

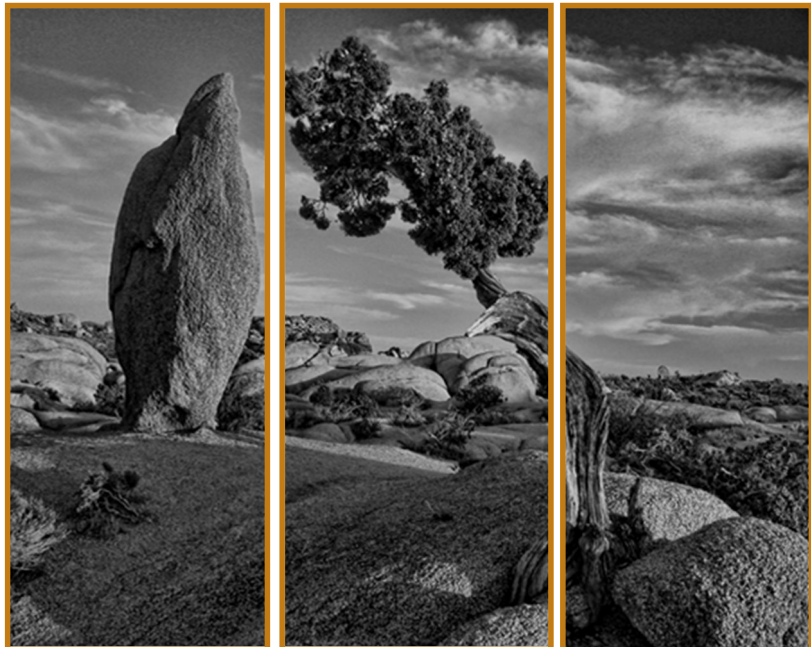
October 1, 2021

Commerce City Community-Wide Impacts Report

City of Commerce City
7887 East 60th Avenue
Commerce City, Colorado

Prepared for:
City of Commerce City
7887 East 60th Avenue
Commerce City, CO 80022

Pinyon Project No.:
I/21-1435-01





Corporate Headquarters
3222 South Vance Street, Suite 200, Lakewood, CO 80227
T: 303.980.5200 F: 303.980.0089
www.pinyon-env.com

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Prepared by:

A handwritten signature in black ink that reads "Anthony Der Tatevasion".

Anthony Der Tatevasion
Air Quality Specialist

Reviewed by:

A handwritten signature in black ink that reads "Kaitlin Meszaros".

Kaitlin Meszaros
Air Quality Specialist

A handwritten signature in black ink that reads "Dustin Collins".

Dustin Collins
Technical Group Manager Air Quality and Noise

Table of Contents

Executive Summary	1
1. Introduction.....	2
1.1 Study Area.....	2
1.2 Source Types.....	3
1.3 Air Permit Thresholds	3
2. Summarizing and Interpreting Data	7
2.1 Source Emissions Data from Air Permits.....	7
2.2 Source Emissions Data from Well Records	7
3. Mobile Sources.....	8
3.1 Interstate 270.....	8
3.2 State Highway 265	8
3.3 Interstate 76	8
4. National Ambient Air Quality Standards (NAAQS).....	9
5. Nitrogen Oxides (NO _x).....	10
5.1 NO _x Health Concerns	10
5.2 Summary of NO _x Emissions.....	10
5.3 Sources of NO _x Emissions.....	11
5.4 Locations of NO _x Emissions.....	11
5.5 Breakdown of NO _x Emissions.....	12
6. Carbon Monoxide (CO).....	14
6.1 CO Health Concerns.....	14
6.2 Summary of CO Emissions	14
6.3 Sources of CO Emissions.....	15
6.4 Locations of CO Emissions.....	15
6.5 Breakdown of CO Emissions	16
7. Volatile Organic Compounds (VOCs)	18
7.1 VOC Health Concerns	18
7.2 Summary of VOC Emissions	18
7.3 Sources of VOC Emissions	19
7.4 Locations of VOC Emissions.....	19
7.5 Breakdown of VOC Emissions.....	20
8. Sulfur Dioxide (SO ₂).....	22
8.1 SO ₂ Health Concerns	22

8.2	Summary of SO ₂ Emissions	22
8.3	Sources of SO ₂ Emissions.....	23
8.4	Locations of SO ₂ Emissions	23
8.5	Breakdown of SO ₂ Emissions.....	24
9.	Particulate Matter less than 10 micrometers in diameter (PM ₁₀)	26
9.1	PM ₁₀ Health Concerns	26
9.2	Summary of PM ₁₀ Emissions.....	26
9.3	Sources of PM ₁₀ Emissions	27
9.4	Locations of PM ₁₀ Emissions.....	27
9.5	Breakdown of PM ₁₀ Emissions.....	28
10.	Particulate Matter less than 2.5 micrometers in diameter (PM _{2.5}).....	30
10.1	PM _{2.5} Health Concerns	30
10.2	Summary of PM _{2.5} Emissions.....	30
10.3	Sources of PM _{2.5} Emissions	31
10.4	Locations of PM _{2.5} Emissions	31
10.5	Breakdown of PM _{2.5} Emissions.....	32
11.	Total Hazardous Air Pollutants (HAPs).....	34
11.1	Total HAPs Health Concerns	34
11.2	Summary of Total HAPs Emissions.....	34
11.3	Sources of Total HAPs Emissions	35
11.4	Locations of Total HAPs Emissions.....	35
11.5	Breakdown of Total HAPs Emissions.....	36
12.	Methane (CH ₄).....	38
13.	Interactive Story Map	39
14.	Data Gaps.....	40
15.	References.....	41

Tables

Table 1-1	CDPHE Air Permit Thresholds	4
Table 5-1	Ten (10) Highest Sources of NO _x Emissions	10
Table 5-2	NO _x Emissions Percentage of Commerce City in County and State Regions.....	12
Table 6-1	Ten (10) Highest Sources of CO Emissions.....	14
Table 6-2	CO Emissions Percentage of Commerce City in County and State Regions	16

Table 7-1	Ten (10) Highest Sources of VOC Emissions	18
Table 7-2	VOC Emissions Percentage of Commerce City in County and State Regions.....	20
Table 8-1	Ten (10) Highest Sources of SO ₂ Emissions.....	22
Table 8-2	SO ₂ Emissions Percentage of Commerce City in County and State Regions.....	24
Table 9-1	Ten (10) Highest Sources of PM ₁₀ Emissions	26
Table 9-2	PM ₁₀ Emissions Percentage of Commerce City in County and State Regions.....	28
Table 10-1	Ten (10) Highest Sources of PM _{2.5} Emissions.....	30
Table 10-2	PM _{2.5} Emissions Percentage of Commerce City in County and State Regions.....	32
Table 11-1	Ten (10) Highest Sources of Total HAPs Emissions	34
Table 11-2	Total HAPs Emissions Percentage of Commerce City in County and State Regions.....	36

Figures

Figure 1	Study Area
Figure 2	Facility NO _x Emissions
Figure 3	Facility CO Emissions
Figure 4	Facility VOC Emissions
Figure 5	Facility SO ₂ Emissions
Figure 6	Facility PM ₁₀ Emissions
Figure 7	Facility PM _{2.5} Emissions
Figure 8	Facility Total HAPs Emissions

Appendices

Appendix A.	Nitrogen Oxides (NO _x) Emissions Summary
Appendix B.	Carbon Monoxide (CO) Emissions Summary
Appendix C.	Volatile Organic Compounds (VOCs) Emissions Summary
Appendix D.	Sulfur Dioxide (SO ₂) Emissions Summary
Appendix E.	Particulate Matter less than 10 micrometers in diameter (PM ₁₀) Emissions Summary
Appendix F.	Particulate Matter less than 2.5 micrometers in diameter (PM _{2.5}) Emissions Summary
Appendix G.	Total Hazardous Air Pollutants (HAPs) Emissions Summary

Revision History

Version	Editor	Date	Discussion
0	Pinyon Environmental, Inc.	July 9, 2021	First Version
1	Pinyon Environmental, Inc.	October 1, 2021	Updated report to incorporate review comments made by Domenic Martinelli of Commerce City.

Executive Summary

Pinyon Environmental, Inc. (Pinyon) prepared this community-wide impacts report for the City of Commerce City (Commerce City). This report provides a comprehensive summary involving air pollutant data collected in and within a ½ mile radius of Commerce City. Data were acquired from active air permits issued by the Colorado Department of Public Health (CDPHE) Air Pollution Control Division (APCD), in addition to oil and gas wells in operation reported by the Colorado Oil and Gas Conservation Commission (COGCC). The purpose of this report, including associated tables, figures, and online Story Map (see Section 12), is to provide air pollutant source data to Commerce City personnel and to inform the public on types, amounts, and locations of air pollutant sources.

Pinyon acquired air pollutant source data, including but not limited to the following CDPHE-classified source types:

- petroleum refining and related industries,
- food and kindred products,
- electric gas and sanitary services (e.g., landfills and sewage systems),
- oil and gas extraction and related services (e.g., terminals and storage facilities), and
- other industrial services (e.g., manufacturing plants, gas stations, auto repair shops, emergency power generation, etc.).

Pinyon created tables, figures, and an online story map organizing the data from active air permits on file with APCD. Facility locations where there is the potential to emit a specific pollutant can be found in Figures 2 through 8. Appendices A through G provide the same emissions data in a tabulated format for the following air pollutants:

- Nitrogen Oxides (NO_x) – criteria pollutant
- Carbon Monoxide (CO) – criteria pollutant
- Volatile Organic Compounds (VOCs) – regulated pollutant
- Sulfur Dioxide (SO₂) – criteria pollutant
- Particulate Matter less than 10 micrometers in diameter (PM₁₀) – criteria pollutant
- Particulate Matter less than 2.5 micrometers in diameter (PM_{2.5}) – criteria pollutant
- Total Hazardous Air Pollutants (HAPs) – toxic air pollutants

I. Introduction

Pinyon prepared this community-wide impacts report for Commerce City. The report includes a summary of sources emitting pollutants in and within a ½ mile radius around Commerce City (Figure 1) to inform the public of pollutants recognized by the U.S. Environmental Protection Agency (U.S. EPA). The eight (8) air pollutants discussed and analyzed in this report include Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Volatile Organic Compounds (VOCs), Sulfur Dioxide (SO₂), Particulate Matter less than 10 micrometers in diameter (PM₁₀), Particulate Matter less than 2.5 micrometers in diameter (PM_{2.5}), and Total Hazardous Air Pollutants (HAPs).

Pinyon compiled emission source data in and within a ½ mile radius around Commerce City from current air permit information maintained by APCD and existing oil and gas wells in operation reported by COGCC. Pinyon did not evaluate mobile and non-road, and on-road sources of pollution such as vehicle exhaust, tractor-trailers, lawnmowers, wood-burning fires, etc., as these are not stationary sources that require any sort of documentation of emissions. For additional information on mobile source pollution and related health effects, you can visit the following link: <https://www.epa.gov/mobile-source-pollution>. Information on CDPHE APCD air permit requirements can be found in Section 1.3 of this report.

A complete list of the specific facilities for which there are estimated actual annual emissions from the listed air pollutants discussed in this report is further analyzed in Section 2, and the pollutant-specific tables are included as appendices. Pinyon's approach to gathering data presented in this report involved the following:

1. Extracting numerical data, information, and air pollutant emissions by source type from sources of emissions reported and issued air permits by APCD.
2. Verification of the operational status of oil and gas wells per current well information reported by COGCC.
3. Transcription of data into a master table for each pollutant type; recording source names, source descriptions, source locations, and total estimated actual annual emissions in tons per year (tons/yr) by the facility.
4. Facility locations of collected emissions data were georeferenced, and maps were created for the graphic presentation of emissions data.

I.1 Study Area

Commerce City is a municipality located north of Denver within Adams County and comprises, amongst other things, houses, parks, industrial businesses, and highways. Industries of note in the area include petroleum refineries, oil and gas well production facilities, landfills, and electricity-generating plants, among others. As of 2021, Commerce City has an estimated population of 64,612 people (Commerce City Community Development Department, 2021).

Notable emitters of air pollution in and within a ½ mile radius around Commerce City include but are not limited to:

- Suncor Energy – Denver Petroleum Refinery
- Public Service Co. – Cherokee Electrical Generation Plant

City of Commerce City

- Allied Waste Systems – Tower Landfill
- Ardent Mills – Commerce City Flour Mill
- Oil and Gas – Well Production Facilities

1.2 Source Types

One hundred fifty-four (154) unique sources of air pollution have been collected and analyzed within the study area. This community-wide impacts report is divided into the following source categories: petroleum refining and related industries, electric and sanitary services, oil and gas extraction, food and kindred products, and other industrial manufacturing services. Source classification for each source of emissions represented in this report was chosen by the owner/operator using the North American Industry Classification System (NAICS) and confirmed by APCD before permitting issuance. Pinyon chose the following source classification breakdown to highlight the variety of industries present within the study area and does not necessarily indicate that emissions originating from one source or industry have a more significant impact on public health than another.

Sources of air pollution in and within a ½ mile radius around Commerce City were separated into the following overarching source types and included but is not limited to:

- Petroleum Refining and Related Industries: refining, blending of lubricants and glycol, recycle plants, asphalt batch plants, asphalt paving, liquid asphalt blending, storage, and distribution, and hot mix asphalt plants
- Electric Gas and Sanitary Services: power generation plants, sewage systems, landfills, and water supply
- Oil and Gas Extraction and Related Services: well production facilities, petroleum products storage, distribution pipelines, and operation of vapor control equipment
- Food and Kindred Products: animal feed manufacturing facilities, flour mills, bread and bun bakeries, milk plants, and the operation of grain elevators
- Other Industrial Sources: bakeries, concrete manufacturing plants, retail gas stations, convenience stores, industrial laundry facilities, cremation facilities, millwork operations, corrugated paper products manufacturing, waste management facilities, government facilities, auto body repair shops, etc.

1.3 Air Permit Thresholds

CDPHE Regulation 3 outlines the applicability and requirements for stationary source permits and Air Pollution Emission Notice (APEN). Certain facilities and emissions sources are exempt from APEN and permit requirements based on their purpose, agency-determined emissions impact, and size. Should an emissions source not fall into one of the 84 listed exempted sources, APEN and permit applicability to depend on emissions from criteria and non-criteria reportable pollutants such as those addressed in this report.

Regulation 3 Section II.B.3 states that APENs are required if any of the following conditions are met (CDPHE, 2021):

- For nonattainment areas, each emissions point with actual uncontrolled emissions of one ton per year or more of any individual regulated pollutant for which the area is nonattainment

- For attainment areas, each emissions point in an attainment or attainment/maintenance area with actual uncontrolled emissions of two tons per year or more of any individual criteria pollutant
- Each emissions point with actual uncontrolled emissions of lead greater than 100 pounds per year
- Each emissions point with actual uncontrolled emissions of 250 pounds or more per year of any non-criteria reportable pollutant (regulated pollutant with emission limits but no National Ambient Air Quality Standards, NAAQS)

Regulation 3 Section II.D.2 and Section II.D.3 states that construction permits are required if total facility uncontrolled actual emissions equal or exceed the following thresholds depending on if the facility is located in a nonattainment or attainment/maintenance area (Table I-1):

Table I-1. CDPHE Air Permit Thresholds

Pollutant	Nonattainment Area Permit Threshold ¹	Attainment Area Permit Threshold	Number of Facilities (Per Pollutant) Subject to Permit Requirements
NO _x	5 tons per year	10 tons per year	11
CO	5 tons per year	10 tons per year	15
VOC	2 tons per year	5 tons per year	64
PM ₁₀	1 ton per year	5 tons per year	34
PM _{2.5}	1 ton per year	5 tons per year	24
TSP	5 tons per year	10 tons per year	Not Applicable
SO ₂	5 tons per year	10 tons per year	5
Lead	200 pounds per year	200 pounds per year	Not Applicable

¹ Nonattainment is a geographic area that does not meet NAAQS established by the Clean Air Act and enforced by U.S. EPA.

Regulation 3 Section I.B.25 states that sources that meet the definition of Major Source are subject to the operating permit program. The following stationary sources are major sources (CDPHE, 2021):

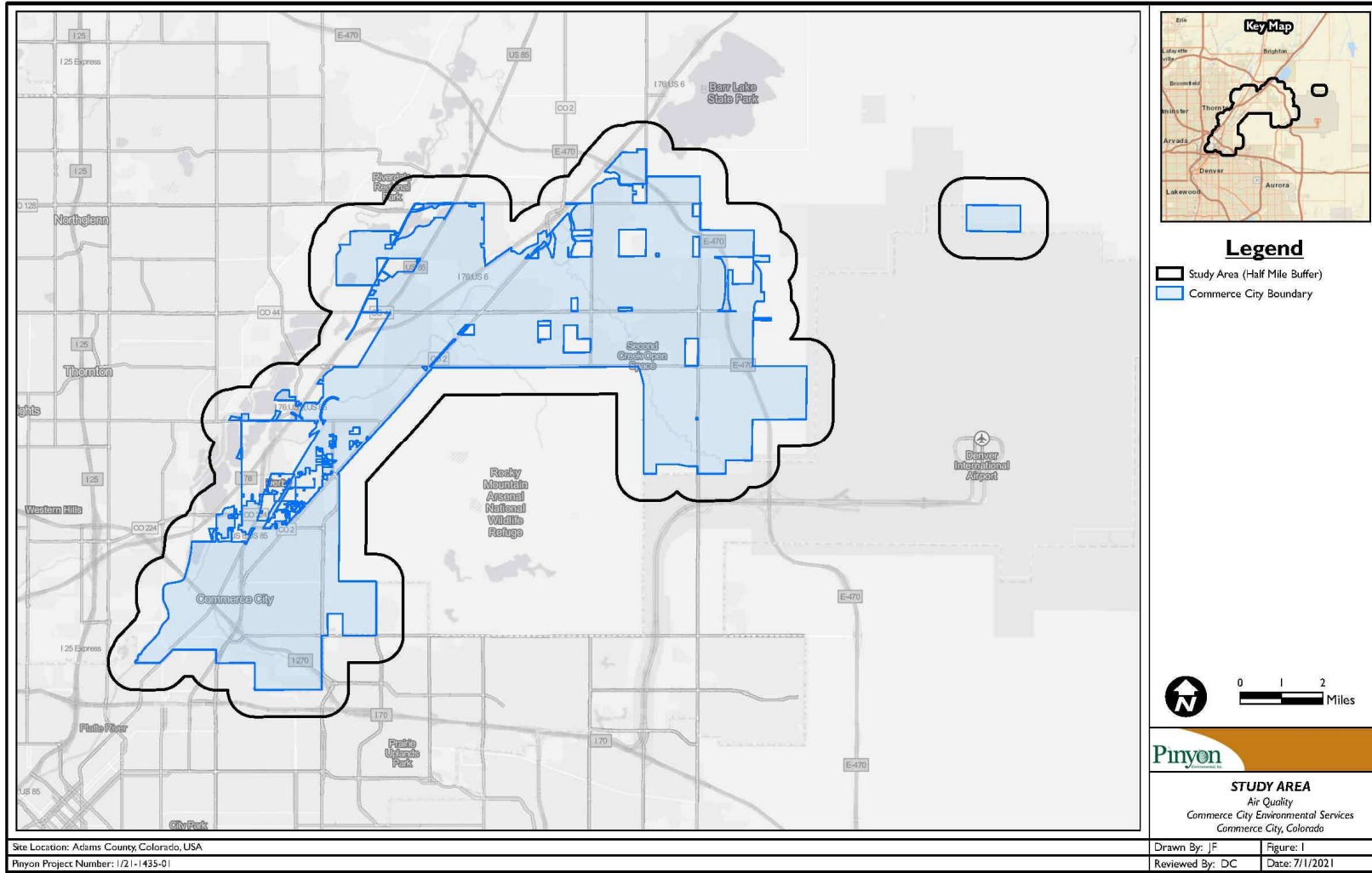
- Sources that directly emit, or have the potential to emit, 10 tons per year or more any single hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.
- Sources that directly emit, or have the potential to emit, 100 tons per year or more of any pollutant subject to regulation.
- Sources subject to the Acid Rain Program.
- Sources that are subject to specific New Source Performance Standards or National Emission Standards for Hazardous Air Pollutants (e.g., landfills that are affected facilities under NSPS Subpart WWW).

- Sources that meet the definition of Major Stationary Source in Colorado Regulation No. 3, Part D, Section II.A.25.

Commerce City is located in the Denver Metro/North Front Range ozone nonattainment area, which was classified as a serious nonattainment area effective January 27, 2020 (U.S. EPA, 2021a). Ozone is a secondary pollutant that is formed by NO_x and VOC emissions in the atmosphere. As a result, the major stationary source thresholds for NO_x and VOC are lower than those in other areas. Specifically, a source that emits or has the potential to emit 50 tons per year or more of NO_x or 50 tons per year or more of VOC is a major stationary source and is therefore subject to the operating permit program.

Please note not all sources of pollution are required to obtain an air permit. For example, sources that emit pollution at rates less than the above thresholds are not required to obtain a permit. Additionally, permit requirements can change, affecting the eligibility of sources presented in this report from reporting emissions in the future or requiring new emissions sources to obtain a permit. Because of those limitations, it's possible minimal emission sources were not identified in our searches and thus are not included in this report.

Figure I. Study Area



2. Summarizing and Interpreting Data

Pinyon utilized data from several regulatory agencies in Colorado to prepare this community-wide impacts report for Commerce City. First, Pinyon extrapolated source data from active air permits on file with APCD and performed a data check for red flags and inconsistencies. Second, Pinyon identified oil and gas wells from well completion records on file with COGCC, including confirmation of their current operating status and discussions with Commerce City personnel. Finally, emissions source data in the study area were compared to nearby county total emissions estimates and state-wide total emissions estimates to provide insight into how air quality emissions within the study area compared to the remainder of Colorado.

Pinyon has extracted and consolidated NO_x, CO, VOC, SO₂, PM₁₀, PM_{2.5}, and Total HAPs data from active air permits. These data have been summarized into the following formats: tables, raw data transcribed into a master spreadsheet in Microsoft Excel; report figures; and an Arc GIS story map with interactive features.

2.1 Source Emissions Data from Air Permits

Numerous air pollutant source data have been collected in the study area released by APCD. Source emissions locations have been separated by pollutant type listed in Appendix A through G and illustrated in Figures 2 through 8. Source emissions rates extracted from each permit are represented as the estimated total actual emissions of each source. Please note air permits on file with APCD must complete a routine five (5) year renewal for an existing permitted source or report minor changes in emissions, production, or equipment by the following April after the change. Therefore, it is possible emissions estimates represented in this report have changed and are currently applying for an updated, modified, or renewal air permit.

Pinyon received data of source emissions rates from all active air permits on file with the APCD for the air pollutants specified in this report. Air permits present emissions data as an annual rate, generally in tons/yr units. Data was reviewed and compiled into tables based on pollutant type, source type, source description, and source total emissions rates in tons/yr. Emissions rates are represented from highest to lowest annual emissions in tons/yr. The top ten highest sources of emissions are represented in tables within each pollutant-specific section of this report.

It is possible that a facility exceeded the construction and/or APEN threshold for one pollutant and not another. Therefore, only the estimated actual emissions totals presented in this report and filed with APCD are for sources and pollutants that require an APEN and/or permit. For example, several industrial facilities presented in this report did not exceed nonattainment permit thresholds for NO_x or CO. Still, they did for PM₁₀ and PM_{2.5}, and thus those facilities were required to obtain a permit, and all pollutant emissions were then reported.

2.2 Source Emissions Data from Well Records

Sources originating from oil and gas wells located within the study area were individually found in COGCC well site records to verify operational status. The oil and gas wells analyzed in this report are all currently "shut-in." The COGCC defines a shut-in well as "a well which is capable of producing but is not presently producing" (COGCC, n.d.). These wells are not actively producing product due to various factors, including a lack of a sustainable market, a lack of facilities to produce the product, or other cases defined within the shut-in provisions contained in the oil and gas lease. Although there are no actively producing wells located in the study area, Pinyon has chosen to include associated emissions in the pollutant totals due to these wells ability to begin producing oil and gas products again at any time.

3. Mobile Sources

The U.S. EPA has classified mobile sources of air pollution to include vehicles, engines, and equipment, that can be categorized as either on-road mobile sources (e.g., heavy-duty trucks, buses, passenger cars, and motorcycles) or non-road mobile sources (e.g., locomotives, marine vessels, construction equipment, lawn, garden, and snow equipment, personal recreation equipment, etc.) (U.S. EPA, 2020). Emissions associated with mobile sources include combustion pollutants such as CO and NO_x which can contribute to ozone formation. Additionally, vehicle exhaust emissions can be a source of particulate matter. A list of major roadways within the study area has been identified below, and an overview of vehicle miles traveled (VMT) and proximity to concentrated areas of pollutants.

3.1 Interstate 270

Interstate 270 (I-270) is a 7-mile-long highway in the northeastern portion of the Denver Metropolitan Area. I-270 enters Commerce City, where the highway crosses over the South Platte River and exits Commerce City shortly before intersecting with Quebec St for a total expanse of 3.5-miles within the city limits. I-270 is within the immediate vicinity of clusters of emission sources indicated by a green box within the individual figures for the pollutants identified in Sections 5-11. Based on the proximity of I-270 and the cluster of emissions sources, emissions from on-road vehicles traveling on I-270 may result in heightened impacts with the southern area of Commerce City. According to the Colorado Department of Transportation, the annual average daily VMT on I-270 is 521,309 (CDOT 2021).

3.2 State Highway 265

Colorado State Highway 265 (SH 265) is a 3.6-mile-long highway in the northeastern portion of the Denver Metropolitan Area. SH 265 enters Commerce City, where the highway meets York Street and ends at the intersection of U.S. Route 6 (US 6) and US 85 in Commerce City for a total expanse of approximately 2.4-miles within the city limits. SH 265 is within the immediate vicinity of clusters of emission sources indicated by a green and a blue box within the individual figures for the pollutants identified in Sections 5-11. Based on the proximity of SH 265 and the cluster of emissions sources, emissions from on-road vehicles traveling on SH 265 may result in heightened impacts along the southern and western areas of Commerce City. According to the Colorado Department of Transportation, the annual average daily VMT on SH-265 is 15,363 (CDOT 2021).

3.3 Interstate 76

Interstate 76 (I-76) is a 187-mile highway spanning from Arvada, Colorado, to Big Springs, Nebraska. From the intersection of I-76 and I-270 in the Denver Metropolitan Area, I-76 travels parallel and at specific points through the western boundary of Commerce City, ending at the junction with Colorado State Highway 470 for a total expanse of approximately 12.1-miles. I-76 is within the immediate vicinity of clusters of emission sources indicated by a green and a blue box within the individual figures for the pollutants identified in Sections 5-11. Based on the proximity of I-76 and the emissions sources, emissions from on-road vehicles traveling on I-76 may result in heightened impacts along the western boundary of Commerce City. According to the Colorado Department of Transportation, the annual average daily VMT on I-76 from the intersection with I-270 and ending at the junction with SH 470 is 621,462 (CDOT 2021).

4. National Ambient Air Quality Standards (NAAQS)

The U.S. EPA, through the CAA, regulates air pollution in an effort to protect public health. CAA regulations require stationary and mobile sources to determine their potential to emit as part of the state and federal permitting process, applicability to federal regulations, and evaluation of control technologies. As part of the CAA, U.S. EPA was required to set NAAQS for six (6) criteria pollutants that can be harmful to public health and the environment:

- Carbon Monoxide (CO),
- Lead (Pb),
- Nitrogen Dioxide (NO₂) (a subset of NO_x),
- Ozone (O₃),
- Particle Pollution (PM), and
- Sulfur Dioxide (SO₂).

The CAA identifies two types of national ambient air quality standards. Primary standards provide “public health protection, including protecting the health of “sensitive” populations such as asthmatics, children, and the elderly” (U.S. EPA, 2021b). Secondary standards provide “public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings” (U.S. EPA, 2021b). The primary and secondary NAAQS are concentrations where exceedances of the NAAQS values are a signal that public and environmental health is at risk. The NAAQS values that are generally in the units of parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter (µg/m³). Periodically, the standards are reviewed and may undergo revision, establishing new standards.

Monitoring data provide ambient air concentrations that can be directly correlated to the NAAQS to determine attainment status for a specific area. Colorado has a number of ambient air monitors in the eight (8) monitoring regions defined by CDPHE APCD in its air monitoring network (CDPHE, 2020). All criteria pollutants are monitored except for lead due to the cessation of the La Casa monitor after numerous years of low concentrations. The emissions data presented in this community-wide impacts report are an integral part of the translation to ambient air concentrations; however, emissions are not a direct indication of ambient air concentration levels. Meteorological data, emission source dispersion parameters, and terrain characteristics are also informative and essential factors to determine potential public health impacts and compliance with primary and secondary NAAQS.

5. Nitrogen Oxides (NO_x)

Nitrogen Oxides (NO_x) are a chemical compound of oxygen and nitrogen formed during their reaction with each other when burned at high temperatures, primarily from burning fuels such as oil, diesel, and natural gas (U.S. EPA, 2016b). NO_x is a common designation of nitrogen oxides NO and NO₂. NO₂ in combination with other NO_x, can react with other chemicals in the air to form both particulate matter and ozone (U.S. EPA, 2016b).

5.1 NO_x Health Concerns

Breathing air with elevated NO_x may affect individuals with respiratory conditions causing inflammation of the airways. Periods of short-term exposure to NO₂, a subset of NO_x, can "aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms" (U.S. EPA, 2016b). Periods of long-term exposure to NO₂ may contribute to the "development of asthma and potentially increase susceptibility to respiratory infections" (U.S. EPA, 2016b). The atmospheric chemistry determining how much NO_x is NO₂ will be discussed in future analyses by Commerce City related to monitoring and modeling.

5.2 Summary of NO_x Emissions

Using readily available data acquired from active APCD permits, 38 facilities have the potential to emit NO_x. These 38 facilities in and within a ½ mile of Commerce City limits total 1,215 tons/yr NO_x. In Table 5-1 below, the ten (10) highest emitters of estimated actual annual NO_x emissions have been identified.

Table 5-1. Ten (10) Highest Sources of NO_x Emissions

Source Name	Source Description	Source Location	Facility Estimated Actual Annual NO _x (tons/yr)
Suncor Energy – Denver Refinery	Petroleum Refinery	5801 Brighton Blvd	618.7
Public Service Co – Cherokee Generating Station	Electric Power Generation	6198 Franklin St	383.0
Metro Wastewater Reclamation District	Sewage Treatment Facility	6450 York St	70.33
Allied Waste Systems – Tower Landfill	Solid Waste Landfill	8480 Tower Rd	28.72
Phillips 66 Pipeline – Denver Terminal	Petroleum Products Storage/Distribution	3960 E 56 th Ave	26.15
Adams County Government Center	Emergency Power Generation	4430 S Adams County Pkwy	13.25
Darling Ingredients Inc.	Rendering Plant (animal products)	5701 York St	9.08

Source Name	Source Description	Source Location	Facility Estimated Actual Annual NO _x (tons/yr)
Crystal Packaging	Petroleum Lubricating Oil and Grease Manufacturing	9155 Boston St	8.75
Aggregate Industries – Dahlia Plant	Hot Mix Asphalt Plant	4801 E 78 th Ave	7.05
Trustile Doors, LLC	Millwork	1780 E 66 th Ave	5.70

Source: CDPHE APCD 2021

5.3 Sources of NO_x Emissions

Sources of NO_x analyzed from data recorded in this report involve the following breakdown of industries, services, and products, including percent of total NO_x emissions estimates:

- Seven (7) petroleum refining and related industries (53% of total source emissions)
- Four (4) electric gas and sanitary services (40% of total source emissions)
- Six (6) oil and gas extraction and related services (3% of total source emissions)
- Five (5) food and kindred products (1% of total source emissions)
- Sixteen (16) other industrial services (3% of total source emissions)

5.4 Locations of NO_x Emissions

Locations of the 38 sources of NO_x analyzed from data recorded in this report are represented in Figure 2.

NO_x sources located in the southern portion of the study area south of E 80th Avenue include:

- Twenty-one (21) sources greater than or equal to 0.1 tons/yr and less than or equal to 5.0 tons/yr
- Five (5) sources greater than 5.0 tons/yr and less than or equal to 50.0 tons/yr
- One (1) source greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr
- Two (2) sources greater than 250.0 tons/yr and less than or equal to 618.7 tons/yr

NO_x sources along the western portion of the study area, west of Colorado State Highway 2 and north of E 80th Avenue include:

- Five (5) sources greater than or equal to 0.1 tons/yr and less than or equal to 5.0 tons/yr

- One (1) source greater than 5.0 tons/yr and less than or equal to 50.0 tons/yr
- No sources greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr
- No sources greater than 250.0 tons/yr and less than or equal to 618.7 tons/yr

NO_x sources located along the northern and eastern portion of Commerce City, east of Colorado State Highway 2, include:

- One (1) source greater than or equal to 0.1 tons/yr and less than or equal to 5.0 tons/yr
- Two (2) sources greater than 5.0 tons/yr and less than or equal to 50.0 tons/yr
- No sources greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr
- No sources greater than 250.0 tons/yr and less than or equal to 618.7 tons/yr

5.5 Breakdown of NO_x Emissions

Total NO_x emissions estimates extrapolated from the data provided by APCD for Adams, Arapahoe, Denver, and Weld Counties, in addition to estimated actual state-wide Colorado emissions totals, are as follows:

- Adams County – 3,367 tons/yr
- Arapahoe County – 895 tons/yr
- Denver County – 750 tons/yr
- Weld County – 13,246 tons/yr
- State-wide estimated actual emissions totals – 61,187 tons/yr

Table 5-2. NO_x Emissions Percentage of Commerce City in County and State Regions

NO _x Emissions within Study Area	Percent of Adams County Actual Emissions Totals	Percent of State-Wide Actual Emissions Totals
1,215 tons/yr	39%	2%

Source: CDPHE APCD 2021

Figure 2. Facility NO_x Emissions



6. Carbon Monoxide (CO)

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced when fossil fuels (oil, coal, natural gas) are burned. The primary sources of CO released into the atmosphere occur from motor vehicles, trucks, and other vehicles or machinery that burn fossil fuels (U.S. EPA, 2016b).

6.1 CO Health Concerns

Breathing air with elevated CO "reduces the amount of oxygen that can be transported in the bloodstream to critical organs such as the heart and brain" (U.S. EPA, 2016b). Elevated levels of CO outdoors can be of concern for people with certain types of heart disease due to reduced ability for getting oxygenated blood to their hearts during situations such as exercising or under increased stress where the heart needs more oxygen than usual. During these situations, short-term exposure to elevated CO may "result in reduced oxygen to the heart accompanied by chest pain, also known as angina" (U.S. EPA, 2016b).

6.2 Summary of CO Emissions

Using readily available data acquired from active APCD permits, 41 facilities have the potential to emit CO. These 41 facilities in and within a ½ mile of Commerce City limits total 1,158 tons/yr CO. In Table 6-1 below, the ten (10) highest emitters of estimated actual annual CO emissions have been identified.

Table 6-1. Ten (10) Highest Sources of CO Emissions

Source Name	Source Description	Source Location	Facility Estimated Actual Annual CO (ton/year)
Suncor Energy – Denver Refinery	Petroleum Refinery	5801 Brighton Blvd	494.3
Public Service Co – Cherokee Generating Station	Electric Power Generation	6198 Franklin St	315.8
Allied Waste Systems – Tower Landfill	Solid Waste Landfill	8480 Tower Rd	102.1
Phillips 66 Pipeline – Denver Terminal	Petroleum Products Storage/Distribution	3960 E 56 th Ave	69.86
Metro Wastewater Reclamation District	Sewage Treatment Facility	6450 York St	41.76
Brannan Sand & Gravel	Hot Mix Asphalt Plant	7271 Colorado Blvd	27.87
City and County of Denver - Roslyn	Government Support	5440 Roslyn St	14.20
Aggregate Industries – Dahlia Plant	Hot Mix Asphalt Plant	4801 E 78 th Ave	11.12
Sinclair – Denver Terminal	Petroleum Products Storage/Distribution	8581 E 96 th Ave	10.80
Colorado Asphalt Services	Asphalt Paving	3700 E 56 th Ave	8.87

City of Commerce City

Source: CDPHE APCD 2021

6.3 Sources of CO Emissions

Sources of CO analyzed from data recorded in this report involve the following breakdown of industries, services, and products, including percent of total CO emissions estimates:

- Eight (8) petroleum refining and related industries (48% of total source emissions)
- Four (4) electric gas and sanitary services (40% of total source emissions)
- Six (6) oil and gas extraction and related services (8% of total source emissions)
- Six (6) food and kindred products (1% of total source emissions)
- Seventeen (17) other industrial services (3% of total source emissions)

6.4 Locations of CO Emissions

Locations of the 41 sources of CO analyzed from data recorded in this report are represented in Figure 3.

CO sources located in the southern portion of the study area south of E 80th Avenue include:

- Twenty-five (25) sources greater than or equal to 0.004 tons/yr and less than or equal to 10.0 tons/yr
- Five (5) sources greater than 10.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr
- Two (2) sources greater than 250.0 tons/yr and less than or equal to 500.0 tons/yr

CO sources located along the western portion of the study area, west of Colorado State Highway 2 and north of E 80th Avenue, include:

- Five (5) sources greater than or equal to 0.004 tons/yr and less than or equal to 10.0 tons/yr
- One (1) source greater than 10.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr
- No sources greater than 250.0 tons/yr and less than or equal to 500.0 tons/yr

CO sources located along the northern and eastern portion of Commerce City, east of Colorado State Highway 2, include:

- Two (2) sources greater than or equal to 0.004 tons/yr and less than or equal to 10.0 tons/yr
- No sources greater than 10.0 tons/yr and less than or equal to 100.0 tons/yr

City of Commerce City

- One (1) source greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr
- No sources greater than 250.0 tons/yr and less than or equal to 500.0 tons/yr

6.5 Breakdown of CO Emissions

Total CO emissions estimates extrapolated from the data provided by APCD for Adams, Arapahoe, Denver, and Weld Counties, in addition to estimated actual state-wide Colorado emissions totals, are as follows:

- Adams County – 2,763 tons/yr
- Arapahoe County – 938 tons/yr
- Denver County – 528 tons/yr
- Weld County – 23,013 tons/yr
- State-wide estimated actual emissions totals – 58,795 tons/yr

Table 6-2. CO Emissions Percentage of Commerce City in County and State Regions

CO Emissions within Study Area	Percent of Adams County Actual Emissions Totals	Percent of State-Wide Actual Emissions Totals
1,158 tons/yr	42%	2%

Source: CDPHE APCD 2021

Figure 3. Facility CO Emissions



7. Volatile Organic Compounds (VOCs)

Volatile Organic Compounds (VOCs) are any "carbon compounds, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participate in atmospheric photochemical reactions" (U.S. EPA, 2017a). In short, VOCs are chemicals that both vaporize into the air and dissolve in water. During hot summer days, VOCs react with NO_x to form ozone (smog). VOCs are pervasive in daily life due to their use in industry, agriculture, transportation, and day-to-day activities around the home. VOCs are emitted from various outdoor sources, including motor vehicles, chemical manufacturing facilities, refineries, and factories.

7.1 VOC Health Concerns

In addition to contributing to the formation of ground-level ozone, VOCs are of concern as indoor and outdoor air pollutants. However, the emphasis of that concern outdoors is different from indoors. The main concern indoors is the potential for VOCs to adversely impact people's health that is exposed from products such as paint, varnishes, cleaning products, etc. (U.S. EPA, 2017a). While VOCs can be a health concern outdoors, U.S. EPA regulates VOCs outdoors primarily due to their ability to create photochemical smog under certain conditions, which can be harmful.

7.2 Summary of VOC Emissions

Using readily available data acquired from active APCD permits, 121 facilities have the potential to emit VOCs. These 121 facilities in and within a ½ mile of Commerce City limits total 1,353 tons/yr. In Table 7-1 below, the ten (10) highest emitters of estimated actual annual VOC emissions have been identified.

Table 7-1. Ten (10) Highest Sources of VOC Emissions

Source Name	Source Description	Source Location	Facility Estimated Actual Annual VOCs (ton/year)
Suncor Energy – Denver Refinery	Petroleum Refinery	5801 Brighton Blvd	469.0
Sinclair – Denver Terminal	Petroleum Products Storage/Distribution	8581 E 96 th Ave	128.8
Phillips 66 Pipeline – Denver Terminal	Petroleum Products Storage/Distribution	3960 E 56 th Ave	128.0
Master Builders Solutions – Brighton Facility	Adhesive Manufacturing	10601 Fulton St	65.18
Public Service Co – Cherokee Generating Station	Electric Power Generation	6198 Franklin St	64.87
Bimbo Bakeries, Inc.	Commercial Bakery	7300 Brighton Blvd	61.83
Magellan Pipeline Co – Dupont Terminal	Petroleum Products Storage/Distribution	8160 Krameria St	54.48
Allied Waste Systems – Tower Landfill	Solid Waste Landfill	8480 Tower Rd	27.83
Cintas Corporation No. 2	Industrial Laundry	5100 Race Ct	25.27

City of Commerce City

Source Name	Source Description	Source Location	Facility Estimated Actual Annual VOCs (ton/year)
Metro Wastewater Reclamation District	Sewage Treatment Facility	6450 York St	17.46

Source: CDPHE APCD 2021

7.3 Sources of VOC Emissions

Sources of VOCs analyzed from data recorded in this report involve the following breakdown of industries, services, and products, including percent of total VOC emissions estimates:

- Eight (8) petroleum refining and related industries (36% of total source emissions)
- Four (4) electric gas and sanitary services (8% of total source emissions)
- Fourteen (14) oil and gas extraction and related services (26% of total source emissions)
- Seven (7) food and kindred products (6% of total source emissions)
- Eighty-eight (88) other industrial services (24% of total source emissions)

7.4 Locations of VOC Emissions

Locations of the 121 sources of VOCs analyzed from data recorded in this report are represented in Figure 5.

VOC sources located in the southern portion of the study area south of E 80th Avenue include:

- Forty-three (43) sources greater than or equal to 0.005 tons/yr and less than or equal to 2.0 tons/yr
- Thirty-three (33) sources greater than 2.0 tons/yr and less than or equal to 50.0 tons/yr
- Two (2) sources greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- One (1) source greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr
- One (1) source greater than 250.0 tons/yr and less than or equal to 469.0 tons/yr

VOC sources along the western portion of the study area, west of Colorado State Highway 2 and north of E 80th Avenue include:

- Eleven (11) sources greater than or equal to 0.005 tons/yr and less than or equal to 2.0 tons/yr
- Eleven (11) sources greater than 2.0 tons/yr and less than or equal to 50.0 tons/yr
- Two (2) sources greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- One (1) source greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr

City of Commerce City

- No sources greater than 250.0 tons/yr and less than or equal to 469.0 tons/yr

VOC sources along the northern and eastern portion of Commerce City, east of Colorado State Highway 2, include:

- Three (3) sources greater than or equal to 0.005 tons/yr and less than or equal to 2.0 tons/yr
- Twelve (12) sources greater than 2.0 tons/yr and less than or equal to 50.0 tons/yr
- One (1) source greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 250.0 tons/yr
- No sources greater than 250.0 tons/yr and less than or equal to 469.0 tons/yr

7.5 Breakdown of VOC Emissions

Total VOC emissions estimates extrapolated from the data provided by APCD for Adams, Arapahoe, Denver, and Weld Counties, in addition to estimated state-wide Colorado emissions totals, are as follows:

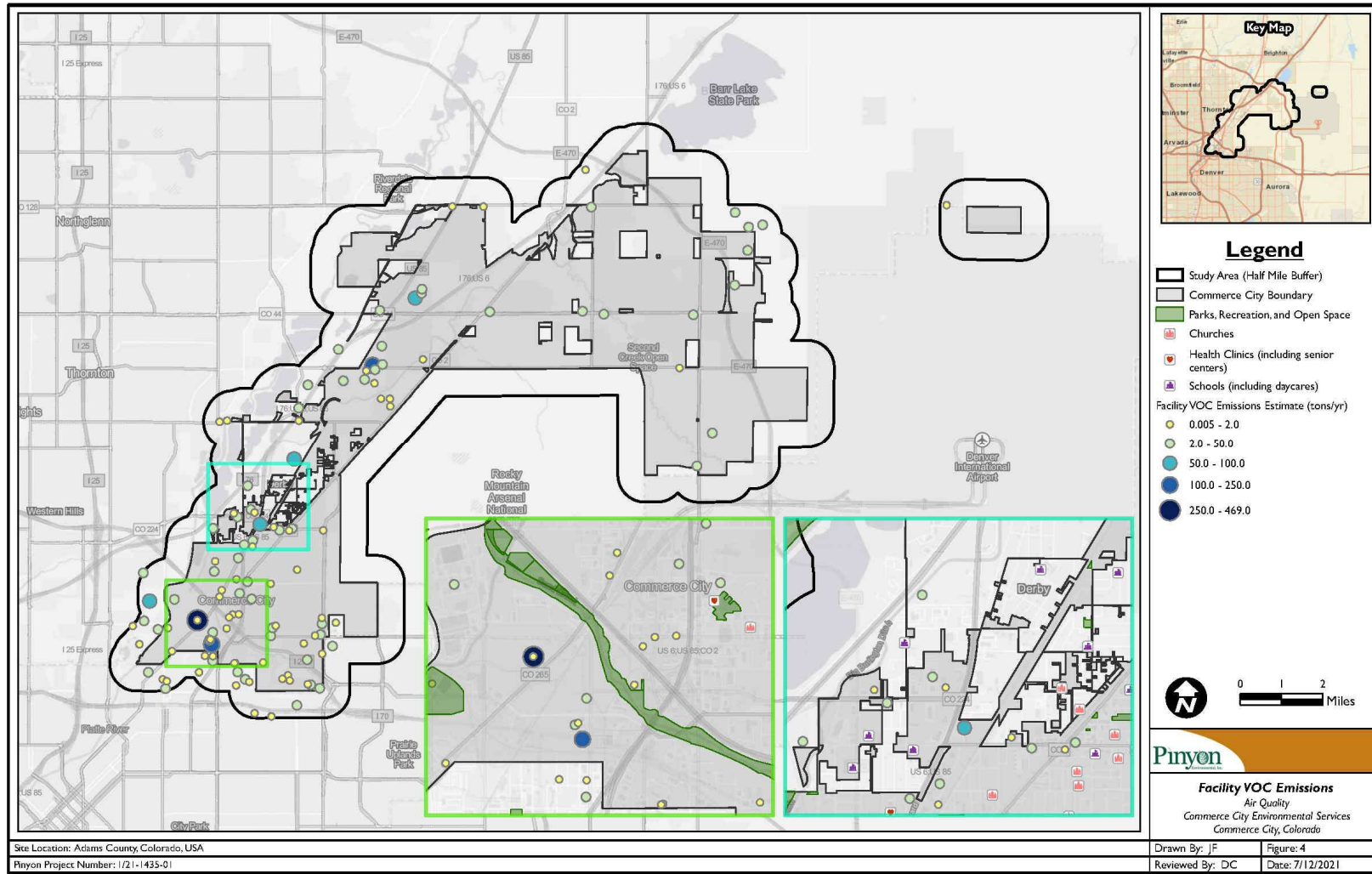
- Adams County – 3,719 tons/yr
- Arapahoe County – 2,059 tons/yr
- Denver County – 897 tons/yr
- Weld County – 26,870 tons/yr
- State-wide estimated actual emissions totals – 54,697 tons/yr

Table 7-2. VOC Emissions Percentage of Commerce City in County and State Regions

VOC Emissions within Study Area	Percent of Adams County Actual Emissions Totals	Percent of State-Wide Actual Emissions Totals
1,353 tons/yr	36%	2%

Source: CDPHE APCD 2021

Figure 4. Facility VOC Emissions



8. Sulfur Dioxide (SO₂)

Sulfur Dioxide (SO₂) is a colorless, foul-smelling, toxic gas part of a larger group of chemicals referred to as sulfur oxides (SO_x) (U.S. EPA, 2019). SO₂ is emitted by burning fossil fuels (coal, oil, natural gas) or other sulfur-containing materials. The largest source of SO₂ emitted into the atmosphere is the burning of fossil fuels by power plants and other industrial facilities (U.S. EPA, 2019). Other sources include industrial processes such as extracting metal from ore and vehicles and heavy equipment that burns fuel with high sulfur content.

8.1 SO₂ Health Concerns

Short-term exposures to SO₂ can harm the respiratory system and make breathing difficult. People with asthma, particularly children, are sensitive to the effects of SO₂. SO₂ can also lead to the formation of other SO_x. SO_x can react with other compounds in the atmosphere to form small particles, contributing to particulate matter pollution (U.S. EPA, 2019).

8.2 Summary of SO₂ Emissions

Using available data acquired from active APCD permits, 28 facilities have the potential to emit SO₂. These 28 facilities in and within a ½ mile of Commerce City limits total 376 tons/yr. In Table 8-1 below, the ten (10) highest emitters of estimated actual annual SO₂ emissions have been identified.

Table 8-1. Ten (10) Highest Sources of SO₂ Emissions

Source Name	Source Description	Source Location	Facility Estimated Actual Annual SO ₂ (ton/year)
Suncor Energy – Denver Refinery	Petroleum Refinery	5801 Brighton Blvd	223.2
Metro Wastewater Reclamation District	Sewage Treatment Facility	6450 York St	90.84
Allied Waste Systems – Tower Landfill	Solid Waste Landfill	8480 Tower Rd	34.34
Public Service Co – Cherokee Generating Station	Electric Power Generation	6198 Franklin St	9.84
Aggregate Industries – Dahlia Plant	Hot Mix Asphalt Plant	4801 E 78 th Ave	7.43
Adams County Government Center	Emergency Power Generation	4430 S Adams County Pkwy	4.47
4283929 Delaware, LLC - Henderson	Pet Crematory	9731 Hanover Ct E	1.60
City & County of Denver - Roslyn	Maintenance Complex	5440 Roslyn St	0.78
Brannan Sand & Gravel	Hot Mix Asphalt Plant	7271 Colorado Blvd	0.73

Source Name	Source Description	Source Location	Facility Estimated Actual Annual SO ₂ (ton/year)
Chemtrade Holdco U.S. - Chemtrade Solutions	Aluminum Sulfate Solution Production Facility	5075 E. 50th Ave	0.65

Source: CDPHE APCD 2021

8.3 Sources of SO₂ Emissions

Sources of SO₂ analyzed from data recorded in this report involve the following breakdown of industries, services, and products, including percent of total SO₂ emissions estimates:

- Six (6) petroleum refining and related industries (62% of total source emissions)
- Three (3) electric gas and sanitary services (36% of total source emissions)
- Zero (0) oil and gas extraction and related services (0% of total source emissions)
- Six (6) food and kindred products (0.03% of total source emissions)
- Thirteen (13) other industrial services (2% of total source emissions)

8.4 Locations of SO₂ Emissions

Locations of the 28 sources of SO₂ analyzed from data recorded in this report are represented in Figure 5.

SO₂ sources located in the southern portion of the study area south of E 80th Avenue include:

- Eighteen (18) sources greater than or equal to 0.0001 tons/yr and less than or equal to 5.0 tons/yr
- Two (2) sources greater than 5.0 tons/yr and less than or equal to 50.0 tons/yr
- One (1) source greater than 50.0 and less than or equal to 100.0 tons/yr
- One (1) source greater than 100.0 and less than or equal to 223.2 tons/yr

SO₂ sources located along the western portion of the study area, west of Colorado State Highway 2 and north of E 80th Avenue, include:

- Four (4) sources greater than or equal to 0.0001 tons/yr and less than or equal to 5.0 tons/yr
- No sources greater than 5.0 tons/yr and less than or equal to 50.0 tons/yr
- No sources greater than 50.0 and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 and less than or equal to 223.2 tons/yr

SO₂ sources located along the northern and eastern portion of Commerce City, east of Colorado State Highway 2, include:

- One (1) source greater than or equal to 0.0001 tons/yr and less than or equal to 5.0 tons/yr
- One (1) source greater than 5.0 tons/yr and less than or equal to 50.0 tons/yr
- No sources greater than 50.0 and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 and less than or equal to 223.2 tons/yr

8.5 Breakdown of SO₂ Emissions

Total SO₂ emissions estimates extrapolated from the data provided by APCD for Adams, Arapahoe, Denver, and Weld Counties, in addition to estimated actual state-wide Colorado emissions totals, are as follows:

- Adams County – 462 tons/yr
- Arapahoe County – 32 tons/yr
- Denver County – 99 tons/yr
- Weld County – 428 tons/yr
- State-wide estimated actual emissions totals – 13,705 tons/yr

Table 8-2. SO₂ Emissions Percentage of Commerce City in County and State Regions

SO ₂ Emissions within Study Area	Percent of Adams County Actual Emissions Totals	Percent of State-Wide Actual Emissions Totals
376 tons/yr	81%	3%

Source: CDPHE APCD 2021

Figure 5. Facility SO₂ Emissions



9. Particulate Matter less than 10 micrometers in diameter (PM₁₀)

Atmospheric particulate matter with diameters generally 10 micrometers and smaller (PM₁₀) consists of microscopic solid or liquid particles suspended in the air. PM₁₀ can be made up of several different components, including "acidic aerosols (e.g., nitrates and sulfates), organic carbon, metals, soil or dust particles, and allergens (such as fragments of pollen or mold spores)" (U.S. EPA, 2021c).

PM₁₀ is typically formed in the atmosphere via various sources, primarily from fugitive dust sources rather than stack emissions or combustion sources. Fugitive emissions cannot be captured and often originate from equipment leaks, earth disturbing equipment vehicles, and windblown disturbances (U.S. EPA, 2021c).

9.1 PM₁₀ Health Concerns

PM₁₀ is inhalable and thus poses a health threat, such as irritation to the eyes, nose, and throat. In addition, it causes serious harm due to inflammation in the airways of people with respiratory diseases such as asthma, chronic obstructive pulmonary disease, and pneumonia.

9.2 Summary of PM₁₀ Emissions

Using readily available data acquired from active APCD permits, 79 facilities have the potential to emit PM₁₀. These 79 facilities in and within a ½ mile of Commerce City limits total 490 tons/yr PM₁₀. In Table 9-1 below, the ten (10) highest emitters of estimated actual annual PM₁₀ emissions have been identified.

Table 9-1. Ten (10) Highest Sources of PM₁₀ Emissions

Source Name	Source Description	Source Location	Facility Estimated Actual Annual PM ₁₀ (ton/year)
Suncor Energy – Denver Refinery	Petroleum Refinery	5801 Brighton Blvd	130.0
Allied Waste Systems – Tower Landfill	Solid Waste Landfill	8480 Tower Rd	91.16
Public Service Co – Cherokee Generating Station	Electric Power Generation	6198 Franklin St	60.84
Ardent Mills – Commerce City Mill	Animal Feed and Flour Mill	4545 E 64 th Ave	58.86
Commerce City Grain	Grain Elevator	4600 E 64 th Ave	18.25
Albert Frei & Sons – Fernald Pit	Construction Sand and Gravel Mining	7281 Colorado Blvd	17.65
Basalite Concrete Products	Concrete Block and Brick Manufacturing	4900 Race St	11.94
General Scrap Inc.	Scrap Metal Recycling	5601 York St	7.58
JK Concepts	Woodwork Manufacturing	3333 E 52 nd Ave	7.00
Brannan Ready Mix Company	Concrete Batching Plant	7291 Colorado Blvd	5.80

City of Commerce City

Commerce City Community-Wide Impacts Report
7887 East 60th Ave, Commerce City, Colorado

Source: CDPHE APCD 2021

9.3 Sources of PM₁₀ Emissions

Sources of PM₁₀ analyzed from data recorded in this report involve the following breakdown of industries, services, and products, including percent of total PM₁₀ emissions estimates:

- Eight (8) petroleum refining and related industries (29% of total source emissions)
- Four (4) electric gas and sanitary services (32% of total source emissions)
- Zero (0) oil and gas extraction and related services (0% of total source emissions)
- Seven (7) food and kindred products (17% of total source emissions)
- Sixty (60) other industrial services (22% of total source emissions)

9.4 Locations of PM₁₀ Emissions

Locations of the 79 sources of PM₁₀ analyzed from data recorded in this report are represented in Figure 6.

PM₁₀ sources located in the southern portion of the study area south of E 80th Avenue include:

- Thirty-four (34) sources greater than or equal to 0.1 tons/yr and less than or equal to 1.0 tons/yr
- Twenty-two (22) sources greater than 1.0 tons/yr and less than or equal to 50.0 tons/yr
- Two (2) sources greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- One (1) source greater than 100.0 tons/yr and less than or equal to 130.1 tons/yr

PM₁₀ sources located along the western portion of the study area, west of Colorado State Highway 2 and north of E 80th Avenue, include:

- Ten (10) sources greater than or equal to 0.1 tons/yr and less than or equal to 1.0 tons/yr
- Eight (8) sources greater than 1.0 tons/yr and less than or equal to 50.0 tons/yr
- No sources greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 130.1 tons/yr

PM₁₀ sources located along the northern and eastern portion of Commerce City, east of Colorado State Highway 2, include:

- One (1) source greater than or equal to 0.1 tons/yr and less than or equal to 1.0 tons/yr
- No sources greater than 1.0 tons/yr and less than or equal to 50.0 tons/yr

City of Commerce City

- One (1) source greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 130.1 tons/yr

9.5 Breakdown of PM₁₀ Emissions

Total PM₁₀ emissions estimates extrapolated from the data provided by APCD for Adams, Arapahoe, Denver, and Weld Counties, in addition to estimated actual state-wide Colorado emissions totals, are as follows:

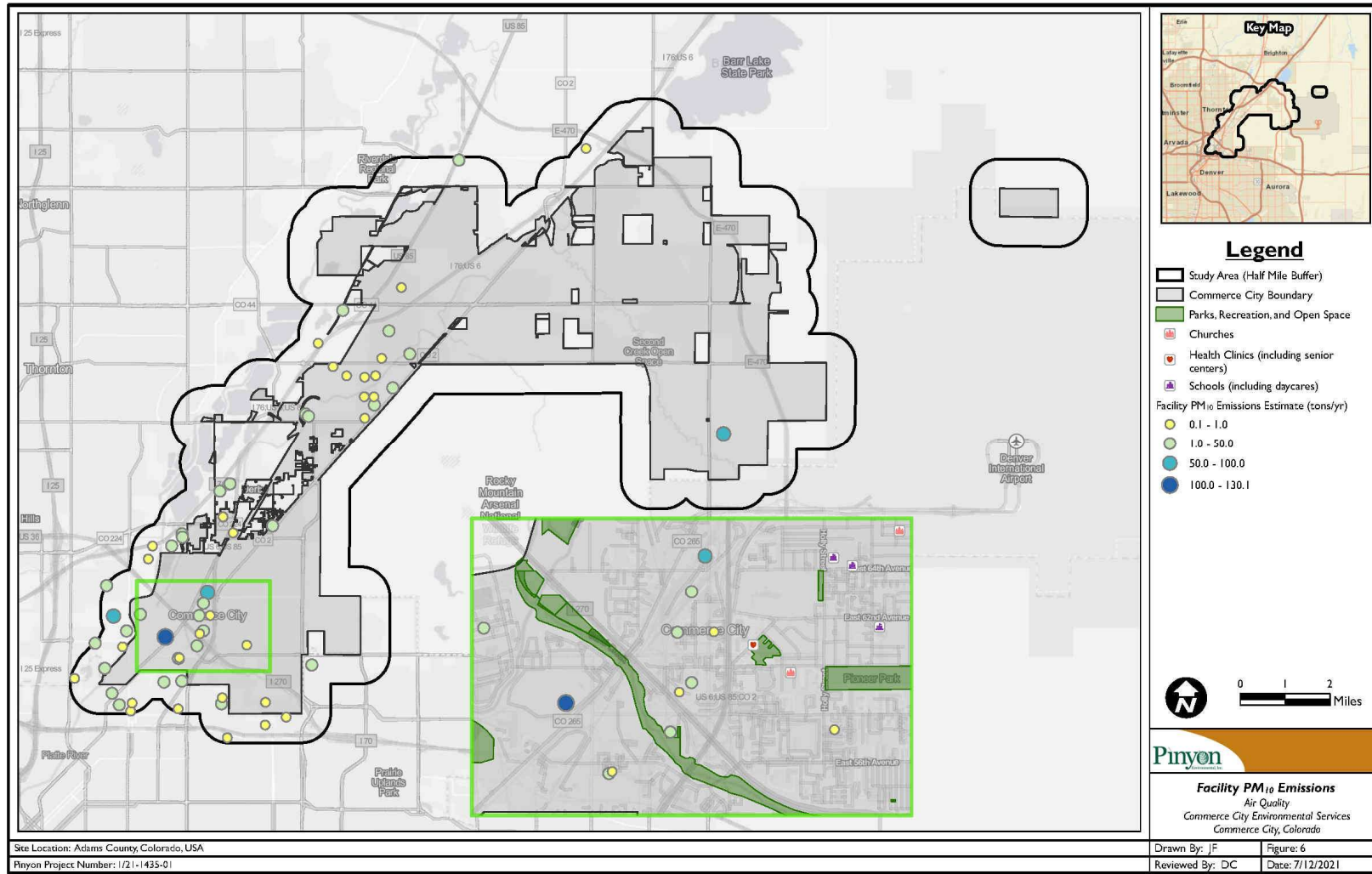
- Adams County – 773 tons/yr
- Arapahoe County – 557 tons/yr
- Denver County – 209 tons/yr
- Weld County – 1,841 tons/yr
- State-wide estimated actual emissions totals – 13,084 tons/yr

Table 9-2. PM₁₀ Emissions Percentage of Commerce City in County and State Regions

PM ₁₀ Emissions within Study Area	Percent of Adams County Actual Emissions Totals	Percent of State-Wide Actual Emissions Totals
490 tons/yr	63%	4%

Source: CDPHE APCD 2021

Figure 6. Facility PM₁₀ Emissions



10. Particulate Matter less than 2.5 micrometers in diameter (PM_{2.5})

Atmospheric particulate matter with diameters generally 2.5 micrometers and smaller (PM_{2.5}) consists of microscopic solid or liquid particles suspended in the air. PM_{2.5} can be made up of several different components, including "acidic aerosols (e.g., nitrates and sulfates), organic carbon, metals, soil or dust particles, and allergens (such as fragments of pollen or mold spores)" (U.S. EPA, 2021c).

PM_{2.5} is typically formed in the atmosphere via gas to particle conversion. It consists primarily of nitrates, sulfates, and organic carbon (black carbon from combustion can be an important primary source of particles in PM_{2.5} size fraction) (U.S. EPA, 2021c). PM_{2.5} is emitted directly from sources, such as construction sites, unpaved roads, fields, smokestacks, or fires.

10.1 PM_{2.5} Health Concerns

PM_{2.5} can penetrate the lungs, with particles less than 0.1 um (ultrafine particles) able to penetrate the bloodstream. The result of which can affect the lungs, the heart, and the cardiovascular system. For reference, the average human hair is about 70 micrometers in diameter – making it 30 times larger than the largest fine particle (U.S. EPA, 2021c).

10.2 Summary of PM_{2.5} Emissions

Using readily available data acquired from active APCD permits, 79 facilities have the potential to emit PM_{2.5}. These 79 facilities in and within a ½ mile of Commerce City limits total 292 tons/yr PM_{2.5}. In Table 10-1 below, the ten (10) highest emitters of estimated actual annual PM_{2.5} emissions have been identified.

Table 10-1. Ten (10) Highest Sources of PM_{2.5} Emissions

Source Name	Source Description	Source Location	Facility Estimated Actual Annual PM _{2.5} (ton/year)
Suncor Energy – Denver Refinery	Petroleum Refinery	5801 Brighton Blvd	119.5
Public Service Co – Cherokee Generating Station	Electric Power Generation	6198 Franklin St	60.84
Allied Waste Systems – Tower Landfill	Solid Waste Landfill	8480 Tower Rd	20.24
Ardent Mills – Commerce City Mill	Animal Feed and Flour Mill	4545 E 64 th Ave	16.84
JK Concepts	Woodwork Manufacturing	3333 E 52 nd Ave	7.00
Commerce City Grain	Grain Elevator	4600 E 64 th Ave	6.29
United Asphalts Inc.	Asphalt Manufacturing	43606 E 60 th Ave	5.63
Albert Frei & Sons – Fernald Pit	Construction Sand and Gravel Mining	7281 Colorado Blvd	5.19

Source Name	Source Description	Source Location	Facility Estimated Actual Annual PM _{2.5} (ton/year)
Trustile Doors, LLC	Millwork	1780 E 66 th Ave	4.00
Metro Wastewater Reclamation District	Sewage Treatment Facility	6450 York St	3.57

Source: CDPHE APCD 2021

10.3 Sources of PM_{2.5} Emissions

Sources of PM_{2.5} analyzed from data recorded in this report involve the following breakdown of industries, services, and products, including percent of total PM_{2.5} emissions estimates:

- Eight (8) petroleum refining and related industries (44% of total source emissions)
- Four (4) electric gas and sanitary services (30% of total source emissions)
- Zero (0) oil and gas extraction and related services (0% of total source emissions)
- Seven (7) food and kindred products (9% of total source emissions)
- Sixty (60) other industrial services (18% of total source emissions)

10.4 Locations of PM_{2.5} Emissions

Locations of the 79 sources of PM_{2.5} analyzed from data recorded in this report are represented in Figure 7.

PM_{2.5} sources located in the southern portion of the study area south of E 80th Avenue include:

- Thirty-five (35) sources greater than or equal to 0.003 tons/yr and less than or equal to 1.0 tons/yr
- Seventeen (17) sources greater than 1.0 tons/yr and less than or equal to 50.0 tons/yr
- One (1) source greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- One (1) source greater than 100.0 tons/yr and less than or equal to 119.5 tons/yr

PM_{2.5} sources located along the western portion of the study area, west of Colorado State Highway 2 and north of E 80th Avenue, include:

- Nineteen (19) sources greater than or equal to 0.003 tons/yr and less than or equal to 1.0 tons/yr
- Four (4) sources greater than 1.0 tons/yr and less than or equal to 50.0 tons/yr
- No sources greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 119.5 tons/yr

City of Commerce City

PM_{2.5} sources located along the northern and eastern portion of Commerce City, east of Colorado State Highway 2, include:

- One (1) source greater than or equal to 0.003 tons/yr and less than or equal to 1.0 tons/yr
- One (1) source greater than 1.0 tons/yr and less than or equal to 50.0 tons/yr
- No sources greater than 50.0 tons/yr and less than or equal to 100.0 tons/yr
- No sources greater than 100.0 tons/yr and less than or equal to 119.5 tons/yr

10.5 Breakdown of PM_{2.5} Emissions

Total PM_{2.5} emissions estimates extrapolated from the data provided by APCD for Adams, Arapahoe, Denver, and Weld Counties, in addition to estimated actual state-wide Colorado emissions totals, are as follows:

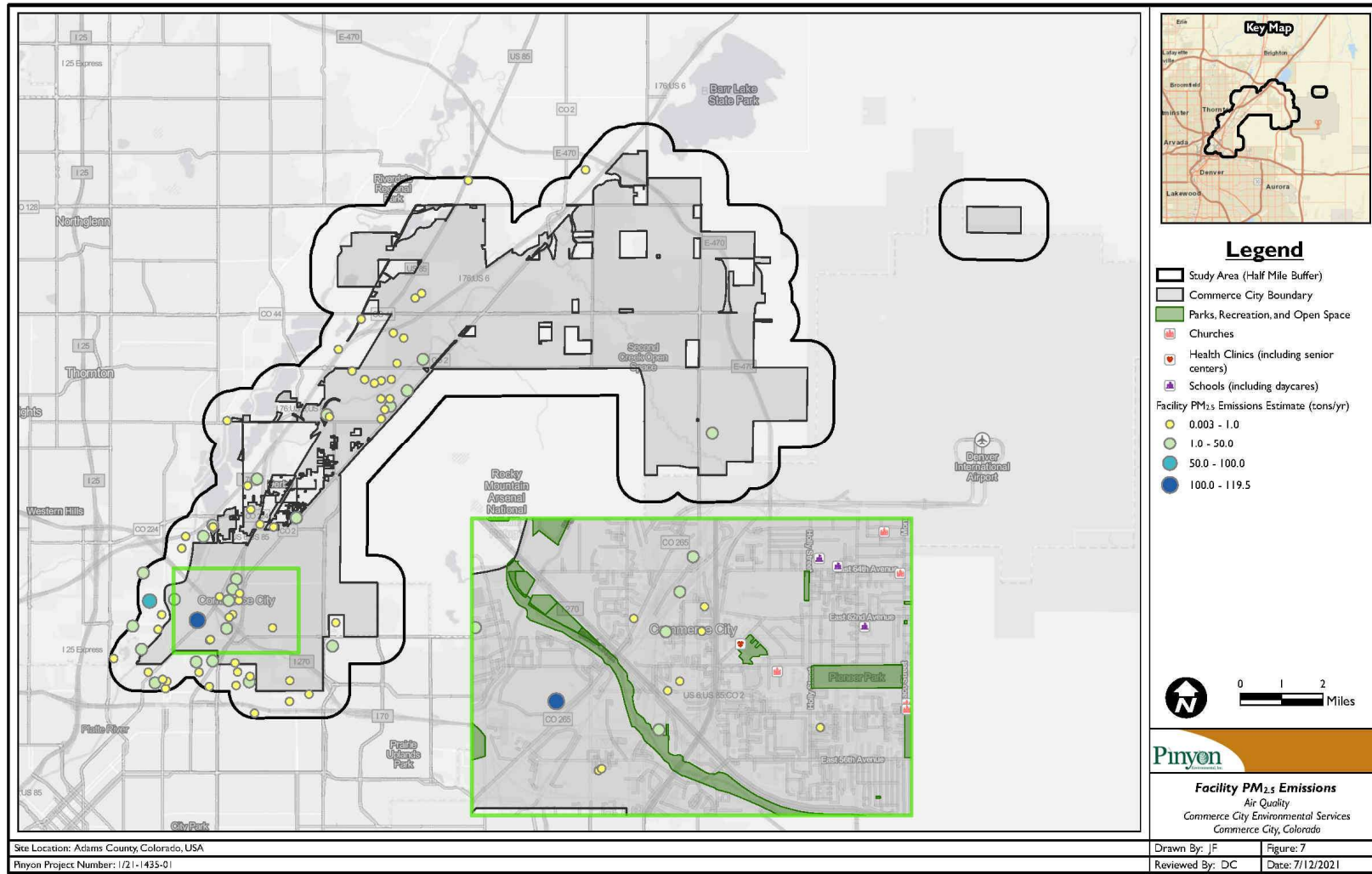
- Adams County – 453 tons/yr
- Arapahoe County – 506 tons/yr
- Denver County – 125 tons/yr
- Weld County – 1,316 tons/yr
- State-wide estimated actual emissions totals – 5,912 tons/yr

Table 10-2. PM_{2.5} Emissions Percentage of Commerce City in County and State Regions

PM _{2.5} Emissions within Study Area	Percent of Adams County Actual Emissions Totals	Percent of State-Wide Actual Emissions Totals
292 tons/yr	64%	5%

Source: CDPHE APCD 2021

Figure 7. Facility PM_{2.5} Emissions



11. Total Hazardous Air Pollutants (HAPs)

Hazardous air pollutants, also known as toxic air pollutants or air toxics, are a series of "known or suspected pollutants to cause cancer or other serious health effects, such as reproductive effects or congenital disabilities, or adverse environmental effects" (U.S. EPA, 2017b). The U.S. EPA currently classifies 187 toxic air pollutants such as benzene, found in gasoline; perchloroethylene, which is emitted from some dry cleaning facilities; and methylene chloride solvent and paint stripper by several industries (U.S. EPA, 2017b). The Total HAPs categorized in the emissions data include acetaldehyde, benzene, ethylbenzene, formaldehyde, n-hexane, toluene, and xylenes.

11.1 Total HAPs Health Concerns

Exposure to toxic air pollutants for prolonged durations may increase the risk of cancer or experiencing other serious health effects. Health effects can damage the immune system and neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (U.S. EPA, 2017b).

11.2 Summary of Total HAPs Emissions

Using readily available data acquired from active APCD permits, 43 facilities have the potential to emit Total HAPs. These 43 facilities in and within a ½ mile of Commerce City limits total 124 tons/yr. In Table 11-1 below, the ten (10) highest emitters of estimated actual annual Total HAPs emissions have been identified.

Table 11-1. Ten (10) Highest Sources of Total HAPs Emissions

Source Name	Source Description	Source Location	Facility Estimated Actual Annual Total HAPs (ton/year)
Allied Waste Systems – Tower Landfill	Solid Waste Landfill	8480 Tower Rd	30.12
Suncor Energy – Denver Refinery	Petroleum Refinery	5801 Brighton Blvd	19.74
Public Service Co – Cherokee Generating Station	Electric Power Generation	6198 Franklin St	19.38
U.E Compression – Henderson Facility	Coating & Blasting – Structural Steel	9461 Willow Ct	9.20
Painting & Fiberglass Inc.	Fiber Glass Parts Manufacturing	10201 E 107 th Pl	6.58
Phillips 66 Pipeline – Denver Terminal	Petroleum Products Storage/Distribution	3960 E 56 th Ave	5.72
Nustar Logistics – Denver Terminal	Petroleum Products Storage/Distribution	3601 E 56 th Ave	3.94
Good Paint, LLC	Heavy Equipment Surface Coating	4404 E 60 th Ave	3.21
Birko Corp – Chemical Blending Plant	Chemical Mixtures	9152 Yosemite St	2.43

Source Name	Source Description	Source Location	Facility Estimated Actual Annual Total HAPs (ton/year)
Master Builders Solutions – Brighton Facility	Adhesive Manufacturing	10601 Fulton St	2.40

Source: CDPHE APCD 2021

11.3 Sources of Total HAPs Emissions

Sources of Total HAPs analyzed from data recorded in this report involve the following industries, services, and products, including percent of total HAPs emissions estimates:

- Five (5) petroleum refining and related industries (20% of total source emissions)
- Three (3) electric gas and sanitary services (41% of total source emissions)
- Six (6) oil and gas extraction and related services (11% of total source emissions)
- One (1) food and kindred products (0.3% of total source emissions)
- Twenty-eight (28) other industrial services (28% of total source emissions)

11.4 Locations of Total HAPs Emissions

Locations of the 43 sources of Total HAPs analyzed from data recorded in this report are represented in Figure 8.

Total HAPs sources located in the southern portion of the study area south of E 80th Avenue include:

- Twenty-six (26) sources greater than or equal to 0.0006 tons/yr and less than or equal to 10.0 tons/yr
- Two (2) sources greater than 10.0 tons/yr and less than or equal to 25.0 tons/yr
- No sources greater than 25.0 tons/yr and less than or equal to 30.1 tons/yr

Total HAPs sources located along the western portion of the study area, west of Colorado State Highway 2 and north of E 80th Avenue, include:

- Ten (10) sources greater than or equal to 0.0006 tons/yr and less than or equal to 10.0 tons/yr
- No sources greater than 10.0 tons/yr and less than or equal to 25.0 tons/yr
- No sources greater than 25.0 tons/yr and less than or equal to 30.1 tons/yr

Total HAPs sources located along the northern and eastern portion of Commerce City, east of Colorado State Highway 2, include:

- Four (4) sources greater than or equal to 0.0006 tons/yr and less than or equal to 10.0 tons/yr

City of Commerce City

- No sources greater than 10.0 tons/yr and less than or equal to 25.0 tons/yr
- One (1) source greater than 25.0 tons/yr and less than or equal to 30.1 tons/yr

11.5 Breakdown of Total HAPs Emissions

Total HAPs emissions estimates extrapolated from the data provided by APCD for Adams, Arapahoe, Denver, and Weld Counties, in addition to estimated state-wide Colorado emissions totals, are as follows:

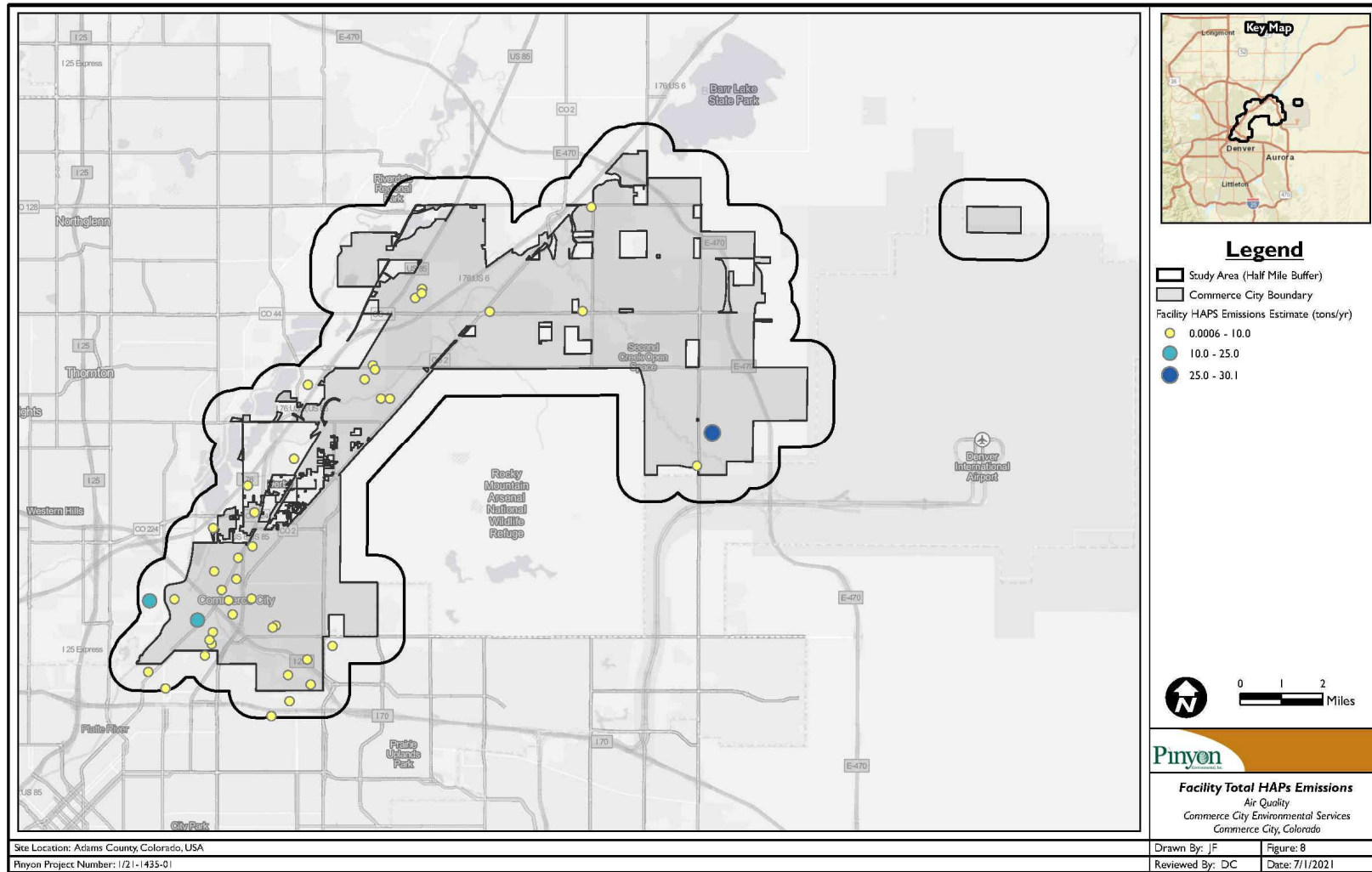
- Adams County – 406 tons/yr
- Arapahoe County – 113 tons/yr
- Denver County – 40 tons/yr
- Weld County – 2,116 tons/yr
- State-wide estimated actual emissions totals – 5,112 tons/yr

Table 11-2. Total HAPs Emissions Percentage of Commerce City in County and State Regions

Total HAPs Emissions within Study Area	Percent of Adams County Actual Emissions Totals	Percent of State-Wide Actual Emissions Totals
124 tons/yr	31%	2%

Source: CDPHE APCD 2021

Figure 8. Facility Total HAPs Emissions



12. Methane (CH₄)

For information on CH₄ emissions within Commerce City, please refer to the 2021 GHG emissions report prepared by Lotus Engineering and Sustainability for Commerce City.

13. Interactive Story Map

Pinyon has organized the air pollutant data within this report into an online, interactive ArcGIS story map. The story map is intended to supplement this community-wide impacts report, providing a narrative and easy access to visualize the associated data. Commerce City can use this as a tool to quickly scope air quality emissions that may be located near communities and businesses to make more informed decisions. In addition, the story map can be viewed and shared with the public or whomever Commerce City provides the ArcGIS login credentials. The story map can be accessed via most web browsers and devices.

To access the Story Map, visit the following hyperlink: _____

14. Data Gaps

Pinyon collected data from 154 emissions sources. Due to the high volume of data and variety of sources from which these data were collected, some data gaps in the community-wide impacts report may exist. In addition, there are thresholds in which sources of air pollution are not required to obtain a permit or file an APEN. Therefore, if a facility does not have a public record of emissions, this does not mean there are no potential emissions from the facility.

Below is a list of data gaps observed by Pinyon during the preparation of the community-wide impacts report:

- The air permits where emissions data were collected are active as of the date of this report. Future use of this report may not reflect estimated actual source emissions as equipment or production at these facilities may change. Pinyon compiled data from the most recent permit submittals filed with APCD. Additional emissions estimates of air pollutants may exist within the study area, such as those currently under APCD review that have not been issued air permits.
- Evaluation of mobile and non-road and on-road sources of pollution such as vehicle exhaust, tractor-trailers, lawnmowers, wood-burning fires, etc., did not occur, as these are not stationary sources that require any sort of documentation of emissions.
- The "shut-in" status of each oil and gas well recorded is current as of the date of this report. Therefore, future use of this report may not reflect future well status.
- Both the area attainment statuses and NAAQS screening levels presented in this report are current as of the date of this report. Therefore, future use of this report may not reflect then-current regulatory conditions.

15. References

- Colorado Department of Public Health and Environment (CDPHE), 2020. *2019 Air Quality Data Report*. September 2020.
- CDPHE, 2021a. *About Title V operating permits*. Accessed from: <https://cdphe.colorado.gov/apens-and-air-permits/about-title-v-operating-permits>
- CDPHE, 2021b. *Do you need an APEN or air permit?* Accessed from: <https://cdphe.colorado.gov/apens-and-air-permits/do-you-need-an-apen-or-air-permit>
- Colorado Department of Transportation (CDOT), 2021. *Highway Data Explorer*. Accessed from: <https://dtdapps.coloradodot.info/otis/HighwayData>
- Colorado Oil and Gas Conservation Commission (COGCC). n.d. *Glossary of Oil and Gas Terms*. Accessed from: https://cogcc.state.co.us/COGIS_Help/glossary.htm
- United States Environmental Protection Agency (U.S. EPA), 2016a. *Carbon Monoxide Pollution in Outdoor Air*. Accessed from: <https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#What%20is%20CO>. September 2016.
- U.S. EPA, 2016b. *Nitrogen Dioxide (NO₂) Pollution*. Accessed from: <https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects>. September 2016.
- U.S. EPA, 2017a. *Technical Overview of Volatile Organic Compounds*. Accessed from: <https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds>. April 2017.
- U.S. EPA, 2017b. *What are Hazardous Air Pollutants?* Accessed from: <https://www.epa.gov/haps/what-are-hazardous-air-pollutants>. February 2017.
- U.S. EPA, 2019. *Sulfur Dioxide (SO₂) Pollution*. Accessed from: <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#what%20is%20so2>. April 2019.
- U.S. EPA, 2020. *How Mobile Source Pollution Affects Your Health*. Accessed from: <https://www.epa.gov/mobile-source-pollution/how-mobile-source-pollution-affects-your-health>. September 2020.
- U.S. EPA, 2021a. *Colorado Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*. Accessed from: https://www3.epa.gov/airquality/greenbook/anayo_co.html. June 2021.
- U.S. EPA, 2021b. *NAAQS Table*. Accessed from: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>. February 2021.
- U.S. EPA, 2021c. (2021, May). *Particulate Matter (PM) Pollution*. Accessed from: <https://www.epa.gov/pm-pollution/particulate-matter-pm-basics>. May 2021

Appendices

Appendix A. Nitrogen Oxides (NO_x) Emissions Summary

Nitrogen Oxides (NO_x) Emissions Summary

Facility Name	Source Type	Source Description	Source Location	Facility Emissions Estimate (tons/yr)
Suncor Energy - Denver Refinery	Petroleum Refining and Related Industries	Petroleum Refining	5801 Brighton Blvd	618.7
Public Service Co. - Cherokee Plant	Electric Gas and Sanitary Services	Electrical Generation	6198 Franklin St	383.0
Metro Wastewater Reclamation Dist/Trigen	Electric Gas and Sanitary Services	Sewage Systems	6450 York St	70.33
Allied Waste Systems - Tower Landfill	Electric Gas and Sanitary Services	Landfill	8480 Tower Rd	28.72
Phillips 66 Pipeline - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Products Storage/Distribution Terminal	3960 E 56th Ave	26.15
Adams County Government Center	Other Industrial Services	Emergency Generator	4430 S Adams County Pkwy	13.25
Darling Ingredients, Inc.	Food and Kindred Products	Rendering Plant	5701 York St # 5800	9.08
Crystal Packaging	Petroleum Refining and Related Industries	Blending of Lubricants and Glycol (for Deicers)	9155 Boston St	8.75
Aggregate Industries - Dahlia HMA	Petroleum Refining and Related Industries	Asphalt Batch Plant	4801 E 78th Ave	7.05
Trustile Doors, LLC	Other Industrial Services	Wood Door Manufacturing Facility	1780 E 66th Ave	5.70
Brannan Sand & Gravel	Petroleum Refining and Related Industries	Hot Mix Asphalt Plant	7271 Colorado Blvd	5.57
Sinclair - Denver Products Terminal	Oil and Gas Extraction and Related Services	Petroleum Terminal	8581 E 96th Ave	4.30
Ready Mixed Concrete Co. - Franklin Plant 2	Other Industrial Services	Concrete Batch Plant	5775 Franklin St	3.65
City of Thornton - East Gravel Lakes	Other Industrial Services	East Gravel Lakes Pump Station #4	4300 East 88th Ave	3.32
City & County of Denver - Roslyn	Other Industrial Services	Maintenance Complex	5440 Roslyn St	3.18
Denver Water - Reuse Plant	Electric Gas and Sanitary Services	Water Supply	5650 York St	2.49
NRG Reliability Solutions - Mile Hi Bakery	Other Industrial Services	Emergency Generators	4545 East 51st Ave	2.27
Safeway Milk Plant	Food and Kindred Products	Milk Plant	4301 Forest St	1.85
Colorado Asphalt Services	Petroleum Refining and Related Industries	Asphalt Paving	3700 E 56th Ave	1.77
Extraction Oil & Gas	Oil and Gas Extraction and Related Services	Well Production Facility - Box Elder Farms 31-21 #2, 41-21 #1	NWN SEC 21 T2S R66W	1.75
BKEP Materials - Denver C & K	Petroleum Refining and Related Industries	Liquid Asphalt Blending, Storage, and Distribution	4310 E 60th Ave	1.65
WestRock CP - WestRock Denver Corrugated	Other Industrial Services	Corrugated Paper Products Manufacturing Facility	5050 E 50th Ave	1.59
CO Asphalt Services, LLC - Recycle Plant	Petroleum Refining and Related Industries	Recycle Plant Site	3400 E 56th Ave	1.50
Alsco	Other Industrial Services	Industrial Laundry	5090 Cook St	1.22
4283929 Delaware, LLC - Henderson	Other Industrial Services	Pet Crematory	9731 Hanover Ct E	1.21
Magellan Pipeline Co. - Dupont Terminal	Oil and Gas Extraction and Related Services	Petroleum Bulk Terminal	8160 Krameria St	1.17
Nustar Logistics, LP - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Products Distribution Terminal	3601 E 56th Ave	1.10
Ardent Mills - Commerce City Mill	Food and Kindred Products	Animal Feed and Flour Mill	4545 E 64th Ave	1.10
Colorado Serum Co.	Other Industrial Services	Veterinary Products	4950 York St	0.97
Colorado Wilbert Vault Co.	Other Industrial Services	Burial Vaults & Cremation	4985 Locust St	0.59
Caterpillar, Inc.	Other Industrial Services	Machine Parts Distribution Warehouse	4705 E 48th Ave	0.48
Cintas Corporation No. 2	Other Industrial Services	Industrial Laundry	5100 Race Ct	0.39
Purina Animal Nutrition, LLC	Food and Kindred Products	Manufacture of Animal Feed	6151 Brighton Blvd	0.31
Purina Animal Nutrition - Henderson	Food and Kindred Products	Animal Feed Manufacturing Facility	9200 E 90th Ave	0.31
U.S. Postal Service - Denver Bulk Mail Center	Other Industrial Services	USPS Parcel Processing Facility	7755 E 56th Ave	0.30
PSC Industrial - Portable Vapor Combustor	Oil and Gas Extraction and Related Services	Portable Vapor Combustor	6511 Colorado Blvd #2	0.24
Denver Pet Cemetery	Other Industrial Services	Pet Crematory	5721 E 72nd Ave	0.16
Basalite Concrete Products	Other Industrial Services	Cement Concrete Blocks / Pavers Manufacturing Plant	4900 Race St	0.10

Source: CDPHE APCD 2021

Notes:

1. List organized from highest to lowest estimated actual annual NO_x emissions.

TOTAL	1,215
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Appendix B. Carbon Monoxide (CO) Emissions Summary

Carbon Monoxide (CO) Emissions Summary

Facility Name	Source Type	Source Description	Source Location	Facility Emissions Estimate (tons/yr)
Suncor Energy - Denver Refinery	Petroleum Refining and Related Industries	Petroleum Refining	5801 Brighton Blvd	494.3
Public Service Co. - Cherokee Plant	Electric Gas and Sanitary Services	Electrical Generation	6198 Franklin St	315.8
Allied Waste Systems - Tower Landfill	Electric Gas and Sanitary Services	Landfill	8480 Tower Rd	102.1
Phillips 66 Pipeline - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Products Storage/Distribution Terminal	3960 E 56th Ave	69.86
Metrol Wastewater Reclamation Dist/Trigen	Electric Gas and Sanitary Services	Sewage Systems	6450 York St	41.76
Brannan Sand & Gravel	Petroleum Refining and Related Industries	Hot Mix Asphalt Plant	7271 Colorado Blvd	27.87
City & County of Denver - Roslyn	Other Industrial Services	Maintenance Complex	5440 Roslyn St	14.20
Aggregate Industries - Dahlia HMA	Petroleum Refining and Related Industries	Asphalt Batch Plant	4801 E 78th Ave	11.12
Sinclair - Denver Products Terminal	Oil and Gas Extraction and Related Services	Petroleum Terminal	8581 E 96th Ave	10.80
Colorado Asphalt Services	Petroleum Refining and Related Industries	Asphalt Paving	3700 E 56th Ave	8.87
Darling Ingredients, Inc.	Food and Kindred Products	Rendering Plant	5701 York St # 5800	7.63
Crystal Packaging	Petroleum Refining and Related Industries	Blending of Lubricants and Glycol (for Deicers)	9155 Boston St	7.35
Trustile Doors, LLC	Other Industrial Services	Wood Door Manufacturing Facility	1780 E 66th Ave	7.00
Ready Mixed Concrete Co. - Franklin Plant 2	Other Industrial Services	Concrete Batch Plant	5775 Franklin St	6.68
Nustar Logistics, LP - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Products Distribution Terminal	3601 E 56th Ave	5.49
United Asphalts, Inc	Petroleum Refining and Related Industries	Roofing Asphalt Manufacturing	4306 E 60th Ave	4.17
Adams County Government Center	Other Industrial Services	Emergency Generator	4430 S Adams County Pkwy	3.04
Magellan Pipeline Co. - Dupont Terminal	Oil and Gas Extraction and Related Services	Petroleum Bulk Terminal	8160 Krameria St	2.93
NRG Reliability Solutions - Mile Hi Bakery	Other Industrial Services	Emergency Generators	4545 East 51st Ave	2.41
Bimbo Bakeries USA, Inc.	Food and Kindred Products	Bread And Bun Bakery	7300 Brighton Blvd	2.26
4283929 Delaware, LLC - Henderson	Other Industrial Services	Pet Crematory	9731 Hanover Ct E	2.15
Safeway Milk Plant	Food and Kindred Products	Milk Plant	4301 Forest St	1.56
BKEP Materials - Denver C & K	Petroleum Refining and Related Industries	Liquid Asphalt: Blending, Storage, and Distribution	4310 E 60th Ave	1.38
WestRock CP - WestRock Denver Corrugated	Other Industrial Services	Corrugated Paper Products Manufacturing Facility	5050 E 50th Ave	1.33
U.S. Postal Service - Denver Bulk Mail Center	Other Industrial Services	USPS Parcel Processing Facility	7755 E 56th Ave	1.04
Alsco	Other Industrial Services	Industrial Laundry	5090 Cook St	1.03
Colorado Serum Co.	Other Industrial Services	Veterinary Products	4950 York St	0.58
Extraction Oil & Gas	Oil and Gas Extraction and Related Services	Well Production Facility - Box Elder Farms 31-21 #2, 41-21 #1	NWNE SEC 21 T2S R66W	0.53
Purina Animal Nutrition - Henderson	Food and Kindred Products	Animal Feed Manufacturing Facility	9200 E 90th Ave	0.52
City of Thornton - East Gravel Lakes	Other Industrial Services	East Gravel Lakes Pump Station #4	4300 East 88th Ave	0.48
Cintas Corporation No. 2	Other Industrial Services	Industrial Laundry	5100 Race Ct	0.33
Purina Animal Nutrition, LLC	Food and Kindred Products	Manufacture Of Animal Feed	6151 Brighton Blvd	0.31
CO Asphalt Services, LLC - Recycle Plant	Petroleum Refining and Related Industries	Recycle Plant Site	3400 E 56th Ave	0.30
PSC Industrial - Portable Vapor Combustor	Oil and Gas Extraction and Related Services	Portable Vapor Combustor	6511 Colorado Blvd #2	0.19
Caterpillar, Inc.	Other Industrial Services	Machine Parts Distribution Warehouse	4705 E 48th Ave	0.11
Ardent Mills - Commerce City Mill	Food and Kindred Products	Animal Feed and Flour Mill	4545 E 64th Ave	0.10
Denver Pet Cemetery	Other Industrial Services	Pet Crematory	5721 E 72nd Ave	0.10
Basalite Concrete Products	Other Industrial Services	Cement Concrete Blocks / Pavers Manufacturing Plant	4900 Race St	0.08
Denver Water - Reuse Plant	Electric Gas and Sanitary Services	Electric Gas and Sanitary Services - Water Supply	5650 York St	0.04
Colorado Wilbert Vault Co.	Other Industrial Services	Burial Vaults & Cremation	4985 Locust St	0.02
Gem Mobile - Port Thermal Oxidizer	Other Industrial Services	Portable Thermal Oxidizer for Tank De-Gassing - Gem Mts	5801 Brighton Blvd	0.004

Source: CDPHE APCD 2021

Notes:

1. List organized from highest to lowest estimated actual annual CO emissions.

TOTAL	1,158
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Appendix C. Volatile Organic Compounds (VOCs) Emissions Summary

Volatile Organic Compounds (VOCs) Emissions Summary

Facility Name	Source Type	Source Description	Source Location	Facility Emissions Estimate (tons/yr)
Suncor Energy - Denver Refinery	Petroleum Refining and Related Industries	Petroleum Refining	5801 Brighton Blvd	469.0
Sinclair - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Terminal	8581 E 96th Ave	128.8
Phillips 66 Pipeline - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Products Storage/Distribution Terminal	3960 E 56th Ave	128.0
Master Builders Solutions - Brighton Facility	Other Industrial Services	Sealant/Adhesive Manufacture	10601 Fulton St	65.18
Public Service Co. - Cherokee Plant	Electric Gas and Sanitary Services	Electrical Generation	6198 Franklin St	64.87
Bimbo Bakeries USA, Inc.	Food and Kindred Products	Bread and Bun Bakery	7300 Brighton Blvd	61.83
Magellan Pipeline Co. - Dupont Terminal	Oil and Gas Extraction and Related Services	Petroleum Bulk Terminal	8160 Krameria St	54.48
Allied Waste Systems - Tower Landfill	Electric Gas and Sanitary Services	Landfill	8480 Tower Rd	27.83
Cintas Corporation No. 2	Other Industrial Services	Industrial Laundry	5100 Race Ct	25.27
Metro Wastewater Reclamation Dist/Trigen	Electric Gas and Sanitary Services	Sewage Systems	6450 York St	17.46
King Soopers, Inc. - Fuel Center #92	Other Industrial Services	Retail Fuel Station	6175 Parkway Dr	15.60
Nustar Logistics, LP - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Products Distribution Terminal	3601 E 56th Ave	13.43
Merritt Trailers - Henderson Facility	Other Industrial Services	Manufacturing Truck/Trailer Accessories	9339 Brighton Rd	12.98
Trustite Doors, LLC	Other Industrial Services	Wood Door Manufacturing Facility	1780 E 66th Ave	10.60
Dillon Cos - King Soopers Fuel Facility #114	Other Industrial Services	Gasoline Refueling Station	15041 E 104th Ave	10.33
U.E. Compression - Henderson Facility	Other Industrial Services	Coating and Blasting Of Structural Steel	9461 Willow Ct	9.94
Harlan Bakeries Colorado, LLC	Food and Kindred Products	Wholesale Bakery	1803 E 58th Ave	9.18
Sashco, Inc.	Other Industrial Services	Caulk and Wood Stain Manufacturing	10300 E 107th Pl	8.04
Bosselman Tank & Trail	Other Industrial Services	Service Tanker Trucks	8999 E 96th Ave	7.85
Brannan Sand & Gravel	Petroleum Refining and Related Industries	Hot Mix Asphalt Plant	7271 Colorado Blvd	7.48
Waste Management of CO - Denver North	Other Industrial Services	Vehicle and Trash Collection Equipment Support And Maintenance	7780 E 96th Ave	7.31
NRG Reliability Solutions - Mile Hi Bakery	Other Industrial Services	Emergency Generators	4545 East 51st Ave	7.24
City & County of Denver - Roslyn	Other Industrial Services	Maintenance Complex	5440 Roslyn St	7.13
7-Eleven, Inc. - Store 37570	Other Industrial Services	Convenience Store With Fuel Dispensing	8836 E. 96th Ave	6.56
7-Eleven, Inc. - Store 38351	Other Industrial Services	Service Station	15200 E 120th Ave	5.52
7-Eleven, Inc. - Store 37291	Other Industrial Services	Convenience Store and Gasoline Station	12241 East 104th Ave	5.52
Empire Truck & Equip Co.	Other Industrial Services	Auto Body Paint Booth	7040 Eudora Dr	5.30
Veolia ES Tech Solutions - Henderson	Other Industrial Services	Solvent Recycler	9131 E 96th Ave	5.07
Gasamat Oil Corp #103	Other Industrial Services	Retail Gasoline Station	5896 E 72nd Ave	4.92
Rocky Mountain Transload - Dri	Other Industrial Services	Rail Car Unloading	4620 Monaco St	4.88
CST Metro, LLC - DBA Corner Store #4074	Other Industrial Services	Retail Gasoline Station	5601 Quebec St	4.80
Aggregate Industries - Dahlia HMA	Petroleum Refining and Related Industries	Asphalt Batch Plant	4801 E 78th Ave	4.77
Riggs Oil Co., Inc.	Oil and Gas Extraction and Related Services	Bulk Storage Facility	6795 Brighton Blvd	4.76
Extraction Oil & Gas	Oil and Gas Extraction and Related Services	Well Production Facility - HSR-TR Ranch 16-3, 10-3 (Shut In)	SESE-3-25-66W	4.73
7-Eleven, Inc. - Store 36464	Other Industrial Services	Fuel Dispensing Station	8111 Tower Rd	4.39
Steel Storage Systems, Inc.	Other Industrial Services	Paint Booth	6301 Dexter St	4.32
Allied Waste Transport	Other Industrial Services	Industrial Spray Coating	5075 E 74th Ave	4.10
7-Eleven - Store #38170	Other Industrial Services	Service Station	5605 East 56th Ave	3.99
Extraction Oil & Gas	Oil and Gas Extraction and Related Services	Well Production Facility - HSR Cunningham 7-10 (Shut In)	SWNE-10-25-66W	3.92
Denver Truck & Trailer	Other Industrial Services	Automotive - Top, Body, and Upholstery Repair Shops and Paint Shops	5280 Newport St	3.86
Darling Ingredients, Inc.	Food and Kindred Products	Rendering Plant	5701 York St # 5800	3.72
Suncor Energy Sales, Inc - Henderson 66	Oil and Gas Extraction and Related Services	Gasoline Underground Storage Tanks	9001 I-76 Service Rd	3.71
NR Parentco - Mothership	Other Industrial Services	Mip Manufacturing Facility	4990 Dahlia St	3.68
A&E Tire	Other Industrial Services	Rubber Tire Retreading Facility	3855 E 52nd Ave	3.63
7-Eleven, Inc. - Store 35864	Other Industrial Services	Fuel Dispensing Station	8991 E 104th Ave	3.51
E Painting & Fiberglass, Inc.	Other Industrial Services	Manufacturing of Fiberglass Parts	10201 E 107th Pl	3.45
Extraction Oil & Gas	Oil and Gas Extraction and Related Services	Well Production Facility - HSR Lawson 8-3 (Shut In)	SENE-3-25-66W	3.44
Good Paint, LLC - Metal Finishing Facility	Other Industrial Services	Powder Coating and Paint Spray Operations - Metal Finishing	5720 Holly St	3.24
Stinker Stores - Stinker #301	Other Industrial Services	Retail Gasoline Station	6355 E 72nd Ave	3.15
7-Eleven, Inc. - Store 34087	Other Industrial Services	Fuel Service Station	15610 E 104th Ave	3.04
Jenco Industries - DBA Maaco Auto No 707	Other Industrial Services	Automotive Body Repair and Refinishing	4910 Oneida St	2.92
Sapp Brothers Denver	Other Industrial Services	Truck Stop	7120 E 49th Ave	2.92
Eaton Metal Products Co.	Other Industrial Services	Manufacture of Metal Plate Products	4800 York St	2.90
CST Metro, LLC - DBA Corner Store #1165	Other Industrial Services	Retail Gasoline Station	4500 E 74th Ave	2.77
7-Eleven, Inc. - Store 36775	Other Industrial Services	Service Station	5797 Quebec St	2.76
Colorado Asphalt Services	Petroleum Refining and Related Industries	Asphalt Paving	3700 E 56th Ave	2.53
Extraction Oil & Gas	Oil and Gas Extraction and Related Services	Well Production Facility - HSR Lunnon 2-3 (Shut In)	NWNE-3-25-66W	2.38
Zarco Equipment, Inc.	Other Industrial Services	Sandblasting and Surface Coating of Heavy Equipment	9885 Brighton Rd	2.25
PSC Industrial - Portable Vapor Combustor	Oil and Gas Extraction and Related Services	Portable Vapor Combustor	6511 Colorado Blvd #2	2.24
Apro DBA United Pacific - My Goods #6655	Other Industrial Services	Fuel Station	18314 E 104th Ave	2.22
Extraction Oil & Gas	Oil and Gas Extraction and Related Services	Well Production Facility - HSR Aclard 5-2 (Shut In)	SWNW-2-25-66W	2.06
7-Eleven, Inc. - Store 35828	Other Industrial Services	Retail Fuel Station	6966 Dahlia	2.02
Apro DBA United Pacific - My Goods #6504	Other Industrial Services	Retail Gasoline Station	4981 E 64th Ave	2.01
Airgas Intermountain, Inc	Other Industrial Services	Paint Spray Operations	8775 E 93rd Place	2.00
7-Eleven, Inc. - Store 39296	Other Industrial Services	Gasoline Retail Sales	8820 Colorado Blvd	1.95
7-Eleven, Inc. - Store 36013	Other Industrial Services	Fuel Dispensing Station	12060 East 120th Ave	1.86
Good Paint, LLC - Metal Finishing Facility	Other Industrial Services	Heavy Equipment Surface Coating	4404 E 60th Ave	1.60
CST Metro, LLC - DBA Corner Store #669	Other Industrial Services	Retail Gasoline Station	5600 E 64th Ave	1.54
Univar - Chemical Dist.	Other Industrial Services	Chemical Distribution	4300 Holly St	1.54
Waste Connections, Inc. - Denver Hauling	Other Industrial Services	Container Surface Coating	5500 Franklin St	1.44
Good Paint, LLC	Other Industrial Services	Metal Parts Coating	6292 Colorado Blvd	1.37
U-Save-Mart	Other Industrial Services	Service Station	6590 Monaco St	1.34
Extraction Oil & Gas	Oil and Gas Extraction and Related Services	Well Production Facility - Box Elder Farms 31-21 #2, 41-21 #1 (Shut In)	NWNE Sec 21 T2S R66W	1.34
Intermountain Wholesale, Inc.	Other Industrial Services	Trailer Manufacturer	4565 E 74th Ave	1.25
Joaquin Manufacturing Corp.	Other Industrial Services	Manufacture of Fiberglass Structures (Buildings)	6900 Elm St	1.21
Sutrak Corp	Other Industrial Services	Manufacturing Condensation & Evaporative Coils for AC Systems	4903 Oneida St	1.07
7-Eleven, Inc. - Store 23829	Other Industrial Services	Convenience Store	6302 E 72nd Ave	1.03
Central Body & Truck Repair Sawaya Body	Other Industrial Services	Auto Body Repair Shop	5300 Monroe St	1.02
BJ's Auto Theft Repair	Other Industrial Services	Paint Spray Booth	7051 E 56th Ave	1.00
Shoco Oil, Inc.	Other Industrial Services	Gas & Diesel Service Station	5135 E 74th Ave	0.98
Commerce City Collision	Other Industrial Services	Auto Body Repair and Refinishing Facility	5421 E 52nd Ave	0.82
United Parcel Service	Other Industrial Services	Retail Gasoline Station	5020 Ivy St	0.78

Facility Name	Source Type	Source Description	Source Location	Facility Emissions Estimate (tons/yr)
Universal Fleet RV and Auto Collision	Other Industrial Services	Automotive Body Repair and Refinishing	4545 E 52nd Ave	0.75
Divine Coaches	Other Industrial Services	Auto Paint Booth	5491 Newport St	0.68
Gasmat Oil Corp. #537	Other Industrial Services	Retail Gasoline Station	4545 E 52nd Ave	0.64
Heritage Window Restoration	Other Industrial Services	Millwork / Wood Finishing	5800 E 58th Ave., Unit K	0.64
Crystal Packaging	Petroleum Refining and Related Industries	Blending of Lubricants and Glycol (For Deicers)	9155 Boston St	0.58
RB Food and Gas	Other Industrial Services	Retail Gasoline Station	11010 E 120th Ave	0.58
Murphy Oil USA - Murphy's Express 8825	Other Industrial Services	Service Station	8799 Brighton Rod	0.52
U-Pump-It - No 802	Other Industrial Services	Retail Gasoline Station	5403 Quebec St	0.51
Citaula Brothers 3 - Shop N Save	Other Industrial Services	Retail Gasoline Station	7191 Quebec St	0.47
Adams County Government Center	Other Industrial Services	Adams County Government Center - Emergency Generator	4430 S Adams County Pkwy	0.39
Diversified Body & Paint Shop	Other Industrial Services	Auto Body Repair and Refinishing - Commercial Truck and RV	9551 Willow Court	0.35
Safeway Milk Plant	Food and Kindred Products	Milk Plant	4301 Forest St	0.35
Green Brothers Oil Co.	Other Industrial Services	Gasoline Dispensation	5335 Harrison St	0.34
City & County Of Denver	Oil and Gas Extraction and Related Services	E&P Condensate Storage Tank Battery	NWSE Sec 32 T1S R65W	0.32
Offen Petroleum, Inc. - DBA Tartan Texaco	Other Industrial Services	Retail Gasoline Station	5400 Brighton Blvd	0.29
Morgan Corporation	Other Industrial Services	Parts and Service Facility	4985 York St	0.25
Ready Mixed Concrete Co. - Franklin Plant 2	Other Industrial Services	Concrete Batch Plant	5775 Franklin St	0.24
WestRock CP - WestRock Denver Corrugated	Other Industrial Services	Corrugated Paper Products Manufacturing Facility	5050 E 50th Ave	0.23
4283929 Delaware, LLC - Henderson	Other Industrial Services	Pet Crematory	9731 Hanover Ct E	0.22
Ardent Mills - Commerce City Mill	Food and Kindred Products	Animal Feed and Flour Mill	4545 E 64th Ave	0.20
One Stop Automotive DBA Ralphs Auto Body	Other Industrial Services	Auto Body Shop	5895 Quebec St	0.18
Caliber Bodyworks	Other Industrial Services	Autobody Shop	6691 Colorado Blvd	0.17
Colorado Serum Co.	Other Industrial Services	Veterinary Products	4950 York St	0.13
United Asphalts, Inc.	Petroleum Refining and Related Industries	Roofing Asphalt Manufacturing	4306 E 60th Ave	0.12
BKEP Materials - Denver C & K	Petroleum Refining and Related Industries	Liquid Asphalt: Blending, Storage, and Distribution	4310 E 60th Ave	0.09
Denver Pet Cemetery	Other Industrial Services	Pet Crematory	5721 E 72nd Ave	0.08
Denver Water - Reuse Plant	Electric Gas and Sanitary Services	Electric Gas and Sanitary Services - Water Supply	5650 York St	0.07
U.S. Postal Service - Denver Bulk Mail Center	Other Industrial Services	USPS Parcel Processing Facility	7755 E 56th Ave	0.07
Alsco	Other Industrial Services	Industrial Laundry	5090 Cook St	0.07
City of Thornton - East Gravel Lakes	Other Industrial Services	East Gravel Lakes Pump Station #4	4300 East 88th Ave	0.07
CO Asphalt Services, LLC - Recycle Plant	Petroleum Refining and Related Industries	Recycle Plant Site	3400 E 56th Ave	0.05
Purina Animal Nutrition - Henderson	Food and Kindred Products	Animal Feed Manufacturing Facility	9200 E 90th Ave	0.03
U.E. Compression	Other Industrial Services	Paint Spray Operations for Servicing of Equipment	6030 E 50th Ave	0.03
Purina Animal Nutrition, LLC	Food and Kindred Products	Manufacture of Animal Feed	6151 Brighton Blvd	0.02
Ward Transport, Inc.	Other Industrial Services	Bulk Transportation	5901 Dexter St	0.01
Caterpillar, Inc.	Other Industrial Services	Machine Parts Distribution Warehouse	4705 E 48th Ave	0.01
Birko Corp - Chemical Blending Plant	Other Industrial Services	Blending of Chemical Mixtures	9152 Yosemite St	0.01
Gem Mobile - Port Thermal Oxidizer	Other Industrial Services	Portable Thermal Oxidizer for Tank De-Gassing - Gem Mts	5801 Brighton Blvd	0.005
Colorado Wilbert Vault Co.	Other Industrial Services	Burial Vaults & Cremation	4985 Locust St	0.01

Source: CDPHE APCD 2021

Notes:

1. List organized from highest to lowest estimated actual annual VOC emissions.

TOTAL	1,353
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Appendix D. Sulfur Dioxide (SO₂) Emissions Summary

Sulfur Dioxide (SO₂) Emissions Summary

Facility Name	Source Type	Source Description	Source Location	Facility Emissions Estimate (tons/yr)
Suncor Energy - Denver Refinery	Petroleum Refining and Related Industries	Petroleum Refining	5801 Brighton Blvd	223.2
Metro Wastewater Reclamation Dist/Trigen	Electric Gas and Sanitary Services	Sewage Systems	6450 York St	90.84
Allied Waste Systems - Tower Landfill	Electric Gas and Sanitary Services	Landfill	8480 Tower Rd	34.34
Public Service Co. - Cherokee Plant	Electric Gas and Sanitary Services	Electrical Generation	6198 Franklin St	9.84
Aggregate Industries - Dahlia HMA	Petroleum Refining and Related Industries	Asphalt Batch Plant	4801 E 78th Ave	7.43
Adams County Government Center	Other Industrial Services	Adams County Government Center - Emergency Generator	4430 S Adams County Pkwy	4.47
4283929 Delaware, LLC - Henderson	Other Industrial Services	Pet Crematory	9731 Hanover Ct E	1.60
City & County of Denver - Roslyn	Other Industrial Services	Maintenance Complex	5440 Roslyn St	0.78
Brannan Sand & Gravel	Petroleum Refining and Related Industries	Hot Mix Asphalt Plant	7271 Colorado Blvd	0.73
Chemtrade Holdco U.S. - Chemtrade Solutions	Other Industrial Services	Aluminum Sulfate Solution Production Facility	5075 E. 50th Ave	0.65
U.S. Postal Service - Denver Bulk Mail Center	Other Industrial Services	USPS Parcel Processing Facility	7755 E 56th Ave	0.36
Trustite Doors, LLC	Other Industrial Services	Wood Door Manufacturing Facility	1780 E 66th Ave	0.30
Colorado Serum Co.	Other Industrial Services	Veterinary Products	4950 York St	0.29
Colorado Asphalt Services	Petroleum Refining and Related Industries	Asphalt Paving	3700 E 56th Ave	0.23
Colorado Wilbert Vault Co.	Other Industrial Services	Burial Vaults & Cremation	4985 Locust St	0.17
City of Thornton - East Gravel Lakes	Other Industrial Services	East Gravel Lakes Pump Station #4	4300 East 88th Ave	0.08
Denver Pet Cemetery	Other Industrial Services	Pet Crematory	5721 E 72nd Ave	0.08
Darling Ingredients Inc.	Food and Kindred Products	Rendering Plant	5701 York St # 5800	0.05
Crystal Packaging	Petroleum Refining and Related Industries	Blending of Lubricants and Glycol (for Deicers)	9155 Boston St	0.05
Bimbo Bakeries USA, Inc.	Food and Kindred Products	Bread And Bun Bakery	7300 Brighton Blvd	0.02
BKEP Materials - Denver C & K	Petroleum Refining and Related Industries	Liquid Asphalt Blending, Storage, and Distribution	4310 E 60th Ave	0.01
Safeway Milk Plant	Food and Kindred Products	Milk Plant	4301 Forest St	0.01
Purina Animal Nutrition - Henderson	Food and Kindred Products	Animal Feed Manufacturing Facility	9200 E 90th Ave	0.01
Ardent Mills - Commerce City Mill	Food and Kindred Products	Animal Feed and Flour Mill	4545 E 64th Ave	0.01
Westrock CP - Westrock Denver Corrugated	Other Industrial Services	Corrugated Paper Products Manufacturing Facility	5050 E 50th Ave	0.01
Cintas Corporation No. 2	Other Industrial Services	Industrial Laundry	5100 Race Ct	0.002
Purina Animal Nutrition, LLC	Food and Kindred Products	Manufacture of Animal Feed	6151 Brighton Blvd	0.002
NRG Reliability Solutions - Mile Hi Bakery	Other Industrial Services	Emergency Generators	4545 East 51st Ave	0.0001

Source: CDPHE APCD 2021

Notes:

1. List organized from highest to lowest estimated actual annual SO₂ emissions.

TOTAL	376
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Appendix E. Particulate Matter less than 10 micrometers in diameter (PM₁₀) Emissions Summary

Particulate Matter less than 10 micrometers in diameter (PM₁₀) Emissions Summary

Facility Name	Source Type	Source Description	Source Location	Facility Emissions Estimate (tons/yr)
Suncor Energy - Denver Refinery	Petroleum Refining and Related Industries	Petroleum Refining	5801 Brighton Blvd	130.0
Allied Waste Systems - Tower Landfill	Electric Gas and Sanitary Services	Landfill	8480 Tower Rd	91.16
Public Service Co. - Cherokee Plant	Electric Gas and Sanitary Services	Electrical Generation	6198 Franklin St	60.84
Ardent Mills - Commerce City Mill	Food and Kindred Products	Animal Feed and Flour Mill	4545 E 64th Ave	58.86
Commerce City Grain	Food and Kindred Products	Grain Elevator	4600 E 64th Ave	18.25
Albert Frei & Sons - Fernald Pit	Other Industrial Services	S&G Processing Activities	7281 Colorado Blvd	17.65
Basaltite Concrete Products	Other Industrial Services	Cement Concrete Blocks / Pavers Manufacturing Plant	4900 Race St	11.94
General Scrap, Inc. - DBA Evraz N.A.	Other Industrial Services	Scrap Metal Recycling	5601 York St	7.58
JK Concepts	Other Industrial Services	Woodwork Manufacturing	3333 E 52nd Ave	7.00
Brannan Ready Mix Company	Other Industrial Services	Concrete Batching Plant	7291 Colorado Blvd	5.80
United Asphalts, Inc.	Petroleum Refining and Related Industries	Roofing Asphalt Manufacturing	4306 E 60th Ave	5.63
City & County of Denver - Roslyn	Other Industrial Services	Maintenance Complex	5440 Roslyn St	4.98
Trustile Doors, LLC	Other Industrial Services	Wood Door Manufacturing Facility	1780 E 66th Ave	4.60
Good Paint, LLC	Other Industrial Services	Heavy Equipment Surface Coating	4404 E 60th Ave	4.23
A&E Tire	Other Industrial Services	Rubber Tire Retreading Facility	3855 E 52nd Ave	4.20
Metro Wastewater Reclamation Dist/Trigen	Electric Gas and Sanitary Services	Sewage Systems	6450 York St	3.57
Cintas Corporation No. 2	Other Industrial Services	Industrial Laundry	5100 Race Ct	3.52
Ready Mixed Concrete Co. - Franklin Plant 2	Other Industrial Services	Concrete Batch Plant	5775 Franklin St	3.45
GCC Rio Grande, Inc. - Irontdale Terminal	Other Industrial Services	Cement Bulk Distribution Terminal	9290 Heinze Way	3.38
4283929 Delaware, LLC - Henderson	Other Industrial Services	Pet Crematory	9731 Hanover Ct E	3.36
Purina Animal Nutrition - Henderson	Food and Kindred Products	Animal Feed Manufacturing Facility	9200 E 90th Ave	3.30
Rocky Mountain Transload, Inc.	Other Industrial Services	Bulk Materials Transshipment Facility	7350 Kramenia Dr	2.62
Allied Demo - Allied Recycled Aggregates	Electric Gas and Sanitary Services	Concrete / Asphalt Recycling	7901 US Highway 85	2.22
Colorado Asphalt Services	Petroleum Refining and Related Industries	Asphalt Paving	3700 E 56th Ave	2.19
Agg Industries - Commerce City Ready Mix	Other Industrial Services	Concrete Batch Plant	9052 Quince St	2.18
Villalobos Concrete - Port Concrete Plant	Other Industrial Services	Concrete Batch Plant	104th at Brighton Rd	2.18
Brannan Sand & Gravel	Petroleum Refining and Related Industries	Hot Mix Asphalt Plant	7271 Colorado Blvd	1.89
Aggregate Industries - Dahlia HMA	Petroleum Refining and Related Industries	Asphalt Batch Plant	4801 E 78th Ave	1.82
N.A. Galvanizing Co	Other Industrial Services	Hot Dip Galvanizing	4400 E 61st Ave	1.60
WestRock CP - WestRock Denver Corrugated	Other Industrial Services	Corrugated Paper Products Manufacturing Facility	5050 E 50th Ave	1.59
Bestway Concrete Co.	Other Industrial Services	Concrete Batch Plant	5901 York St	1.58
L.G. Everist, Inc.	Other Industrial Services	Stone Products	7321 E 88th Ave Ste 200	1.37
Agfinity, Inc. - Henderson Fertilizer	Other Industrial Services	Dry Fertilizer Blending & Wet Fertilizer Storage	12390 US Highway 85	1.16
Bestway Concrete - Dallas Plant	Other Industrial Services	Concrete Batching Plant	10040 Dallas St	1.14
Pavestone, LLC	Other Industrial Services	Stone, Clay, Glass and Concrete Products	9401 E 96th Ave	0.96
Omega Products International, Inc.	Other Industrial Services	Cement and Acrylic Stucco Products	6101 Dexter St	0.94
Acme Manufacturing - Zinc Plating Facility	Other Industrial Services	Zinc Plating Line for Metal Parts Manufacturing	4650 Leyden St	0.96
Master Builders Solutions - Brighton Facility	Other Industrial Services	Sealant/Adhesive Manufacture	10601 Fulton St	0.80
New Deal Deicing - Denver Plant	Other Industrial Services	Manufacturing of Pelletized Deicing Agents	6883 E 47th Ave Dr	0.84
All Recycling North, LLC	Other Industrial Services	Municipal Waste Transshipment Facility	5350 Washington St	0.80
CO Asphalt Services, LLC - Recycle Plant	Petroleum Refining and Related Industries	Recycle Plant Site	3400 E 56th Ave	0.74
Darling Ingredients, Inc.	Food and Kindred Products	Rendering Plant	5701 York St # 5800	0.70
Crystal Packaging	Petroleum Refining and Related Industries	Blending of Lubricants and Glycol (For Deicers)	9155 Boston St	0.67
Eaton Metal Products Co.	Other Industrial Services	Manufacture of Metal Plate Products	4800 York St	0.55
Zarco Equipment, Inc.	Other Industrial Services	Sandblasting and Surface Coating of Heavy Equipment	9885 Brighton Rd	0.52
Lawrence Construction Co.	Other Industrial Services	Borrow Pit	72nd Avenue, 1200 Ft E of York	0.49
Allied Waste Transport	Other Industrial Services	Industrial Spray Coating	5075 E 74th Ave	0.40
Adams County Government Center	Other Industrial Services	Adams County Government Center - Emergency Generator	4430 S Adams County Parkway	0.39
U.E. Compression - Henderson Facility	Other Industrial Services	Coating and Blasting of Structural Steel	9461 Willow Ct	0.26
Paxton Hardwoods, LLC	Other Industrial Services	Wood Molding Manufacture	4837 Jackson St	0.25
Colorado Serum Co.	Other Industrial Services	Veterinary Products	4950 York St	0.24
Colorado Wilbert Vault Co.	Other Industrial Services	Burial Vaults & Cremation	4985 Locust St	0.23
Bimbo Bakeries USA, Inc.	Food and Kindred Products	Bread And Bun Bakery	7300 Brighton Blvd	0.20
Forterra Pipe/Precast	Other Industrial Services	Concrete Batch Plant	9455 Boston Ct	0.17
CAT Construction Company	Other Industrial Services	Portable Crusher/Screen	6950 York St	0.16
Forterra Pipe/Precast	Other Industrial Services	Concrete Batch Plant	9405 Alton Court	0.16
Commercial Resins Company, Inc.	Other Industrial Services	Rebar Coating & Fabrication	8100 E 96th Ave	0.15
Flashfill Services, LLC - Denver Yard	Other Industrial Services	Fly Ash Storage Silos	8830 Yosemite St	0.14
Safeway Milk Plant	Food and Kindred Products	Milk Plant	4301 Forest St	0.14
BKEP Materials - Denver C & K	Petroleum Refining and Related Industries	Liquid Asphalt Blending, Storage, and Distribution	4310 E 60th Ave	0.12
Chemtrade Holdco U.S. - Chemtrade Solutions	Other Industrial Services	Aluminum Sulfate Solution Production Facility	5075 E. 50th Ave	0.12
Birko Corp - Chemical Blending Plant	Other Industrial Services	Blending of Chemical Mixtures	9152 Yosemite St	0.11
Good Paint, LLC - Metal Finishing Facility	Other Industrial Services	Powder Coating and Paint Spray Operations - Metal Finishing	5720 Holly St	0.10
U.S. Postal Service - Denver Bulk Mail Center	Other Industrial Services	USPS Parcel Processing Facility	7755 E 56th Ave	0.10
AlSCO	Other Industrial Services	Industrial Laundry	5090 Cook St	0.09
City of Thornton - East Gravel Lakes	Other Industrial Services	East Gravel Lakes Pump Station #4	4300 East 88th Ave	0.09
Steel Storage Systems, Inc.	Other Industrial Services	Paint Booth	6301 Dexter St	0.09
Boral Resources - Irontdale Terminal	Other Industrial Services	Portland Cement / Fly Ash Transfer Terminal	Yosemite St at E 88th Ave	0.06
Brannan Sand And Gravel - Port Screen	Other Industrial Services	JCI GT2055 5 X 20 Portable Screen	7271 Colorado Blvd	0.06
Airgas Intermountain, Inc	Other Industrial Services	Paint Spray Operations	8775 E 93rd Pl	0.05
Denver Pet Cemetery	Other Industrial Services	Pet Crematory	5721 E 72nd Ave	0.03
Boral Roofing, LLC	Other Industrial Services	Concrete Roof Tile Manufacturing	10121 Dallas St	0.03
Universal Fleet RV and Auto Collision	Other Industrial Services	Automotive Body Repair and Refinishing	4545 E 52nd Ave	0.03
Purina Animal Nutrition, LLC	Food and Kindred Products	Manufacture of Animal Feed	6151 Brighton Blvd	0.02
Caterpillar, Inc.	Other Industrial Services	Machine Parts Distribution Warehouse	4705 E 48th Ave	0.01
Sashco, Inc.	Other Industrial Services	Caulk And Wood Stain Manufacturing	10300 E 107th Pl	0.01
Boral Materials Tech - Denver Terminal	Other Industrial Services	Ash Handling	9000 E 90th Ave	0.01
Morgan Corporation	Other Industrial Services	Parts and Service Facility	4985 York St	0.004
NRG Reliability Solutions - Mile Hi Bakery	Other Industrial Services	Emergency Generators	4545 East 51st Ave	0.004

Source: CDPHE APCD 2021

Notes:

1. List organized from highest to lowest estimated actual annual PM₁₀ emissions.

TOTAL	490
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Appendix F. Particulate Matter less than 2.5 micrometers in diameter (PM_{2.5}) Emissions Summary

Particulate Matter less than 2.5 micrometers in diameter (PM_{2.5}) Emissions Summary

Facility Name	Source Type	Source Description	Source Location	Facility Emissions Estimate (tons/yr)
Suncor Energy - Denver Refinery	Petroleum Refining and Related Industries	Petroleum Refining	5801 Brighton Blvd	119.5
Public Service Co. - Cherokee Plant	Electric Gas and Sanitary Services	Electrical Generation	6198 Franklin St	60.84
Allied Waste Systems - Tower Landfill	Electric Gas and Sanitary Services	Landfill	8480 Tower Rd	20.24
Ardent Mills - Commerce City Mill	Food and Kindred Products	Animal Feed and Flour Mill	4545 E 64th Ave	16.84
JK Concepts	Other Industrial Services	Woodwork Manufacturing	3333 E 52nd Ave	7.00
Commerce City Grain	Food and Kindred Products	Grain Elevator	4600 E 64th Ave	6.29
United Asphalts, Inc.	Petroleum Refining and Related Industries	Roofing Asphalt Manufacturing	4306 E 60th Ave	5.63
Albert Frei & Sons - Fernald Ptc	Other Industrial Services	S&G Processing Activities	7281 Colorado Blvd	5.19
Trustile Doors, LLC	Other Industrial Services	Wood Door Manufacturing Facility	1780 E 66th Ave	4.00
Metro Wastewater Reclamation Dist/Trigen	Electric Gas and Sanitary Services	Sewage Systems	6450 York St	3.57
Basalite Concrete Products	Other Industrial Services	Cement Concrete Blocks / Pavers Manufacturing Plant	4900 Race St	3.55
GCC Rio Grande, Inc. - Irondale Terminal	Other Industrial Services	Cement Bulk Distribution Terminal	9290 Heinze Way	3.38
4283929 Delaware, LLC - Henderson	Other Industrial Services	Pet Crematory	9731 Hanover Ct E	3.10
Allied Demo - Allied Recycled Aggregates	Electric Gas and Sanitary Services	Concrete / Asphalt Recycling	7901 US Highway 85	2.26
Agg Industries - Commerce City Readymix	Other Industrial Services	Concrete Batch Plant	9052 Quince St	2.18
Ready Mixed Concrete Co. - Franklin Plant 2	Other Industrial Services	Concrete Batch Plant	5775 Franklin St	2.00
Brannan Ready Mix Company	Other Industrial Services	Concrete Batch Plant	7291 Colorado Blvd	1.71
N.A. Galvanizing Co.	Other Industrial Services	Hot Dip Galvanizing	4400 E 61st Ave	1.60
WestRock CP - WestRock Denver Corrugated	Other Industrial Services	Corrugated Paper Products Manufacturing Facility	5050 E 50th Ave	1.59
Purina Animal Nutrition - Henderson	Food and Kindred Products	Animal Feed Manufacturing Facility	9200 E 90th Ave	1.50
A&E Tire	Other Industrial Services	Rubber Tire Retreading Facility	3855 E 52nd Ave	1.48
City & County of Denver - Roslyn	Other Industrial Services	Maintenance Complex	5440 Roslyn St	1.45
Rocky Mountain Transload, Inc.	Other Industrial Services	Bulk Materials Transshipment Facility	7350 Krameria Dr	1.34
General Scrap, Inc. - DBA Evraz N.A.	Other Industrial Services	Scrap Metal Recycling	5601 York St	1.15
Omega Products International, Inc.	Other Industrial Services	Cement and Acrylic Stucco Products	6101 Dexter St	0.94
Acme Manufacturing - Zinc Plating Facility	Other Industrial Services	Zinc Plating Line for Metal Parts Manufacturing	4650 Leyden St	0.90
Master Builders Solutions - Brighton Facility	Other Industrial Services	Sealant/Adhesive Manufacture	10601 Fulton St	0.85
New Deal Deicing - Denver Plant	Other Industrial Services	Manufacturing of Pelletized Deicing Agents	6883 E 47th Ave Dr	0.84
Brannan Sand & Gravel	Petroleum Refining and Related Industries	Hot Mix Asphalt Plant	7271 Colorado Blvd	0.79
Cintas Corporation No. 2	Other Industrial Services	Industrial Laundry	5100 Race Ct	0.73
Darling Ingredients, Inc.	Food and Kindred Products	Rendering Plant	5701 York St # 5800	0.69
Crystal Packaging	Petroleum Refining and Related Industries	Blending of Lubricants And Glycol (For Deicers)	9155 Boston St	0.67
Pavestone, LLC	Other Industrial Services	Stone, Clay, Glass and Concrete Products	9401 E 96th Ave	0.66
Bestway Concrete Co.	Other Industrial Services	Concrete Batch Plant	5901 York St	0.59
Eaton Metal Products Co.	Other Industrial Services	Manufacturer of Metal Plate Products	4800 York St	0.55
Aggregate Industries - Dahlia HMA	Petroleum Refining and Related Industries	Asphalt Batch Plant	4801 E 78th Ave	0.43
Good Paint, LLC - Metal Finishing Facility	Other Industrial Services	Heavy Equipment Surface Coating	4404 E 60th Ave	0.42
Agfinity, Inc. - Henderson Fertilizer	Other Industrial Services	Dry Fertilizer Blending & Wet Fertilizer Storage	12390 US Highway 85	0.41
Bestway Concrete - Dallas Plant	Other Industrial Services	Concrete Batching Plant	10040 Dallas St	0.40
Allied Waste Transport	Other Industrial Services	Industrial Spray Coating	5075 E 74th Ave	0.40
Adams County Government Center	Other Industrial Services	Adams County Government Center - Emergency Generator	4430 S Adams County Pkwy	0.39
L.G. Everist, Inc.	Other Industrial Services	Stone Products	7321 E 88th Ave Ste 200	0.30
Villalobos Concrete - Port Concrete Plant	Other Industrial Services	Concrete Batch Plant	104th at Brighton Rd	0.27
Colorado Serum Co.	Other Industrial Services	Veterinary Products	4950 York St	0.24
Bimbo Bakeries USA, Inc.	Food and Kindred Products	Bread and Bun Bakery	7300 Brighton Blvd	0.20
All Recycling North, LLC	Other Industrial Services	Municipal Waste Transshipment Facility	5350 Washington St	0.20
Colorado Asphalt Services	Petroleum Refining and Related Industries	Asphalt Paving	3700 E 56th Ave	0.20
Colorado Wilbert Vault Co.	Other Industrial Services	Burial Vaults & Cremation	4985 Locust St	0.19
Forterra Pipe/Precast	Other Industrial Services	Concrete Batch Plant	9455 Boston Ct	0.17
Zarco Equipment, Inc.	Other Industrial Services	Sandblasting and Surface Coating of Heavy Equipment	9885 Brighton Rd	0.15
Paxton Hardwoods, LLC	Other Industrial Services	Wood Molding Manufacture	4837 Jackson St	0.15
Lawrence Construction Co.	Other Industrial Services	Borrow Pit	72nd Avenue, 1200 Ft E of York	0.14
Safeway Milk Plant	Food and Kindred Products	Milk Plant	4301 Forest St	0.14
Commercial Resins Company, Inc.	Other Industrial Services	Rebar Coating & Fabrication	8100 E 96th Ave	0.12
BKEP Materials - Denver C & K	Petroleum Refining and Related Industries	Liquid Asphalt Blending, Storage, and Distribution	4310 E 60th Ave	0.12
Chemtrade Holdco U.S. - Chemtrade Solutions	Other Industrial Services	Aluminum Sulfate Solution Production Facility	5075 E 50th Ave	0.12
Birko Corp - Chemical Blending Plant	Other Industrial Services	Blending of Chemical Mixtures	9152 Yosemite St	0.11
Flashfill Services, LLC - Denver Yard	Other Industrial Services	Fly Ash Storage Silos	8830 Yosemite St	0.10
U.S. Postal Service - Denver Bulk Mail Center	Other Industrial Services	USPS Parcel Processing Facility	7755 E 56th Ave	0.09
Alsco	Other Industrial Services	Industrial Laundry	5090 Cook St	0.09
City of Thornton - East Gravel Lakes	Other Industrial Services	East Gravel Lakes Pump Station #4	4300 East 88th Ave	0.09
Good Paint, LLC - Metal Finishing Facility	Other Industrial Services	Powder Coating and Paint Spray Operations - Metal Finishing	5720 Holly St	0.08
CO Asphalt Services, LLC - Recycle Plant	Petroleum Refining and Related Industries	Recycle Plant Site	3400 E 56th Ave	0.08
Steel Storage Systems, Inc.	Other Industrial Services	Paint Booth	6301 Dexter St	0.07
Forterra Pipe/Precast	Other Industrial Services	Concrete Batch Plant	9405 Alcon Ct	0.05
Airgas Intermountain, Inc.	Other Industrial Services	Paint Spray Operations	8775 E 93rd Pl	0.04
Denver Pet Cemetery	Other Industrial Services	Pet Crematory	5721 E 72nd Ave	0.03
Boral Roofing, LLC	Other Industrial Services	Concrete Roof Tile Manufacturing	10121 Dallas St	0.03
U.E. Compression - Henderson Facility	Other Industrial Services	Coating and Blasting of Structural Steel	9461 Willow Ct	0.03
Universal Fleet RV And Auto Collision Inc.	Other Industrial Services	Automotive Body Repair and Refinishing	4545 E 52nd Ave	0.02
Purina Animal Nutrition, LLC	Food and Kindred Products	Manufacture of Animal Feed	6151 Brighton Blvd	0.02
Caterpillar, Inc.	Other Industrial Services	Machine Parts Distribution Warehouse	4705 E 48th Ave	0.01
Brannan Sand and Gravel - Port Screen	Other Industrial Services	JCI GT2055 5 X 20 Portable Screen	7271 Colorado Blvd	0.01
Sashco, Inc.	Other Industrial Services	Caulk and Wood Stain Manufacturing	10300 E 107th Pl	0.01
CAT Construction Company	Other Industrial Services	Portable Crusher/Screen	6950 York St	0.01
Boral Resources - Irondale Terminal	Other Industrial Services	Portland Cement / Fly Ash Transfer Terminal	Yosemite St at E 88Th Ave	0.01
Morgan Corporation	Other Industrial Services	Parts and Service Facility	4985 York St	0.004
NRG Reliability Solutions - Mile Hi Bakery	Other Industrial Services	Emergency Generators	4545 East 51st Ave	0.004
Boral Materials Technology - Denver Terminal	Other Industrial Services	Ash Handling	9000 E 90th Ave	0.003

Source: CDPHE APCD 2021

Notes:

1. List organized from highest to lowest estimated actual annual PM_{2.5} emissions.

TOTAL	292
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Appendix G. Total Hazardous Air Pollutants (HAPs) Emissions Summary

Total Hazardous Air Pollutants (HAPs) Emissions Summary

Facility Name	Source Type	Source Description	Source Location	Facility Emissions Estimate (tons/yr)
Allied Waste Systems - Tower Landfill	Electric Gas and Sanitary Services	Landfill	8480 Tower Rd	30.12
Suncor Energy - Denver Refinery	Petroleum Refining and Related Industries	Petroleum Refining	5801 Brighton Blvd	19.74
Public Service Co. - Cherokee Plant	Electric Gas and Sanitary Services	Electrical Generation	6198 Franklin St	19.38
U.E. Compression - Henderson Facility	Other Industrial Services	Coating And Blasting Of Structural Steel	9461 Willow Ct	9.20
E Painting & Fiberglass, Inc.	Other Industrial Services	Manufacturing Of Fiberglass Parts	10201 E 107th Pl	6.58
Phillips 66 Pipeline - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Products Storage/Distribution Terminal	3960 E 56th Ave	5.72
Nustar Logistics, LP - Denver Terminal	Oil and Gas Extraction and Related Services	Petroleum Products Distribution Terminal	3601 E 56th Ave	3.94
Good Paint, LLC - Metal Finishing Facility	Other Industrial Services	Heavy Equipment Surface Coating	4404 E 60th Ave	3.21
Birko Corp - Chemical Blending Plant	Other Industrial Services	Blending Of Chemical Mixtures	9152 Yosemite St	2.43
Master Builders Solutions - Brighton Facility	Other Industrial Services	Sealant/Adhesive Manufacture	10601 Fulton St	2.40
Brannan Sand & Gravel	Petroleum Refining and Related Industries	Hot Mix Asphalt Plant	7271 Colorado Blvd	2.14
Metro Wastewater Reclamation Dist/Trigen	Electric Gas and Sanitary Services	Sewage Systems	6450 York St	1.83
Acme Manufacturing - Zinc Plating Facility	Other Industrial Services	Zinc Plating Line For Metal Parts Manufacturing	4650 Leyden St	1.75
Magellan Pipeline Co. - Dupont Terminal	Oil and Gas Extraction and Related Services	Petroleum Bulk Terminal	8160 Krameria St	1.44
PSC Industrial - Portable Vapor Combustor	Oil and Gas Extraction and Related Services	Portable Vapor Combustor	6511 Colorado Blvd #2	1.31
Cintas Corporation No. 2	Other Industrial Services	Industrial Laundry	5100 Race Ct	1.23
Crystal Packaging	Petroleum Refining and Related Industries	Blending Of Lubricants And Glycol (For Deicers)	9155 Boston St	1.22
Sinclair - Denver Products Terminal	Oil and Gas Extraction and Related Services	Petroleum Terminal	8581 E 96th Ave	1.21
Heritage Window Restoration	Other Industrial Services	Millwork / Wood Finishing	5800 E 58th Ave., Unit K	0.99
Aggregate Industries - Dahlia HMA	Petroleum Refining and Related Industries	Asphalt Batch Plant	4801 E 78th Ave	0.94
Sashco, Inc.	Other Industrial Services	Caulk And Wood Stain Manufacturing	10300 E 107th Pl	0.91
Univar - Chemical Distribution	Other Industrial Services	Chemical Distribution	4300 Holly St	0.89
City & County of Denver - Roslyn	Other Industrial Services	Maintenance Complex	5440 Roslyn St	0.80
Eaton Metal Products Co.	Other Industrial Services	Manufacture of Metal Plate Products	4800 York St	0.76
Joaquin Manufacturing Co.	Other Industrial Services	Manufacture of Fiberglass Structures (Buildings)	6900 Elm St	0.65
Denver Truck & Trailer	Other Industrial Services	Automotive - Top, Body, and Upholstery Repair Shops and Paint Shops	5280 Newport St	0.63
Good Paint, LLC - Metal Finishing Facility	Other Industrial Services	Powder Coating And Paint Spray Operations - Metal Finishing	5720 Holly St	0.58
King Soopers, Inc. - Fuel Center #92	Other Industrial Services	Retail Fuel Station	6175 Parkway Dr	0.43
Ardent Mills - Commerce City Mill	Food and Kindred Products	Animal Feed And Flour Mill	4545 E 64th Ave	0.40
Good Paint, LLC	Other Industrial Services	Metal Parts Coating	6292 Colorado Blvd	0.39
Colorado Asphalt Services	Petroleum Refining and Related Industries	Asphalt Paving	3700 E 56th Ave	0.34
Jenco Industries - DBA Maaco Auto No 707	Other Industrial Services	Automotive Body Repair And Refinishing	4910 Oneida St	0.26
Central Body & Truck Repair Sawaya Body	Other Industrial Services	Auto Body Repair Shop	5300 Monroe St	0.18
Merritt Trailers - Henderson Facility	Other Industrial Services	Manufacturing Truck/Trailer Accessories	9339 Brighton Rd	0.15
N.A. Galvanizing Co	Other Industrial Services	Hot Dip Galvanizing	4400 E 61st Ave	0.13
Riggs Oil Co., Inc.	Oil and Gas Extraction and Related Services	Bulk Storage Facility	6795 Brighton Blvd	0.05
Dillon COS - King Soopers Fuel Fac #114	Other Industrial Services	Gasoline Refueling Station	15041 E 104th Ave	0.01
7-Eleven, Inc. - Store 37570	Other Industrial Services	Convenience Store With Fuel Dispensing	8836 E 96th Ave	0.01
7-Eleven, Inc. - Store 36464	Other Industrial Services	Fuel Dispensing Station	8111 Tower Road	0.004
7-Eleven, Inc. - Store 37291	Other Industrial Services	Convenience Store And Gasoline Station	12241 East 104th Ave	0.003
7-Eleven, Inc. - Store 38351	Other Industrial Services	Service Station	15200 E 120th Ave	0.003
United Parcel Service	Other Industrial Services	Retail Gasoline Station	5020 Ivy St	0.001
Shoco Oil, Inc.	Other Industrial Services	Gas & Diesel Service Station	5135 E 74th Ave	0.0006

Source: CDPHE APCD 2021

Notes:

1. List organized from highest to lowest estimated actual annual Total HAPs emissions. Total HAPs categorized in the emissions data include acetaldehyde, benzene, ethylbenzene, formaldehyde, n-hexane, toluene, and xylenes.

TOTAL	124
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