

ILLINOIS WAREHOUSE BOOM

Tracing the growth of mega-warehouses and their health impacts

BACKGROUND & CONTEXT

Just-in-time delivery has fueled an explosion of warehouses and truck trips in Illinois. More warehouses are now located near homes, schools and community centers than ever before. A single warehouse may generate hundreds of truck trips every day. While trucks are central in the goods supply chain, they also contribute to harmful air pollution, noise pollution and traffic and safety concerns. Goods transport is the fastest-growing driver of greenhouse gas emissions and the largest absolute contributor in many regions.¹

Due to racist legacies of redlining and other discriminatory policies, new and existing distribution facilities and the roads that serve them are disproportionately located near communities of color and working class and low-income communities. And while these same warehouses often employ individuals living nearby, many residents living near warehouses have been sounding the alarm for some time.²



An aerial view of Chicago's Little Village neighborhood shows a warehouse alongside a residential area. Photo credit: Little Village Environmental Justice Organization.

KEY FINDINGS

To better understand the disproportionate burden associated with warehouses in Illinois, Environmental Defense Fund deployed a peer-reviewed framework called Proximity Mapping. Across Illinois we found:

- **2,401 leased warehouses that are at least 100,000 square feet.** This represents an unknown fraction of all warehouses, because data does not currently exist for warehouses that are owned or operated in other ways.
- **At least 525,000 truck trips per day** service these warehouses.
- **2 million people live within a half mile of a warehouse.** 127,000 are under age five and 251,100 are over age 64.
- **Hispanic/Latino populations** are 195% more likely to live within half a mile of a warehouse than would be expected, based on statewide statistics. This population composes 17.1% of the total population but makes up 33% of warehouse neighbors.
- **Black populations** are 137% more likely to live within half a mile of a warehouse than would be expected, based on statewide statistics. This population composes 15.3% of the total population but makes up 21% of warehouse neighbors.
- **American Indian and Alaska Natives** are 126% more likely to live within half a mile of a warehouse than statewide statistics would project. This population composes 0.79% of the total population and 0.99% of warehouse neighbors.
- **Low-income populations** are 125% more likely to live within half a mile of a warehouse than would be expected, based on statewide statistics. This population composes 12.2% of the total population but makes up 15% of warehouse neighbors.
- **Asian populations** are 117% more likely to live within half a mile of a warehouse than expected, based on statewide statistics. This population composes 6.3% of the total population but makes up 7.3% of warehouse neighbors.

The results from the Illinois analysis mirror findings in 10 states where EDF previously conducted Proximity Mapping.³ In those states, some 15 million people live within a half mile of a leased warehouse of at least 100,000 square feet. More than 1 million of those are children under age five. No state distributed the risk from leased warehouses evenly. Black, Hispanic/Latino, Asian, American Indian and Alaska Native and low-income people bear the brunt of the risk from living close to leased warehouses. In some states, including Illinois, Massachusetts and Colorado, the concentration of Black or Hispanic/Latino residents around leased warehouses is double what would be expected given the state population.

A PUBLIC HEALTH THREAT FROM COAST TO COAST

EDF's warehouse analyses reflect a broader national trend. One in six U.S. residents lives within 300 feet of a major road, airport or railroad.⁴ Some 17,000 schools across the U.S. are located within approximately 800 feet of a heavily traveled road.⁵ A growing body of peer-reviewed research indicates that exposure to traffic-related air pollution increases the risk of childhood asthma.⁶ Asthma is a leading cause of missed school days, and research has linked it to diminished school performance.⁷

The burden of childhood asthma represents a severe health disparity in the United States: Across the country, 11% of children with family income less than \$35,000 have asthma, versus 6% of children with family income of \$75,000 or more.⁸ Black children are more than twice as likely as non-Hispanic white children to have asthma and are more than four times more likely to be hospitalized for asthma and eight times more likely to die from asthma.⁹ Pollution is one of several factors, along with other unequally distributed factors like healthcare access and psychological stressors, that cumulatively contribute to these disparities. Air pollution from trucks is also associated with increased health risks at other stages of life. It raises the risk of preterm birth, low birth weight, dementia, heart disease and stroke.^{10,11,12}

Diesel-fueled freight trucks and buses make up around 10% of the vehicles on U.S. roads, but they are responsible for 50% of the transportation sector's nitrogen oxides (NOx) emissions – primarily measured by NO₂ emissions.¹³ These vehicles also emit a series of other health-harming pollutants, including 57% of direct fine particulate matter (PM_{2.5}) from on-road vehicles, as well as volatile organic compounds, carbon monoxide and sulfur dioxide.¹⁴ In Illinois, the stats are similar: Diesel trucks and busses make up 7% of the on-road fleet but emit 67% of NOx and 59% of PM_{2.5}.

Diesel trucks emit serious pollution at start-up, while idling and while traveling at low speeds.¹⁵ Air pollution levels vary by proximity to truck traffic, and vulnerability to pollution exposure can vary greatly by race and age, with children and older adults at elevated risk, due to the unequal cumulative impacts of other health-harming factors from built, natural and social environments.¹⁶

METHODOLOGY

EDF's Proximity Mapping framework provides a new way to understand more about the communities living near various types of infrastructure to determine how the pollution-related risks are distributed.

This methodology combines data from the U.S. Census Bureau's American Community Survey five-year estimates at the census tract level with locations of leased "Warehouse" facilities from a private real estate database. The inequities visualized through this tool make it clear that the burdens associated with increased truck traffic are far from equally distributed.

ILLINOIS WAREHOUSE IMPACTS

Across Illinois, EDF identified 2,401 leased warehouses that are at least 100,000 square feet in size, covering a collective 632 million square feet – a number that’s grown 33% in the last decade and 72% in the last two decades (Figure 1). At least 525,000 daily truck trips service today’s leased warehouses equal to or greater than 100,000 square feet.

The recent e-commerce boom in Illinois only exacerbates the pollution burden faced by many communities of color and low-income communities. At all levels, EDF found that leased warehouses tend to be disproportionately located in Black, Hispanic/Latino and low-income communities.

Warehouses are not only disproportionately located in these communities, but they also often employ local residents in low-wage, temporary, dangerous positions. In Illinois, Black and Hispanic/Latino workers account for 85% of temporary workers in factories and warehouses, while the state’s overall workforce is 35% non-white.¹⁷ The combination of living and working in areas with high concentrations of harmful air pollution places an outsized health burden on these workers.

In Illinois, like the rest of the country, warehouse locations are shrouded in secrecy. While the Energy Information Agency maintains a database of information about polluting facilities like oil refineries, nothing similar exists for warehouse locations, making it difficult for communities and policymakers alike to learn the identities of owners and operators of these buildings. As a result, organizations must turn to private databases, which are expensive, limited in scope and have strict terms around the data that can be shared. Communities have no hope of getting access to key data.

In addition to the lack of transparency about warehouse locations, warehouses are unregulated and can be sited with no environmental review or public process. There is currently no mechanism to ensure warehouse compliance with the Illinois’ Climate Action Plan – a roadmap for zero greenhouse gas emissions by 2050 – or the state’s beneficial electrification and transportation pollution reduction goals under the Climate and Equitable Jobs Act.^{18,19}

AN UNEQUAL BURDEN: NITROGEN DIOXIDE (NO₂)

Nitrogen dioxide (NO₂) pollution – one of the main pollutants released by diesel-burning trucks – contributes to more than 7,200 cases of new childhood asthma cases across the state every year, according to an EDF analysis.²⁰ In areas with worse pollution, the EDF analysis found NO₂ contributes to more than 14% of new asthma diagnoses.

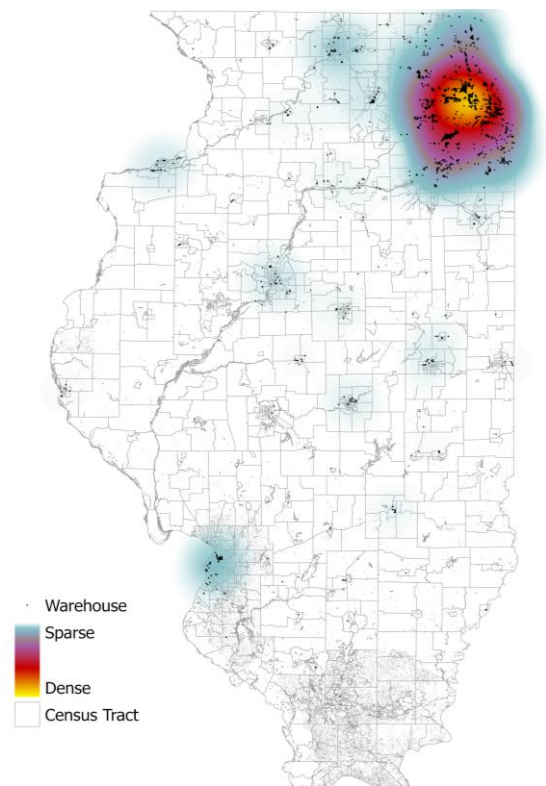


Figure 1

EDF research shows that exposure to NOx from heavy-duty trucks disproportionately impacts communities of color across the state (Figure 2). For example, non-white residents live in areas with the highest NOx burden at a rate nearly double that of white residents.²¹ Developing asthma changes a child's life, impacting physical, emotional and academic growth. Asthma is the leading cause of missed school days each year and has been linked to diminished school performance.²² Nearly one in two children with asthma misses at least one day of school each year because of asthma. In Illinois, approximately 14% of adults and 10% of children have asthma, resulting in 137 deaths in 2018.²³ Across the state, Black children are six times more likely to be hospitalized for asthma and 10 times more likely to die from asthma compared to non-Hispanic white children.^{24,25} According to the Centers for Disease Control and Prevention's (CDC) Chronic Disease Cost Calculator, the estimated medical cost of asthma in the state was \$2.2 billion in 2020.²⁶

EDF research found that transitioning all on-road medium- and heavy-duty vehicles to zero-emission vehicles would benefit all people, especially children and those who are Black.²⁷ In the Chicago Metropolitan Agency for Planning region, for example, tailpipe emissions from these vehicles are currently responsible for more than 1,300 deaths and 1,500 new childhood asthma cases every year (Figure 3).²⁸

Transitioning all on-road medium- and heavy-duty vehicles to zero-emission vehicles would reduce total NO₂ concentrations by as much as 54% in the most impacted census tracts, with the average census tract experiencing a 22% reduction. The health benefits of a full transition to zero-emission trucks would be largest in neighborhoods with higher percentages of residents of color. For example, the residents of census tracts with the largest (top 10%) NO₂-associated reductions in mortality are 45% Black, 13% Hispanic or Latino, 7% Asian and 33% white, while the region as a whole is 17% Black, 23% Hispanic or Latino, 7% Asian and 51% white.

Illinois Demographics by Burden of Heavy-Duty Vehicle-Related NOx Emissions

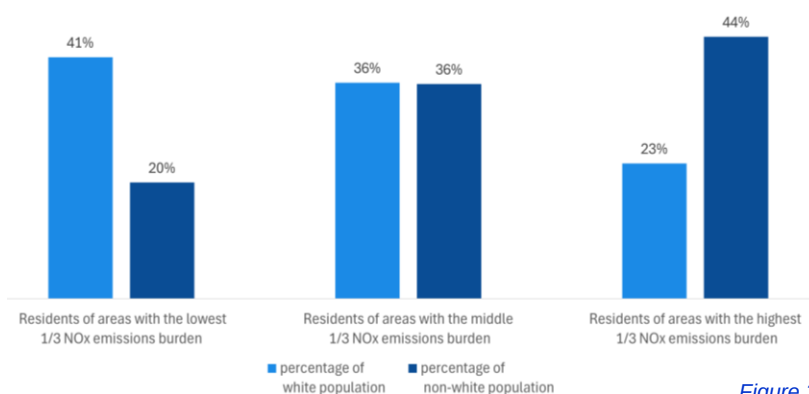


Figure 2

Annual Reduction in NO₂ Attributable Mortality Rate (deaths per 100,000)

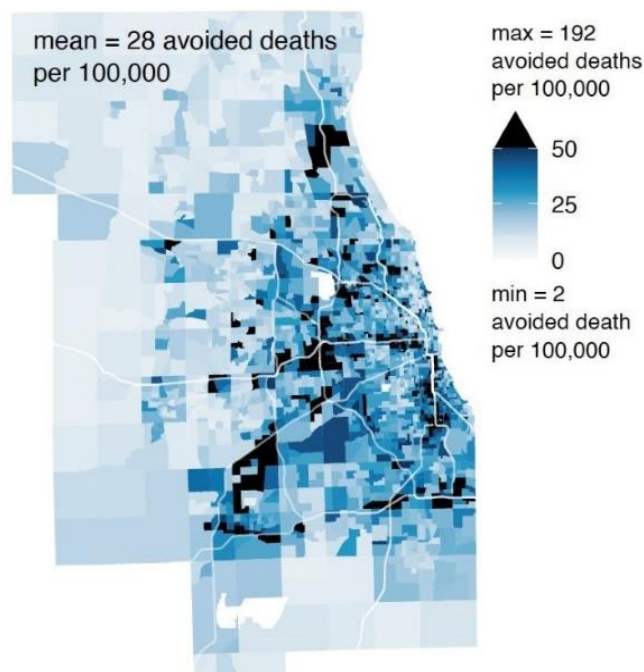


Figure 3

AN UNEQUAL BURDEN: FINE PARTICULATE MATTER (PM_{2.5})

In 2023, Illinois had the fifth highest number of deaths per capita from PM_{2.5} diesel engine pollution.²⁹ PM_{2.5} exposure from on-road mobile sources in Illinois contributes to 416 deaths, 5,003 asthma cases, 199 heart attacks and 129 asthma emergency room visits every year. The impacts are not evenly distributed: People who live, work, or go to school closer to highways and truck-attracting facilities like warehouses are more likely to be affected by diesel engine fine particulate matter and other forms of air pollution from diesel engines.³⁰ The economic impact of these health effects, including missed workdays, restricted activities, deaths and medical treatments, amounted to an estimated \$4.6 billion in 2023.³¹

EDF research shows that exposure to PM_{2.5} from heavy-duty trucks disproportionately impacts communities of color across the state (Figure 4). For example, non-white residents live in areas with the highest PM_{2.5} burden at a rate nearly double that of white residents.

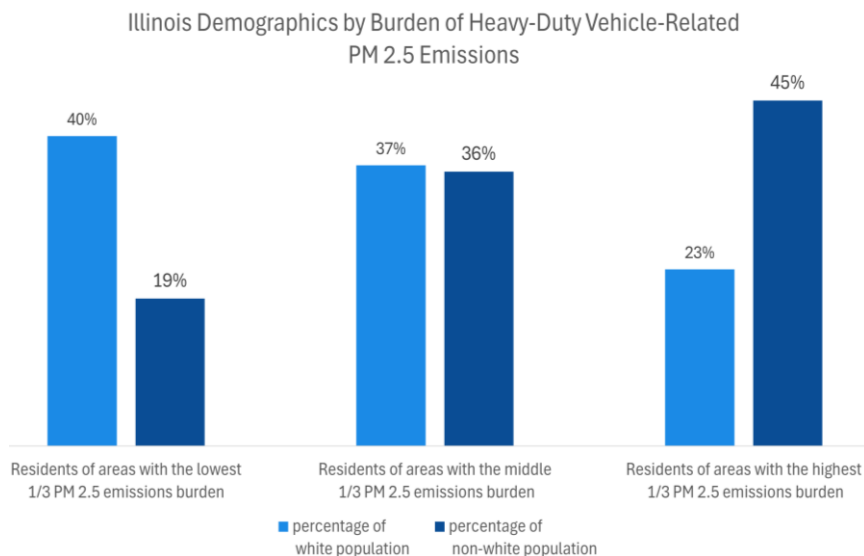


Figure 4

INADEQUATE POLLUTION MONITORING NETWORKS

Over the past 20 years, from 2003 through 2022, Illinois added 680 leased warehouses equal to or greater than 100,000 square feet, which accounted for 249 million square feet of additional warehouse space and 226,000 additional daily truck trips. Despite this drastic increase, which is likely an underestimate due to a lack of available data, the number of EPA-grade NO₂ and PM_{2.5} pollution monitors, which are operated by the state, stayed the same or slightly decreased during this period.³²

In 2003, the Illinois Environmental Protection Agency operated eight EPA-grade NO₂ and 38 PM_{2.5} monitors spread across 42 sites. In 2022, the agency operated eight EPA-grade NO₂ monitors and 34 EPA-grade PM_{2.5} monitors spread across 37 sites (Figure 5). That's a ratio of 65 leased warehouses for every PM_{2.5} monitor and 277 leased warehouses for every NO₂ monitor as of 2022 – down 62% and 69%, respectively, compared to 2003. In 2022, eight of eight NO₂ monitors measured pollution every hour, but 11 of 34 PM_{2.5} monitors only measured

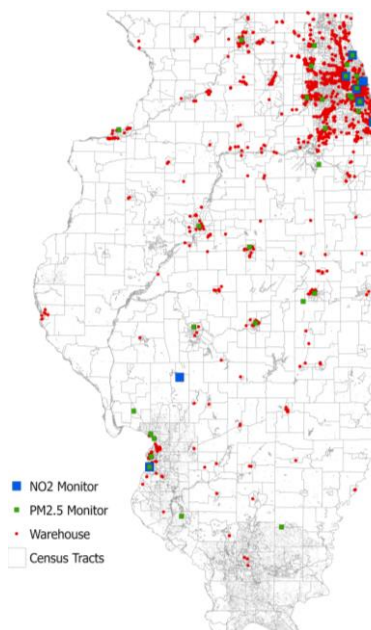


Figure 5

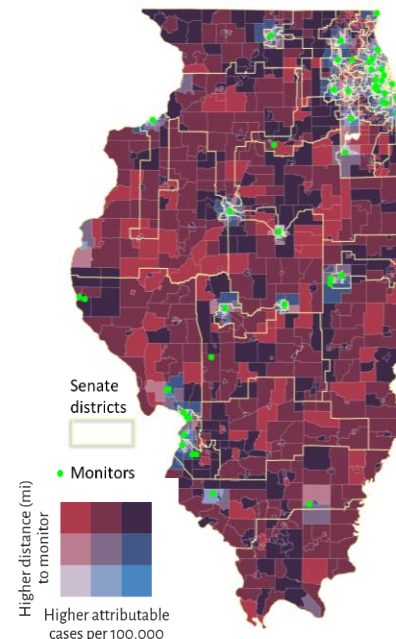


Figure 6

daily averages meaning short-term spikes are not captured. Furthermore, 10 of 37 monitoring sites were within 0.5 miles of a leased warehouse. Of those 10 monitors, seven are PM_{2.5}, 2 are NO₂ and one site has both.

As a result of the large temporal and spatial monitoring gaps across the state, leased warehouse neighbors – a disproportionate number of whom are Black, Hispanic/Latino, and low-income – lack information about when pollution is most harmful and where harmful concentrations of localized pollution exist.

EDF research shows substantial PM_{2.5} attributable mortality occurs in rural areas that are far away from EPA-grade PM_{2.5} monitors (Figure 6). More than 25% of estimated mortality burden is in counties with no monitor for PM_{2.5}. High levels of PM_{2.5}-attributable mortality are also seen around leased warehouse clusters, especially within the Chicago metro region.

In addition to these county-level monitoring gaps, local PM_{2.5} monitoring efforts led by Warehouse Workers for Justice in heavily-trafficked truck routes in East and South Joliet found dangerous pollution levels that exceeded U.S. EPA PM_{2.5} standards – exceedances that EPA-grade monitors failed to pick up.³³ This aligns with EDF research showing that various pollutants, including NO₂, can vary block by block by up to 800%, a variation which is not accurately captured by monitors spaced far apart, and not reflected in modeling that fills in the gaps between EPA-grade monitors.³⁴

POLICY SOLUTIONS

As e-commerce continues to expand and more consumers purchase and return goods online, the number of trucks on the road will continue to increase, which leads to a rise in greenhouse gas and health-harming emissions.

Without legislation, emissions will continue to disproportionately harm Black, Hispanic/Latino and low-income communities and could thwart the achievement of the state's Climate Action Plan. Now, advocates are pushing for such legislation at the state level.

The **Health and Equity Insights Act** (HB 5013/SB 2385) addresses the impacts of warehouses for all warehouses that have 100,000 square feet or more of warehouse space or generate or could generate 50 or more truck trips per day.³⁵ Key provisions of the bill include:

- **Improving transparency** about health and air impacts, location and size, truck type and trips, and compliance actions through annual reporting and monitoring requirements. Currently, only leased mega-warehouse locations are known, meaning the total impact of all warehouses cannot be assessed.
- **Switching monitors to continuous data collection and expanding local air insights** by using community monitoring and satellite data and requiring more monitoring for the most harmful polluters.
- **Creating a grant program for overburdened communities** to deploy air monitoring networks that identify pollution sources and their local impacts, and requiring the state to engage in analysis, grant facilitation, grant writing, capacity building, outreach and communication.
- **Implementing an Indirect Source Review** to require regulated warehouse operators to reduce health- and climate-harming pollution through a variety of actions. These include acquiring and using zero-emission vehicles and charging infrastructure on- and off-site, installing solar panels and/or batteries on-site, working with drivers or their representatives to strategize alternative transportation to truck trips for incoming or outgoing trips, and contributing to and maintaining docked e-bike share, EV carshare, or public transportation.
- **Requiring a permit** for new or significantly modified warehouses and ensuring that all warehouses comply with pollution reductions.



Photo credit: Little Village Environmental Justice Organization

Complementary policies that encourage the supply and accessibility of zero-emission vehicles in Illinois are crucial. The **Advanced Clean Trucks** rule would do so by:

- Requiring manufacturers to meet increasing sales targets of new zero-emission medium- and heavy-duty vehicles.
- Creating market certainty for zero-emission truck deployment to satisfy indirect source review compliance, inform utility infrastructure planning, shape potential state purchase incentives and enable fleet turnover.

Even as zero-emission vehicle adoption accelerates, drivers will continue to operate conventionally-powered vehicles. To protect public health and further improve air quality for overburdened communities, lawmakers and regulators should address tailpipe emissions from new fossil-fuel heavy-duty vehicles in the near term. The Heavy-Duty Omnibus Low NO_x rule sets emissions limits on new diesel engines to deliver a 90% reduction in NO_x by 2027. Alongside the Advanced Clean Trucks rule, the Low NO_x rule

advances clean vehicle technology while addressing the need for cleaner air in communities suffering from dangerous pollution levels right now.

Illinois has been a climate and clean energy leader, adopting a net zero emissions target in 2019. The Climate and Equitable Jobs Act, adopted in 2021, is a bold plan to reach 100% renewable energy by 2050, an investment strategy for electric vehicles and equitable charging infrastructure that advances environmental justice and a just transition for workers. Passing the Health and Equity Insights Act and complementary policies is a critical next step towards achieving Illinois' climate mandates and ensuring that residents who are burdened with emissions from fossil fuels are prioritized for zero-emission investments.

LEASED WAREHOUSES AND NEARBY RESIDENTS BY REGION AND COUNTY

North Central Illinois Counties

In North Central Illinois (Figure 7), an EDF analysis found:

- **111 leased warehouses** $\geq$ 100,000 square feet composing **37 million** square feet of warehouse space and generating **35,000** truck trips per day.
- **50,000 people** live within half a mile of a leased warehouse. **3,500** are younger than 5 years old.
- **600 annual NO₂ attributable pediatric asthma cases**, with between 26% and 60% of NO_x coming from on-road vehicles.
- **0 EPA-grade PM_{2.5} and NO₂ monitors.**
- **Black residents** are 160% more likely to live within half a mile of a leased warehouse than expected, based on the region's demographics.
- **Low-income residents** are 158% more likely to live within half a mile of a leased warehouse than expected, based on the region's demographics.
- **Hispanic/Latino residents** are 157% more likely to live within half a mile of a leased warehouse than expected, based on the region's demographics.

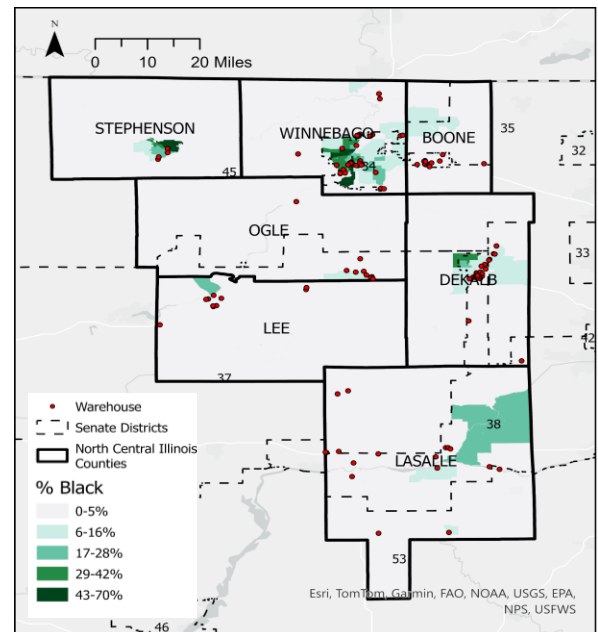


Figure 7

Central Illinois

In Central Illinois (Figure 8), an EDF analysis found:

- **85 leased warehouses** $\geq$ 100,000 square feet composing **21 million** square feet of warehouse space and generating **18,000** truck trips per day.
- **60,000 people** live within half a mile of a leased warehouse. **3,500** are younger than 5 years old.
- **385 annual NO₂ attributable pediatric asthma cases**, with 32% to 49% of NO_x coming from on-road vehicles.
- **0 EPA-grade PM_{2.5} and NO₂ monitors.**
- **Black residents** are 190% more likely to live within half a mile of a leased warehouse than expected, based on the region's demographics.
- **Low-income residents** are 146% more likely to live within half a mile of a leased warehouse than expected, based on the region's demographics.
- **Hispanic/Latino residents** are 130% more likely to live within half a mile of a leased warehouse than expected, based on the region's demographics.

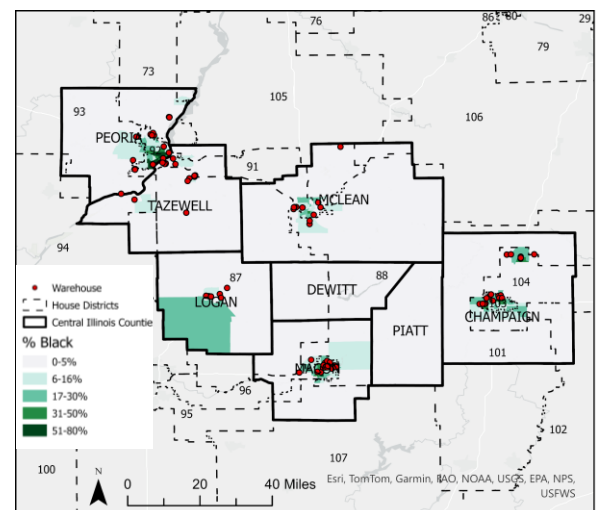


Figure 8

For more information about this report, please contact Sam Becker, Project Manager, Global Clean Air, US Region, at sbecker@edf.org

9

Environmental Defense Fund

257 Park Avenue South
New York, NY 10010

A vital Earth. For everyone.

EDF.org

T 212 505 2100

Cook County

In Cook County (Figure 9), an EDF analysis found:

- **843 leased warehouses** $\geq 100,000$ square feet composing **177 million** square feet of warehouse space and generating **149,000** truck trips per day.
- **1.3 million people** live within half a mile of a leased warehouse. **87,000** are younger than 5 years old.
- **4,900 annual NO₂ attributable pediatric asthma cases**, with 27% of NO_x coming from on-road vehicles.
- **Hispanic/Latino residents** are 156% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Low-income residents** are 120% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Black residents** are slightly more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.

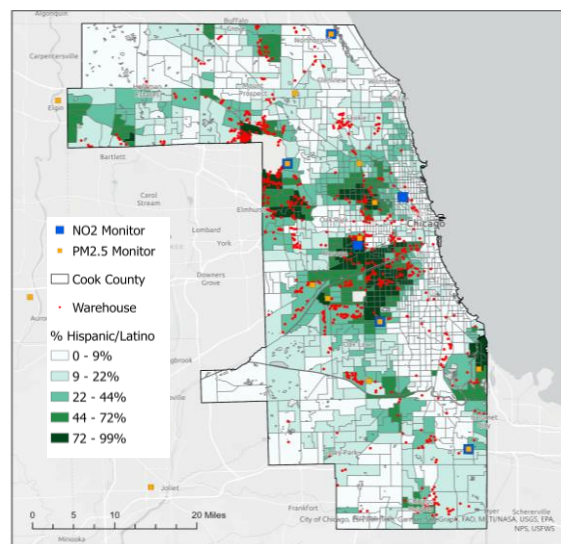


Figure 9

DuPage County

In DuPage County (Figure 10), an EDF analysis found:

- **421 leased warehouses** $\geq 100,000$ square feet composing **86 million** square feet of warehouse space and generating **79,000** truck trips per day.
- **191,000 people** live within half a mile of a leased warehouse. **12,000** are younger than 5 years old.
- **500 annual NO₂ attributable pediatric asthma cases**, with 47% of NO_x coming from on-road vehicles.
- **Hispanic/Latino residents** are 146% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Black residents** are 133% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Low-income residents** are 130% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.

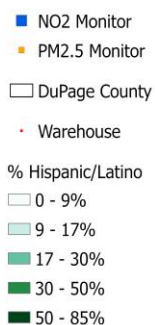


Figure 10

For more information about this report, please contact Sam Becker, Project Manager, Global Clean Air, US Region, at sbecker@edf.org

10

Environmental Defense Fund

257 Park Avenue South
New York, NY 10010

A vital Earth. For everyone.

EDF.org

T 212 505 2100

Will County

In Will County (Figure 11), an EDF analysis found:

- **370 leased warehouses** $\geq$ 100,000 square feet composing **149 million** square feet of warehouse space and generating **137,000** truck trips per day.
- **97,000 people** live within half a mile of a leased warehouse. **5,000** are younger than 5 years old.
- **200 annual NO₂ attributable pediatric asthma cases**, with 45% of NO_x coming from on-road vehicles.
- **Hispanic/Latino residents** are 153% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Black residents** are 125% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Low-income residents** are 108% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.

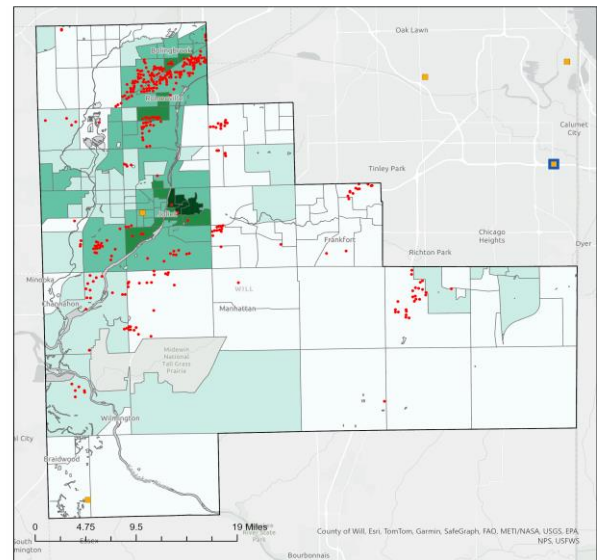
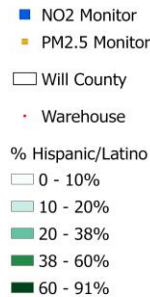


Figure 11

Kane County

In Kane County (Figure 12), an EDF analysis found:

- **421 leased warehouses** $\geq$ 100,000 square feet composing **41 million** square feet of warehouse space and generating **35,000** truck trips per day.
- **89,000 people** live within half a mile of a leased warehouse. **6,000** are younger than 5 years old.
- **200 annual NO₂ attributable pediatric asthma cases**, with 46% of NO_x coming from on-road vehicles.
- **Hispanic/Latino residents** are 146% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Black residents** are 133% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Low-income residents** are 130% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.

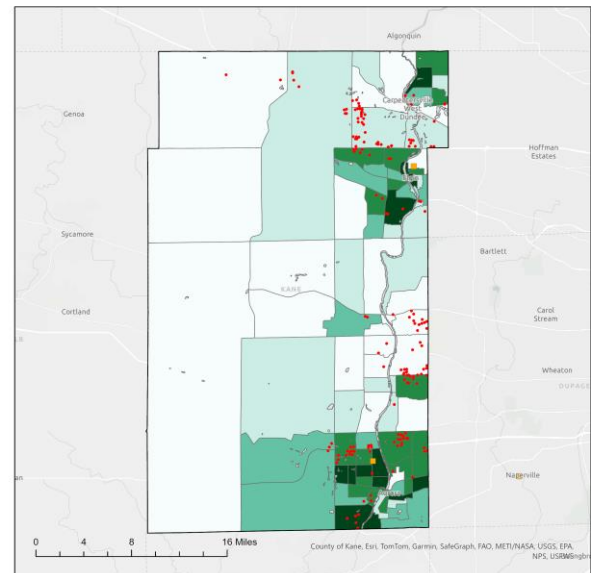
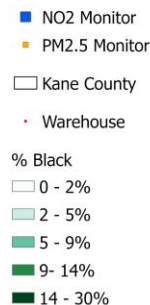


Figure 12

Lake County

In Lake County (Figure 13), an EDF analysis found:

- **143 leased warehouses** $\geq$ 100,000 square feet composing **29 million** square feet of warehouse space and generating **24,000** truck trips per day.
- **78,000 people** live within half a mile of a leased warehouse. **5,000** are younger than 5 years old.
- **375 annual NO₂ attributable pediatric asthma cases**, with 19% of NO_x coming from on-road vehicles.
- **Black residents** are 117% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Hispanic/Latino residents** are slightly more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Low-income residents** are slightly less likely more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics

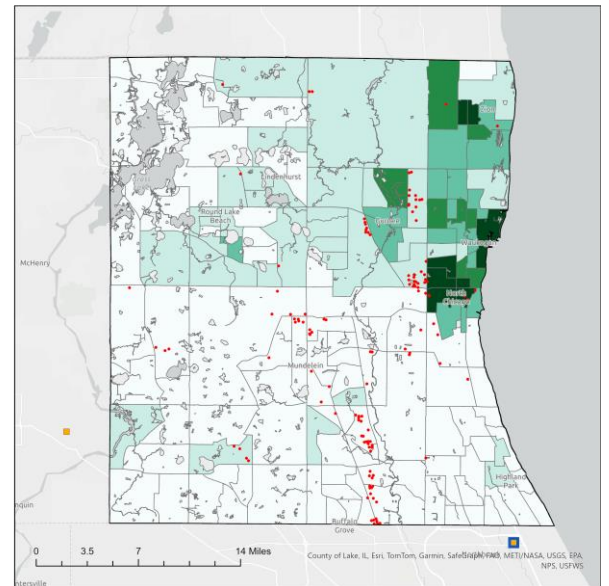
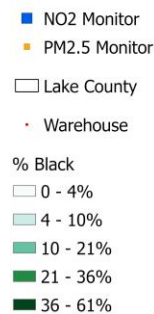


Figure 13

Madison County

In Madison County (Figure 14), an EDF analysis found:

- **55 leased warehouses** $\geq$ 100,000 square feet composing **28 million** square feet of warehouse space and generating **26,000** truck trips per day.
- **10,000 people** live within half a mile of a leased warehouse. **500** are younger than 5 years old.
- **40 annual NO₂ attributable pediatric asthma cases**, with 54% of NO_x coming from on-road vehicles.
- **Black residents** are 135% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Low-income residents** are 188% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.
- **Hispanic/Latino residents** are 176% more likely to live within half a mile of a leased warehouse than expected, based on the county's demographics.

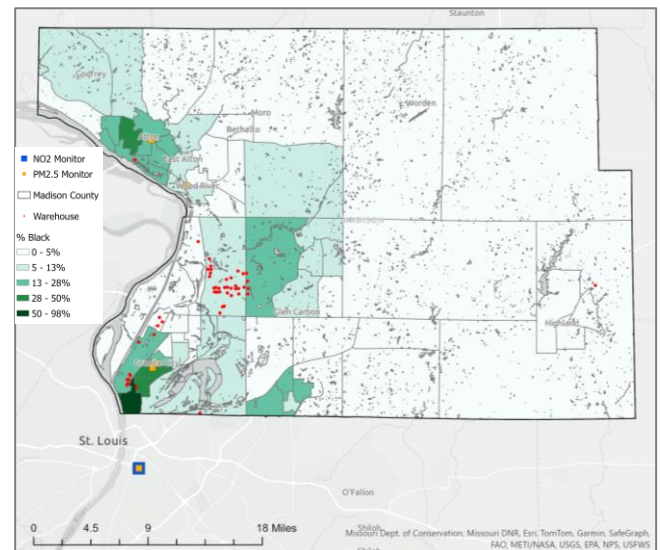


Figure 14

LEASED WAREHOUSES AND NEARBY RESIDENTS BY SENATE AND ASSEMBLY DISTRICT

Leased warehouses are disproportionately located within a half mile of Black and Hispanic/Latino residents across the state. This trend is also apparent at the senate and house district level (Table 1). Of the districts with the most leased warehouses across the state, warehouses tend to be disproportionately located within a half mile of Black and Hispanic/Latino residents compared to district demographics. See Table 2 and Table 3 for all senate and assembly district results.

TABLE 1: TOP FIVE SENATE & HOUSE DISTRICTS WITH MOST WAREHOUSES

Elected official, party-district number	No. leased warehouses ≥ 100k sq ft	Cumulative warehouse sq ft	Est. daily truck trips for leased warehouses ≥ 100k sq ft	Hispanic/Latino % in district	Hispanic/Latino % in warehouse neighbors	Hispanic/Latino % in district compared to state %	Black % in district	Black % in warehouse neighbors	Black % in district compared to state %
Sen. Rachel Ventura, D-43	221	97,972,000	90,700	28%	36%	164%	17%	18%	114%
Sen. Karina Villa, D-25	143	35,015,000	30,500	40%	37%	235%	8%	9%	49%
Sen. Don Harmon, D-39	127	28,269,000	24,200	35%	51%	207%	17%	16%	111%
Sen. Seth Lewis, R-24	126	21,998,000	17,700	12%	15%	69%	5%	6%	30%
Sen. Laura M. Murphy, D-28	106	20,590,000	17,000	16%	30%	96%	4%	4%	23%
Rep. Dagmara Avelar, D-85	132	43,839,000	39,900	25%	35%	146%	17%	17%	108%
Rep. Norma Hernandez, D-77	119	27,136,000	23,400	56%	65%	328%	3%	4%	22%
Rep. Maura Hirschauer, D-49	105	25,624,000	22,400	27%	28%	158%	5%	7%	33%
Rep. Jennifer Sanalitro, R-48	103	16,643,000	13,000	15%	15%	85%	4%	5%	26%
Rep. Michelle Mussman, D-56	101	19,829,000	16,500	19%	30%	113%	4%	4%	26%

The number of estimated daily truck trips is an underestimate because it only includes trips for leased warehouses greater than or equal to 100,000 square feet.³⁶ The equation used to estimate truck trips is from the California South Coast Air Quality Management District's equation for warehouses equal to or greater than 100,000 square feet.

Senate District 43 (Figure 15) is home to 221 leased warehouses equal to or greater than 100,000 square feet. They compose 97,972,000 square feet of warehouse space and generate 90,700 truck trips per day. Approximately 47,900 people live within half a mile of these leased warehouses.

The square footage of leased warehouses in the district equal to or greater than 100,000 square feet has increased 305% over the last decade (2013-2022), which is more than nine times higher than growth across the state during the same period. Hispanic/Latino residents in the district are 30% more likely to live within half a mile of a warehouse than expected, based on the district's demographics. One PM_{2.5} monitor and 0 NO₂ monitors exist in a district that has 1.6 times the percentage of Hispanic/Latino residents compared to the state.

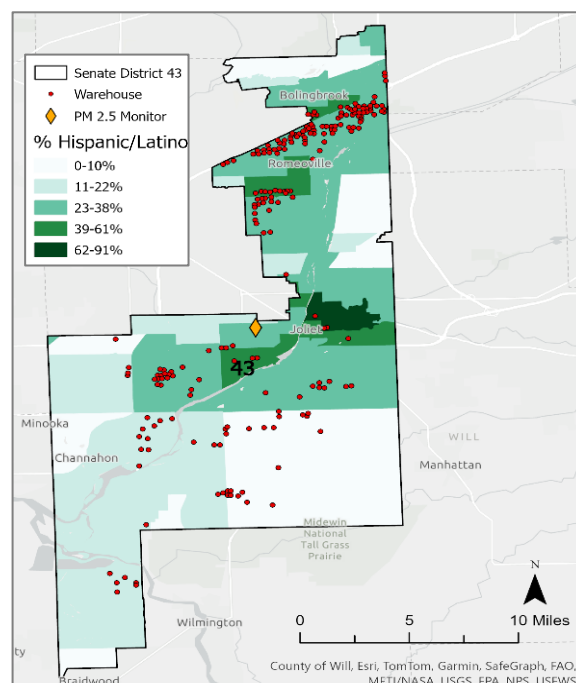


Figure 15

For more information about this report, please contact Sam Becker, Project Manager, Global Clean Air, US Region, at sbecker@edf.org

13

Environmental Defense Fund
257 Park Avenue South
New York, NY 10010

A vital Earth. For everyone.
EDF.org
T 212 505 2100

TABLE 2: WAREHOUSES IN ILLINOIS SENATE DISTRICTS

Senator, party-district number	No. leased warehouses ≥ 100,000 sq ft	Cumulative warehouse sq ft*	Est. daily truck trips for leased warehouses ≥ 100k sq ft **	Hispanic/Latino % in district	Hispanic/Latino % in warehouse neighbors ***	Hispanic/Latino % in district compared to state %	Black % in district	Black % in warehouse neighbors ***	Black % in district compared to state %
Javier L. Cervantes, D-1	83	17,369,000	14,700	74%	79%	430%	5%	4%	33%
Omar Aquino, D-2	19	2,963,000	2,200	58%	70%	336%	10%	13%	66%
Mattie Hunter, D-3	12	1,995,000	1,500	16%	16%	91%	57%	65%	374%
Kimberly A. Lightford, D-4	71	15,646,000	13,100	19%	22%	110%	48%	63%	313%
Lakesia Collins, D-5	60	10,442,000	8,100	10%	11%	61%	47%	46%	307%
Mike Simmons, D-7	2	300,000	200	16%	15%	95%	18%	7%	117%
Ram Villivalam, D-8	35	6,512,000	5,300	16%	13%	95%	6%	4%	42%
Laura Fine, D-9	12	2,067,000	1,600	8%	9%	49%	10%	10%	63%
Robert F. Martwick, D-10	16	2,946,000	2,200	24%	31%	141%	3%	3%	16%
Mike Porfiri, D-11	76	17,498,000	15,200	58%	55%	338%	5%	5%	34%
Celina Villanueva, D-12	45	9,851,000	8,300	66%	67%	385%	7%	8%	46%
Robert Peters, D-13	3	510,000	500	12%	11%	72%	53%	66%	347%
Emil Jones, III, D-14	12	2,199,000	1,800	11%	18%	64%	51%	47%	334%
Napoleon Harris, III, D-15	36	9,931,000	8,900	12%	16%	68%	55%	70%	361%
Willie Preston, D-16	11	2,611,000	1,400	20%	20%	117%	55%	62%	358%
Elgie R. Sims, Jr., D-17	41	9,843,000	8,400	15%	12%	89%	67%	79%	436%
Bill Cunningham, D-18	26	5,634,000	5,600	12%	18%	73%	17%	12%	112%
Michael E. Hastings, D-19	39	9,850,000	8,700	6%	9%	38%	26%	24%	173%
Natalie Toro, D-20	11	1,834,000	1,500	51%	51%	297%	5%	5%	36%
Laura Ellman, D-21	16	3,819,000	3,300	7%	8%	43%	6%	7%	37%
Cristina Castro, D-22	12	2,044,000	1,700	41%	46%	238%	7%	7%	45%
Suzy Glowiak Hilton, D-23	98	19,758,000	16,400	17%	26%	99%	6%	8%	36%
Seth Lewis, R-24	126	21,998,000	17,700	12%	15%	69%	5%	6%	30%
Karina Villa, D-25	143	35,015,000	30,500	40%	37%	235%	8%	9%	49%
Dan McConchie, R-26	25	5,228,000	4,500	10%	11%	59%	2%	2%	16%
Ann Gillespie, D-27	15	2,289,000	1,700	17%	23%	97%	3%	5%	22%
Laura M. Murphy, D-28	106	20,590,000	17,000	16%	30%	96%	4%	4%	23%
Julie A. Morrison, D-29	32	6,367,000	5,200	13%	25%	75%	3%	5%	21%
Adriane Johnson, D-30	96	18,055,000	12,100	37%	28%	214%	13%	10%	86%
Mary Edly-Allen, D-31	26	7,295,000	6,400	24%	20%	142%	10%	9%	63%
Craig Wilcox, R-32	21	5,214,000	4,600	12%	13%	71%	3%	3%	16%
Donald P. DeWitte, R-33	82	15,123,000	12,400	15%	19%	88%	3%	5%	23%
Steve Stadelman, D-34	43	10,036,000	8,500	19%	24%	110%	19%	22%	124%
Dave Syverson, R-35	24	7,707,000	7,000	11%	12%	66%	3%	4%	22%
Michael W. Halpin, D-36	30	7,536,000	6,500	11%	16%	65%	12%	20%	76%
Win Stoller, R-37	36	11,601,000	10,300	9%	10%	53%	4%	5%	24%
Sue Rezin, R-38	41	23,724,000	22,000	13%	15%	77%	7%	5%	47%
Don Harmon, D-39	127	28,269,000	24,200	35%	51%	207%	17%	16%	111%
Patrick J. Joyce, D-40	72	25,369,000	22,600	13%	30%	75%	27%	38%	177%
John F. Curran, R-41	38	8,164,000	6,800	8%	9%	45%	5%	7%	33%
Linda Holmes, D-42	44	14,499,000	13,100	23%	17%	132%	9%	11%	60%
Rachel Ventura, D-43	221	97,972,000	90,700	28%	36%	164%	17%	18%	114%
Sally J. Turner, R-44	16	3,248,000	2,700	3%	5%	16%	4%	8%	29%
Andrew S. Chesney, R-45	15	6,641,000	6,200	6%	8%	33%	5%	16%	30%
David Koehler, D-46	21	4,386,000	3,800	5%	6%	32%	20%	19%	131%
Neil Anderson, R-47	9	1,958,000	1,700	3%	6%	16%	3%	4%	21%
Doris Turner, D-48	19	5,119,000	4,500	3%	3%	16%	21%	42%	139%
Meg Loughran Cappel, D-49	71	22,990,000	20,600	20%	23%	116%	13%	16%	84%
Jil Tracy, R-50	9	1,882,000	1,500	3%	2%	16%	5%	8%	32%
Chapin Rose, R-51	10	2,025,000	1,700	3%	5%	18%	3%	3%	21%
Paul Faraci, D-52	27	7,150,000	6,300	6%	8%	37%	18%	34%	120%
Tom Bennett, R-53	16	7,773,000	7,000	5%	12%	29%	3%	4%	18%
Steve McClure, R-54	16	4,340,000	3,800	2%	3%	9%	2%	2%	11%
Jason Plummer, R-55	12	2,455,000	2,100	2%	3%	13%	4%	10%	27%
Erica Harriss, R-56	52	27,962,000	26,300	4%	7%	24%	13%	16%	87%
Christopher Belt, D-57	14	2,384,000	1,800	4%	6%	23%	35%	50%	228%
Terri Bryant, R-58	7	1,569,000	1,300	2%	2%	14%	5%	4%	35%
Dale Fowler, R-59	3	1,936,000	1,800	3%	1%	17%	9%	4%	61%

* This calculation was rounded to three significant figures.

** This calculation was rounded to two significant figures.

*** Our methodology defines a warehouse neighbor as one who lives within a half mile of at least one warehouse. The buffer picks up warehouses that may be in multiple districts.

TABLE 3: WAREHOUSES IN ILLINOIS HOUSE DISTRICTS

Representative, party-district number	No. of leased warehouse uses ≥ 100,000 sq ft	Cumulative warehouse sq ft*	Est. daily truck trips for leased warehouses ≥ 100k sq ft **	Hispanic/Latino % in district	Hispanic/Latino % in warehouse neighbors ***	Hispanic/Latino % in district compared to state %	Black % in district	Black % in warehouse neighbors ***	Black % in district compared to state %
Aaron Ortiz, D-1	58	11,363,000	9,400	78%	75%	453%	6%	4%	41%
Elizabeth Hernandez, D-2	25	6,006,000	5,300	70%	84%	406%	4%	4%	25%
Eva-Dina Delgado, D-3	2	297,000	200	57%	78%	336%	6%	6%	38%
Lilian Jiménez, D-4	17	2,666,000	2,200	58%	67%	337%	14%	15%	94%
Kimberly du Buclet, D-5	6	1,046,000	800	4%	4%	25%	63%	77%	412%
Sonya Harper, D-6	6	948,000	700	25%	41%	146%	52%	40%	342%
Emanuel Chris Welch, D-7	44	8,725,000	7,200	23%	29%	135%	43%	52%	278%
La Shawn Ford, D-8	27	6,921,000	6,000	15%	15%	86%	53%	75%	349%
Yolonda Morris, D-9	28	5,183,000	4,000	9%	10%	53%	49%	44%	318%
Jawaharial Williams, D-10	32	5,259,000	4,000	12%	12%	68%	46%	47%	297%
Ann Williams, D-11	0	0	0	9%	NA	50%	16%	NA	106%
Margaret Croke, D-12	0	0	0	8%	NA	49%	16%	NA	106%
Hoan Huynh, D-13	2	300,000	200	15%	15%	89%	13%	7%	84%
Kelly Cassidy, D-14	0	0	0	8%	NA	48%	16%	NA	106%
Michael Kelly, D-15	23	4,137,000	3,300	16%	12%	96%	4%	3%	23%
Kevin Olickal, D-16	12	2,376,000	1,900	16%	15%	94%	9%	5%	60%
Jennifer Gong-Gershowitz, D-17	11	1,967,000	1,600	7%	6%	39%	5%	1%	34%
Robyn Gabel, D-18	1	100,000	100	10%	12%	60%	14%	20%	92%
Lindsey LaPointe, D-19	6	908,000	600	29%	29%	171%	3%	3%	21%
Bradley Stephens, R-20	10	2,038,000	1,600	19%	34%	111%	2%	2%	11%
Abdelnasser Rashid, D-21	26	5,692,000	4,700	52%	50%	306%	7%	6%	45%
Angelica Guerrero-Cuellar, D-22	50	11,807,000	10,500	63%	59%	369%	4%	4%	23%
Edgar González Jr., D-23	12	2,870,000	2,500	84%	80%	490%	9%	11%	59%
Theresa Mah, D-24	33	6,981,000	5,800	48%	57%	281%	5%	6%	34%
Curtis Tarver, D-25	2	400,000	400	20%	36%	119%	57%	58%	372%
Kam Buckner, D-26	1	110,000	100	5%	5%	30%	50%	68%	325%
Justin Slaughter, D-27	7	1,324,000	1,100	7%	11%	42%	52%	52%	337%
Robert Rita, D-28	5	875,000	700	15%	23%	89%	51%	43%	331%
Thaddeus Jones, D-29	19	6,611,000	6,000	7%	6%	39%	57%	76%	373%
Will Davis, D-30	17	3,320,000	2,800	16%	22%	94%	54%	67%	351%
Mary E. Flowers, D-31	8	1,101,000	700	12%	10%	72%	54%	65%	354%
Cyril Nichols, D-32	3	1,510,000	700	29%	30%	167%	55%	58%	362%
Marcus C. Evans Jr., D-33	13	3,053,000	2,600	22%	15%	126%	65%	78%	426%
Nicholas Smith, D-34	28	6,790,000	5,800	10%	10%	60%	68%	80%	444%
Mary Gill, D-35	25	5,459,000	4,700	10%	20%	57%	22%	14%	143%
Kelly M. Burke, D-36	1	175,000	100	15%	13%	88%	13%	3%	82%
Tim Ozinga, R-37	27	6,935,000	6,100	7%	7%	41%	2%	2%	16%
Debbie Meyers-Martin, D-38	12	2,915,000	3,400	6%	9%	35%	50%	37%	329%
Will Guzzardi, D-39	4	730,000	600	57%	66%	331%	5%	4%	32%
Jaime Andrade Jr., D-40	7	1,104,000	500	45%	41%	265%	6%	5%	40%
Janet Yang Rohr, D-41	11	2,853,000	2,500	7%	9%	42%	6%	7%	38%
Terra Costa Howard, D-42	5	966,000	800	7%	7%	43%	5%	6%	35%
Anna Moeller, D-43	7	954,000	700	52%	46%	303%	7%	8%	49%
Fred Crespo, D-44	5	1,090,000	900	31%	46%	179%	6%	7%	42%
Jenn Ladisch Douglass, D-45	8	2,027,000	1,700	10%	17%	57%	3%	3%	19%
Diane Blair-Sherlock, D-46	90	17,882,000	14,700	24%	28%	141%	8%	9%	53%
Amy Grant, R-47	23	5,355,000	4,700	10%	15%	56%	5%	7%	33%
Jennifer Sanalidro, R-48	103	16,643,000	13,000	15%	15%	85%	4%	5%	26%
Maura Hirschauer, D-49	105	25,624,000	22,400	27%	28%	158%	5%	7%	33%
Barbara Hernandez, D-50	38	9,392,000	8,200	52%	46%	303%	10%	10%	63%
Nabeela Syed, D-51	9	1,599,000	1,300	8%	11%	48%	3%	3%	18%
Martin McLaughlin, R-52	16	3,628,000	3,200	12%	12%	71%	2%	2%	14%
Mark L. Walker, D-53	12	1,892,000	1,500	15%	26%	90%	4%	6%	28%
Mary Beth Canty, D-54	3	398,000	200	18%	17%	104%	2%	2%	16%
Marty Moylan, D-55	5	760,000	500	13%	31%	74%	3%	5%	20%
Michelle Mussman, D-56	101	19,829,000	16,500	19%	30%	113%	4%	4%	26%
Tracy Katz Muhl, D-57	21	3,809,000	3,100	16%	32%	94%	2%	2%	16%

For more information about this report, please contact Sam Becker, Project Manager, Global Clean Air, US Region, at sbecker@edf.org

15

Environmental Defense Fund

257 Park Avenue South
New York, NY 10010

A vital Earth. For everyone.

EDF.org

T 212 505 2100

Bob Morgan, D-58	11	2,558,000	2,100	9%	11%	55%	4%	10%	26%
Daniel Didech, D-59	76	14,454,000	11,500	20%	26%	114%	3%	3%	17%
Rita Mayfield, D-60	20	3,601,000	2,900	51%	34%	300%	22%	28%	145%
Joyce Mason, D-61	13	3,336,000	2,900	21%	23%	122%	13%	16%	86%
Laura Faver Dias, D-62	13	3,958,000	3,500	28%	18%	166%	5%	4%	36%
Steve Reick, R-63	15	3,966,000	3,500	14%	12%	81%	2%	2%	16%
Tom Weber, R-64	6	1,247,000	1,100	10%	15%	60%	3%	4%	17%
Dan Ugaste, R-65	22	3,946,000	3,200	11%	12%	64%	3%	4%	21%
Suzanne Ness, D-66	60	11,177,000	9,100	19%	23%	112%	4%	6%	25%
Maurice West, D-67	28	7,557,000	6,600	18%	22%	105%	25%	25%	160%
Dave Vella, D-68	15	2,478,000	1,900	20%	31%	115%	13%	16%	83%
Joe Sosnowski, R-69	8	2,529,000	2,200	14%	35%	81%	3%	1%	20%
Jeff Keicher, R-70	16	5,178,000	4,700	9%	9%	51%	4%	5%	24%
Daniel Swanson, R-71	4	1,313,000	1,200	7%	10%	40%	9%	22%	56%
Gregg Johnson, D-72	26	6,224,000	5,300	15%	18%	90%	15%	20%	95%
Ryan Spain, R-73	8	1,410,000	1,100	4%	4%	22%	2%	8%	15%
Bradley Fritts, R-74	28	10,191,000	9,200	14%	13%	81%	5%	4%	32%
Jed Davis, R-75	16	10,761,000	10,100	15%	16%	86%	6%	5%	41%
Lance Yednock, D-76	25	12,963,000	11,900	11%	15%	66%	8%	4%	54%
Norma Hernandez, D-77	119	27,136,000	23,400	56%	65%	328%	3%	4%	22%
Camille Lilly, D-78	8	1,133,000	800	15%	23%	90%	30%	39%	197%
Jackie Haas, R-79	17	6,765,000	6,200	9%	12%	54%	26%	45%	169%
Anthony DeLuca, D-80	55	18,604,000	16,400	17%	34%	97%	28%	36%	185%
Anne Stava-Murray, D-81	9	1,780,000	1,500	8%	8%	44%	5%	6%	35%
Nicole La Ha, R-82	29	6,384,000	5,300	8%	10%	46%	5%	9%	31%
Matt Hanson, D-83	22	8,205,000	7,600	20%	22%	119%	8%	9%	51%
Stephanie Kifowit, D-84	22	6,294,000	5,500	25%	11%	145%	10%	14%	68%
Dagmara Avelar, D-85	132	43,839,000	39,900	25%	35%	146%	17%	17%	108%
Lawrence M. Walsh Jr., D-86	89	54,133,000	50,800	31%	38%	183%	18%	21%	120%
Bill Hauter, R-87	12	2,419,000	2,000	3%	2%	17%	3%	2%	20%
Dan Caulkins, R-88	4	829,000	700	3%	7%	16%	6%	15%	37%
Tony McCombie, R-89	4	1,417,000	1,200	6%	7%	33%	2%	4%	13%
John Cabello, R-90	11	5,223,000	4,900	6%	8%	33%	7%	16%	48%
Sharon Chung, D-91	17	3,729,000	3,300	5%	4%	29%	10%	9%	65%
Jehan Gordon-Booth, D-92	4	657,000	500	6%	9%	35%	32%	32%	206%
Travis Weaver, R-93	8	1,685,000	1,400	3%	8%	19%	4%	6%	25%
Norine Hammond, R-94	1	273,000	300	2%	0%	13%	3%	1%	18%
Michael Coffey, R-95	2	324,000	300	2%	2%	13%	12%	13%	81%
Sue Scherer, D-96	17	4,795,000	4,300	3%	3%	19%	29%	46%	188%
Harry Benton, D-97	5	2,214,000	2,000	16%	13%	94%	10%	9%	65%
Natalie Manley, D-98	66	20,776,000	18,700	24%	24%	139%	16%	17%	102%
Randy Frese, R-99	9	1,882,000	1,500	4%	2%	25%	8%	8%	51%
C. D. Davidsmeyer, R-100	0	0	0	8%	NA	47%	16%	NA	106%
Chris Miller, R-101	10	2,025,000	1,700	4%	5%	24%	3%	3%	19%
Adam Niemerg, R-102	0	0	0	8%	NA	46%	16%	NA	106%
Carol Ammons, D-103	8	2,408,000	2,200	7%	8%	40%	20%	34%	131%
Brandun Schweizer, R-104	19	4,742,000	4,100	6%	8%	34%	17%	33%	113%
Dennis Tipsword, R-105	2	287,000	200	3%	6%	19%	4%	13%	24%
Jason Bunting, R-106	14	7,486,000	6,800	7%	12%	38%	2%	3%	13%
Brad Halbrook, R-107	14	4,134,000	3,600	2%	4%	9%	2%	2%	11%
Wayne Rosenthal, R-108	2	206,000	100	1%	1%	9%	2%	1%	12%
Charles Meier, R-109	3	335,000	200	3%	2%	15%	3%	1%	23%
Blaine Wilhour, R-110	9	2,120,000	1,800	2%	3%	11%	5%	11%	30%
Amy Elik, R-111	44	26,269,000	24,700	3%	6%	18%	11%	13%	70%
Katie Stuart, D-112	8	1,693,000	1,500	5%	11%	29%	16%	25%	105%
Jay Hoffman, D-113	7	1,333,000	1,000	6%	8%	33%	30%	39%	195%
Kevin Schmidt, R-114	7	1,051,000	800	2%	1%	13%	40%	76%	260%
David Friess, R-115	4	906,000	800	3%	1%	16%	6%	4%	41%
Dave Severin, R-116	3	664,000	500	2%	2%	11%	4%	4%	29%
Patrick Windhorst, R-117	0	0	0	8%	NA	45%	16%	NA	106%
Paul Jacobs, R-118	3	1,936,000	1,800	4%	1%	22%	14%	4%	93%

* This calculation was rounded to three significant figures.

** This calculation was rounded to two significant figures.

*** Our methodology defines a warehouse neighbor as one who lives within a half mile of at least one warehouse. The buffer picks up warehouses that may be in multiple districts.

ENDNOTES

- ¹ Environmental Protection Agency. (n.d.). Sources of Greenhouse Gas Emissions. EPA. Retrieved July 26, 2022 from In note #21 lowercase title of fact sheet <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>
- ² Hernandez, Acacia. New Target Warehouse in Little Village Draws Environmental Concerns Despite Job Creation, August 4, 2021. <https://news.wttw.com/2021/08/04/new-target-warehouse-little-village-draws-environmental-concerns-despite-job-creation>
- ³ Environmental Defense Fund, Making the Invisible Visible: Shining a Light on Warehouse Truck Air Pollution, 2023. <https://globalcleanair.org/files/2023/04/EDF-Proximity-Mapping-2023.pdf>
- ⁴ Environmental Protection Agency, Near Roadway Air Pollution and Health: Frequently Asked Questions, 2015. https://www.epa.gov/sites/default/files/2015-11/documents/420f14044_0.pdf
- ⁵ Rowangould 2013 TR, EPA 2021. Best Practices for Reducing Near-Road Pollution Exposure at Schools.
- ⁶ Health Effects Institute, Systematic Review and Meta- analysis of Selected Health Effects of Long-Term Exposure to Traffic-Related Air Pollution, June 2022. https://www.healtheffects.org/system/files/hej-special-report-23_6.pdf
- ⁷ Dean, B. B., Calimlim, B. C., Sacco, P., Aguilar, D., Maykut, R. and D. Tinkelman. (2010). Uncontrolled asthma: assessing quality of life and productivity of children and their caregivers using a cross sectional Internet-based survey. Health and quality of life outcomes, 8, 96. <https://doi.org/10.1186/1477-7525-8-96>
- ⁸ Table C-1. Ever having asthma and still having asthma for children under age 18 years, by selected characteristics: United States, 2018 (cdc.gov)
- ⁹ Office of Minority Health. Asthma and African Americans - The Office of Minority Health. (n.d.). Retrieved July 29, 2022, from <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=15>
- ¹⁰ Bekkar B., Pacheco S., Basu R. and N. DeNicola. Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US: A Systematic Review. JAMA Netw Open. 2020; Jun 1;3(6):e208243. <https://doi.org/10.1001/jamanetworkopen.2020.8243>
- ¹¹ Peters R., Ee N., Peters J., Booth A., Mudway I. and Anstey K. Air Pollution and Dementia: A Systematic Review. J Alzheimers Dis. 2019;70(s1):S145-S163. <https://doi.org/10.3233/JAD-180631>
- ¹² de Bont, J., Jaganathan, S., Dahlquist, M., Persson, A., Stafoggia, M. and P. Ljungman. Ambient air pollution and cardiovascular diseases: an umbrella review of systematic reviews and meta-analyses. J Intern Med. 2022; 291: 779– 800. <https://doi.org/10.1111/joim.13467>
- ¹³ Union of Concerned Scientists, Ready for Work, 2019. <https://www.ucsusa.org/resources/ready-work>
- ¹⁴ Union of Concerned Scientists, Ready for Work, 2019. <https://www.ucsusa.org/resources/ready-work>
- ¹⁵ California Air Resources Board, EMFAC2021 Volume III Technical Document, 111. https://ww2.arb.ca.gov/sites/default/files/2021-03/emfac2021_volume_3_technical_document.pdf
- ¹⁶ American Lung Association, Who is Most Affected by Outdoor Air Pollution?, last updated November 2023. <https://www.lung.org/clean-air/outdoors/who-is-at-risk#>

-
- ¹⁷ Madison Lisle and Yana Kalmyka, Warehouse Workers for Justice, For Good Jobs & Clean Air: How A Just Transition to Zero Emission Vehicles Can Transform Warehousing, https://www.ww4j.org/uploads/7/0/0/6/70064813/wwj_report_good_jobs_clean_air.pdf
- ¹⁸ Illinois Department of Natural Resources, IDNR Climate Action Plan, <https://dnr.illinois.gov/outreach/climate-action-plan.html>
- ¹⁹ Illinois Environmental Protection Agency, Climate and Equitable Jobs Act, <https://epa.illinois.gov/topics/ceja.html>
- ²⁰ Analyses conducted by EDF using methodology and data sources described in:
Kerr GH, van Donkelaar A, Martin RV, Brauer M, Bukart K, Wozniak S, Goldberg DL, Anenberg SC. Increasing Racial and Ethnic Disparities in Ambient Air Pollution-Attributable Morbidity and Mortality in the United States. Environ Health Perspect. 2024 Mar;132(3):37002. doi: 10.1289/EHP11900.
- ²¹ Analyses conducted by EDF using methodology and data sources described in:
Kerr GH, van Donkelaar A, Martin RV, Brauer M, Bukart K, Wozniak S, Goldberg DL, Anenberg SC. Increasing Racial and Ethnic Disparities in Ambient Air Pollution-Attributable Morbidity and Mortality in the United States. Environ Health Perspect. 2024 Mar;132(3):37002. doi: 10.1289/EHP11900.
- ²² Dean, B. B., Calimlim, B. C., Sacco, P., Aguilar, D., Maykut, R. and D. Tinkelman. Uncontrolled asthma: assessing quality of life and productivity of children and their caregivers using a cross sectional Internet-based survey. Health and quality of life outcomes. 2010; 8, 96. <https://doi.org/10.1186/1477-7525-8-96> (#2)
- ²³ Illinois Department of Public Health, Illinois Asthma State Plan, March 2021.
https://dph.illinois.gov/content/dam/soi/en/web/idph/publications/idph/topics-and-services/diseases-and-conditions/asthma/asthma-state-plan202126_10282022.pdf
- ²⁴ Illinois Department of Public Health, Hospital Discharge Dataset, accessed Sept 2, 2020.
<https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/asthma-trends-hospital-discharge-data-2016-2019.pdf>
- ²⁵ Illinois Department of Public Health, Asthma Burden Update, December 2015.
<https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/asthma-mortality-tablessept20docx-10062020.pdf>
- ²⁶ U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2000-2016 on CDC WONDER Online Database, accessed September 2020.
<https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/publications-ohpm-asthma-burden-update-2015-cost-040516.pdf>
- ²⁷ Environmental Defense Fund, Air quality and health implications of Advanced Clean Trucks regulation for the Chicago region, December 2023. <https://globalcleanair.org/wp-content/blogs.dir/95/files/ACT-EV-Scenario-3-pager-Dec-2023.pdf>
- ²⁸ Environmental Defense Fund, Air quality and health impacts of transition to zero tailpipe emission medium and heavy-duty vehicles (MHDVs) in the Chicago region, February 2024. <https://globalcleanair.org/wp-content/blogs.dir/95/files/IL-MHDV-Research-Highlights-Feb-2024-.pdf>

-
- ²⁹ Respiratory Health Association, The Dirty Dozen, The Impacts of Diesel Engine Pollution in Illinois, May 2022.
<https://resphealth.org/wp-content/uploads/2022/05/Dirty-Dozen-Impact-of-Diesel-Engine-Pollution-in-Illinois.pdf>
- ³⁰ Respiratory Health Association, The Dirty Dozen, The Impacts of Diesel Engine Pollution in Illinois, May 2022.
<https://resphealth.org/wp-content/uploads/2022/05/Dirty-Dozen-Impact-of-Diesel-Engine-Pollution-in-Illinois.pdf>
- ³¹ Respiratory Health Association, The Dirty Dozen, The Impacts of Diesel Engine Pollution in Illinois, May 2022.
<https://resphealth.org/wp-content/uploads/2022/05/Dirty-Dozen-Impact-of-Diesel-Engine-Pollution-in-Illinois.pdf>
- ³² United States Environmental Protection Agency, Pre-Generated Data Files: Annual Summary Data, 2023.
https://aqs.epa.gov/aqswweb/airdata/download_files.html#Annual
- ³³ Madison Lisle and Yana Kalmyka, Warehouse Workers for Justice, For Good Jobs & Clean Air: How A Just Transition to Zero Emission Vehicles Can Transform Warehousing,
https://www.ww4j.org/uploads/7/0/0/6/70064813/wwj_report_good_jobs_clean_air.pdf
- ³⁴ Apte, J., Messier, K., Gani, S., Brauer, M., Kirchstetter, T., Lunden, M., Marshall, J., Portier, C., Vermeulen, R., Hamburg, S., *Environmental Science & Technology* 2017 51 (12), 6999-7008
[doi/10.1021/acs.est.7b00891](https://doi.org/10.1021/acs.est.7b00891)
- ³⁵ 103d Ill. Gen. Assem., House Bill 5013, 2024 Sess. at
<https://ilga.gov/legislation/billstatus.asp?DocNum=5013&GAID=17&GA=103&DocTypeID=HB&LegID=152973&SessionID=112>; Senate Bill 2385, 2023 Sess. at
<https://ilga.gov/legislation/BillStatus.asp?GA=103&DocTypeID=SB&DocNum=2385&GAID=17&SessionID=112&LegID=147283>
- ³⁶ South Air Quality Management District, WAIRE Implementation Guidelines, June 2021.
<https://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/waire-implementation-guidelines.pdf?sfvrsn=12>