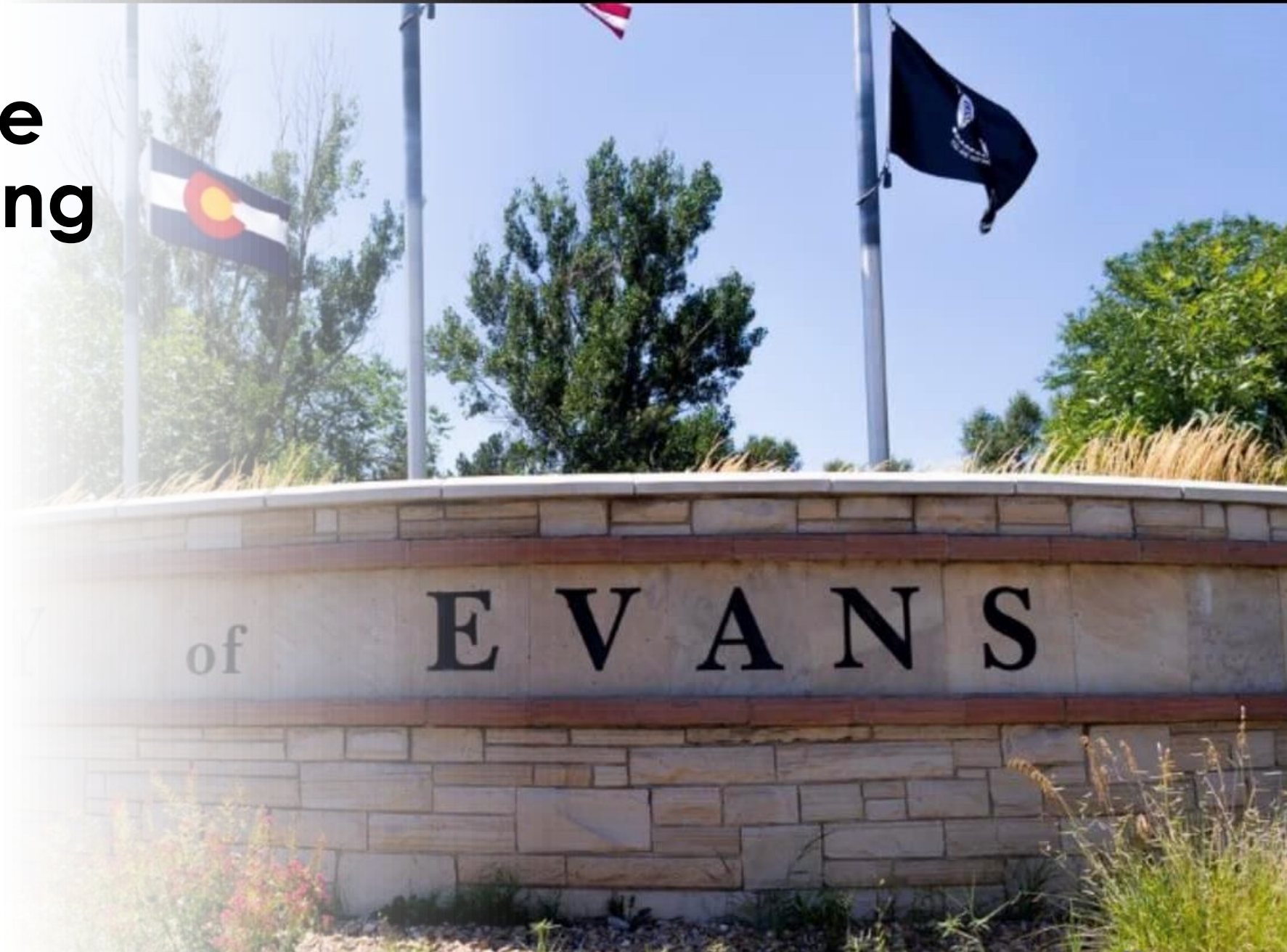
Anti-idling

- Adopt local ordinances.
- Working with schools and school districts.
- Outreach and education.
- Require anti-idling plans for businesses and venues.



Steps cities like Evans are taking

- Replacing traffic sensors with radar sensors.
- Paving dirt roads.
- No-burning policy.
- Bike to work program.



Work with RAQC on state and federal efforts



- New bill allows local governments to pass stronger anti-idling ordinances.
- 2023-2024 funding for local governments to electrify parks equipment came through state legislature.
- Clean Air Act and other federal legislation impacts all of us at the state and local level.

Panel Discussion

Dave Sabados, RAQC. **Moderating**

Ally Johnson, Evans, City Council

Tom Moore, RAQC

Sammy Herdman, RAQC

Jacob LaBure, Lakewood, City Council



Thank you for attending!



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