

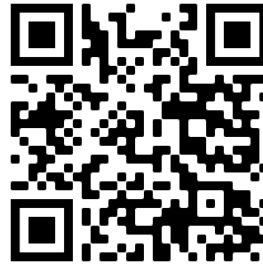
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WHO BEARS THE COST?

NORTH DENVER ENVIRONMENTAL JUSTICE REPORT AND DATA AUDIT

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WHO BEARS THE COST?

NORTH DENVER ENVIRONMENTAL JUSTICE REPORT AND DATA AUDIT

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Executive Summary

Achieving progress towards environmental justice - healthy, thriving environments for all - relies on broad-based action and policy change. Communities like North Denver and Commerce City have led the fight for these changes, calling attention to the disproportionate burden of environmental pollution and health impacts that their communities have faced for decades and urging action to hold polluters accountable. Meanwhile, surrounding communities benefit from the goods, services, and infrastructure that North Denver provides; these communities owe a debt to North Denver and have not done enough to support North Denver's fight for environmental justice.

This report presents information gathered by the Gratitude Project, a collaboration between the Dickinson Lab at the Colorado School of Public Health, [GreenLatinos](#), the Wylie Lab at Northeastern University, and [GreenRoots](#) Chelsea.¹ The **target audience** for this report includes North Denver residents and organizations working to advocate for change, elected officials at the local, state, and federal level, and Denver Metro community members and organizations, especially communities with power and privilege that may not fully appreciate how much they rely on North Denver and how they can work to repay their debt to this community through action in support of environmental justice.

We conducted in-depth searches for information on a wide range of goods, services, and infrastructure located in North Denver. **Key findings** and **data gaps** for each of the following topics include:

- **Land Use and EPA Violations:**
 - North Denver has a decades-long history of industrial and rail land usage, along with inadequate investments in amenities serving the population that resides in this area.
 - Most of the land in this area is zoned for industrial uses, and between 2,000 and 8,000 businesses are operating in North Denver.
 - There are 183 total facilities with at least one documented violation in the past 3 years and 94 facilities with documented current violations in the North Denver area, according to recent EPA data.
 - North Denver residents have lower access to quality, accessible greenspace and less tree cover than surrounding areas.
 - Reliable and publicly available data on the full range of businesses and their environmental impacts are lacking. EPA data rely on inspections, which often occur infrequently, and/or self-reporting by industries, leading to major concerns about data quality and completeness.
- **Power Generation and Transportation Energy Production:**
 - North Denver is home to multiple high-profile energy facilities, including the Cherokee Generating Station and the Suncor Oil Refinery, that emit large amounts of air and water pollution and have repeated EPA violations.

¹ Funding for this collaboration was provided by the JPB Environmental Health Fellows Program.

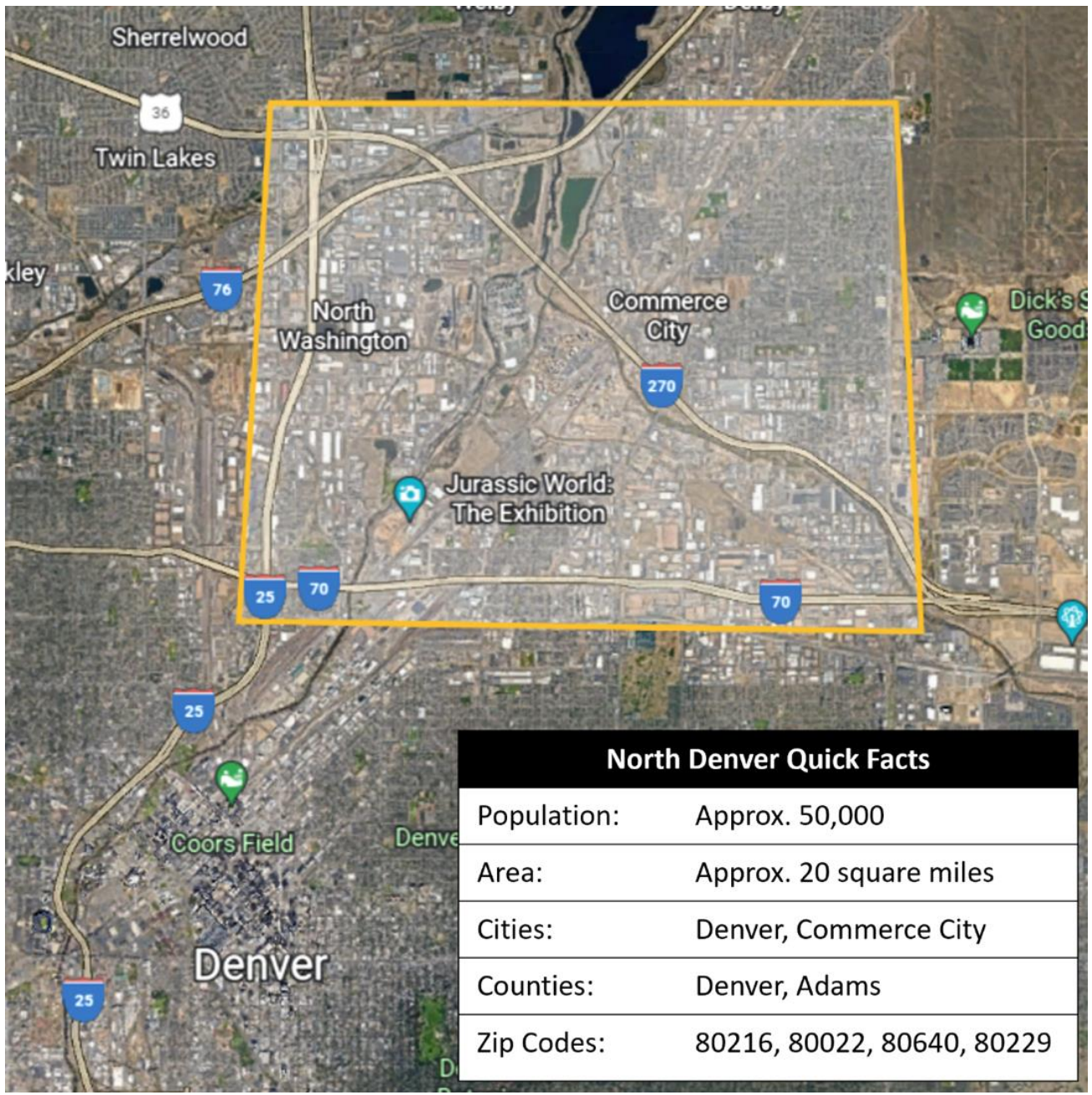
- Additional energy facilities in the area include the Metro Wastewater Reclamation District's power generation facility and the Phillips66 and Sinclair petroleum terminals.
- Existing data sources make it difficult to track exactly who benefits from the energy production originating in North Denver.
- **Goods Production:**
 - At least 34 food production, processing, and storage facilities are located in North Denver, including large brands such as PepsiCo, Sysco, Safeway, and Amazon Fresh, and many smaller specialty operations. Distribution of these goods to areas outside of North Denver contributes to vehicle traffic and associated pollution.
 - The Nestle-Purina pet food factory in North Denver is a source of noxious odors and has been out of compliance with the Clean Water Act for the past three years.
 - Many additional facilities producing non-consumer goods, like asphalt, concrete, and other construction materials, are also frequent Clean Water Act violators.
- **Roads and Rail:**
 - North Denver is a major transportation hub, with three major highways, multiple light rail and train tracks, and large rail yards / interchanges.
 - Hundreds of thousands of vehicles travel through North Denver every day, including tens of thousands of diesel-fueled trucks. Each day, about 175,000 vehicles drive past Swansea Elementary on I-70, and 460,000 vehicles drive through the I70-I25 intersection known as "The Mousetrap." In comparison, only 300,000 vehicles travel daily across the [George Washington Bridge](#) in New York City.
 - Neighborhood-level passenger rail data was readily available through CDOT, RTD, and Amtrak, but freight rail information was only available in aggregate at the state and regional level. By federal law, freight rail information at areas smaller than the state level is proprietary, meaning that communities near rail facilities do not have access to information about the number of trains or types of freight going through their neighborhoods.
- **Waste Management:**
 - More than ten solid waste and recycling facilities are located in the North Denver and Commerce City area, as well as the Metro Wastewater Robert W. Hite Treatment Facility. These facilities serve millions of Colorado residents in the Denver Metro area, while producing unpleasant odors and water pollution for North Denver residents.

Any one of these sectors poses a significant environmental health burden on communities in North Denver; the fact that *all* of these interconnected sectors exist in this relatively small geographic area exposes North Denver residents to a compounding and cumulative set of burdens, while the benefits of these sectors largely flow to communities in surrounding areas.

As a general data gap, we found few comprehensive health impact studies that have tracked the effects of pollution from the many sources we identified on residents in North Denver.² While better data and more comprehensive studies are needed, this need should not delay action to address the clear and documented sources of exposure that North Denver communities face.

The report concludes with some recommended steps people can take to support environmental justice for North Denver and beyond. This is intended to be a working document, and suggestions for additions to the data sources, findings, and recommended actions are welcome and can be sent to katherine.dickinson@cuanschutz.edu.

² One exception is this [2014 Health Impact Assessment](#) by the Denver Department of Environmental Health. It is also worth noting that, as part of a settlement that North Denver advocates won from the Colorado Department of Transportation in response to the expansion of Highway I-70, a more comprehensive health impact study for this area is underway.



Background

The Gratitude Project focuses on changing the narrative when it comes to environmental justice in order to enable and motivate more effective and broad-based action and policy change.

[Environmental justice](#) is the principle that all people deserve to live in healthy environments, and to have a say in decisions that affect those environments. In highlighting pervasive environmental *injustices*, many existing narratives focus on the disproportionate environmental burdens and harms that some communities face, particularly low-income communities and communities of color. Our approach seeks to broaden this narrative by highlighting how *everyone* plays a role in the environmental justice story. In varying ways and to different degrees, we all *benefit* from goods and services that cause environmental pollution, and we all bear some of the *burdens* of that pollution, through increases in climate extremes, impacts on our local environments, and risks to our health and well-being. Through the Gratitude Project, we are investigating how those benefits and burdens are distributed across different communities, and highlighting how overburdened or “disproportionately impacted” communities (who tend to be the focus of environmental justice work) are connected to communities that tend to bear *lower* environmental burdens while enjoying *higher* benefits. By shining a light on these linkages and the debts that communities owe to each other, we seek to spark an “active gratitude” that urges all of us to work together for policy and systems change, in order to reduce environmental burdens, foster healthier and more sustainable relationships across communities, hold industry and policymakers accountable, and create opportunities for all of us to thrive.

This report summarizes information gathered as part of the Gratitude Project by our team of researchers from the Colorado School of Public Health, working in partnership with GreenLatinos and with researchers based at Northeastern University in Boston. For this project, our team focused on North Denver, which includes the Globeville and Elyria-Swansea neighborhoods in Denver as well as areas of Commerce City. These communities have a robust history of organizing to highlight and combat a wide range of environmental justice concerns. A few notable examples:

- The Suncor oil refinery operated under an expired air pollution permit from 2011 until [2022](#), and local environmental activists have organized to call attention to environmental harms imposed on nearby [communities](#). In March of 2020, state regulators imposed a \$9 million fine for repeated violations of air quality [standards](#), and [some of these funds will go to community organizations](#) to invest in harm reduction and data gathering.
- In 2018, Globeville and Elyria-Swansea neighborhoods achieved a [settlement](#) in a lawsuit over the Colorado Department of Transportation (CDOT)’s Interstate-70 expansion project. The Elyria and Swansea Neighborhood Association, Chaffee Park Neighborhood Association, Colorado Latino Forum and the Colorado Sierra Club argued that CDOT did not thoroughly study the environmental health impacts on neighboring [communities](#). A key part of this agreement was the [Globeville/Elyria/Swansea Health Study](#), overseen by a community council.

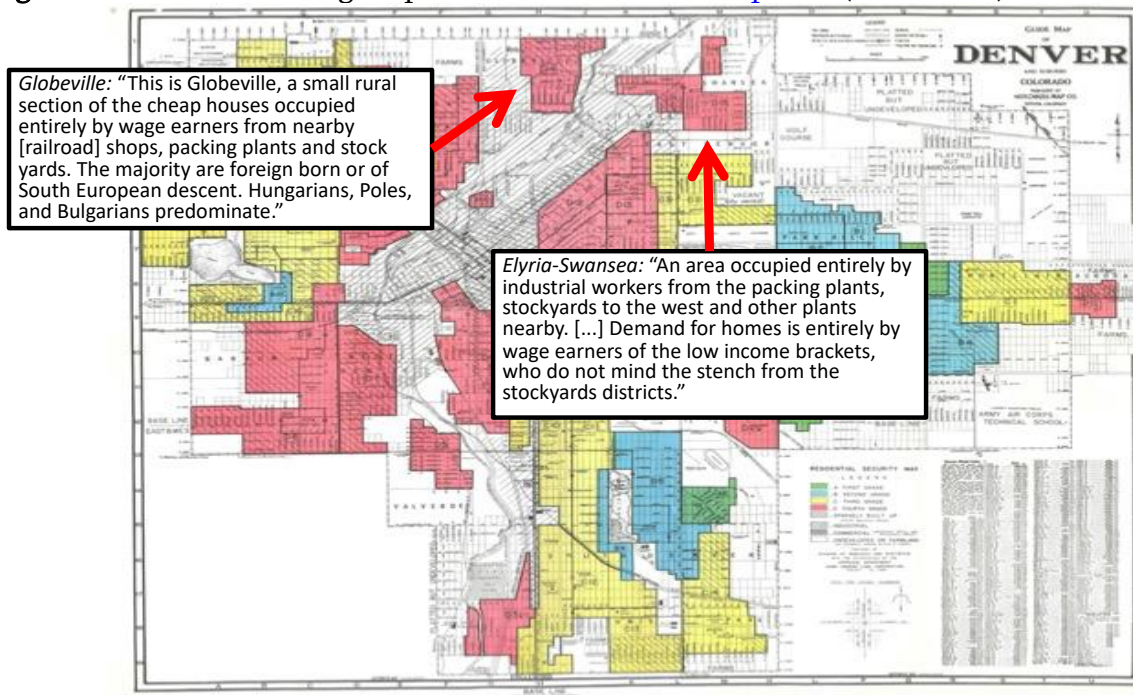
Beyond these major, well-publicized concerns, GreenLatinos and other partners have highlighted the need for more information about a larger range of facilities and actors that shape environmental quality and decision-making in this area. This report responds to that need.

Specifically, we have investigated a wide range of goods and services that North Denver communities provide, and the facilities and infrastructure located in these neighborhoods, in order to understand the benefits that North Denver provides and the costs it bears. This report summarizes what we have found so far. The following sections address: Land Use and EPA Violations; Power Generation and Transportation Energy Production; Goods Production; Roads; Rail; and Waste Management. For each of these categories, we summarize the **methods and data sources** we used to gather information and our **key findings** related to facilities and infrastructure in North Denver and their environmental and health impacts on communities. We also highlight key **knowledge and data gaps**: access to information and “data justice” are essential to support effective action, so clearly identifying what we do not know, and what information is unavailable to communities, is an important step towards environmental justice. The report concludes with resources for accessing information and taking action.

Land Use and EPA Violations

Land use patterns and policies are key pathways leading to environmental (in)justice. In North Denver, current land use patterns are linked to a long history of industrial and manufacturing activities concentrated in this area. Globeville and Elyria-Swansea neighborhoods were settled in the 1880s, and area descriptions from the 1930s, recorded by the Home Owners Loan Corporation (HOLC) as part of its notoriously discriminatory mortgage risk rating (colloquially: redlining) maps, provide a glimpse into how these neighborhoods were perceived nearly a century ago (Figure 1).

Figure 1: Denver Redlining Map with [HOLC Area Descriptions](#) (dated 1938)



In addition to industrial activities and railroads, interstates 70 and 25 were constructed through these neighborhoods in the [1960s](#). Each of these land uses contributed to economic growth and provided benefits to the region and beyond, while also imposing environmental burdens on North Denver communities. This pattern continues to shape lives and land uses in North Denver today. In addition to active industrial sites, the legacy of decades of industrial land uses in North Denver includes extensive areas of land whose use is limited by potentially hazardous contamination. These are known as [brownfields](#), and include federally-designated "[Superfund](#)" sites.

This section examines land use patterns, including identifying facilities in the North Denver region and presenting information on violations of environmental laws, including the Clean Air Act (CAA), the Clean Water Act (CWA), and the Resource Conservation and Recovery Act (RCRA). Overall, the patterns of zoning, land use, and environmental contamination in North Denver

illustrate how investments in this area have prioritized businesses and industry over residents and neighborhood amenities.

Methods and Sources

Data sources used in this section include:

For information on land use regulations:

- Municipal zoning maps for [Denver](#) and Adams Counties

Green space and tree canopy:

- Trust for Public Land's [green space estimate maps](#) and resources.

For information on businesses located in this area:

- [Data Axle reference database](#) (accessible through the Denver Public Library)
- [Colorado](#) and [Denver](#) Chamber of Commerce websites
- Google Maps manual search

Facilities-level Information on Violations of Environmental Laws:

- EPA [EnviroFacts](#) and [Toxic Release Inventory \(TRI\)](#) websites
- Information on [Colorado Superfund sites](#) - CDPHE website.

The EPA's [EnviroFacts](#), [ECHO](#), and [TRI](#) databases also provided information on businesses within various zip codes that have a current, past, and/or potential negative impacts on the environment. All EPA violation data was compiled using the EPA's ECHO database for facilities in the 80216, 80022, 80649, and 80229 zip codes. A complete description of the EPA's ECHO database and how violations are recorded, along with the list of facilities with violations, is provided in Appendix 1. Queries of this database were run by two different researchers in August 2021 and January 2022.

Key Findings

Land Use

Despite the large number of people who live in North Denver and the presence of vibrant communities that have existed for generations, the majority of land in North Denver is zoned for industrial uses such as manufacturing and energy production (Figures 1 and 2). As a result of this zoning practice, estimates of the number of businesses in this area range from 2,000 to 8,000 in the 80216 zip code alone. Meanwhile, most of the people that benefit from the industrial services and goods produced in North Denver do not live in this area, and these are often transported out of the area to serve state-wide, national, and sometimes even international markets (see Goods Production and Roads and Rail sections).

Figure 2. [Denver County zoning map](#) focusing on N. Denver region. Areas shaded in purple tones indicate industrial zoned areas.

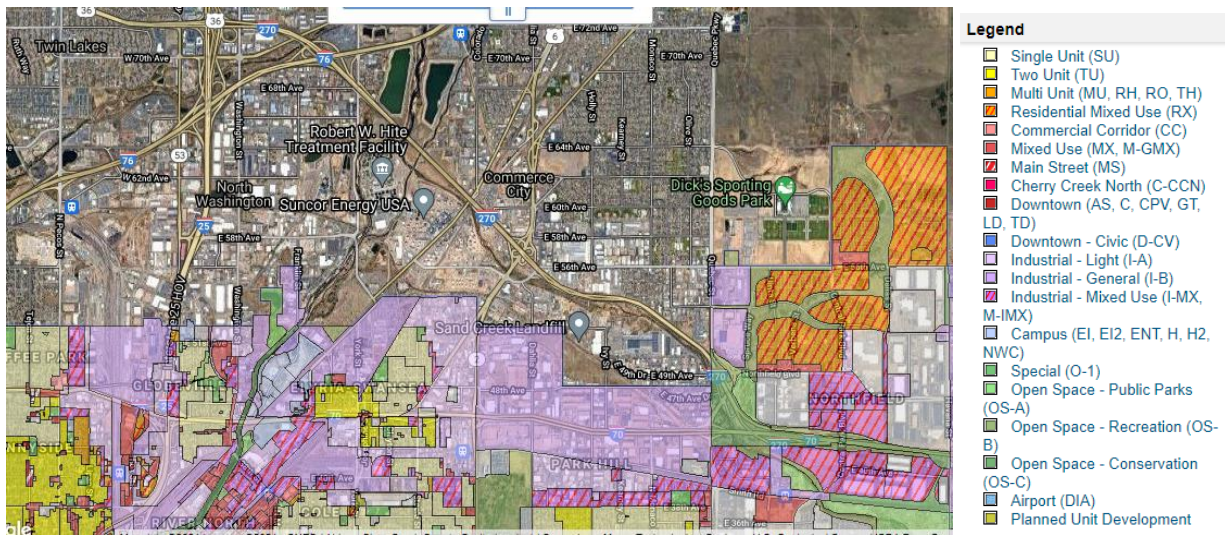
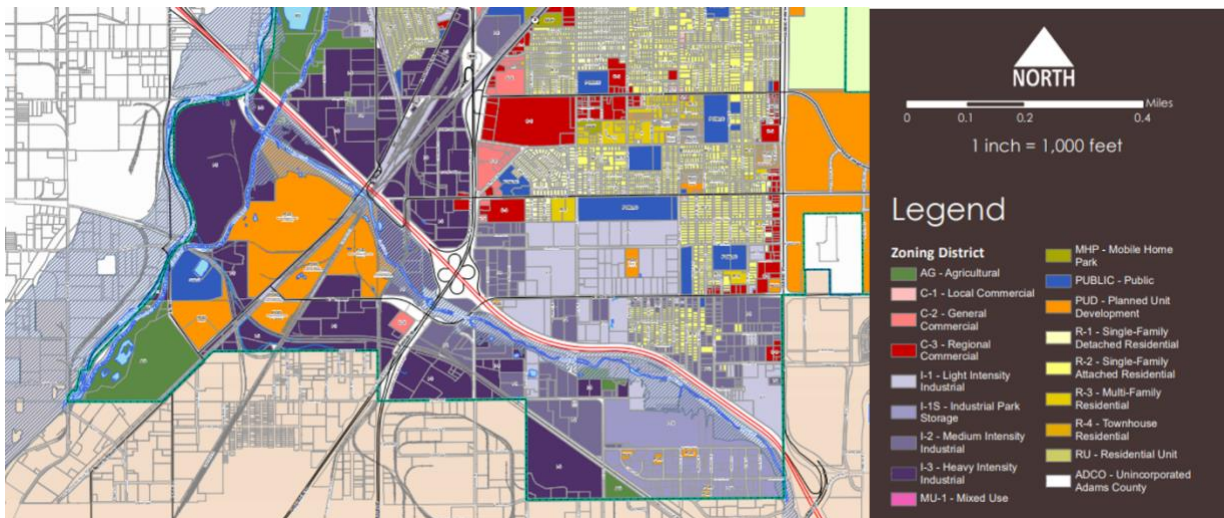


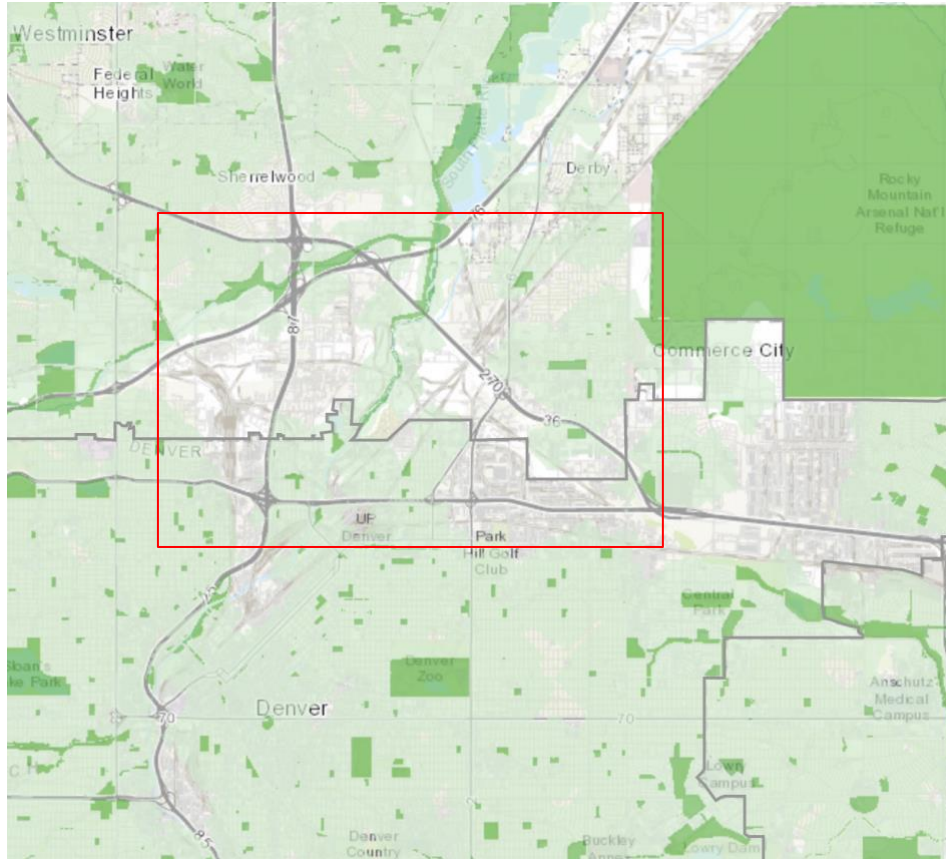
Figure 3. Adams County zoning map focusing on N. Denver region. Areas shaded in purple tones indicate industrial zoned areas.



One example of how these zoning policies impacts residents' quality of life is the lack of beneficial green space in North Denver. Green space has been shown to improve [mental health](#), [decrease stress](#), [increase physical activity](#), and [decrease](#) many common [negative health outcomes](#) such as [cancer](#), [heart disease](#), and [adverse birth outcomes](#). Less than half of Commerce City residents live within a 10-minute walk of a park, and people in North Denver and Commerce City also lower access to areas with high tree cover than people in many other areas of the Denver metro [region](#). Furthermore, the minimal green space that does exist is often low quality, and in some cases, even in areas with hazardous contaminants. Heron Pond Park in Globeville-Elyria-Swansea is a former wastewater treatment site with [toxic](#) materials (including arsenic, cadmium, lead, and zinc) still

present in the ground and [water](#). Therefore, the presence of this type of green space is more like a disamenity than an amenity.

Figure 4. Trust for Public Lands map of green space access in Denver area, with subset outlined in red indicating North Denver study area. Areas shaded in darker green indicate a park, lighter green indicates 10 minute or less walk to a [park](#).



Environmental Contamination and EPA Violations

Heavy industrial zoning in North Denver also affects the health and quality of life of residents through the hazardous environmental contamination produced by the businesses and facilities in the area. Within the North Denver zip codes, 2,249 facilities are required to report their activities and potential pollution to the [EPA](#), and as of 2020, 37 facilities were required to report to the EPA's Toxics Release Inventory ([TRI](#)). On several occasions, the contamination from current and former facilities in the area has been so severe that it has led to the need for "Superfund" sites - areas that the EPA has identified as being so contaminated with hazardous materials that systematic cleanup is required. Out of 24 active, recently inactive, and proposed [Superfund](#) sites in Colorado, 7 (nearly 30%) are located in the North Denver and Commerce City [area](#). These include the Sand Creek Industrial Site, Chemical Sales CO, Rocky Mountain Arsenal, Woodbury Chemical Co, Vasquez Blvd/Interstate 70, ASARCO Globeville, and Broderick Wood Products. Additionally, numerous "[Brownfield](#)" sites in the North Denver area are also contaminated from past industrial uses. While

these areas do not meet the federal designation of a Superfund site, they still pose threats to human health and the [environment](#). The impact of Brownfields in North Denver is so severe that North Denver neighborhoods Globeville and Elyria-Swansea were designated a “[Brownfields Showcase Community](#)” by the EPA in 2000.

The EPA ECHO database identifies facilities that have documented violations of environmental laws: specifically, the Clean Air Act (CAA), Clean Water Act (CWA), Resource Conservation and Recovery Act (RCRA), and the Safe Drinking Water Act (SDWA). A query of the ECHO database in January 2022 identified 183 North Denver facilities with at least one documented violation of an EPA regulation within the past 3 years and 94 facilities with documented current violations in the last reporting quarter. Of those 94 facilities with current violations, 2 had CAA violations, 79 had CWA violations, and 14 had RCRA violations (one facility, Suncor Energy, had violations of both CAA and RCRA). All 79 CWA violators, both CAA violators, and 13 out of 14 RCRA violators were “repeat offenders” with 2 or more of the last 12 quarters non-compliant. 36 of the CWA violators, 5 of the RCRA violators, and one of the CAA violators were non-compliant for all 12 quarters in the last 3 years. No violations of the SDWA were reported in the output.

Thirty six total facilities were identified as having “significant violations” - 28 of the CWA violators, 7 of the RCRA violators, and one of the CAA violators. Out of the 28 CWA significant violations, 25 were for failure to report required information on discharges to the EPA, while 3 were due to discharges of effluent greater than the allowed amount. “Failure to report” violations should not be overlooked or considered simple “paperwork” violations, as this lack of reporting could be obscuring dangerous levels of pollutants emitted by facilities that regulators and the public will never find out [about](#).

More specific information about each of the facilities’ violations can be found in their individual “Detailed Facility Report” available through ECHO. These reports include the types of violations, the quarters during which the facility was noncompliant, any penalties assessed, whether and why a significant violation was reported, and more. As one example, the Detailed Facility Report for Suncor Energy can be found [here](#). This report details the several violations of the CAA, CWA, and RCRA that Suncor has committed in the last few years as well as the enforcement actions and fines that have been assessed as a result.

Knowledge Gaps/Data Justice Issues/Data Limitations

Land Use

The largest obstacle we faced in gathering information on land use in North Denver was obtaining a comprehensive list of the number and type of active businesses in the area. The best public resource we found was the [Data Axle business database](#), which relies on the businesses themselves to verify their information and status, leading to the wide range of 2,000 “official” (currently verified) and 8,000 “unofficial” (not currently verified) businesses in the 80216 zip code reported above. Local, state, and federal governments have accurate accountings of this information for tax purposes and

through resources such as the U.S. Census's [Business Register](#), but these data sources are not publicly accessible and we could not obtain them for our research.

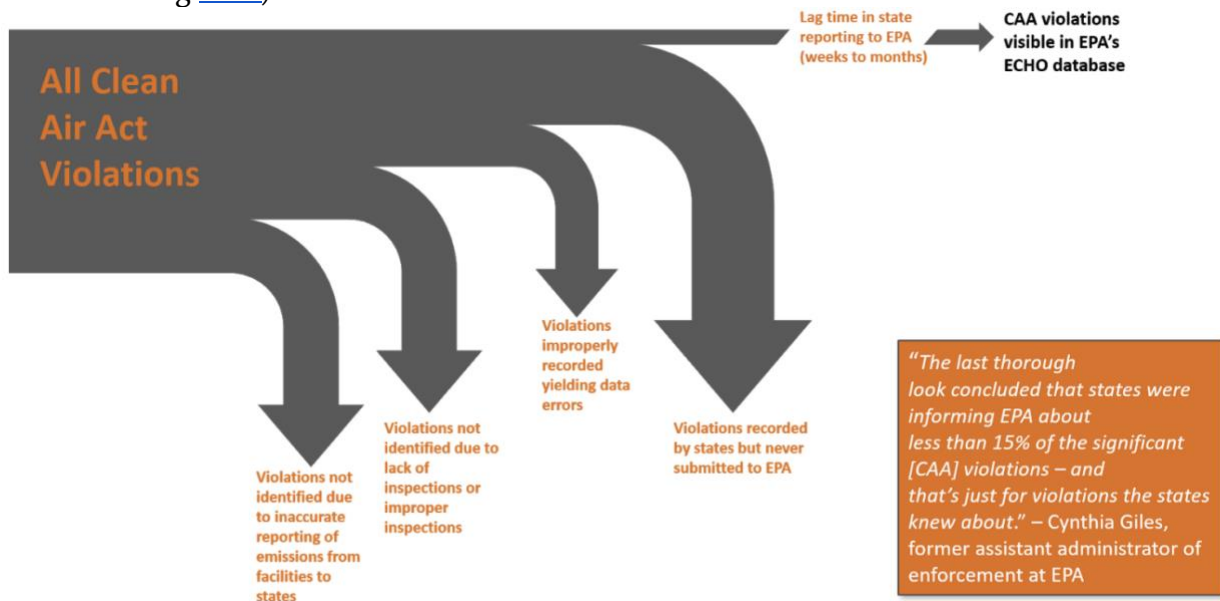
Environmental Contamination and EPA Violations

There are many unknowns and data limitations surrounding EPA violations generally and the ECHO database specifically, and we will only discuss a few of the most important ones here. For more on these topics, we highly recommend EDGI/EEW's "Democratizing [Data](#)" report and Cynthia Giles' paper "Environmental Regulation for the Modern [Era](#)".

First, the EPA is limited in its capacity and resources to monitor and enforce regulations. While the EPA conducts semi-regular inspections of some facilities (usually large ones and likely violators), much of its enforcement is through the facilities themselves reporting the required information. This means that many, if not the majority, of violations go unreported. Self-reporting works better for some laws than for others. Under the CWA, facilities electronically submit "discharge monitoring reports" (DMRs) to the EPA, meaning that violations are automatically recorded. In contrast, the CAA and RCRA have very little mandatory reporting and are almost wholly dependent on facility inspections, which means that non-compliance is much harder to discover. As the EEW's report explains, "Records showing few or declining violations may reflect a lack of inspections rather than a true lack of [violations](#)." The most recent estimates suggest that less than 15% of the true amount of CAA violations are reported to the EPA (and make it into databases such as ECHO). In our ECHO outputs for North Denver facilities, very few CAA and RCRA violations are identified compared to CWA violations.

Self-reporting also creates opportunities for facilities to (intentionally or unintentionally) misreport their data. In 2020, three regulated facilities in Colorado were caught revising their reported emissions of toxic air pollutants after stricter regulations were put in place, making their reported values lower than the new regulatory [threshold](#). Figure 4 below gives a visual summary of the reasons why the violations listed in the ECHO database are likely a significant underreporting of the true number of violations. To address these issues, local and accountable environmental monitoring is needed, along with increased regulatory attention to gathering data and enforcing regulations.

Figure 5. “Illustration of the ways that CAA violations go unreported to the EPA. CAA violations recorded in the EPA’s ECHO database represent only a very small fraction of even the identified violations, let alone the universe of violations that exist in the real world” (from Cynthia Giles via Democratizing [Data](#)).



Power Generation and Transportation Energy Production

This section discusses the facilities in North Denver that produce electricity to power homes and businesses, as well as those that refine, process and store oil and diesel fuel used to heat buildings and power vehicles. The environmental and health impacts of these facilities are also discussed.

Methods and Sources

The primary source for this section was the 2015 journal article, “Industrial odor sources and air pollutant concentrations in Globeville, a Denver, Colorado [neighborhood](#)”. In addition, the EPA’s [ECHO](#), [EnviroFacts](#), and [TRI](#) databases, the [Denver](#) Chamber of Commerce and [Denver North Business Association](#) websites, and a manual scan of the area in Google Maps were used to identify some smaller facilities.

Key Findings

Power Generation

North Denver is home to [Xcel Energy’s](#) Cherokee Generating Station, one of the largest power plants in Colorado, providing electricity, heating, and cooling to homes and businesses throughout the Denver area and the state. Though the plant is now powered by natural gas, it was powered by coal until 2017. As one of the most well-known polluting facilities in the North Denver area, much reporting has already been done on the [environmental, health, and environmental justice](#) impacts of the Cherokee plant, so we will only highlight a few here. Natural gas power plants are cleaner than coal plants, but they still emit a large amount of pollutants that [can cause cancer and chronic lung diseases](#) (as well as contribute to climate change). In 2019, [Cherokee Generating Station emitted](#) 1.9 million tons of carbon dioxide, 174.5 tons of PM2.5, 508.8 tons of nitrous oxides (NO_x), and 9.8 tons of sulfur dioxide (SO₂), among other pollutants. [Around 70,000 people reside within three miles](#) of the plant and breathe the air contaminated with these pollutants every day. According to a [2021 Sierra Club report](#), the Cherokee plant consistently ranks as one of the most polluting gas plants in the state for NO_x, SO₂, and CO₂, and residents living near the plant have higher cancer, asthma, diabetes, and high blood pressure rates than the Denver Metro average. Cherokee has [citations of noncompliance](#) with the Clean Water Act in 6 of the last 12 quarters of reporting.

The Metro Wastewater Reclamation District is another electricity producer located in the North Denver area. This relatively small facility uses the methane gas (biogas) produced from treating human wastewater from the Denver metro area to produce electricity and power for nearly 4,000 [homes](#) in Adams County, with a nameplate capacity or maximum output of 15 megawatts in [2019](#). Though biogas is considered a renewable energy source, it still requires combustion (unlike other forms of renewable energy) and produces significant air pollution for surrounding [areas](#).

Transportation Energy Production

There are three large oil/petroleum facilities located in the North Denver/Commerce City area: the Suncor Energy oil refinery and Phillips66 and Sinclair oil terminals. In operation since 1931, Suncor is Colorado's only major petroleum refinery - Plants 1 and 2 are a major supplier of gasoline and diesel fuel throughout the state, and Plant 3 is the state's main asphalt production facility (an important component for building [roads](#)). Suncor has wide-ranging and well documented environmental health impacts on North Denver communities:

- Fossil fuel refineries such as Suncor emit toxic air pollutants like benzene, hydrogen cyanide, and lead that may cause cancer, birth defects, and chronic conditions like asthma and other lung [diseases](#).
- Data collected by the Colorado Department of Public Health and Environment's mobile air monitoring labs in summer 2021 measured elevated levels of PM2.5 (another pollutant harmful to respiratory health) near the Suncor refinery compared to other monitoring sites along the [Front Range](#).
- In 2020, Suncor reported releases of over 2.5 million lbs of 30 toxic or potentially toxic chemicals, including over 445,000 lbs of hydrogen cyanide, over 95,000 lbs of benzene, and over 10,000 lbs of lead and lead [compounds](#).
- Suncor also emits substantial water pollution- a 2022 [report](#) on PFAS pollution by Earthjustice and Westwater Hydrology found that the refinery contributes up to 18% of the total detected PFAS in the South Platte River and up to 47% of that in Sand Creek. PFAS are a class of synthetic compounds present in many industrial and consumer products, and have been linked to adverse health effects in humans due to contamination of drinking water and [food](#).
- Suncor is one of the most prolific "repeat offenders" of EPA-enforced environmental regulations such as the Clean Air Act (CAA) and Resource Conservation and Recovery Act (RCRA), with all 12 quarters noncompliant with both of these regulations in the last 3 years due to various [violations](#).

For these and other violations, and due in large part to sustained enforcement activism by North Denver communities, Suncor agreed to a \$9 million settlement with CDPHE in March 2020 to address "events where Suncor emitted pollutants over set limits as well as violations relating to requirements of how facilities are operated and monitored". The money from this settlement will be used for projects that support the surrounding North Denver [communities](#), including community initiated projects such as [Cultivando's Aire](#) (a community-based air monitoring program).

Meanwhile, the Phillips66 and Sinclair petroleum terminals are important gasoline and diesel fuel storage facilities for the surrounding Denver Metro area. Though petroleum is not extracted or refined at these facilities, [they pose a risk for accidental releases into the environment](#), as outlined in the facilities' Risk Management Plans (RMP). The Phillips66 terminal has been [non-compliant with](#)

[the CWA](#) for 7 out of the last 12 reporting quarters, with at least one of those being a “significant violation” for failure to report required information to the EPA. Further information on how this designation is assessed is provided in the “EPA Violations” section of this report.

Knowledge Gaps/Data Justice Issues/Data Limitations

- As discussed in other sections, self-reporting of emissions and releases by facilities may lead to mis-reporting of true numbers.
- Though the health effects of many of the mentioned pollutants have been documented in other locations, we are not familiar with any long-term studies of specific community health effects due to the facilities in the North Denver area, which residents have a right to know. However, a specific study of the North Denver area is not necessary to demonstrate the need for immediate removal of pollutants that are known to cause health harms.
- It is difficult to have a clear picture of who specifically benefits from these energy facilities. When electricity goes onto the larger power grid, it is not possible to attribute who is using electricity generated from a particular plant. This makes it difficult to identify which communities are directly connected to - and potentially owe a debt to - North Denver.

Goods Production

This section discusses the consumer goods and food products that are produced and processed in North Denver as well as their environmental and health impacts.

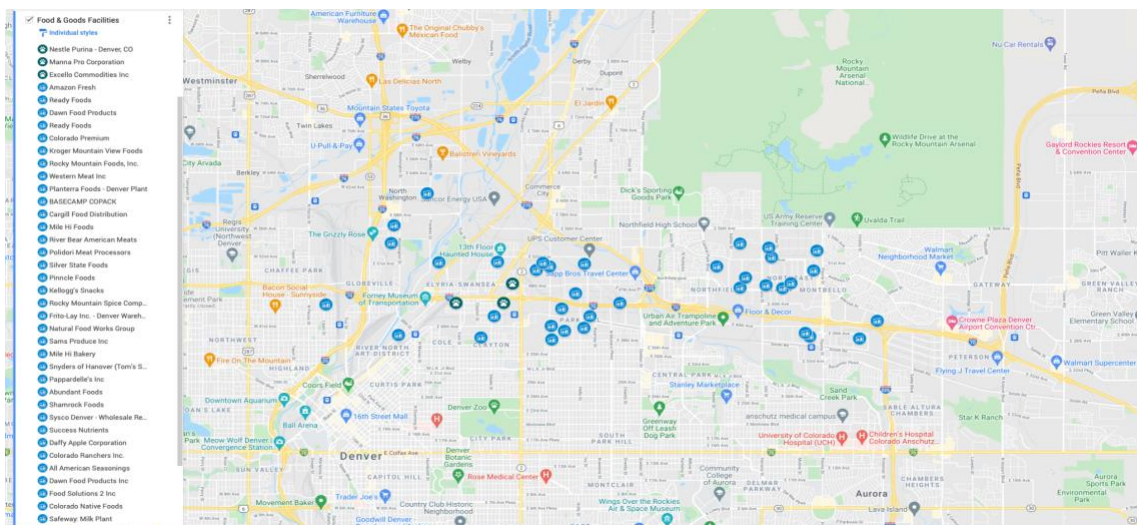
Data and Methods

Similar to facilities in other categories, goods and food production facilities were identified using the EPA's [ECHO](#), [EnviroFacts](#), and [TRI](#) databases, the [Colorado](#) and [Denver](#) Chamber of Commerce websites, and a manual scan and search of the area in Google Maps. A brief survey of goods production specific to food was also completed through both a field visit to North Denver and through a Google Maps search of terms including food storage, food processing, and grocery shipping, as well as specific company names (Sysco, Safeway, King Soopers, Amazon, Amazon Fresh, La Favorita, snack food production, gourmet food, gourmet snacks, Snyder's pretzels, Coca-Cola, Pepsi, Nestle-Purina).

Key Findings

Food production, processing, and storage facilities were marked on this [North Denver Environmental Justice Map](#). At least nineteen facilities are located in the Globeville and Elyria-Swansea neighborhoods, and an additional fifteen are located in Commerce City. These include large brands like PepsiCo, which has a manufacturing company and a bottling company in the North Denver area and has recently acquired land for more facilities at the new [Pecos Industrial Park](#) on W 56th Ave and N Pecos St. Other large brands with facilities in North Denver include Sysco, Safeway, and Amazon Fresh. In addition, many small specialty operations are present in the neighborhood, producing products like gourmet pasta, Latin American cheeses, and all natural pet food products for birds, farm animals, and other pets and livestock.

Figure 6. Map of food & goods production and processing facilities in North Denver.



North Denver is also home to the Nestle-Purina factory and Purina facilities. The factory has been in the area since 1930 and is one of over 20 US manufacturing facilities that produce 99% of Purina-owned pet food brand sales, which are distributed [nationwide](#). The North Denver Purina plant frequently releases odors that are disturbing to neighboring [residents](#). (While odors are not covered by the Clean Air Act, Denver has a [nuisance odor ordinance](#) - our team did not obtain data on violations of this ordinance for this project, but this may be a good avenue for additional data collection.) The Nestle-Purina factory has also been out of compliance with the Clean Water Act for all quarters in the last 3 years, meaning that it has exceeded its permitted levels of effluent discharge and potentially impacted local water supplies in a way that could threaten human health. While it is difficult to determine from existing [EPA data](#) and public reports the exact substances they are discharging in violation of their permits, these [permits](#) include substances including chlorine, dissolved iron, “oil and grease”, and general dissolved and suspended solids. They also [release toxic air contaminants](#) including benzopyrene, manganese compounds, polycyclic aromatic compounds, and zinc compounds. The Purina Animal Nutrition Facility on Brighton Boulevard in Commerce City has also been noncompliant for 12/12 quarters and has at least one “significant violation” of the Clean Water Act in the past 3 years for failing to report required information to the [EPA](#). (See [EPA Violations](#) section for a more thorough discussion of “significant violations”).

Finally, while much of our analysis focused on consumer products, there are a number of manufacturers in the North Denver area that produce non-consumer goods and would be less recognizable by the public. Some examples of these manufacturers include:

- [Superior Farms](#) (slaughterhouse)- 12/12 on CWA violations, significant violator
- [Colorado Asphalt Services](#)- 12/12 on CWA violations
- [Band-it/Idex](#) (clamps and fastening products)- 6/12 CWA violations
- [Westrock CP](#) (corrugated packaging)- 12/12 on CWA violations
- [Omega Products International](#) (acrylic and cement base coats)- 12/12 on CWA violations
- [Bestway/BURNCO Concrete](#)- 12/12 on CWA violations
- [Shamrock Foods Company](#)- 12/12 on CWA violations
- [Central Denver Ironworks](#)- 8/12 on CWA violations, significant violator
- [Basalite Concrete Products](#)- 11/12 on CWA violations, significant violator
- [Owens Corning Trumbull Asphalt and Roofing](#)- 3 Owens Corning locations/facilities listed on ECHO output- all have several quarters of non-compliance and asphalt facility listed as “significant violator” in Aug ‘21 output but all listed as “no violation identified” in Jan ‘22 output

Overall, this analysis makes it clear that North Denver houses a wide range of businesses that provide goods to consumers and manufacturers throughout the region and beyond, while imposing significant environmental burdens on local communities.

Knowledge Gaps/Data Justice Issues/Data Limitations

These searches were by no means comprehensive. Facilities can frequently turn over as businesses are phased out and new ones are established, and more research is needed to investigate the reach of

these goods. To more fully understand the flows of risks and benefits from the products produced in North Denver, it would be helpful to know how many people consume goods from these facilities and where they live.

Roads

This section discusses the environmental impact of high-volume highway vehicle traffic in North Denver.

Data and Methods

Traffic Counts for specific locations (point locations) and stretches of road were drawn from the CDOT [Traffic Data Explorer](#) tool. Emission estimates based on those traffic counts were calculated by Nick Clements (CU Boulder) using emission rate estimates from the [U.S. Department of Transportation: Bureau of Transportation Statistics](#) and information shared in a personal communication from the US EPA (April 30, 2021). See **Appendix 2** for a more detailed discussion of our data.

Figure 7. North Denver roads and point locations

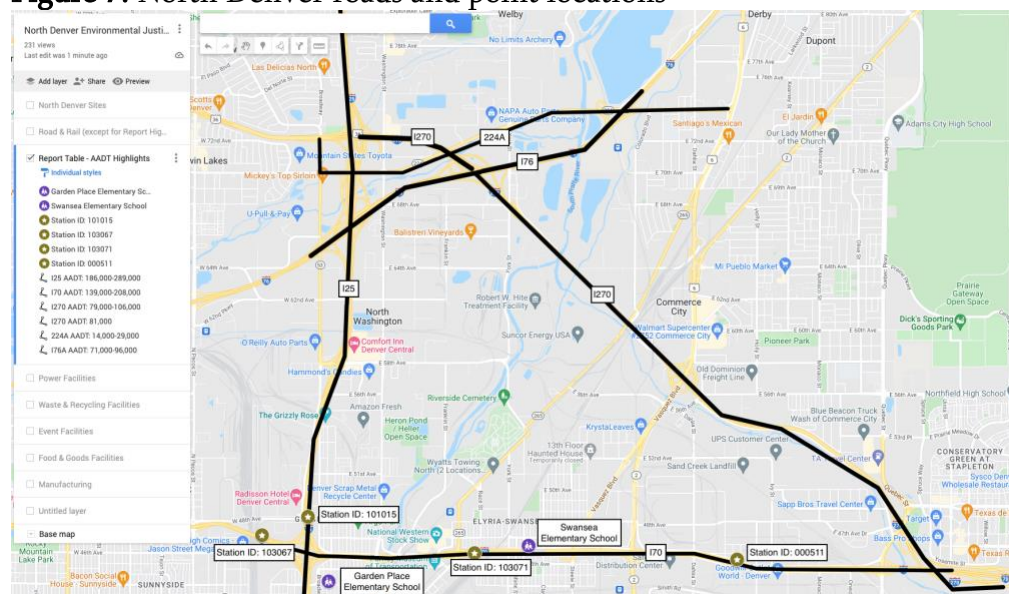
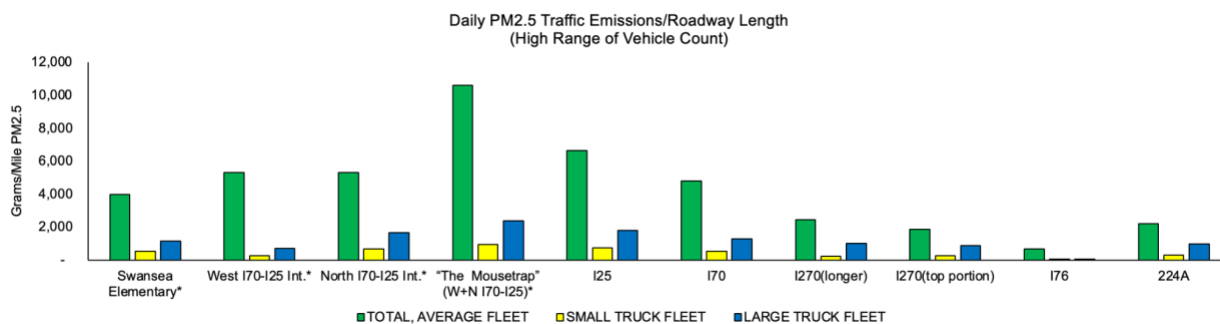


Figure 8: Daily PM2.5 Traffic Emissions per Roadway Length (High range of Vehicle Count)



* Starred columns are point locations. Non-starred columns are roadway lengths

Impacts of vehicle emissions on air quality and public health

Vehicles emit multiple pollutants that negatively impact health, including CO (carbon monoxide), NO_x (nitrous oxide) and PM_{2.5}.³ [CO](#) can worsen symptoms for people with heart disease and [NO_x](#) can worsen symptoms for people with lung diseases like asthma. For our emissions analysis, we chose to focus on PM_{2.5} pollutants because the [impact of PM_{2.5} on health](#) for both adults and children is well studied and because [CDPHE](#) (Colorado Department of Public Health and the Environment) identifies PM_{2.5} as the pollutant of greatest concern in the North Denver area. PM_{2.5} particles penetrate deep in the lungs and may be absorbed into a person's blood. Studies have shown that people who breathe PM_{2.5} are [more likely to experience lung and heart disease symptoms](#) (difficulty breathing, coughing, asthma attacks, irregular heartbeat events). The effects of PM_{2.5} are most likely to harm children and older people. Breathing PM_{2.5} may cause people who already have lung and heart diseases to die earlier than they would if they breathed cleaner air.

Diesel fuel releases a much greater proportion of environmental pollutants like PM_{2.5} compared to unleaded gasoline. Roughly [75% of all commercial trucks and 97% of large trucks \(semis\)](#) in the U.S. burn [diesel fuel](#). Diesel exhaust is known to be associated with respiratory and cardiovascular disease and is considered a [likely carcinogen](#) by the Environmental Protection Agency (EPA).⁴

Assessing the effect of a specific pollution source like traffic on cancer rates is difficult because people may be exposed to other pollution sources at the same time (like tobacco smoke), and because cancer usually develops many years after exposure. [CDPHE did not find](#) that leukemia or thyroid cancer rates in North Denver were higher than state averages, but overall rates were small, making it difficult to draw definitive conclusions. EJ Screen (an EPA tool that estimates risks of disease in geographic regions) estimates that cancer risks for residents of North Denver [are higher than 96% of the rest of the state](#).

A [CDPHE report](#) estimated that vehicle traffic releases 48 tons of PM_{2.5} per year into the North Denver area.⁵ The same report also showed that North Denver residents visited the emergency department (ED) for asthma-related symptoms in 2014 at more than twice the statewide rate

³ PM_{2.5} are particles that are about 30 times smaller than the width of a human hair. 2.5 refers to the thickness of these particles measured in microns. One micron = one 1000th of a millimeter. Human hair is roughly 100 microns thick.

⁴ The National Toxicology Program (NTP) and National Institute for Occupational Safety and health (NIOSH) classify diesel exhaust as “reasonably anticipated to be a human carcinogen” and as a “potential occupational carcinogen”. The International Agency for Research on Cancer (IARC), which is associated with the World Health Organization, on the other hand, considers there to be sufficient evidence to classify diesel exhaust as “carcinogenic to humans” because of links to lung cancer and possible associations with bladder cancer.

⁵ CDPHE's estimates differ slightly from our estimates, which calculate a total of roughly 32 tons per year of PM_{2.5} emissions. CDPHE likely uses different emissions data sources than the publicly available sources available to our research team and could account for their larger yearly total.

(75.15/10,000 vs. 33.03/10,000), and that North Denver ED visit rates were 7%–25% higher in 2014 than other areas in Colorado with similar demographics and asthma rates. At least some portion of these increased ED visit rates is likely due to the PM2.5 pollution released by vehicles in North Denver neighborhoods.

Since children tend to be more affected by vehicle pollution than adults, it is particularly troubling that two elementary schools are located within 1000 feet of major highways in North Denver. Swansea Elementary is adjacent to I70, and Garden Place Elementary is adjacent to the intersection of I70 and I25 commonly known as “The Mousetrap” (due to its tangled ramp design capable of “trapping” cars in traffic). As shown in **Figure 8** students at both schools are exposed to high levels of daily PM2.5 pollution. While pediatric asthma ED visit rates in North Denver are not publicly available, [children are known to be highly vulnerable](#) to health impacts from exposure to PM2.5 and to exposures from carcinogens like diesel exhaust. [Apte et al.](#) have used Google Street View cars equipped with rapid air quality monitors to demonstrate that pollution levels for NOx can vary “as much as 5-8 times within a city block.” Since NOx pollution and PM2.5 pollution [tend to follow the same patterns](#), some residences in North Denver may be experiencing high levels of both types of pollution. At school and at home, many North Denver children (and their older family members) are breathing air that makes them sick.

CDPHE estimates that PM2.5 emissions from cars and trucks make up 11% of total PM2.5 emissions in the North Denver [area](#). Since diesel fuel contributes the large majority of PM2.5 emissions from cars and trucks, transitioning commercial trucks away from the use of diesel fuel would likely reduce PM2.5 levels in North Denver and improve residents’ health.

Connection to Goods Production and Economic Impact

Road traffic in the North Denver area is directly tied to goods production and transportation for Denver, for Colorado, and for all of the United States. There are two primary reasons for the high numbers of diesel-fueled trucks passing through North Denver. The first is the high density of facilities in North Denver that store, package, and process food and goods that are delivered to consumers in Denver and throughout Colorado. The second is geographic. I70 is one of only a few East-West corridors that pass through the Rocky Mountains, and is the only East-West interstate in Colorado. Over 11,000 tons of commercial goods are moved through Colorado via I70 every [year](#). Tourists use the I70 corridor to access recreational opportunities in the mountainous regions of Colorado and tourism has become a significant contributor to the Colorado economy. I70 provides national and statewide economic and quality of life benefits, but the environmental and health costs of the I70 traffic are disproportionately borne by neighborhoods such as North Denver, as well as mountain communities that live immediately adjacent to the highway.

Data Gaps

Publicly available road traffic data allowed us to view traffic intensity in the North Denver area. We were unable to specifically define who benefits from the intense traffic in the North Denver area.

We do not have, for instance, commercial delivery data to understand how many residential-bound packages are delivered to low environmental burden communities via this transportation route, or where people who commute via I70, I25, and Highway 270 live. To address this data gap, GreenLatinos and community members have requested a point of origin study connected to the I-270 NEPA assessment.

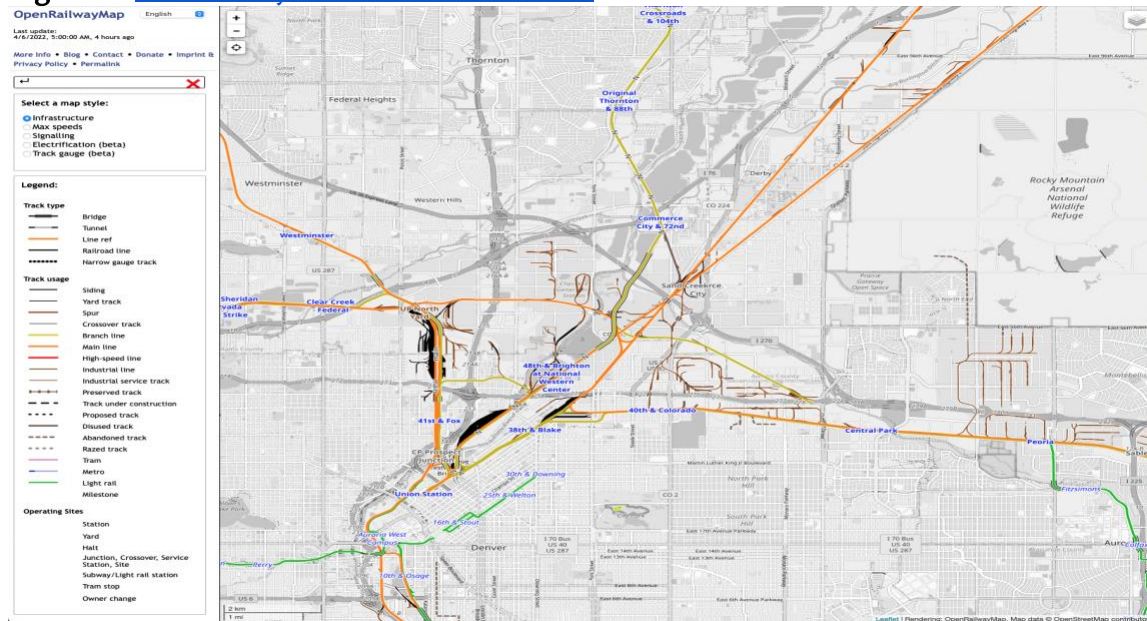
Rail

This section discusses the environmental impact of rail traffic in North Denver. Freight, passenger, and public transit rail are discussed, along with equity gaps in publicly available knowledge.

Data and Methods

We identified and mapped rail-related facilities in North Denver using Google Maps.⁶ We also conducted informal interviews with government representatives involved in transportation planning (S. Dodge, Southwest Chief and Front Range Passenger Rail Commission Liaison, Colorado Department of Transportation (CDOT)) and railroad regulation (W. Flatau, Deputy Director of Public Affairs, Federal Railroad Administration (FRA)). One key question in these interviews was how to gather neighborhood-level information about trains - volume, frequency, type of load carried (passenger or freight), type of freight (if applicable), and what neighborhood-level train-related information was most relevant to the public health of communities in which rail facilities are located. General information about trains and research into the environmental impacts of rail and rail yards were obtained through Google and Google scholar searches.⁷ During focus groups that we held with North Denver residents as part of our project, community members shared anecdotal reports about rail traffic in their community.

Figure 9: [All Railway lines in North Denver](#)



⁶ To search for railway facilities in the North Denver, the terms “rail”, “trains”, “railroad”, “BNSF”, “Union Pacific”, “Amtrak”, “RTD”, “Intermodal”, and “intermodal interchange” were searched with each of the following terms: “North Denver”, “Globeville Elyria Swansea”, “Commerce City”.

⁷ Search terms included but were not limited to “diesel trains”, “freight trains diesel fuel”, “environmental impact rail yards” “environmental impact intermodal facilities”, “diesel fuel intermodal facilities”, “intermodal facilities PM2.5” “new rail cars emissions standards older rail cars still used” “emission standards trains US”.

Key Findings

Freight Rail Traffic

Freight trains in North America run almost [exclusively](#) on diesel fuel. EPA regulations require locomotives built or remanufactured after 2015 to follow strict [emissions standards](#) (particulate matter emissions are cut by 90%), but older rail cars are held to a [lower standard](#), and rail cars built after 1974 can be used for up to [50 years](#). Annual rail traffic has remained fairly [steady](#) since 2010, so reductions in diesel fuel emissions in the U.S. are occurring gradually, if at all. In addition to increased cancer risks, diesel exhaust is associated with premature mortality, poor respiratory health, and cardiovascular disease. These health impacts are particularly dangerous for children and the elderly who make up roughly [17%](#) of the North Denver population.

Multiple train tracks run through North Denver, as well as three large train yard areas that include intermodal facilities owned and operated by Burlington Northern and Santa Fe Railway (BNSF) and Union Pacific Railway (UP). In the train yards, trains are maintained, repaired, refueled and rearranged so that the number and type of rail cars in each journey are appropriate for the freight that will be shipped (for example, rail cars that carry grain have a different design than rail cars meant to carry coal or liquids). At intermodal facilities, shipping containers are transferred from one method of transportation to another (in the case of North Denver, from trains to trucks or vice versa). Some rail yard areas and intermodal facilities appear to be shared between BNSF and UP, and others seem to be shared with Denver's Regional Transportation District (RTD) transit system. Significant amounts of diesel emissions are released at rail yards and intermodal facilities because of idling locomotive engines and trucks, and because of the sheer volume of rail and truck vehicle traffic at these locations.

These emissions can have a significant impact on the health of nearby communities. [Health Risk Assessments](#) from 18 major rail yards in California showed increased cancer risks for nearby communities, which also had higher percentages of residents of color and low-income residents. Further evidence of environmental justice concerns around rail yards comes from a nationwide [EPA analysis](#) showing disproportionate impacts from rail yard diesel particulate matter on low-income households, African-Americans, and Hispanic residents that lived in close proximity to rail yard facilities.

Passenger Rail Traffic

Passenger rail traffic in North Denver is run by Amtrak and RTD-Denver. Mr. Dodge (associated with CDOT) shared that Amtrak runs 1-2 train routes per day through the area. RTD-Denver runs a light rail service with one North/South line ([N-line](#)) bisecting the North Denver neighborhood that runs 36 routes per day on weekdays, with one rail transit stop located on the northwestern end of Commerce City (a fair distance from where the bulk of Commerce city residents live on the south

and southeastern edge of the city). There are two additional light rail routes that run directly to the West and South of the North Denver neighborhood (A, B, and G lines) that run a total of 131 routes per day on weekdays. All RTD light rail in the North Denver area run electric commuter rail type vehicles, except for the B line which is partially run with diesel vehicles (these vehicles use “[ultra-low sulfur diesel fuel](#)”).

Notably, many residents of North Denver do not have easy access to these transportation options. Only one RTD light rail line runs through the Globeville-Elyria-Swansea neighborhood, and there is limited light rail access in most of Commerce City. There are many local RTD bus routes that run through North Denver, but the larger Park-N-Ride bus routes that connect to downtown Denver and Denver International Airport run entirely east, south, and west of the North Denver neighborhood (on the other side of major highways). North Denver residents who do not own vehicles and/or have physical mobility limitations may have more difficulty accessing these important services than other Denver residents. Lack of access to transportation to major city centers and resources has important impacts for healthcare access, employment, and quality of life for North Denver residents.

Figure 10. [Amtrak route](#) in North Denver Area

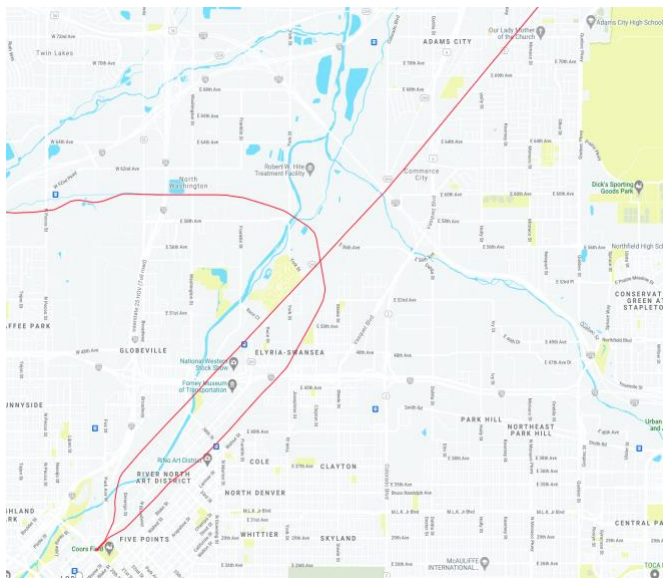


Figure 11. [RTD Rail Transit map](#)



Knowledge Gaps: Data Equity and Freight Rail Traffic

As we began to research rail traffic in North Denver, we quickly encountered major data access barriers. While neighborhood-level passenger rail data was readily available through CDOT, RTD, and Amtrak, freight rail information was only available in aggregate at the state and regional level. Mr. Flatau (FRA) confirmed that according to federal law, freight rail information about areas smaller than the state level is considered proprietary and is not publicly available. Individuals and communities who reside near rail facilities do not have access to information about what types of freight are carried through their neighborhoods, or even how many freight trains pass through during an average year.

We did not find clear explanations for the lack of public access to freight rail information. Some governmental sources reference general [security concerns](#), but it remains unclear why freight train data is more protected than that of planes or ships (for which real-time journey information is publicly available by federal law). Amtrak makes [real-time information about passenger trains](#) readily available, even though passenger train derailments by [terrorists](#) and other extremist groups are a [known risk](#).

Mr. Flatau (FRA) shared that rail traffic volumes, frequency, and the type of freight carried vary wildly from year to year as international markets shift and the demand for various goods changes. Aggregated historical information about local rail traffic could presumably be made public with minimal security risk, and this information could prove useful to communities attempting to assess their environmental hazards. The rights of freight rail corporations over rail data and access have [trumped the rights of the general public](#) for many years through [entrenched legal battles](#) that harm communities. Even government institutions (at the local, state and federal level) are unable to access rail data information freely without extensive legal agreements negotiated at significant expense to taxpayers.

While official data on what is being shipped through North Denver is not accessible, North Denver residents have reported seeing open coal cars passing through their communities and have expressed concern about potential health risks. Coal dust has a long-established association with lung disease shown in occupational [studies](#), and particulate matter similar in size to coal dust is associated with

increased asthma ED visits for [children](#). Research has shown that coal dust levels can be higher in neighborhoods close to rail [lines](#) on which coal is transported.

Some research suggests that train traffic produces less particulate matter and greenhouse gas emissions than truck traffic per volume of goods [moved](#). As such, transitioning from truck-based freight shipping to rail-based freight shipping may contribute to lowering overall greenhouse gas emissions in Colorado. However, more data, analysis, and input from communities are needed to assess how this transition would affect North Denver residents and other areas that are already overburdened by multiple environmental hazards.

More attention also needs to be given to the impacts of trains on North Denver residents' physical safety, given that trains can create [risks of injuries and fatalities](#). While the Federal Railroad Administration has made [improvements to rail safety](#) (fatalities at highway-rail grade crossing dropped by roughly a third between 2005 and 2014), publicly available aggregate information about local rail traffic could assist local governments in setting policies and allocating resources to further prevent injuries and deaths.

Decision-maker Landscape: Who decides the future of rail in CO (including North Denver)?

Rail Advisory and Planning committees in Colorado have wide representation from industry groups, government bodies, and some tribal representation. However, we saw no evidence of that neighborhood groups or environmental advocacy groups are explicitly included in these committees. Inclusion of such stakeholders would be in line with a procedural justice framework, ensuring that people directly impacted by decisions would have a role in making those decisions.

Waste Management

This section discusses waste services, including trash/recycling and wastewater treatment, that are provided in the North Denver area, as well as their environmental and health impacts.

Methods and Sources

Waste processing and storage facilities in North Denver were identified using the EPA's [ECHO](#), [EnviroFacts](#), and [TRI](#) online databases, a manual scan of the area using Google Maps, and a Google search using search terms including "Denver waste", "Denver recycling", "Denver trash", and "Denver wastewater".

Key Findings

Trash and Recycling

We identified more than ten solid waste/recycling facilities of varying sizes and functions in the North Denver and Commerce City area. The major facilities are three [Waste Management \(WM\)](#) facilities, All Recycling North, [Waste Connections of Colorado-Denver](#), Altogether Recycling (Alpine Waste & Recycling), and [EVRAZ Recycling](#). These facilities provide trash and recycling pick-up, drop-off, and processing to residents and businesses throughout the Denver Metro Area, including for special wastes such as automobiles, scrap metal and e-waste. [Waste Connections of Colorado-Denver](#) provides services such as residential and commercial garbage collection and recycling and dumpster rentals to communities including Arvada, Aurora, Boulder, Brighton, Broomfield, Castle Pines Village, Castle Rock, Centennial, Cherry Hills Village, Denver, Englewood, Erie, Evanston, Evergreen, Federal Heights, Firestone, Fort Lupton, Frederick, Golden, Henderson, Highlands Ranch, Hudson, Lafayette, Littleton, Lone Tree, Longmont, Louisville, Mead, Morrison, Parker, Platteville, Sheridan, Thornton, Westminster, and Wheat Ridge. In addition, at least eight waste and recycling facilities in the area have documented violations of the CWA in the last three years. Waste Connections (Denver Hauling), EVRAZ Recycling, BFI Waste Systems, Denver Metal Recycling, Western Auto Recycling, and Denver Scrap Metal Recycling Center have all been non-compliant with the CWA for all 12 reporting quarters in the last three [years](#).

Waste and recycling facilities can have a [negative impact on the health and quality of life](#) of the people living near them, most notably due to [odor pollution](#). Unsurprisingly, waste and recycling facilities are smelly - they cause unpleasant, rotten egg odors that can prevent North Denver residents from enjoying time outdoors, which is important for mental and physical [health](#). In addition, at least eight waste and recycling facilities in the area have documented violations of the CWA in the last three years, including Waste Connections (Denver Hauling), EVRAZ Recycling, BFI Waste Systems, Denver Metal Recycling, Western Auto Recycling, and Denver Scrap Metal Recycling Center, which have been non-compliant with the CWA for all 12 reporting quarters in the last three [years](#). It is also important to note that the impacts of waste sites such as landfills persist even after they fill up and are no longer active. For example, the former Sand Creek Landfill served

as a waste disposal site for many years and is now a government-designated Superfund site, meaning that it has high levels of soil pollution and hazardous materials that need to be cleaned up so that they do not negatively impact the health of the surrounding environment and [communities](#). This is yet another example of how policy choices made at one point in time - for example, decisions about where and how to process waste - have long-lasting impacts on communities.

Wastewater

The Metro Wastewater Robert W. Hite Treatment Facility, located in North Denver, is the largest wastewater treatment facility in the Rocky Mountain West with the ability to process up to 220 million gallons of wastewater per day. It serves an estimated 2 million people via 60 local governments and special districts, including Arvada, Aurora, Denver, Lakewood, and Westminster. In addition to posing similar odor [concerns](#) as solid waste facilities, wastewater management facilities release additional pollution in the air and water that may be hazardous to human health. Workers who have been exposed to these pollutants have reported respiratory and digestive problems, and [similar health problems may occur](#) in people living near such plants. The Robert W. Hite Treatment Facility has also been [non-compliant with the Clean Water Act](#) for 6 of the last 12 quarters.

Knowledge Gaps/Data Justice Issues/Data Limitations

Data on the number of residents served or amount of waste processed per year at any of the area's waste and recycling facilities is not publicly accessible. In addition to online searches, our team personally called several facilities to request information of this type, and were consistently told that it was not available or that we were not permitted to access it. Names and/or ownership of many of these facilities also seem to change frequently, and some also have different names listed in EPA databases than those listed on their public-facing websites and records. For example, Waste Connections of Colorado is listed on the EPA's ECHO database (where their CWA violations are documented) as simply "Denver Hauling." These discrepancies occasionally made it difficult and/or confusing to keep track of each of the various facilities and whether they had any violations.

Summary

This report presents findings from our assessment of the goods, services, and infrastructure that North Denver provides, and associated environmental and health impacts on North Denver communities. Despite the many data gaps we encountered in our search for information, some things are clear:

- A complex and layered web of industries and facilities are located in North Denver.
- Most of these facilities produce pollutants that are known to impact human health.
- A large number of facilities have repeated and serious violations of existing environmental regulations.
- Communities in proximity to these facilities - that is, North Denver residents - are likely to bear a majority of the cumulative environmental and health costs of the facilities' pollution.
- The people who benefit from facilities in North Denver include: consumers of energy, goods, and services produced in and shipped through this area; commuters who travel on roads and rail; residents of surrounding areas whose waste winds up in North Denver; and business owners and shareholders who profit from North Denver's industries.
- Identifying specifically who these beneficiaries are is difficult using existing data sources; many beneficiaries are very likely unaware of their connection to and reliance on North Denver, and this ignorance is a key barrier towards potential action to address systemic inequities and harms.
- Additional health studies are needed so that North Denver communities can better document and understand the cumulative risks they face. However, existing data is sufficient to show that environmental health risks exist and must be addressed in the short, medium, and long term.

The following section provides actionable steps that are underway or could be pursued to advance environmental justice for North Denver now.

How to Get Involved

To learn more about the Gratitude Project and our goals and future work, contact:

- Dr. Katherine Dickinson (Colorado School of Public Health): katherine.dickinson@cuanschutz.edu
- Ean Thomas Tafoya (GreenLatinos): eantafoya@greenlatinos.org

Some actions you can take to support North Denver communities (especially if you benefit from these services without bearing the environmental and health burdens in your community):

- Donate money and/or time to North Denver residents and community organizations such as [GreenLatinos](#), [Cultivando](#), and [Clinica Tepayac](#).
- Build relationships with your elected officials and communicate to them that environmental justice is important to you and to your community network. Write letters and show up to public meetings to express support for policies and enforcement initiatives that hold facilities such as Suncor and Cherokee accountable for their violations
 - Find your [federal, state, and local elected officials](#)
 - [Colorado legislators](#)
 - [Denver City Council](#), [Adams County](#), [City Council for Commerce City](#)
- Join the fight and organize. Advocate for facilities to be placed in areas besides North Denver, so all communities can share the environmental burdens created by the services we all benefit from.

Appendix 1: EPA Violations and ECHO Database

From ECHO FAQ (https://echo.epa.gov/resources/general-info/echo-faq#in_violation):

“What does it mean if a facility has identified violations?”

In general, a violation identified at a facility means the facility has been noted as out of compliance with an environmental requirement set forth by the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, or Safe Drinking Water Act statutes and their respective regulations. EPA learns of violations by several means, depending upon the statute, including regular reporting by the regulated facilities and EPA or state inspections. A violation may indicate that the facility released excessive pollutants, that a hazardous waste handling requirement was not met, or that a facility failed to submit a required report. The type of violation identified will be indicated in the Detailed Facility Report.

Violation, noncompliance, significant noncompliance, high priority violation, and serious violator are all terms used by the ECHO site to describe the facility status in regard to compliance with the law. In many cases, these terms reflect determinations made by EPA or states when conducting inspections or reviewing facility self-reports. These determinations assist the government in tracking resolution of violations through the enforcement process and do not necessarily represent a final adjudication by a judicial or administrative body. In such cases, these characterizations should be considered alleged violations.”

What does it mean to have a status of Significant Noncompliance (SNC), High Priority Violation (HPV), or a Serious Violator?

SNC (this term is used in the Clean Water Act and Resource Conservation and Recovery Act programs), HPV (this term is used in the Clean Air Act program), or Serious Violator (in the Safe Drinking Water Act program) is the most serious level of violation noted in EPA databases. This designation provides an indication of whether violations or noncompliance events at a given facility may pose a more severe level of concern for the environment or program integrity. The definitions of what constitutes an SNC or HPV designation are discussed in more detail in the documentation provided with the Detailed Facility Report.

Does the absence of violations mean a facility is in full compliance with the law?

The ECHO website presents what is known to the government based upon the most recently available information for more than one million regulated facilities. EPA and states inspect a percentage of facilities each year, but many facilities, particularly smaller ones, may not have received a recent inspection. It is possible that facilities do have violations that have not yet been

discovered, thus are shown as compliant in the system. EPA cannot positively state that facilities without violations shown in ECHO are necessarily fully compliant with environmental laws. Additionally, some violations at smaller facilities do not need to be reported from the states to EPA. If ECHO shows a recent inspection and the facility is shown with no violations identified, users of the ECHO site can be more confident that the facility is in compliance with the programs included in this website. The compliance status of smaller facilities that have not had recent inspections or review by EPA or the states may be unknown or only available via state data systems.”

The four specific laws covered in this database include:

Clean Air Act (CAA), 1970: Federal law that regulates air emissions from stationary and mobile sources that are harmful to human health and the environment. Authorizes the EPA to set air quality and emissions standards and enforce them.

Clean Water Act (CWA), 1972: Federal law that establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Authorizes the EPA to implement pollution control programs such as setting wastewater standards for industry.

Resource Conservation and Recovery Act (RCRA), 1976: Federal law that creates the framework and gives the EPA authority to establish standards for and the proper management of hazardous and non-hazardous solid waste.

Safe Drinking Water Act (SDWA), 1974: Federal law intended to protect the quality of drinking water in the U.S., both above ground and underground sources. Authorizes the EPA to establish minimum standards to protect tap water and minimum standards for state programs to protect underground sources of drinking water from endangerment by underground injection of fluids.

The following table shows a complete list of facilities with EPA Violations based on a January 2022 search of the ECHO Database. (Note: No SDWA violations were listed for any of these facilities.)

Figure 12. January 2022 ECHO Violation Output for 80216, 80022, 80229, 80640.

Facility Name	Address	City/ Location	Zip Code	Quarters Noncompliant in last 3 yrs (out of 12)	EPA Status (Current)	CAA Status (Current)	CWA Status (Current)	RCRA Status (Current)
DEXTER SITE LLC	5901 DEXTER ST	COMMERCE CITY	80022	12	Significant Violation		Failure to Report DMR - Not Received	
DIA TECH CENTER FIL 6 LOT 1 BLOCK 1	81 AVE AND TOWER RD	COMMERCE CITY	80022	8	Significant Violation		Effluent - Monthly Average Limit	
N.A. GALVANIZING CO - 4400 E 61ST AVE	4400 E 61ST AVE	COMMERCE CITY	80022	11	Significant Violation	No Violation Identified	Failure to Report DMR - Not Received	No Violation Identified

Facility Name	Address	City/ Location	Zip Code	Quarters Noncompliant in last 3 yrs (out of 12)	EPA Status (Current)	CAA Status (Current)	CWA Status (Current)	RCRA Status (Current)
PHILLIPS 66 - DENVER TERMINAL	3960 E. 56TH AVE	COMMERCE CITY	80022	7	Significant Violation	No Violation Identified	Failure to Report DMR - Not Received	No Violation Identified
POLAR SERVICE CENTERS	4850 E 74TH AVE	COMMERCE CITY	80022	3	Significant Violation			Significant Noncomplier
PURINA ANIMAL NUTRITION, LLC	6151 BRIGHTON BLVD	COMMERCE CITY	80022	12	Significant Violation	No Violation Identified	Failure to Report DMR - Not Received	No Violation Identified
RAC TRANSPORT CO INC	6050 E 56TH AVE	COMMERCE CITY	80022	6	Significant Violation			Significant Noncomplier
ROCKY MOUNTAIN ARSENAL USARMY	6550 GATEWAY RD	COMMERCE CITY	80022	12	Significant Violation	No Violation Identified	No Violation Identified	Significant Noncomplier
SUNCOR ENERGY - DENVER REFINERY	5801 BRIGHTON BLVD	COMMERCE CITY	80022	12	Significant Violation	Violation Addressed; State Has Lead Enforcement	No Violation Identified	Violation
THERMO FLUIDS DENVER	4845 FORREST ST	DENVER	80022	6	Significant Violation		Failure to Report DMR - Not Received	
TOWER ROAD FROM 80 AVE TO 103 AVE	TOWER RD FROM 70 AVE TO 103 AVE	COMMERCE CITY	80022	11	Significant Violation		Failure to Report DMR - Not Received	
WESTERN AUTO RECYCLING COMMERCE CITY	7481 KEARNEY ST	COMMERCE CITY	80022	12	Significant Violation		Failure to Report DMR - Not Received	No Violation Identified
52 AND EMERSON WATER QUALITY FACILITY AKA HERON POND	5200 N DOWNING ST	DENVER	80216	3	Significant Violation		Failure to Report DMR - Not Received	
AMERICAN TIRE RECYCLING LLC	5101 COLUMBINE ST	DENVER	80216	8	Significant Violation		Failure to Report DMR - Not Received	
BASALITE CONCRETE PRODUCTS	4900 RACE ST	DENVER	80216	11	Significant Violation		Failure to Report DMR - Not Received	
BONE YARD	5301 MONROE ST	DENVER COUNTY	80216	12	Significant Violation		Failure to Report DMR - Not Received	
BOOT HILL AUTO SALES & SALVAGE	5385 JACKSON ST	DENVER COUNTY	80216	12	Significant Violation		Failure to Report DMR - Not Received	
CARBONES	3576 E 52 AVE	DENVER COUNTY	80216	7	Significant Violation		Failure to Report DMR - Not Received	
CARMEL DRIVETRAIN APARTMENTS - TIER II	3299 BRIGHTON BLVD	DENVER	80216	9	Significant Violation		Failure to Report DMR - Not Received	
CENTRAL DENVER IRON WORKS, INC	4245 FOX STREET	DENVER	80216	8	Significant Violation	No Violation Identified	Failure to Report DMR - Not Received	No Violation Identified
DENVER REEL & PALLET CO	4600 MONACO ST	DENVER	80216	12	Significant Violation		Failure to Report DMR - Not Received	
ENVIRONMENTAL	6300 E	DENVER	80216	11	Significant		Failure to	

Facility Name	Address	City/ Location	Zip Code	Quarters Noncompliant in last 3 yrs (out of 12)	EPA Status (Current)	CAA Status (Current)	CWA Status (Current)	RCRA Status (Current)
STONEWORKS	STAPLETON DR S				Violation		Report DMR - Not Received	
HURLEY PLACE PHASE I	3650 CHESTNUT PL	DENVER	80216	2	Significant Violation		Failure to Report DMR - Not Received	
MANNA PRO SHOP	4450 MADISON ST	DENVER COUNTY	80216	4	Significant Violation		Failure to Report DMR - Not Received	
MCDONALD FARMS ENTERPRISES INC (MFEI) WWTF	4647 NATIONAL WESTERN DR	DENVER	80216	12	Significant Violation		Effluent - Non-monthly Average Limit	
NATIONAL WESTERN CENTER 3.01B - RAIL REALIGNMENT	4701 MARION ST	DENVER	80216	5	Significant Violation		Effluent - Monthly Average Limit	
OLD YELLER AUTO	5385 GARFIELD ST	DENVER	80216	12	Significant Violation		Failure to Report DMR - Not Received	
RECONSERVE OF COLORADO	5801 FRANKLIN ST	DENVER	80216	7	Significant Violation	No Violation Identified	Failure to Report DMR - Not Received	
SUPERIOR FARMS	4900 CLARKSON STREET	DENVER	80216	12	Significant Violation		Failure to Report DMR - Not Received	
WESTERN AERO REPAIR INC	5995 WASHINGTON	DENVER	80216	5	Significant Violation			Significant Noncomplier
ZIMMERMAN METALS INC	201 EAST 58TH AVENUE	DENVER	80216	12	Significant Violation	No Violation Identified	Failure to Report DMR - Not Received	No Violation Identified
HAU PROCESSING	2200 E 76TH AVE	DENVER	80229	4	Significant Violation			Significant Noncomplier
JIM'S USED TOYOTA TRUCK PARTS	2756 E 69 WAY	ADAMS COUNTY	80229	12	Significant Violation		Failure to Report DMR - Not Received	
ROCKY MOUNTAIN PRESTAIN LLC	1570 E 66TH ST	DENVER	80229	3	Significant Violation	No Violation Identified		Significant Noncomplier
THORNTON LLC / JAYLON INC	8866 WASHINGTON N ST	THORNTON	80229	7	Significant Violation			Significant Noncomplier
LAND O'LAKES PURINA FEED LLC DENVER	9200 E. 90TH AVE.	HENDERSON	80640	12	Significant Violation	No Violation Identified	Failure to Report DMR - Not Received	
DERBY CLEANERS	7220 LOCUST ST	COMMERCE CITY	80022	8	Violation	No Violation Identified		Violation
JOAQUIN MFG CORP	6900 ELM ST	COMMERCE CITY	80022	12	Violation	No Violation Identified		Violation
BONA FIDES LABORATORY INC	4910 FOX ST UNIT E	DENVER	80216	6	Violation			Violation
HERITAGE-CRYSTAL CLEAN LLC	5221 MONROE ST STE 100	DENVER	80216	12	Violation			Violation
VEOLIA ES TECHNICAL SOLUTIONS LLC	9131 EAST 96TH AVENUE	HENDERSON	80640	12	Violation	No Violation Identified	Terminated Permit	Violation
BFI WASTE SYSTEMS OF NORTH AMERICA	5590 E 55TH AVE	COMMERCE CITY	80022	12	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified

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INC								
CERTOL INTERNATIONAL	6120 E 58TH ST	COMMERCE CITY	80022	6	Violation Identified		Violation Identified	
COLORADO ASPHALT SERVICES INC-PORT CRUSH	3700 E 56TH AVE	COMMERCE CITY	80022	12	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
D G COLEMAN INC	7340 BRIGHTON RD	COMMERCE CITY	80022	11	Violation Identified		Violation Identified	
DG COLEMAN INC	7340 BRIGHTON RD	COMMERCE CITY	80022	9	Violation Identified		Violation Identified	
MATHESON TRUCKING	6875 E 54 PLACE	COMMERCE CITY	80022	12	Violation Identified		Violation Identified	
OLD DOMINION FREIGHT LINE COMMERCE CITY	5601 HOLLY ST.	COMMERCE CITY	80022	12	Violation Identified		Violation Identified	
OMEGA PRODUCTS INTERNATIONAL, INC.	6101 DEXTER ST	COMMERCE CITY	80022	12	Violation Identified	No Violation Identified	Violation Identified	
ROCKY MOUNTAIN MIDSTREAM - POWHATON C.S.	SEC 17 T1S R65W	BRIGHTON 3.0 MI. E OF	80022	2	Violation Identified	Violation w/in 1 Year		
ROCKY MOUNTAIN TRANSLOAD INC.	7350 KRAMERIA DR	COMMERCE CITY	80022	12	Violation Identified	No Violation Identified	Violation Identified	
SHAMROCK FOODS COMPANY	5199 IVY STREET	COMMERCE CITY	80022	12	Violation Identified		Violation Identified	
UNITED PARCEL SVC	5020 IVY ST	COMMERCE CITY	80022	10	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
VOLLMER YARD AND PIT	64 AVE AND XMORE RD SWC	ADAMS COUNTY	80022	8	Violation Identified		Violation Identified	
AMERICAN WAREHOUSE LLC	5150 COLORADO BLVD	DENVER	80216	4	Violation Identified		Violation Identified	
AMERICOLD/VERSAC OLD	5120 RACE CT	DENVER	80216	11	Violation Identified		Violation Identified	
BAND-IT/IDEX, INC - BAND-IT	4799 DAHLIA STREET	DENVER	80216	6	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
BESTWAY CONCRETE CO - DENVER	5901 YORK ST	DENVER	80216	12	Violation Identified	No Violation Identified	Violation Identified	
CMC REBAR INC	5353 FRANKLIN STREET	DENVER	80216	12	Violation Identified		Violation Identified	
DENVER HAULING	5500 FRANKLIN ST	ADAMS COUNTY	80216	12	Violation Identified		Violation Identified	
DENVER METAL RECYCLING	4770 IVY ST	DENVER COUNTY	80216	12	Violation Identified		Violation Identified	
DENVER METAL RECYCLING FERROUS YARD	4501 IVY ST	DENVER	80216	10	Violation Identified		Violation Identified	
DENVER SCRAP METAL RECYCLE CENTER	4920 WASHINGTON ST	DENVER	80216	12	Violation Identified		Violation Identified	No Violation Identified

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EVRAZ NORTH AMERICA DENVER	5601 YORK ST	DENVER COUNTY	80216	12	Violation Identified		Violation Identified	
FIORE & SONS INC	730 W 62 AVE	DENVER	80216	6	Violation Identified		Violation Identified	
GALAXY AUTO RECYCLE AND REPAIR	5340 COOK STREET	DENVER	80216	11	Violation Identified		Violation Identified	
HVH TRANSPORTATION INC	5630 FRANKLIN	DENVER	80216	11	Violation Identified		Violation Identified	
IHC CONCRETE PLANT NUMBER 5436	27301 E 71 AVE	DENVER COUNTY	80216	12	Violation Identified		Violation Identified	
IRON & METALS INC	5555 FRANKLIN ST	DENVER	80216	12	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
NESTLE - PURINA PETCARE CO	4555 YORK STREET	DENVER	80216	12	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
OLD YELLER AUTO	3560 DELEGANY STREET	DENVER	80216	9	Violation Identified		Violation Identified	
PREMIER PAVING INC. HB: 690 W 62ND	690 W 62ND AVE	DENVER AREA	80216	12	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
PROCOAT SYSTEMS	4343 HOLLY ST	DENVER	80216	1	Violation Identified			Violation Identified
PUBLIC SERVICE COMPANY OF COLORADO CHEROKEE STATION	6198 FRANKLIN ST	DENVER	80216	6	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
RYDER TRUCK RENTAL	1455 E 62ND AVE	DENVER	80216	11	Violation Identified		Violation Identified	No Violation Identified
SECOND SPIN AUTO PARTS	5118 BRIGHTON BLVD	DENVER	80216	11	Violation Identified		Violation Identified	
USA ENTERPRISES LLC	5255 E 48TH AVE	DENVER	80216	11	Violation Identified		Violation Identified	No Violation Identified
VANCE BROTHERS INC	380 W 62ND AVE	DENVER	80216	8	Violation Identified		Violation Identified	
WESTROCK CP - WESTROCK DENVER CORRIGATED	5050 E 50TH AVE	DENVER	80216	12	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
MAJESTIC METALS INCORPORATED	7770 NORTH WASHINGTON STREET	DENVER	80229	6	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
METRO WASTEWATER RECLAMATION DIST/TRIGEN	6450 YORK STREET	DENVER	80229	6	Violation Identified	No Violation Identified	Violation Identified	No Violation Identified
MILLER BROTHERS INC	6540 N WASHINGTON ST	DENVER COUNTY	80229	11	Violation Identified		Violation Identified	
MWRD - PAR 1232 PROJECT	6450 YORK ST	DENVER	80229	2	Violation Identified		Violation Identified	
RINKER MATERIALS HYDRO CONDUIT	8600 N WELBY RD	DENVER	80229	12	Violation Identified	No Violation Identified	Violation Identified	
SHINGLE SOLUTIONS	461 E 66 AVE	ADAMS COUNTY	80229	11	Violation Identified		Violation Identified	

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WESTERN DIST TRUCK & AUTO MAINT	6655 YORK STREET	DENVER	80229	9	Violation Identified		Violation Identified	
BESTWAY CONCRETE - DALLAS PLANT	10040 DALLAS ST	HENDERSON	80640	12	Violation Identified	No Violation Identified	Violation Identified	
BORAL ROOFING DENVER PLANT	10121 DALLAS ST	ADAMS COUNTY	80640	12	Violation Identified		Violation Identified	
CANYON STATE OIL CO INC	9052 YOSEMITE ST	HENDERSON	80640	12	Violation Identified		Violation Identified	No Violation Identified
DUFFY CRANE & HAULING	10180 BRIGHTON RD	HENDERSON	80640	11	Violation Identified		Violation Identified	
G T I HENDERSON TERMINAL	9751 E 104 AVE	ADAMS COUNTY	80640	12	Violation Identified		Violation Identified	
QUALITY	9775 E 97 PL	HENDERSON	80640	12	Violation Identified		Violation Identified	
SOUTH ADAMS COUNTY WATER AND SANITATION DISTRCT INCORPORATED	9702 MONACO STREET	HENDERSON	80640	5	Violation Identified	No Violation Identified	Violation Identified	
WORTHING PIT #4	13205 BRIGHTON ROAD	HENDERSON	80640	11	Violation Identified		Violation Identified	
OWENS CORNING - TRUMBULL ASPHALT PLANT	5201 BANNOCK STREET	DENVER	80216	10	No Violation Identified	No Violation Identified	Terminated Permit	No Violation Identified
BIRKO CORP - CHEMICAL BLENDING PLANT	9152 YOSEMITE STREET	HENDERSON	80640	8	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
COLUMBINE TREATMENT PLANT	3651 E 86TH AVE	THORNTON	80229	8	No Violation Identified	No Violation Identified	No Violation Identified	
ALLIED RECYCLED AGGREGATES	7901 HWY 85	COMMERCE CITY	80022	8	No Violation Identified		No Violation Identified	
YOTA YARD	3134 WALNUT STREET	DENVER	80216	8	No Violation Identified		No Violation Identified	
COMMERCIAL RESINS COMPANY INC.	8100 E 96TH AVE	HENDERSON	80640	7	No Violation Identified	No Violation Identified	No Violation Identified	
DELTA ROCKY MOUNTAIN PETROLEUM	9155 BOSTON ST.	HENDERSON	80640	6	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
EFI POLYMERS	4600 HOLLY ST	DENVER	80216	6	No Violation Identified		No Violation Identified	No Violation Identified
SAIA MOTOR FREIGHT LINE - HENDERSON	9860 EMPORIA ST	HENDERSON	80640	6	No Violation Identified		No Violation Identified	No Violation Identified
SOUTH GRAVEL PIT COMPLEX	6720 MONROE ST	ADAMS COUNTY	80022	6	No Violation Identified		No Violation Identified	
BELLIO TRUCKING & GLOBAL EQUIPMENT	777 & 705 W 62 AVE	DENVER	80216	6	No Violation		No Violation Identified	

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					Identified			
WIKIUP MOBILE HOME PARK	6500 E 88TH AVE LOT 158	HENDERSON	80640	6	No Violation Identified			
A R WILFLEY & SONS INC	5870 E 56TH AVE	COMMERCE CITY	80022	5	No Violation Identified		No Violation Identified	No Violation Identified
SECOND CREEK VILLAGE MASTER INFRASTRUCTURE	104 AVE AND CHAMBERS RD	COMMERCE CITY	80022	5	No Violation Identified		No Violation Identified	
USFWS-ROCKY MOUNTAIN ARSENAL NWR	6550 GATEWAY ROAD, BUILDING 121	COMMERCE CITY	80022	5	No Violation Identified		No Violation Identified	
NORTH GRAVEL PIT COMPLEX	9285 E 112 AVE	ADAMS COUNTY	80640	5	No Violation Identified		No Violation Identified	
TOTAL PETROLEUM NO 4095	5810 BROADWAY	DENVER	80216	4	No Violation Identified	No Violation Identified	Terminated Permit	No Violation Identified
FRONTIER WASTE TRANSFER LLC	5350 WASHINGTON STREET	DENVER	80216	4	No Violation Identified	No Violation Identified	No Violation Identified	
BKEP MATERIALS DENVER K	4308 E 60 ST	COMMERCE CITY	80022	4	No Violation Identified		No Violation Identified	
COMMERCE CITY	6050 E 56 AVE	COMMERCE CITY	80022	4	No Violation Identified		No Violation Identified	
JONES FINE SAND COMMERCE CITY	5400 FORST ST	COMMERCE CITY	80022	4	No Violation Identified		No Violation Identified	
GENERAL BUILDING MATERIALS HEADQUARTERS	10401 E 102 AVE	HENDERSON	80640	4	No Violation Identified		No Violation Identified	
HATCHERY PIT	9001 MONACO ST	HENDERSON	80640	4	No Violation Identified		No Violation Identified	
WERNER ENTERPRISES INC	9239 HWY 85	HENDERSON	80640	4	No Violation Identified		No Violation Identified	
COLORADO SERUM CO	4950 YORK STREET	DENVER	80216	4	No Violation Identified	No Violation Identified		No Violation Identified
OWENS CORNING DENVER ROOFING PLANT	5201 FOX ST	DENVER AREA	80216	3	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
WRIGHT & MCGILL CO	4245 E. 46TH AVE.	DENVER	80216	3	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
PRECAST CONCEPTS, LLC	9455 BOSTON CT	HENDERSON	80640	3	No Violation Identified	No Violation Identified	No Violation Identified	
MCLANE FOOD SERVICE INC	17100 E 81 AVE	COMMERCE CITY	80022	3	No Violation Identified		No Violation Identified	

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GORMAN LARADON PHASE III (THE STELLA)	5190 BROADWAY	DENVER	80216	3	No Violation Identified		No Violation Identified	
NATIONAL WESTERN CENTER	5115 RACE CT	DENVER	80216	3	No Violation Identified		No Violation Identified	
SERCK RADIATOR MANUFACTURING	5530 PENNSYLVA NIA ST	DENVER	80216	3	No Violation Identified		No Violation Identified	
PACIFIC SHIPPING & TRUCKING CO INC	6520 VINE CT	DENVER	80229	3	No Violation Identified		No Violation Identified	
AMERICAN TIRE & TDF	5101 COLUMBINE ST	DENVER COUNTY	80216	2	Unknown		Unknown	
ARDENT MILLS - COMMERCE CITY MILL	4545 E 64TH AVE	COMMERCE CITY	80022	2	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
DENVER METAL FINISHING	3100 EAST 43RD AVENUE	DENVER	80216	2	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
KBP COIL COATERS INC - 3600 E 44TH AVE	3600 EAST 44TH AVENUE	DENVER	80216	2	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
SIDEWINDER AUTO RECYC;OMG	5380 BRIGHTON BLVD	DENVER	80216	2	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
CONTECH CONSTRUCTION PRODUCTS	6290 CLERMONT	COMMERCE CITY	80022	2	No Violation Identified		No Violation Identified	No Violation Identified
PEPCOL MFG CO	5800 YORK ST	DENVER	80216	2	No Violation Identified	No Violation Identified	No Violation Identified	
CENTRAL YARD READY MIX & ASPHALT PLANT	7271 COLORADO BLVD	COMMERCE CITY	80022	2	No Violation Identified		No Violation Identified	
ROCKY MOUNTAIN RECYCLING	6510 BRIGHTON BLVD	ADAMS COUNTY	80022	2	No Violation Identified		No Violation Identified	
UPS FREIGHT COMMERCE CITY	5300 E 56 AVE	COMMERCE CITY	80022	2	No Violation Identified		No Violation Identified	
WMC DISPOSAL & RECYCLING TRANSFER STATION	6091 BRIGHTON BLVD.	COMMERCE CITY	80022	2	No Violation Identified		No Violation Identified	
ANGLEBOARD PLASTIC PACKAGING	4950 COLORADO BLVD	DENVER	80216	2	No Violation Identified		No Violation Identified	
BATCH PLANT #7	655 W 62 AVE	DENVER COUNTY	80216	2	No Violation Identified		No Violation Identified	
DENVER 48 AVE MATERIAL RECOVERY FACILITY	3600 E 48 AVE	DENVER	80216	2	No Violation Identified		No Violation Identified	
DENVER FRANKLIN ST MATERIAL RECOVERY FACILITY	5395 FRANKLIN ST	DENVER	80216	2	No Violation Identified		No Violation Identified	

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EVRAZ NORTH AMERICA DENVER ANNEX	2201 E 58 AVE	DENVER	80216	2	No Violation Identified		No Violation Identified	
OWENS CORNING TRUMBULL ASPHALT	5021 BANNOCK ST	DENVER	80216	2	No Violation Identified		No Violation Identified	
SAFEWAY DENVER DISTRIB CENTER	4600 STAPLETON DRIVE SOUTH	DENVER	80216	2	No Violation Identified		No Violation Identified	
TRANSDEV DENVER RTD PARATRANSIT	7500 E 41 AVE	DENVER	80216	2	No Violation Identified		No Violation Identified	
ALPINE WASTE AND RECYCLING	7373 WASHINGTON ST	ADAMS COUNTY	80229	2	No Violation Identified		No Violation Identified	
VILLAGES NORTH THORNTON	94 DR AND YUCCA WAY	THORNTON	80229	2	No Violation Identified		No Violation Identified	
WMC - DENVER NORTH	7780 E 96 AVE	HENDERSON	80640	2	No Violation Identified		No Violation Identified	
ALPINE LIVING CENTER	501 THORNTON PKWY	THORNTON	80229	2	No Violation Identified			No Violation Identified
NUSTAR LOGISTICS, LP-DENVER TERMINAL	3601 E 56TH ST	COMMERCE CITY	80022	1	No Violation Identified	No Violation Identified	Terminated Permit	No Violation Identified
BKEP MATERIALS - DENVER C & K	4310 E 60TH AVE	COMMERCE CITY	80022	1	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
DARLING INGREDIENTS INC. - 5701 YORK ST	5701 YORK STREET	DENVER	80216	1	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
KOPPERS INC (DENVER CO)	465 WEST 56TH AVENUE	DENVER	80216	1	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
PEPSI COLA BOTTLING CO	3801 BRIGHTON BLVD	DENVER	80216	1	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
REGIONAL TRANSPORTATION DISTRICT	3333 RINGSBY COURT	DENVER	80216	1	No Violation Identified	No Violation Identified	No Violation Identified	No Violation Identified
ABF FREIGHT SYSTEMS INC.	5871 N BROADWAY	DENVER	80216	1	No Violation Identified		No Violation Identified	No Violation Identified
ARDENT MILLS	3750 WYNKOOP STREET	DENVER	80216	1	No Violation Identified	No Violation Identified	No Violation Identified	
COBITCO INC	5301 NORTH BANNOCK STREET	DENVER	80216	1	No Violation Identified	No Violation Identified	No Violation Identified	
DENVER 36 STREET YARD	3620 WAZEE ST	DENVER	80216	1	No Violation Identified		No Violation Identified	
MILE HI FOODS CO	4701 E 50 AVE	DENVER	80216	1	No Violation		No Violation Identified	

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					Identified			
NORTH PARK TRANS. DENVER TERMINAL	5150 COLUMBINE ST	DENVER	80216	1	No Violation Identified		No Violation Identified	
NWC CUP CAMPUS ENERGY	4700 PACKING HOUSE RD	DENVER	80216	1	No Violation Identified		No Violation Identified	
RTD DISTRICT SHOPS DENVER	1900 31 ST	DENVER	80216	1	No Violation Identified		No Violation Identified	
120TH PIT	10701 E 120 AVE	HENDERSON	80640	1	No Violation Identified		No Violation Identified	
AMAZON, LLC DEN5	10401 E 102 AVE	HENDERSON	80640	1	No Violation Identified		No Violation Identified	
COOLEY EAST PUMP STATION	7695 E 104TH AVE	HENDERSON	80640	1	No Violation Identified		No Violation Identified	
COOLEY RESERVOIR & FULTON WILDLIFE AREA	9991 BRIGHTON BLVD	HENDERSON	80640	1	No Violation Identified		No Violation Identified	
LQK WESTERN TRUCK PARTS	9090 BRIGHTON RD	HENDERSON	80640	1	No Violation Identified		No Violation Identified	
UNION PACIFIC RR HENDERSON - ROLLA	I 76 FRONTAGE RD AND 96 AVE	HENDERSON	80640	1	No Violation Identified		No Violation Identified	
UNIVAR - CHEMICAL DIST.	4300 HOLLY STREET	DENVER	80216	1	No Violation Identified	No Violation Identified		No Violation Identified
COLORADO BLASTING AND PAINTING INCORPORATED	11905 EAST 124TH AVENUE	HENDERSON	80640	1	No Violation Identified	No Violation Identified		No Violation Identified
AHERN RENTALS INC	5478 WASHINGTON N ST	DENVER	80216	1	No Violation Identified			No Violation Identified
HARVEST OF COLORADO LLC	5231 MONROE ST STE 100 & 200	DENVER	80216	1	No Violation Identified			No Violation Identified
XPO LOGISTICS FREIGHT INC - UDV	9801 DALLAS ST	HENDERSON	80640	1	No Violation Identified			No Violation Identified
GASAMAT OIL CORP #103	5896 E 72ND AVE	COMMERCE CITY	80022	1	No Violation Identified	No Violation Identified		
KING SOOPERS FUELING #114	15041 E 104TH AVE	COMMERCE CITY	80022	1	No Violation Identified	No Violation Identified		
U-SAVE-MART - 6590 MONACO ST	6590 MONACO ST	COMMERCE CITY	80022	1	No Violation Identified	No Violation Identified		
HARACE - MILE HIGH QUICK STOP	4140 GRAPE STREET	DENVER	80216	1	No Violation Identified	No Violation Identified		

Facility Name	Address	City/ Location	Zip Code	Quarters Noncompliant in last 3 yrs (out of 12)	EPA Status (Current)	CAA Status (Current)	CWA Status (Current)	RCRA Status (Current)
NORTH WASHINGTON SINCLAIR	5050 WASHINGTON N STREET	DENVER	80216	1	No Violation Identified	No Violation Identified		
PYNERGY, LLC - 4001 COLORADO BLVD	4001 COLORADO BLVD	DENVER	80216	1	No Violation Identified	No Violation Identified		
CST METRO LLC DBA CORNER STORE #648	8290 WASHINGTON N ST	THORNTON	80229	1	No Violation Identified	No Violation Identified		
UTILITY TRAILER COL.- TRAILER INTERSTATE	9200 BRIGHTON ROAD	COMMERCE CITY AREA	80640	1	No Violation Identified	No Violation Identified		

Appendix 2: Traffic Pollution (Vehicle Emissions)

Traffic Counts

Traffic Counts for specific (“point”) locations and for lengths of road were pulled from The Colorado Department of Transportation (CDOT) [Traffic Data Explorer](#). When this research was originally pulled the Traffic Data Explorer site displayed 2019 data. Though the Traffic Data Explorer has been updated since our original analysis to reflect 2020 data, we are using 2019 data to reflect traffic numbers before the impact of the early pandemic lockdowns and related long-term supply chain disruptions. Traffic count averages in 2020 were somewhat lower than 2019 (for example, the 2020 AADT ranged from 104,000-157,000 on the stretch of I70 intersecting with the North Denver neighborhood, as opposed to 139,000-208,000 recorded in 2019), but fluctuated wildly over the course of the year. Traffic counts at Station ID: 000511 (located near the intersection of Glencoe St. and Grape St.) ranged between 111,043-121,590 during 2019. In 2020, they dipped down to 70,383 for the month of April, but rose back up to 110,668 by August, comparable to the lower range of 2019 traffic counts. Though supply chain slowdowns may still be impacting traffic counts on North Denver highways, current traffic counts are likely comparable to traffic counts in 2019.

Figure 13. [Average Annual Daily Traffic \(AADT\) in 2019 on North Denver highways/roads](#)

Name of road or station ID & location	Length of road in GES area	Average Annual Daily Traffic	Small truck* AADT	Large truck** AADT
I25	4.87 mi	186,000-289,000	7100-13,000	9700-13,000
I70	5.53 mi	139,000-208,000	4600-9700	5000-9200
I270(longer)	5.15 mi	79,000-106,000	3600-4300	5800-7300
I270(top portion)	0.992 mi	81,000	4700	6200
I76	2.35 mi	14,000-29,000	460-1200	130-430
224A	1.91 mi	71,000-96,000	4100-5500	5100-7000
ID: 103071 (873 ft. from Swansea Elementary)	Point	173,000	9,700	8,300

ID: 103067 (west side of I70 intersection with I25)	Point	230,000	4,600	5,000
ID: 101015 (north side of I25 intersection with I70)	Point	230,000	12,000	12,000
Combined traffic counts for intersection of I70/I25 “The Mousetrap”	ID: 103067 + ID: 101015	460,000	16,600	17,000

* Small truck = single unit trucks - vehicles larger than pickup trucks built on a single chassis (such as delivery trucks)

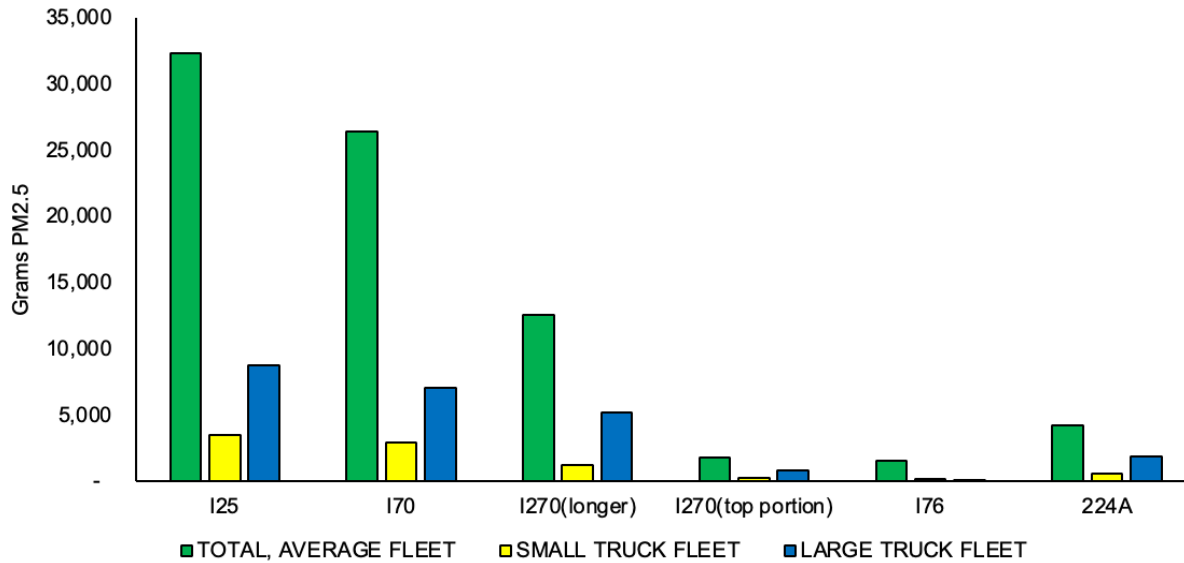
** Large truck = combination trucks - 3 or more axles-single trailer or multiple trailers (“semi-trucks” are considered combination trucks)

Vehicle Emissions

Figure 14: Daily PM2.5 Traffic Emissions

This chart shows the total grams of PM2.5 released by vehicles driving along the stretches of highway designated in **Figure 13**.

Daily PM2.5 Traffic Emissions (High range of Vehicle Count)



“Average Fleet” refers to average emissions from all vehicle types. Roughly 75% of all trucks run on diesel fuel, but more than 97% of all large trucks (“semis” or combination vehicles) run on diesel fuel. For our analysis, we chose to estimate that 50% of small trucks in our data set (also known as light duty trucks) run on diesel fuel and 50% on gasoline. We estimated that 100% of large trucks in our data set run on diesel fuel. All remaining vehicles in our total traffic counts are assumed to run on gasoline.

Environmental impact of mobile emissions information and air monitoring results were gleaned from the Colorado Department of Health and the Environment ((CDPHE: [Source 1](#) and [Source 2](#))).

Appendix 3: Additional Resources

This section has been compiled so that those interested in digging deeper into any of the topics discussed in this report for North Denver, or for doing similar research in a different area, can be familiar with the resources we found and utilized for the research in this report.

Resource	Description	Link
EPA ECHO Database	The EPA's Environmental Compliance and History Online (ECHO) database provides information on facilities with reported EPA violations in an area (search by city, state, or zip code).	https://echo.epa.gov/
DataAxle U.S. Business Database	Provides information on "verified" and "unverified" businesses in an area. Accessible through Denver Public Library and likely other public libraries; need account to access.	https://www.referenceusa.com.ezproxy.denverlibrary.org/UsBusiness/Search/Custom/3704f1bcdd8a457c8f1522f399eaab6d
EPA Toxics Release Inventory	The Toxics Release Inventory (TRI) is a resource for learning about toxic chemical releases and pollution prevention activities reported by industrial and federal facilities.	https://www.epa.gov/toxics-release-inventory-tri-program
EPA EnviroFacts Database	EnviroFacts integrates information from a variety of EPA's environmental databases. Each of these databases contains information about facilities that are required to report activity to a state or federal system.	https://enviro.epa.gov/
Trust for Public Land ParkServe	Provides map-based data on public park access in U.S. cities.	https://www.tpl.org/parkserve
ArcGIS Power Plants and Neighboring Communities Mapping Tool	Provides map-based data on power plants and the characteristics of their surrounding communities in the U.S.	https://experience.arcgis.com/experience/2e3610d731cb4cfcbeec9e2dcb83fc94?views=Legend
OTIS Traffic Data Explorer	Colorado Department of Transportation's Online Transportation Information System. Provides traffic data searchable by City, County, highway segment, and traffic station. Depending on the traffic stations selected, data include Hourly, Daily, Monthly, and Annual average. Average Annual Daily Traffic (AADT) includes total average vehicles and subsets for small truck and combination trucks (semis).	https://dtdapps.coloradodot.info/otis/TrafficData#ui/0/2/0

	Future projections and some prior year data are also publicly available.	
Colorado Freight and Passenger Rail Plan (2018)	Statewide vision and plans for Colorado Rail systems. Defining vision, analyzing past efforts, current state of rail in CO, setting future plans and priorities. Includes information about the Transit and Rail Advisory Committee and the Statewide Transportation Advisory Committee.	https://www.codot.gov/programs/transitandrail/assets/plans-studies-reports/statewidetransitplan/2018-colorado-freight-and-passenger-rail-plan.pdf ; https://www.codot.gov/about/committees/trac/trac-roster-and-sub-committees ; https://www.codot.gov/programs/planning/planning-partners/stac-members.html
RTD System Map (Regional Transportation District)	Map of entire RTD system with ability to zoom and select individual stations.	https://www.rtd-denver.com/rider-info/system-map
Amtrak Rail Tracking Map	Ability to zoom in to different parts of the entire U.S. Amtrak rail system.	https://www.amtrak.com/services/maps.trainlocation.html

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