January 24, 2023

Governor Gavin Newsom
1021 O Street, Suite 9000
Sacramento, CA 95814

CC:
Attorney General Rob Bonta
Office of the Attorney General
1300 "I" Street
Sacramento, CA 95814-2919

Superintendent Tony Thurmond
California Department of Education
1430 N Street, Suite 5602
Sacramento, CA 95814-5901

RE: Over Sixty Organizations Urge Gov. Newsom to Declare a Public Health State of Emergency in the Inland Empire

FMI:
rrc@pitzer.edu
admin@ccaej.org

Honorable Governor Newsom,

We write to you as representatives of environmental, labor, health, community, and academic groups to urge you to declare a state of emergency for public health in California's Inland Empire (IE) due to the unchecked escalation of warehouse growth and an accompanying health crisis within Inland communities. This letter summarizes a longer working paper entitled "A Region in Crisis: The Rationale for a Public Health State of Emergency in the Inland Empire," which follows this letter.

In the Inland Empire, **warehouse growth is one of the most critical environmental justice issues of our time**. The rise of e-commerce since the COVID-19 pandemic has brought warehouse growth, decreased air quality, and health inequities into sharp focus. The distinctive bowl shape of Inland geographies, combined with the Inland Empire's role as a global logistics hub, has led to increased rates of cardiac, respiratory, and reproductive health impacts, as well as cancers, related to truck emissions.[1]

[1] See Bailey, Diane, and Gina Solomon. "Pollution prevention at ports: clearing the air." *Environmental impact assessment review* 24.7-8 (2004): 749-774; Palaniappan, Meena. "Ditching diesel: Community-driven research reduces pollution in West Oakland." *Race, Poverty & the Environment* 11.2 (2004): 31-34; Wildberger, Sharon, and Amanda Northcross. "Latino Communities, Diesel Exhaust and Environmental Justice in the United States: A Systematic Review of the Literature." (2018).

Approximately 90% of warehouse growth in the Southland has occurred in Inland counties over the last decade.

The Inland Empire has approximately **1 billion square feet of warehouse space**, with **an additional 170 million square feet currently approved or pending** (see Appendix 1). Alarming statistics accompany this footprint: pollution and carbon emissions, increased heat, traffic, and health and safety issues both in the workplace and in our communities.

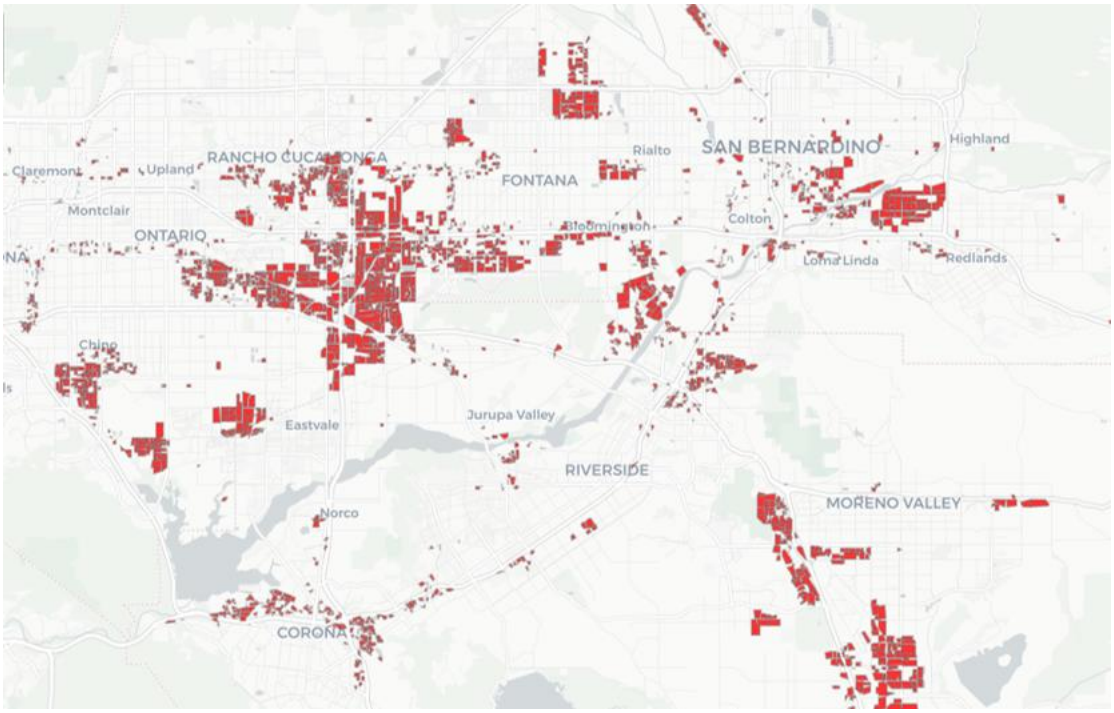

Figure 1: Partial map of the current warehouse footprint in Western San Bernardino and Riverside Counties. Courtesy of Warehouse CITY. Robert Redford Conservancy and Radical Research LLC. https://radicalresearch.shinyapps.io/WarehouseCITY/

According to Warehouse CITY, the Inland Empire's 4,000 warehouses generate:

- Over 600,000 truck trips per day;
- ~1,000 pounds of Diesel PM per day;
- ~100,000 pounds of NO_x per day, and
- **Over 50,000,000 pounds of CO_2 per day.**

Annually, this equals

- Over 200 million truck trips;
- Over 300,000 pounds of Diesel PM;
- Over 30 million pounds of NOx, and
- **Over 15 billion pounds of CO_2 per year**

Warehouses are currently increasing at five times that rate of population growth. These numbers are the opposite of what we need to be doing at this critical moment in human history. Calculated at the established (low) rate of $51 per ton,[2] the cost of carbon for Inland warehouses is approximately **$350,000,000 annually.**

An additional 170 million square feet of warehouse space will yield a 10% increase in those emissions over the next few years. By comparison, population growth is 0.55%. Fleet electrification is not expected to be complete until 2045, and even that will not address health and safety issues in the workplace, safe routes on the streets, the urban heat island effect, lack of water percolation issues, noise, or traffic.

Please note that these numbers do not include other elements of goods movement transportation (locomotives, ocean-going vessels, and cargo planes) or the direct health costs to Inland communities, which disproportionately fall upon communities of color that are already burdened by historic environmental injustices.

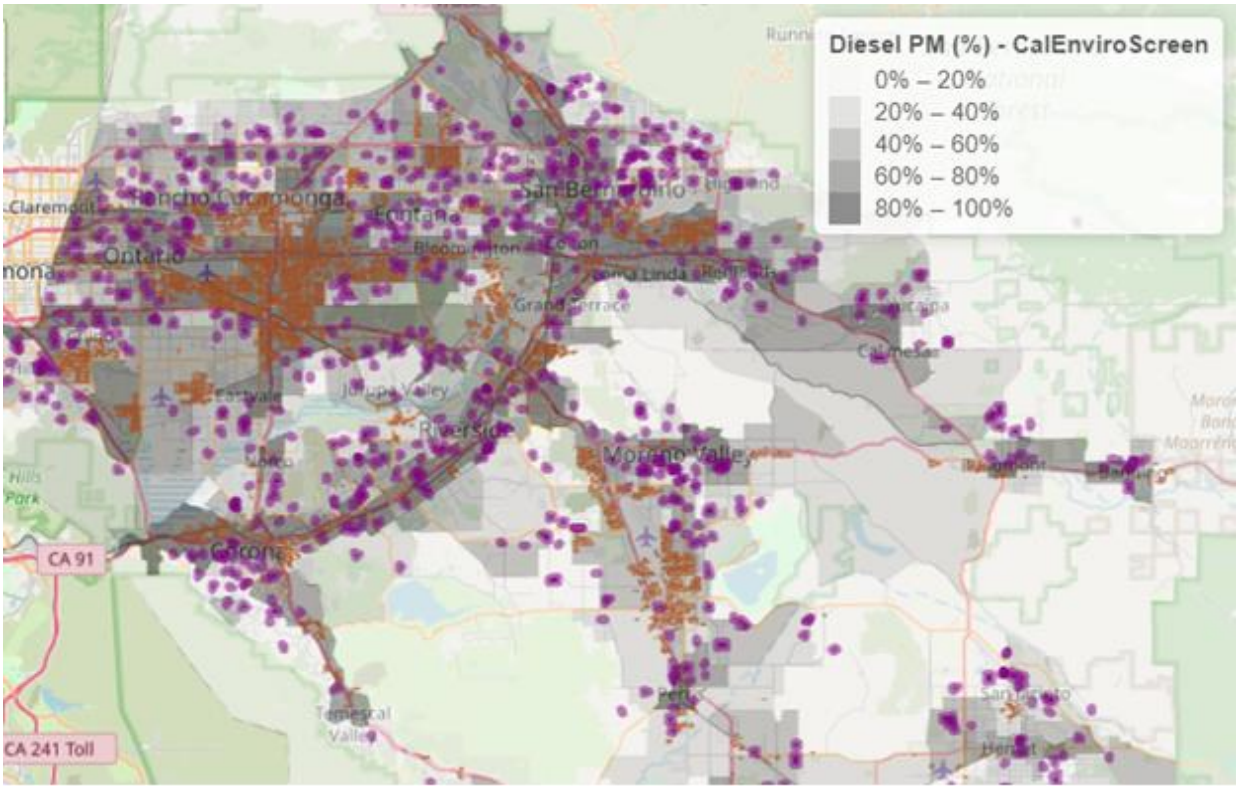

Figure 3. Western portion of SB and Riverside Counties demonstrating proximity of schools (purple) to warehouses (brown) and overlaid with CalEnviroScreen data on Diesel Particulate Matter exposure (gray gradient). Courtesy Radical Research, LLC and the Redford Conservancy, Pitzer College.

- **Over 300 warehouses are 1000 feet or less from 139 Inland Empire schools; over 600 warehouses surround these same schools at 1500 feet.**[3]

2 https://news.stanford.edu/2021/06/07/professors-explain-social-cost-carbon/

3 Courtesy of warehouse CITY school, Radical Research LLC.

- Unhealthy air quality days in SB County rose from **14.8% in 2019 to 19.7% in 2020.**[4]
- **20,000 children have missed 11 or more days of school** in SB and Riverside Counties **within the last 12 months**.[5]
- In 2010 337,445 of Inland Empire residents lived within ¼ mile of a warehouse; **by 2022 this number grew by 30,000 to 367,584 individuals, roughly 60% of whom are Latino**.[6]
- Some census tracts within SB County have close to a **20% asthma rate**; in Riverside County, some census tracts have over a **15% asthma rate**.
- The Inland Empire has the **highest concentrations of ozone in the country** according to the American Lung Association[7] and CalEnviroScreen 4.0's most recent report.[8]
- Diesel exhaust is responsible for about 70 percent of the total cancer risk from air pollution; **cancer risk is in the 95th percentile near the Ontario warehouse gigacluster**– equaling 624 people per million, which is 95% higher than the rest of the basin.[9]
- The AQMD reports higher risks from PMs for people who live within a half mile of warehousing facilities, where the asthma rate average is 56 per 10,000 individuals (64th percentile) and heart attack rates are 9.2 per 10,000 individuals (65th percentile). **This is over ten percentile points higher than comparison areas.**[10]

These are signs of an escalating health crisis. In addition to the above, Inland populations suffered COVID-19 infection and mortality at higher rates, because people's immune systems were weakened due to chronic pollution exposure.[11] Inland populations, especially children, are also experiencing RSV hospitalizations at an increased rate for the same reason.[12]

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[4] Source: U.S. Environmental Protection Agency, Air Data (www.epa.gov/outdoor-air-quality-data)

[5] https://ask.chis.ucla.edu/ask/SitePages/AskChisLogin.aspx?ReturnUrl=%2fAskCHIS%2ftools%2f_layouts%2fAuthenticate.aspx%3fSource%3d%252FAskCHIS%252Ftools%252F%255Flayouts%252FAskChisTool%252Fhome%252Easpx&Source=%2FAskCHIS%2Ftools%2F%5Flayouts%2FAskChisTool%2Fhome%2Easpx#/population

[6] ESRI GIS data community summary statistics generated by the David Robinson, Robert Redford Conservancy. These data should be considered preliminary.

[7] American Lung Association State of the Air 2022 https://www.lung.org/research/sota/key-findings/most-polluted-places

[8] California Office of Environmental Health Hazard Assessment https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

[9] Data from the Air Quality Management District's (AQMD) MATES V data visualization tool. https://experience.arcgis.com/experience/79d3b6304912414bb21ebdde80100b23?views=view_38

[10] SCAQMD, Second Draft Socioeconomic Impact Assessment for Proposed Rule 2305–Warehouse Source Rule-Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316–Fees for Rule 2305.

[11] Ober, Holly Poor Air Quality and warehouses linked to Inland Empire COVID-19 inequities UC riverside professors call for intersectional approach to COVID-19 exposure interventions https://insideucr.ucr.edu/stories/2021/06/02/poor-air-quality-and-warehouses-linked-inland-empire-covid-19-inequities

[12] Downey, David. RSV surge sending children to the emergency rooms in Inland Empire. November 6, 2022. San Bernardino Sun. https://www.pressenterprise.com/2022/11/06/rsv-surge-sending-children-to-emergency-rooms-in-inland-empire/

These numbers are the cumulative result of decades of municipal decision-making. The current "land rush" for warehouse space has artificially inflated the price of land, making alternative land uses and employment opportunities impossible.

Diesel emissions related to warehouse projects disproportionately impact already overburdened environmental justice communities, in violation of GOV § 65302(h)(1)(A), which is meant to reduce pollution in disadvantaged communities.[13] We can track trends to a degree, but more refined and current data are needed. For example, CalEnviroscreen asthma and pm data are from 2012-2017. In the period since, over 650 warehouses have been added to the region, bringing with them an estimated 140k truck trips per day.

Warehouse-induced pollution has created a state of environmental injustice and a public health crisis in San Bernardino and Riverside Counties. Environmental justice groups have spoken out for decades against the health impacts warehouses have had on our communities. Local leadership has failed to be accountable for these health impacts. Developers throughout the region make donations to City Council elections that are significantly above AB 571 limits (see Appendix 3). Organizing and litigation fail to halt projects whose outcomes seem predetermined. Our struggles have become a string of losses with human life and health as collateral damage. In the words of one Colton resident, "It's been very scary fighting all of this. It feels like no one's listening."[14]

We know this because we and our families live this reality every day–dealing with asthma attacks, bloody noses, hospitalizations, and coronary episodes. One Bloomington mom described her situation, "I have asthma and my family has asthma. But lately my asthma has gotten so severe. Last night I had to take more inhalers, more puffs, than I normally do. My kids are showing signs. I'm scared. I'm frightened they're going to have an asthma attack. One of them has an inhaler, and one of them is too small to have one. I'm really concerned about the safety of my children."

Warehouse and union trade workers are also at risk. Warehouse jobs include temporary labor within the logistics sector as well as trade union workers involved in warehouse and infrastructure construction. Though they have different challenges, all workers, including unionized trade workers, are exposed to airborne pollutants from poor air quality, and work-related health and safety issues with both short term and long-term health consequences.

Government and corporate leadership, the public, economists, and public health advisors must consider the net health and welfare compromises to the current workforce, and the

[13] (A) Identify objectives and policies to reduce the unique or **compounded health risks** in **disadvantaged** communities by means that include, but are not limited to, the reduction of pollution exposure, including the improvement of air quality, and the promotion of public facilities, food access, safe and sanitary homes, and physical activity.

[14] All quotes from individuals cited in this document are from a conference held at Pitzer College called "The Right to Breathe." A short documentary of this film may be found at https://www.pitzer.edu/redfordconservancy/ecodocumentaries/. Names have been omitted to protect residents.

viability of the future work force. Our working paper outlines these compromises, which include high rates of respiratory illness, high or unaffordable health costs associated with labor practices, poor schooling outcomes and educational under-attainment, and high worker turnover due to acute and chronic health problems. **Health risks to the people of the IE threaten the nation's supply chain reliability and are a leading indicator for health impacts at a national level**. Yet a false dichotomy continues to pit the need for good jobs against environmental, economic, and health-related harms. In the words of AG Bonta, we should not need to sacrifice one for the other.

Warehouses constitute a regulatory gray area. A regional moratorium–or temporary halt in warehouse construction–is required to address the gaps in current legislation and statutes that allow for continued building of warehouses despite significant health impacts that are currently deemed unavoidable. Without such a pause, the health, efficiency, and viability of the IE community health, environment, and economy are threatened.

Continued warehouse growth despite community harm and widespread neighborhood opposition is environmental racism in its classic terms. We have attended hundreds of meetings, sometimes registering thousands of comments opposing specific projects, only to have our voices ignored in decision-making that simply rubber stamps projects. We have litigated, educated, and raised awareness among civic leaders for years. Our city and county leaders continue to make decisions that ignore science, public health, and the communities that they represent. We have nowhere else to turn other than to our Governor and our state leaders to ask for intervention and support for the solutions laid out in this request.

We ask for the following interventions:

1. Declare a regional warehouse moratorium of one to two years that allows time to implement policy changes.

2. Identify communities of high exposure from warehouse and/or industrial land uses; create higher standards supported by the state for project approval in high exposure, environmental justice, and disadvantaged communities.
    - Mandate a higher-level of community engagement at the beginning stages of any project independent of the developer.
    - From a project's inception, provide external oversight from a DOJ attorney, so that disproportionately impacted communities are represented by legal counsel.
    - Mandate mitigation plans that include quantifiable reductions in GHGs and pollutants, including project reduction and demand-management strategies.
    - Work collaboratively with schools and community groups to establish benchmarks and funding streams for community health in impacted neighborhoods.
    - Mandate up-front mitigation of environmental harms, including but not limited to
        - green infrastructure/just energy transition elements

        - community benefits agreements that include unionized labor
        - mitigation for farmland, greenspace, residential, and habitat loss
        - mitigation for health impacts—for example, a fair share fees health and trade system wherein industrial and warehouse projects pay into a healthcare and greenspace fund; can be used to expand healthcare, fund green infrastructure, fund studies and tracking, and retrofit schools adjacent to truck routes or warehouses, among other uses.
    - Strengthen cumulative impact analysis to include all past, present, and future industrial projects within a tiered radius consistent with the scoping plan of the project, including travel routes.
    - Tie warehouse project approval to real-time rather than projected fleet electrification. Consider tiered options such that no further warehouse construction is allowed in the SCAQMD basin until the fleet is 20% electrified, and no further warehouse construction is allowed in environmental justice communities until the fleet is 50% electrified.
    - Mandate that city councils, planning commissions, SCAG board members, and other relevant leaders undergo a training of at least forty hours on environmental justice, community health, and the climate crisis to inform their decision making.

3. Work collaboratively with the Office of Planning and Research, CARB, and impacted communities to codify best practices resulting from guidance documents and settlements that regulatory bodies, the Attorney General, or other litigants have established for warehouse projects. These should include but not be limited to project and fleet electrification, solar energy generation, siting truck, rail, and airplane routes away from sensitive receptors, mitigation, limiting of vehicle miles traveled, community benefits agreements, and setbacks from sensitive receptors. Authorize the Attorney General to enforce these provisions within the Inland Empire.
    - Mandate consideration of demand-management strategies among the tools to decrease emissions and exposure at state and local levels; align future warehouse expansion rates with population growth as opposed to distant consumer demand.
    - Explore and support project alternatives that would contribute to community health and well-being, economy, and environmental benefit.
    - Provide funding for a long-term cross-sectional health cohort study.

4. Expand or enforce existing regulations that are inconsistently enforced or unenforced at a local level.
    - Establish an oversight board for the SCAQMD 2305 indirect source rule to monitor compliance.
    - Formalize a state definition of sensitive receptors that protects those under this definition; include penalties for those who violate this protection.

- Enforce existing state limits for campaign contributions per AB 571, and prohibit developer donations to city councils or other decision-making bodies within three years of pending decisions.
    - Perform a fiscal audit of Inland cities, beginning with Fontana, Ontario, San Bernardino, and Moreno Valley, to determine any potential local leaders' quid pro quo relationships with developers.
- Amend SB 352, which requires extra testing of air pollution sources within ¼ mile of any schools to determine whether a new school within 500 feet of a heavily trafficked road or industrial sites will pose a health hazard to students and teachers due to air pollution. Amend to include the inverse: that the same rules apply to warehouse siting in proximity to schools. Extend the distance to 500 meters, which was the distance based on the original USC air pollution/health study.[15]
- Aligned with the 30x30 plan, earmark state funds to preserve Inland greenspace, biodiversity, habitat, and farmland—all of which are linked to community health, pollution remediation, carbon sequestration, and climate resilience.

For our part, we will continue to work on public health statistical data gathering and analysis to empower our communities to make a difference with these data. To close, we cite one of many IE residents who struggle with health, safety, and quality of life issues related to warehouses: "It's not just about us. It's about everybody in the community. And it's not just about the city that you live in. It's about the Inland Empire as a whole and beyond."

We have a right to a life not impacted by asthma, heart disease, cognitive, and reproductive problems related to pollution exposure. We have a right to not be made sick by the air we breathe.

We therefore ask that the State of California issue a resolution declaring a **state of emergency and public health crisis in the Inland Empire**. Sample language for such a resolution may be found at the link below. Appendices with maps and charts follow the list of signatories. Thank you for your consideration and time.

Sample Resolution Reference:
https://docs.google.com/document/d/1fb5QDh1Wm0M4U9axuBlp01K-VIfbebOtha002w55xAg/edit?usp=sharing

Sincerely,

Amparo Muñoz, Policy and Special Projects Director
Center for Community Action and Environmental Justice

[15] https://news.usc.edu/199179/usc-childrens-health-study-now-30-years-old-raises-nationwide-awareness-of-pollutions-harms/

Susan Phillips, Director
Robert Redford Conservancy for Southern California Sustainability
Professor of Environmental Analysis, Pitzer College

Mary Ann Ruiz, Chair
Sierra Club, San Gorgonio Chapter

Mike McCarthy, Founder
Radical Research, LLC

Jennifer Larratt-Smith, Representative
R-NOW-Riverside Neighbors Opposing Warehouses

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Center for Community Action and Environmental Justice

Mario Vasquez, Organizer
Teamsters Local 1932

Victor Quito
United Auto Workers, Division 6

Marc Carrel, President & CEO
Breathe Southern California

Ivette Torres, Lead Researcher
People's Collective for Environmental Justice

Tom Dolan, Executive Director
Inland Congregations United for Change

Carolina Sanchez, Co-Director
Just SB

Sheheryar Y. Kaoosji, Executive Director
Warehouse Worker Resource Center

Ana Carlos, Community Member
Concerned Neighbors of Bloomington

North End Pepper Neighborhood Watch

Cynthia Martinez, President

South Fontana Concerned Citizens Coalition

Ron Cobas, Vice President
Clean and Green Pomona

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Department of Public Health, Azusa Pacific University

Mirna Ruiz, Secretary
Chicano Latino Caucus of San Bernardino County

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Jhon Luna, Regional Policy Advocate
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GROW Fontana

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Inland Empire Immigrant Youth Collective

Bobbi Jo Chavarria, Founder
Progressive Alliance of the Inland Empire

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350 Bay Area Action

Diane Takvorian, Executive Director
Environmental Health Coalition

Marven Norman, Executive Director
Inland Empire Biking Alliance

Christy Zamani, Executive Director
Day One

Susan St. Louis, Climate Crisis Committee Chair
Courageous Resistance of the Desert

vonya quarles, Director
Starting Over, Inc.

Dr. Sharon Mateja
Residents for Responsible Representation

Hallie Kutak, Staff Attorney | Senior Conservation Advocate
Center for Biological Diversity

Lolofi Soakai, Founder/Executive Director
MALO Motivating Action Leadership Opportunity

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Educational Services Associates

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The Garcia Center for the Arts

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Stafford Ocansey, Executive Director
Children's Environmental Literacy Foundation (CELF)

Christian Shaughnessy
Inland Empire Democratic Socialists of America

Sharon Wilber, Climate Policy
Redlands Area Democratic Club

Hilda Cruz, IE Regional Program Director
Interfaith Movement for Human Integrity

David Matuszak, Coordinator and President
Friends of Live Oak Canyon Firewise Community

Appendix 1. Chart of pending and approved warehouses in SB and Riverside Counties

Project	Size (sq ft)	Location
World Logistics Center	40,400,400	Moreno Valley
Legacy Specific Plan - phase 2	14,625,000	Beaumont
Stoneridge Commerce Center	9,398,070	Unincorporated Riverside County (Nuevo)
Merrill Commerce Center Specific Plan	7,014,000	Ontario
Speedway	6,600,000	SB County
Sunset Crossroads	5,500,000	Banning
South Ontario Logistics Center Specific Plan Phases 2	5,412,591	Ontario
West Campus Upper Plateau	4,500,000	March JPA
Hesperia Commerce Center II	3,745,429	Hesperia
Legacy Specific Plan Project	3,580,200	Beaumont
West Valley Logistics Center	3,439,197	Fontana
Project Viento	3,424,698	Desert Hot Springs
Bloomington Business Park	3,235,836	Bloomington (SB County)
South Ontario Logistics Center Specific Plan Phase I	3,172,780	Ontario
Apple Valley 143	2,628,000	Apple Valley
Renaissance Ranch Commerce Center	2,509,056	Horsethief Canyon (Riverside Co)
Northern Gateway Commerce Center	2,487,625	Menifee
South Perris Industrial Project	2350000	Perris
Veteran's Industrial Park	2,000,000	March JPA
Ontario Ranch	1,905,027	Ontario
I-15 Industrial Park	1,850,000	Hesperia
Meridian South Campus Buildings E, F, G, H, I, 1, 2, 3, and a couple more	1,800,000	March JPA
Ontario Ranch subsequent	1,640,690	Ontario
Menifee Commerce Center	1,640,130	Menifee
Legacy Specific Plan - phase 2 cold	1,625,000	Beaumont
Banning Commerce Center	1,320,000	Banning
Altitude Business Center	1,313,000	Chino
Moreno Valley Trade Center	1,300,000	Moreno Valley

Majestic Freeway Center	1,219,222	Unincorporated Riverside County
Beaumont Summit Specific Plan	1,213,235	Beaumont
I-15 Logistics Center (Lytle Creek)	1,170,820	Fontana
Chino Majestic Heritage	1,168,710	Chino
Rider and Patterson Business Center	1,167,000	Unincorporated Riverside County
Knox Business Park	1100000	Unincorporated Riverside County
9th & Vineyard Development	1,037,467	Rancho Cucamonga
Southern California Logistics Airport Lot 44 Distribution Center	1,030,308	Victorville
Ottawa Business Center	996,194	Victorville
Beaumont Summit Spec Plan	985,860	Beaumont
Ramona Gateway	950,000	Perris
Chino Majestic Heritage	914,000	Chino
Heacock Commerce Center	874,000	Moreno Valley
OLC3 - Ramona Expwy & Perris Blvd. Commercial Warehouse Project	774,000	Perris
Duke Warehouse	770,000	Perris
Dara Industrial	750,000	Hesperia
Oleander Business Park	710,000	Unincorporated Riverside County
CADO Menifee Industrial Warehouse	700,037	Menifee
Barker Logistics	700000	Unincorporated Riverside County
Speedway Commerce Center	650,960	Rancho Cucamonga
Mapes Commerce Center	650,000	Perris
Orchard Logistics	610,000	Beaumont
Sycamore Hills Distribution Center	603,100	Riverside
Potrero Logistics	577,920	Beaumont
First March Logistics Project	559000	Perris
United States Cold Storage Hesperia	515,334	Hesperia
Pepper Ave	485,000	Rialto
Harvill Business Center	434,000	Unincorporated Riverside County
Mountain View Industrial	420,937	Redlands
Legacy Specific Plan Project - cold storage	397,800	Beaumont
Nevada & Palmetto Commerce Center	381,000	Redlands (SB County)
Beaumont Summit Specific Plan	358,370	Beaumont

Seaton Ave and Cajalco Rd. Industrial Project	350,000	Unincorporated Riverside County
Perris Valley Commerce Center	347000	Perris
Harvill and Rider	334,000	Unincorporated Riverside County
Redlands Ave West Industrial Project	334000	Perris
Perris Blvd. & Morgan St. Industrial Park Project	283000	Perris
Placentia Logistics	274,000	Unincorporated Riverside County
Duke Slover & Alder	259,481	Bloomington (SB County)
Redlands Ave East Industrial Project	254,500	Perris
Alere Property Group (Redwood Area)	245,000	Fontana
Muranaka Warehouse Project	239000	Unincorporated Riverside County
Ramona-Indian Warehouse project	232575	Perris
Durst Drive Warehouse	201,239	Rialto
Meridian D-1 Aviation Gateway	200,000	March JPA
Temescal Valley	181,495	Unincorporated Riverside County
Multi-Tenant Industrial Warehouse	179,400	Redlands
Ramona Expwy & Brennan Ave Warehouse project	165000	Perris
Moreno Valley Business Center	164,200	Moreno Valley
First Harley Knox Industrial	158000	Perris
Wilson Avenue Project	154000	Perris
Operon	148000	Perris
Harlex Knox Blvd. Industrial project	143000	Perris
Edgemont Commerce Center	142,000	Moreno Valley
Chartwell Warehouse	132,000	Perris
Old 215 Business Park Project	118,600	Riverside
Phelan Warehouse	109000	Perris
Sierra-Summit	102,380	Fontana
Marlborough Northgate Light Industrial Project	100000	Riverside
Seaton Ave and Perry St. Industrial Project	99,000	Unincorporated Riverside County
Kirschner company LLC	25,000	Fontana sphere of influence/SB C
Airport Gateway Specific Plan	9,271,000	SB County
EST TOTAL SQUARE FOOTAGE	**170,965,873**	

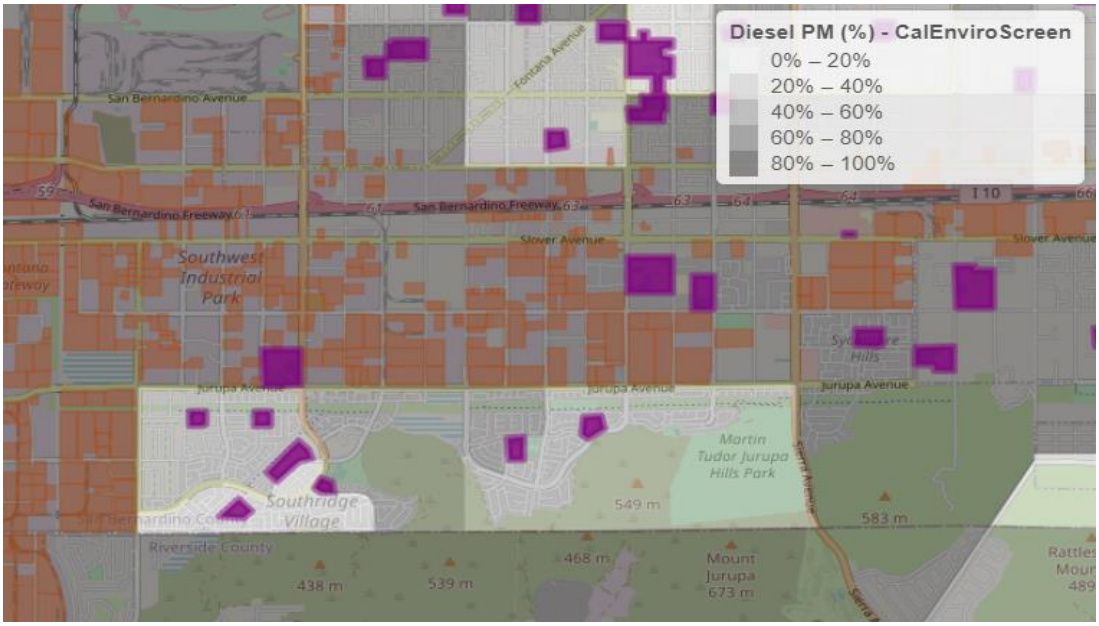
Please note that this list is incomplete. Pending warehouse construction; pending approval within CEQA https://ceqanet.opr.ca.gov/

Appendix 2. Chart demonstrating the purposeful removal of AB 571 limits of several Inland cities.

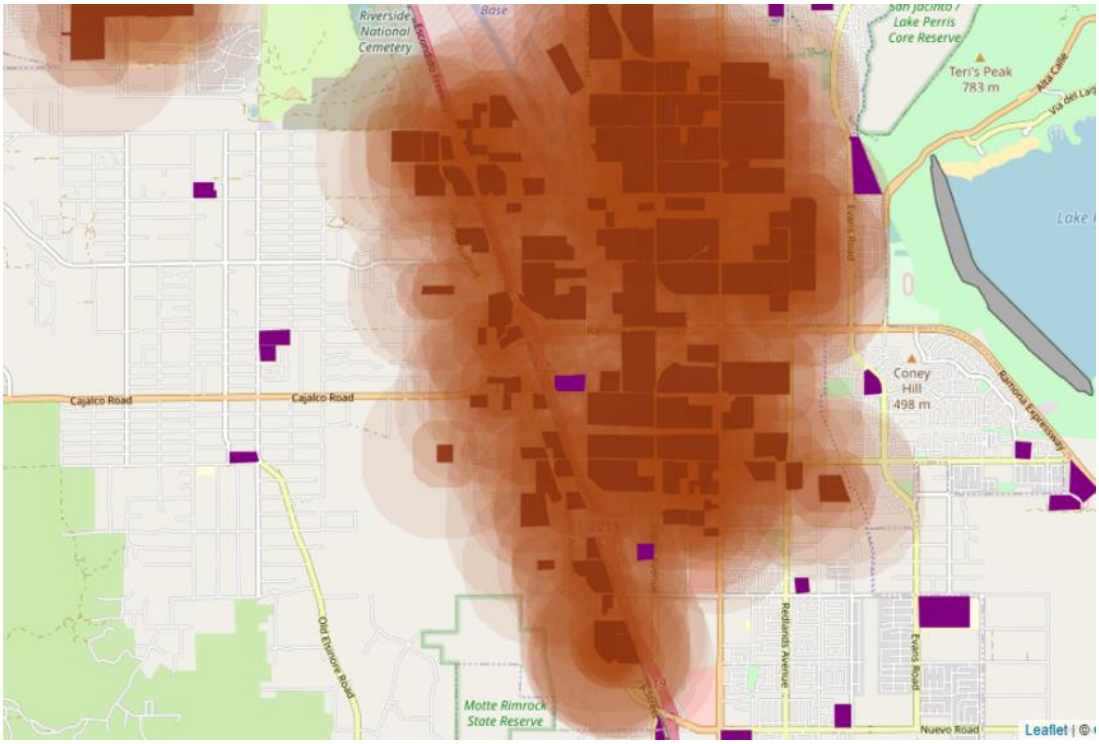
City	Contribution Limit	Ordinance?	Adoption Date
Murrieta	$1,000*	Yes – pre AB 571	First adopted 2001 Last amended 2015
Hesperia	$500*	Yes – post AB 571	May 2020
Moreno Valley	No Limit	Yes – post AB 571	December 2020
Riverside	No Limit	Yes – post AB 571	December 2020
Grand Terrace	$250*	Yes – pre AB 571	First adopted 1984
Rialto	$4,900	No – AB 571 limits apply	N/A
San Bernardino	$4,900	No – AB 571 limits apply	N/A
Menifee	$4,900	No – AB 571 limits apply	N/A
Colton	$4,900	No – AB 571 limits apply	N/A
Lake Elsinore	$4,900	No – AB 571 limits apply	N/A
Canyon Lake	$4,900	No – AB 571 limits apply	N/A

* Amount has been and is adjusted annually based on CPI since adoption (may not reflect exact current amount) Where AB 571contribution limits apply, amounts are adjusted by the FPPC in January of each odd-numbered year according to the CPI index

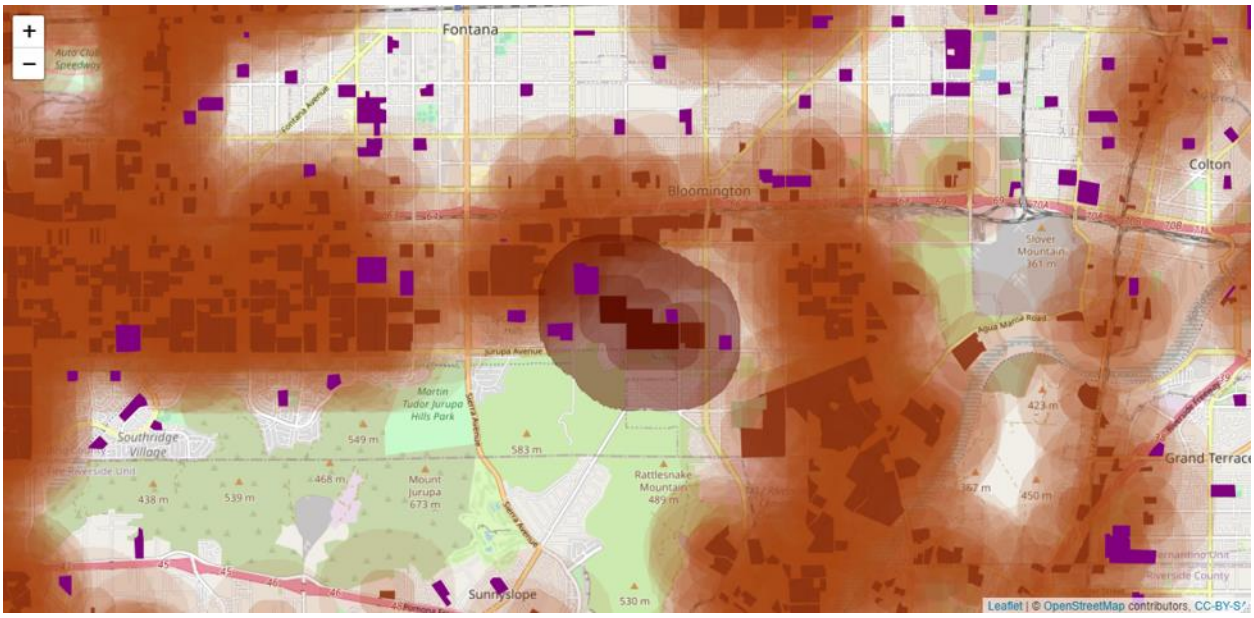
Appendix 3. Additional maps demonstrating school proximity to warehouses.



Detail of schools and warehouses within Jurupa Valley-Fontana area, with schools shown in purple and warehouses in brown. DPM percentiles are shown in gray and based on CalEnviroScreen data. Courtesy of Radical Research, LLC and the Redford Conservancy, Pitzer College.



In purple, Val Verde High School and Val Verde Elementary School in Perris are surrounded by warehouses, which are surrounded by 1000 ft and 3000 ft buffers in brown.



Detail of Bloomington Phase 1. Once built out, the project will impact five schools. 90 homes will be razed for this project. The school on the right is Zimmerman Elementary, which has now been bought by warehouse developers. Brown shapes are warehouses with pollution buffer zones of 1000 and 3000 feet.

Appendix 4: Logos of sign on organizations. Disclaimer: The views expressed in this document are those of the authors and do not necessarily represent the views of Pitzer College or any other entity whose logo appears on this document.

Children's Environmental Literacy Foundation

CLCSBC
CHICANO LATINO CAUCUS of SAN BERNARDINO COUNTY

ICUC
Inland Congregations United for Change

EMERALD NECKLACE
AMIGOS DE LOS RIOS

AQMEL

INLAND EMPIRE BIKING ALLIANCE™

INTERFAITH MOVEMENT FOR HUMAN INTEGRITY

INLAND EMPIRE IMMIGRANT YOUTH COLLECTIVE

MOTIVATING ACTION LEADERSHIP OPPORTUNITY
MALO
EST 2017

MBCA
morongo basin conservation association

Garcia Center for the Arts

California Interfaith Power & Light

The Climate Reality Project®
RIVERSIDE COUNTY, CA CHAPTER

SOUTHERN CALIFORNIA AGRICULTURAL LAND FOUNDATION

do
day one

CALIFORNIA ENVIRONMENTAL VOTERS

Educational Services Associates

Show Your Pride
Neighborhood
Keep Rialto Beautiful

INLAND VALLEY ADVOCATES for the ENVIRONMENT

CLEAN & GREEN POMONA

DEMOCRATIC SOCIALISTS OF AMERICA
ECOSOCIALIST WORKING GROUP
Inland Empire

350BayArea ACTION

COURAGEOUS RESISTANCE

SF CCC

Starting Over, Inc.
Transitional Housing, Reentry Services, Advocacy and Civic Engagement

CONCERNED NEIGHBORS OF BLOOMINGTON

INDIVISIBLE Of the Desert

I.E. UNITED

CLIMATE WITNESS PROJECT

Collaborative for Health Equity
Cook County
Where People, Place, and Power Matter

BREATHE SOUTHERN CALIFORNIA
Breathe Easier.™

CENTRO

LWV Riverside CA

Regen™

CURE

Redlands Area Democratic Club

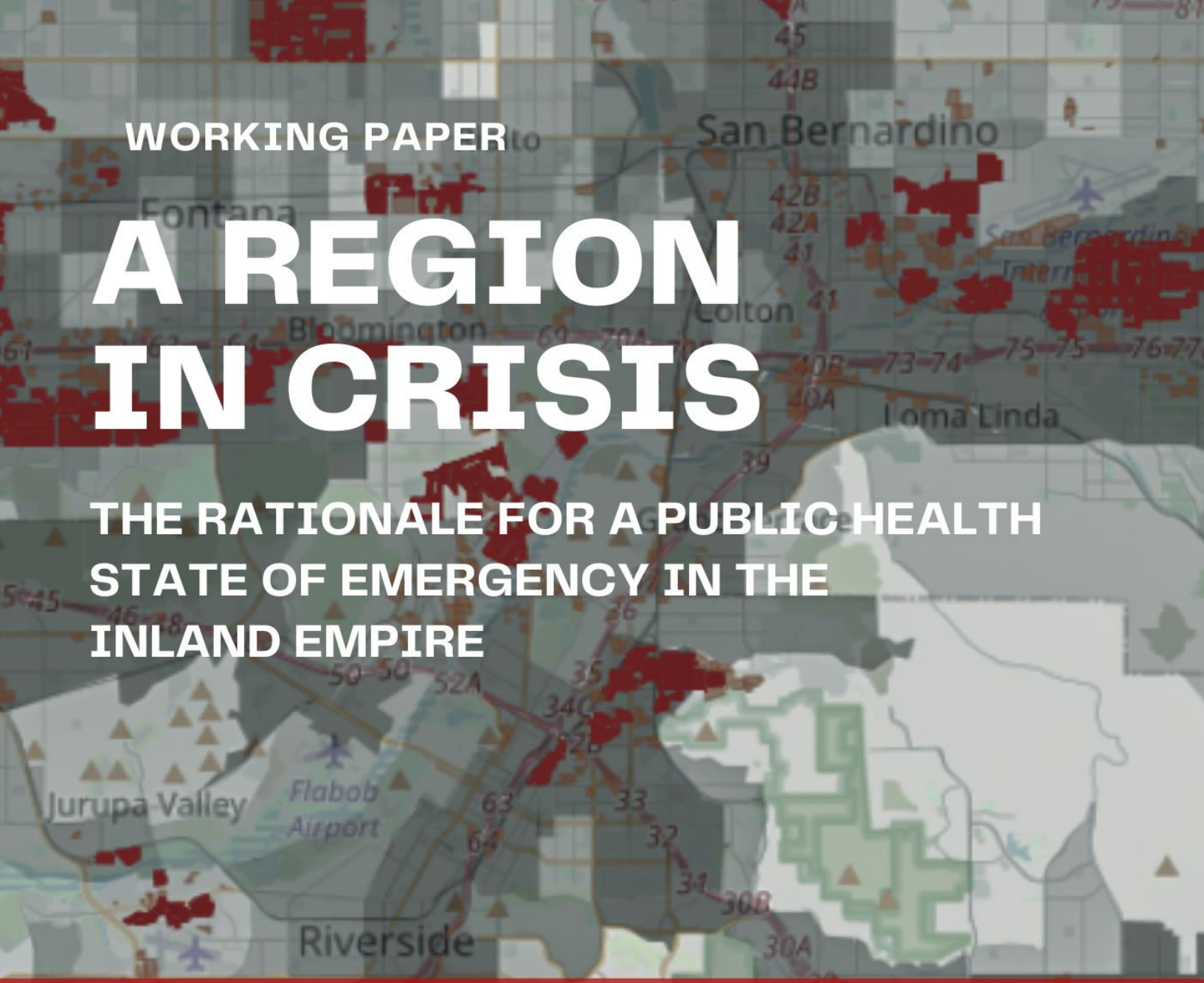
RESIDENTS FOR RESPONSIBLE REPRESENTATION

neighbors helping neighbors

WWRC

CHIRLA
Coalition for Humane Immigrant Rights

Friends of Live Oak Canyon
Dedicated to preserving the natural environment of the canyon



WORKING PAPER

A REGION IN CRISIS

THE RATIONALE FOR A PUBLIC HEALTH STATE OF EMERGENCY IN THE INLAND EMPIRE

PREPARED BY

Amparo Muñoz, CCAEJ
Susan Phillips, RRC
Mary Ann Ruiz, Sierra Club

JANUARY 2023

CCAEJ

SIERRA CLUB
SAN GORGONIO

Robert Redford CONSERVANCY
for Southern California Sustainability

Working Paper

A REGION IN CRISIS: The Rationale for a Public Health State of Emergency in the Inland Empire

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January 2023

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Executive Summary

In California's Inland Empire (IE), warehouse growth is one of the most critical environmental justice issues of our time. The rise of e-commerce and associated warehouse expansion since the COVID-19 pandemic have brought decreased air quality and health inequities into sharp focus. These air quality inequities have continued to challenge our most vulnerable residents as we now face the latest health crisis, respiratory syncytial virus (RSV). The distinctive bowl-shape of Inland geographies captures pollutants, leading to cardiac, respiratory, and reproductive health impacts as well as cancers. Over the past 22 years, state and federal air quality regulations have progressed with reducing large particulate matter and oxides of nitrogen (NOx) emissions. However, with the recent exponential increase in warehouses in the Inland Empire, decades of effort are becoming undermined as greenhouse gases (GHG) climb, and NOx, particulate matter (PM), and ozone continue to disproportionately impact certain communities. In addition, documents prepared under the California Environmental Quality Act (CEQA) have not sufficiently reported the extreme cumulative impacts that project development will have on the health of residents. As a result, decision makers have not accounted for the holistic and long-lasting effects these projects have on the health of community residents. Environmental injustices—impacts that disproportionately affect disadvantaged communities—have been ignored. This has resulted in exponential growth of warehouse infrastructure and related health problems that impact communities, workers, children, and the elderly, leading to a public health crisis in San Bernardino and Riverside Counties. Due to the unchecked escalation of warehouse growth within the Inland Empire:

- **Over 300 warehouses are 1000 feet or less from 139 Inland Empire schools**; over 600 warehouses surround these same schools at 1500 feet.[1]
- Unhealthy air quality days in SB County rose from **14.8% in 2019 to 19.7% in 2020.**[2]
- **20,000 children have missed 11 or more days of school** in SB and Riverside Counties **within the last 12 months**.[3]
- In 2010, 337,445 of Inland Empire residents lived within ¼ mile of a warehouse; **by 2022 this number grew by 30,000 to 367,584 individuals, roughly 60% of whom are Latino**.[4]
- Some census tracts within SB County have close to a **20% asthma rate**; in Riverside County, some census tracts have over a **15% asthma rate**.
- **The Inland Empire has the highest concentrations of ozone in the country** according to the American Lung Association[5] and CalEnviroScreen 4.0's most recent report.[6]

[1] Courtesy of Warehouse CITY school, Radical Research LLC.

[2] Source: U.S. Environmental Protection Agency, Air Data (www.epa.gov/outdoor-air-quality-data)

[3] https://ask.chis.ucla.edu/ask/SitePages/AskChisLogin.aspx?ReturnUrl=%2fAskCHIS%2ftools%2f_layouts%2fAuthenticate.aspx%3fSource%3d%252FAskCHIS%252Ftools%252F%255Flayouts%252FAskChisTool%252Fhome%252Easpx&Source=%2FAskCHIS%2Ftools%2F%5Flayouts%2FAskChisTool%2Fhome%2Easpx#/population

[4] ESRI GIS data community summary statistics generated by the Robert Redford Conservancy.

[5] American Lung Association State of the Air 2022 https://www.lung.org/research/sota/key-findings/most-polluted-places

[6] California Office of Environmental Health Hazard Assessment https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

- Diesel exhaust is responsible for about 70 percent of the total cancer risk from air pollution; **cancer risk is in the 95th percentile near the Ontario warehouse gigacluster**–equaling 624 people per million, which is 95% higher than the rest of the basin.[7]
- The AQMD reports higher risks from PMs for people who live within a half mile of warehousing facilities, where the asthma rate average is 56 per 10,000 individuals (64th percentile) and heart attack rates are 9.2 per 10,000 individuals (65th percentile). **This is over ten percentile points higher than comparison areas**.[8]

These are signs of an escalating health crisis. In addition to the above, Inland populations suffered COVID-19 infection and mortality at higher rates, because people's immune systems were weakened due to chronic pollution exposure.[9] Inland populations, especially children, are also experiencing RSV hospitalizations at an increased rate for the same reason.[10]

Warehouse jobs include temporary labor within the logistics sector as well as trade union workers involved in warehouse and infrastructure construction. Though they have different challenges, all workers, including unionized trade workers, are exposed to airborne pollutants from poor air quality with both short term and long-term health consequences. Construction periods often last for years to contribute to the infrastructure of the global supply chain. The global supply chain often starts with transpacific shipments, container sorting at the ports, storage of good in the Inland Empire, and the movement of goods from the IE throughout the rest of the country. Government and corporate leadership, the public, economists, and public health advisors must consider the health and welfare of the current workforce, and the viability of the future work force. This report outlines the impact poor air quality has on the current workforce, the future work force, and their families who breath the air of the IE. The risks outlined will include high rates of respiratory illness, high or unaffordable health costs associated with labor practices, and high worker turnover due to acute and chronic health risks. The health risks to the people of the IE also threaten the nation's supply chain reliability and are a leading indicator to health impacts at a national level.

Warehouses constitute a regulatory gray area. A regional moratorium–or temporary halt in warehouse construction–is required to address the gaps in current legislation and statutes that

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[7] Data from the Air Quality Management District's (AQMD) MATES V data visualization tool. https://experience.arcgis.com/experience/79d3b6304912414bb21ebdde80100b23?views=view_38

[8] SCAQMD, Second Draft Socioeconomic Impact Assessment for Proposed Rule 2305–Warehouse Source Rule-Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316–Fees for Rule 2305.

[9] Ober, Holly Poor Air Quality and warehouses linked to Inland Empire COVID-19 inequities UC riverside professors call for intersectional approach to COVID-19 exposure interventions https://insideucr.ucr.edu/stories/2021/06/02/poor-air-quality-and-warehouses-linked-inland-empire-covid-19-inequities

[10] Downey, David. RSV surge sending children to the emergency rooms in Inland Empire. November 6, 2022. San Bernardino Sun. https://www.pressenterprise.com/2022/11/06/rsv-surge-sending-children-to-emergency-rooms-in-inland-empire/

allow for continued building of warehouses despite significant health impacts that are currently deemed unavoidable. Without such a pause, the health, efficiency, and viability of the IE's workforce is threatened; therefore, the nation's supply chain is at risk.

This working paper provides a rationale for the following interventions within the shorter summary letter addressed to Governor Newsom, Attorney General Rob Bonta, and California Department of Education Superintendent Tony Thurmond:

1. Declare a regional warehouse moratorium of one to two years that allows time to implement policy changes.

2. Identify communities of high exposure from warehouse and/or industrial land uses; create higher standards supported by the state for project approval in high exposure, environmental justice, and disadvantaged communities.
    - Mandate a higher-level of community engagement at the beginning stages of any project independent of the developer.
    - From a project's inception, provide external oversight from a DOJ attorney, so that disproportionately impacted communities are represented by legal counsel.
    - Mandate mitigation plans that include quantifiable reductions in GHGs and pollutants, including project reduction and demand-management strategies.
    - Work collaboratively with schools and community groups to establish benchmarks and funding streams for community health in impacted neighborhoods.
    - Mandate up-front mitigation of environmental harms, including but not limited to
        - green infrastructure/just energy transition elements
        - community benefits agreements that include unionized labor
        - mitigation for farmland, greenspace, residential, and habitat loss
        - mitigation for health impacts—for example, a fair share fees health and trade system wherein industrial and warehouse projects pay into a healthcare and greenspace fund; can be used to expand healthcare, fund green infrastructure, fund studies and tracking, and retrofit schools adjacent to truck routes or warehouses, among other uses.
    - Strengthen cumulative impact analysis to include all past, present, and future industrial projects within a tiered radius consistent with the scoping plan of the project, including travel routes.
    - Tie warehouse project approval to real-time rather than projected fleet electrification. Consider tiered options such that no further warehouse construction is allowed in the SCAQMD basin until the fleet is 20% electrified, and no further warehouse construction is allowed in environmental justice communities until the fleet is 50% electrified.
    - Mandate that city councils, planning commissions, SCAG board members, and other relevant leaders undergo a training of at least forty hours on

environmental justice, community health, and the climate crisis to inform their decision making.

3. Work collaboratively with the Office of Planning and Research, CARB, and impacted communities to codify best practices resulting from guidance documents and settlements that regulatory bodies, the Attorney General, or other litigants have established for warehouse projects. These should include but not be limited to project and fleet electrification, solar energy generation, siting truck, rail, and airplane routes away from sensitive receptors, mitigation, limiting of vehicle miles traveled, community benefits agreements, and setbacks from sensitive receptors. Authorize the Attorney General to enforce these provisions within the Inland Empire.
    - Mandate consideration of demand-management strategies among the tools to decrease emissions and exposure at state and local levels; align future warehouse expansion rates with population growth as opposed to distant consumer demand.
    - Explore and support project alternatives that would contribute to community health and well-being, economy, and environmental benefit.
    - Provide funding for a long-term cross-sectional health cohort study.

4. Expand or enforce existing regulations that are inconsistently enforced or unenforced at a local level.
    - Establish an oversight board for the SCAQMD 2305 indirect source rule to monitor compliance.
    - Formalize a state definition of sensitive receptors that protects those under this definition; include penalties for those who violate this protection.
    - Enforce existing state limits for campaign contributions per AB 571, and prohibit developer donations to city councils or other decision-making bodies within three years of pending decisions.
        - Perform a fiscal audit of Inland cities, beginning with Fontana, Ontario, San Bernardino, and Moreno Valley, to determine any potential local leaders' quid pro quo relationships with developers.
    - Amend SB 352, which requires extra testing of air pollution sources within ¼ mile of any schools to determine whether a new school within 500 feet of a heavily trafficked road or industrial sites will pose a health hazard to students and teachers due to air pollution. Amend to include the inverse: that the same rules apply to warehouse siting in proximity to schools. Extend the distance to 500 meters, which was the distance based on the original USC air pollution/health study.[11]
    - Aligned with the 30x30 plan, earmark state funds to preserve Inland greenspace, biodiversity, habitat, and farmland—all of which are linked to community health, pollution remediation, carbon sequestration, and climate resilience.

[11] https://news.usc.edu/199179/usc-childrens-health-study-now-30-years-old-raises-nationwide-awareness-of-pollutions-harms/

Current land use planning processes disempower EJ communities. The input of EJ stakeholders is relegated to consultancy or tokenism, in violation of California EPA environmental justice legislation. Developers are in conversation with city personnel in the beginning stages of projects; these conversations begin collaborations that facilitate project approval sometimes months or years before a project has solicited community input. Because community members or nonprofits only participate in the *public* planning process that begins much later, they are not part of true decision-making, even though they are the ones whose lives are directly impacted by land use decisions. This is what gives the public the sense that projects have predetermined outcomes.

In EJ communities that are already heavily impacted by pollution and other environmental detriments, we argue that **higher levels of community engagement should be mandatory at the beginning stages of any project**. The built-in bias toward the development of warehouse projects is yet unmeasured except in the experiences of people and organizations attempting to combat warehouse growth as well as in the massive and growing warehouse footprint in the region. We now have a key opportunity to make the process better by taking a pause to consider the points above and to maximize community involvement in decision making regarding the streets they live on and the air they breathe.

The requests above are in accordance with GOV § 65302(h)(1)(A):

> (A) Identify objectives and policies to reduce the unique or ***compounded health risks*** in ***disadvantaged*** communities by means that include, but are not limited to, the reduction of pollution exposure, including the improvement of air quality, and the promotion of public facilities, food access, safe and sanitary homes, and physical activity.

Because these provisions are not being met and have led to worsening health outcomes, we ask the State of California to declare a State of Emergency in the Inland Empire for Public Health.

We define the Inland Empire (hereafter referred to as IE or Inland region) as Riverside and San Bernardino Counties. The Inland Valley, which we refer to later, is a specific topographical valley region located geographically within the Inland Empire. This resolution is on behalf of residents of the Inland Empire consisting of frontline communities who are negatively affected by the activities of the logistics industry due increased emissions and associated health consequences.

For the Inland region, COVID-19 exponentially increased the widespread approval of warehouses that have been built on agricultural lands, areas of cultural significance, green spaces, and natural carbon sinks such as desert lands. E-commerce companies have built mega-warehouses and clogged major transportation corridors adjacent to sensitive receptors, such as schools, daycare centers, sports complexes, nature centers, hospitals, and elderly populations. Freeways now look like rail lines of big rigs that extend for miles. Adjacent communities are

experiencing the short- and long-term health impacts of air and noise pollution, deleterious economic impacts, and increased congestion.

The following working paper is a review of the current conditions of the Inland region through a compilation of decades of research, current events, and the work of researchers who call the Inland Empire home. This evidence supports the case that the Inland region is experiencing a state of emergency for the health and welfare of its residents. This state of emergency requires immediate intervention to prevent exponential costs in human life, compromises to workforce and economy, environmental and climate impacts, and harm to community health.

Background on the Inland Empire

The Inland Empire Region consists of two counties, San Bernardino and Riverside, which together cover 27,277 square miles. As of 2020, San Bernardino County has 2.163 million residents, 575,598 of whom are children. Riverside county has 2.438 million residents, 588,233 of whom are children. According to the Blum Poverty Report (2016-18), the Inland Empire's median age is 35.1 years old, 52% of the population is Hispanic/Latino, and 31% of the population is White. Approximately 21.4% of the population is foreign-born, with 69% born in Latin America. More than 42% of people speak a language besides English at home, which is like the rest of California, but about twice as high as the rest of the U.S.[12]

According to the State of Higher Education in California, the IE is the third most populous region in the state. One out of every ten Californians–or 4.3 million people–call the counties of Riverside or San Bernardino home.[13] In terms of land, San Bernardino and Riverside Counties are two of the largest counties in the United States.

Since the mid-1980s, the IE has been known as the "land of cheap dirt."[14] The IE's abundance of land, combined with an undereducated population, gave birth to the notion that logistics was the only viable economic model for land use in the region. This paradigm of cheap dirt has defined a region now home to infamous sprawl and the problems outlined below stemming from the largest contiguous cluster of warehouses on the planet. What began as a blue-collar economic promise has ended as an entrenchment of poverty, congestion, and pollution.

Several *Los Angeles Times* articles sum up the story of the Inland Empire, starting with a key 1985 piece entitled "Land in the Inland Empire is Dirt Cheap."[15] In the decades since, the region has become a hub of global logistics. Truck and train travel and temporary employment models have become massive problems. By 2015, the *LA Times* headlined that "people living near 60 Freeway in Ontario breathe the worst air in the Southland."[16] California Enviroscreen 4.0 data placed many Inland communities at the 90th percentile and above for air and water pollution. And despite 2015 predictions that the "Inland Empire was poised to be a 'big dog' in the California economy,"[17] by 2018, the Times reported that fewer than half the jobs in the region

[12] Brady, David, PhD, Curran, Michael PhD, Ross, Justine, PhD Poverty in the Inland Empire 2016-2018, October 29, 2021 Bloom Initiative on Global and Regional Poverty https://blum.ucr.edu/sites/default/files/2021-10/Blum%20Poverty%20Report%20FINAL3%20%28Pages%29.pdf

[13] The Sate of Higher Education in California Average Won't Do Regional Profile – Inland Empire Counties of Riverside and San Bernardino https://collegecampaign.org/wp-content/uploads/2014/06/AWD_Regional-Profile_Inland-Empire.pdf

[14] LA Times Archives By Comparison, Land in the Inland Empire Is Dirt Cheap August 13, 1985 Los Angeles Times

[15] LA Times Archives "By Comparison, Land in the Inland Empire Is Dirt Cheap" August 13, 1985 Los Angeles Times

[16] LA Times, "People Living Near the 60 Freeway in Ontario Breathe the Worst Air in the Southland." By Tony Barboza Staff Writer Sept. 9, 2015.

[17] LA Times. "Inland Empire: poised to be a 'big dog' in California economy?" By Tiffany Hsu, March 20, 2015.

paid a living wage.[18] Today, IE residents suffer from chronic health issues: asthma, cancer, obesity, heart disease, and reproductive health issues. Environmental justice groups have spoken out against the health impacts warehouses have had on our communities and have identified the role local leadership has played in failing to hold developers accountable to mitigate health impacts. The battles have become a string of losses with human life and health as collateral damage. Organizing and litigation have failed to halt projects whose outcomes seem predetermined, ultimately failing the health of Inland communities.

Geography and Pollution Levels in the Inland Valley

The Inland Valley geographically is a basin, surrounded by several mountain ranges - the San Gabriel Mountains, San Bernardino Mountains, Santa Ana Mountains, and the San Jacinto Mountains. The geography of Southern California allows air currents to flow through mountain passes, carrying pollutants into the Inland Valley from the Los Angeles basin; however, these same mountain ranges prevent the pollution from escaping (Figure 1 and 2). Under normal atmospheric conditions, air is warmer near the ground and colder at higher altitudes. With temperature inversions, the situation "inverts," and cold air at the surface gets trapped under a layer of warmer air and acts as a lid trapping air pollution from the LA basin and Inland Valley basin (Figure 3).[19]

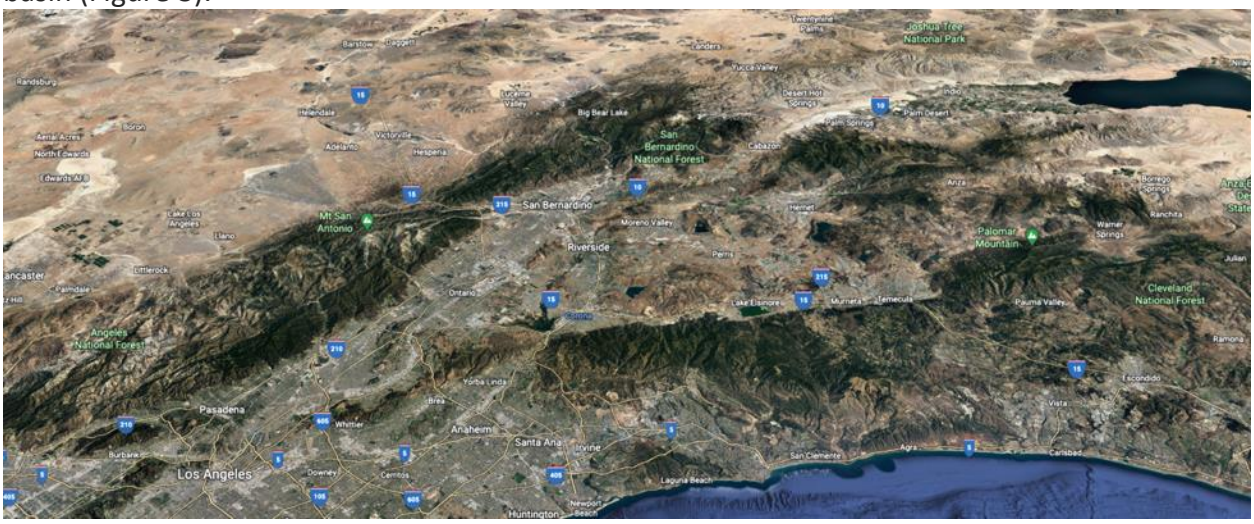


Figure 1. The topographical image of the LA Basin to the IE. The valley acts as a pressure cooker trapping pollution within its geography creating its own climate and increasing the effects of pollution.

Levels of NO_2, SO_2, PM_{10} and $PM_{2.5}$ increase during inversions, which in turn increase the incidences of acute respiratory and cardiovascular diseases for sensitive younger and older

[18] LA Times. "In the Inland Empire, Less than Half of Jobs Pay a Living Wage." By Margo Roosevelt. November 28, 2018.

[19] Thurston, George D Outdoor Air Pollution: Sources, Atmospheric Transport, and Human Health Effects, 2017 International Encyclopedia of Public Health (Second Edition)

residents. In Vietnam, for example, one study noted a significant increase in the daily average number of hospital visits with increasing surface-based inversions. The statistical analysis showed that the temperature inversions correlated with concentration of air pollutants and the number of patients in 5 years.[20] Given that the Inland Valley also suffers from the amplifying effects of inversion due to our topography, special consideration and criteria should be established to ensure that the residents of the IE are protected from increased exposure to high levels of pollutants that result in detrimental degradation of physical and social development and ultimately lead to premature deaths that are akin to a slow suffocation.

Figure 2. The surrounding mountain ranges of the Inland Empire, which create a bowl, contributing to the region's inversion.

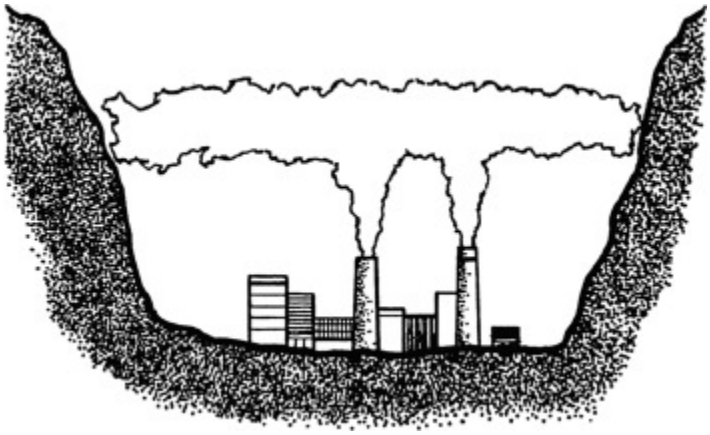


Figure 3. Effects of terrain and an atmospheric inversion 'lid' above a valley to restrict the dispersion of air pollution out of the valley, preventing dilution of the pollution.

[20] Trinh, T.T., Trinh, T.T., Le, T.T. *et al.* Temperature inversion and air pollution relationship, and its effects on human health in Hanoi City, Vietnam. *Environ Geochem Health* 41, 929–937 (2019). https://doi.org/10.1007/s10653-018-0190-0

There has long been a calculated misrepresentation of science by political leaders in the Inland Empire, who advocate in contrast to geographical facts that, "air pollution gets swept away by the wind" or is not present "because we can see the mountains."[21] The truth is that extreme air pollution meteorological events, such as heat waves, temperature inversions and atmospheric stagnation episodes amplify effects of bad air quality.[22] Our local leaders are making choices for the environment that contradict science, California Air Resources Board (CARB), South Coast Air Quality Management District (SCAQMD), EPA, and CEQA guidance. [23,24] These choices threaten the health of IE residents. It is time for the state to intervene on behalf of the 2.163 million residents, 575,598 of whom are children, in San Bernardino County and the 2.438 million residents, 588,233 of whom are children, in Riverside County.

The True Cost of Inland Warehouses

In a recent article from *The Verge*, Justine Calma explains that "for everyone billion of online sales is an estimated 1.25 million square feet of warehouse space." [25] The IE has exceeded **ONE BILLION** square feet of warehousing in the last ten years, bringing over one million daily truck trips.[26]

The disproportionate burden for the goods movement is now housed in Inland cities. **Furthermore, the growth in diesel vehicle miles traveled (VMT) for all Southern California is fueled by the growth in warehouse construction in the IE.** In other words, underlying the growth in diesel VMT, locomotives, ocean-going vessels, and off-road equipment is the growth in warehouse land use. There is also significant aircraft and rail-based pollution generation related to the goods movement.

Approximately 90% of warehouse growth in the Southland has occurred in Inland counties over the last two decades. Warehouse growth induces increases in diesel VMT and the other components of the goods movement industry (ocean-going vessels, locomotives, airports, cargo-handling equipment, and construction equipment). Warehouse space is growing at a rate

[21]Esquivel, Paloma When you house is surrounded by massive warehouses. Oct 27, 2019 Los Angeles Times https://www.latimes.com/california/story/2019-10-27/fontana-california-warehouses-inland-empire-pollution

[22] Hou, P., Wu, S. Long-term Changes in Extreme Air Pollution Meteorology and the Implications for Air Quality. *Sci Rep* 6, 23792 (2016). https://doi.org/10.1038/srep23792

[23] Briscoe, Tony Fontana settles with California AG over alleged environmental violations. Apr 19, 2022 Los Angeles Times https://www.latimes.com/california/story/2022-04-19/fontana-settles-with-state-over-environmental-violations

[24] Solis, Monserrat Attorney General joins environmental lawsuit against Moreno Valley. July 1, 2022 The Press Enterprise https://www.pe.com/2022/07/01/attorney-general-joins-environmental-lawsuit-against-moreno-valley/

[25] Calma, Justine The Warehouse Next Door Booming Warehouse growth clashes with Rural Life in California's Inland Empire Apr 21, 2022 The Verge https://www.theverge.com/c/23030220/e-commerce-warehouse-boom-california-inland-empire-bloomington

[26] Robert Redford Conservancy and Radical Research LLC: Warehouse CITY https://radicalresearch.shinyapps.io/Ware houseCITY/

of more than 5 times the rate of human population growth. This explicitly tracks with the growth in the logistics sector.

Part of this analysis rests upon data collection, modeling, and visualization generated via a collaboration between the Robert Redford Conservancy at Pitzer College and Radical Research, LLC in Riverside. The resultant Warehouse CITY (communitY Cumulative Impact Tool) dashboard[27] is a tool developed to help visualize and quantify the development and emission impact of warehouses in Southern California. Analysis is based on County data that are available to the public. The project interactively charts warehouse growth through time and allows users to localize regional emissions based on truck trips associated with warehouses. Users can view the entire region or zoom into local areas to view cumulative impacts of air pollutants.

According to the Warehouse CITY tool, current warehouse growth has averaged over 50,000,000 square feet of floor space per year for the last five years, with regional patterns disproportionately impacting San Bernardino and Riverside Counties for at least 25 years. For the last ten years, more than 90% of Southland warehouse square footage has been built in the Inland counties, which are already more severely affected by regional pollution impacts of ozone and PM. Los Angeles and Orange County have more than 12 million residents compared to the 4.7 million residents of Riverside and San Bernardino, but a disproportionate amount of the regional impacts of warehouse development currently falls on the IE counties. The goods movement industry growth is largely sourced to poorer counties and communities that do not utilize e-commerce at the rates of Los Angeles and Orange Counties. This has exacerbated existing environmental justice issues and is in violation of the principles of AB 617.

[27]Robert Redford Conservancy and Radical Research LLC: Warehouse CITY https://radicalresearch.shinyapps.io/Ware houseCITY/

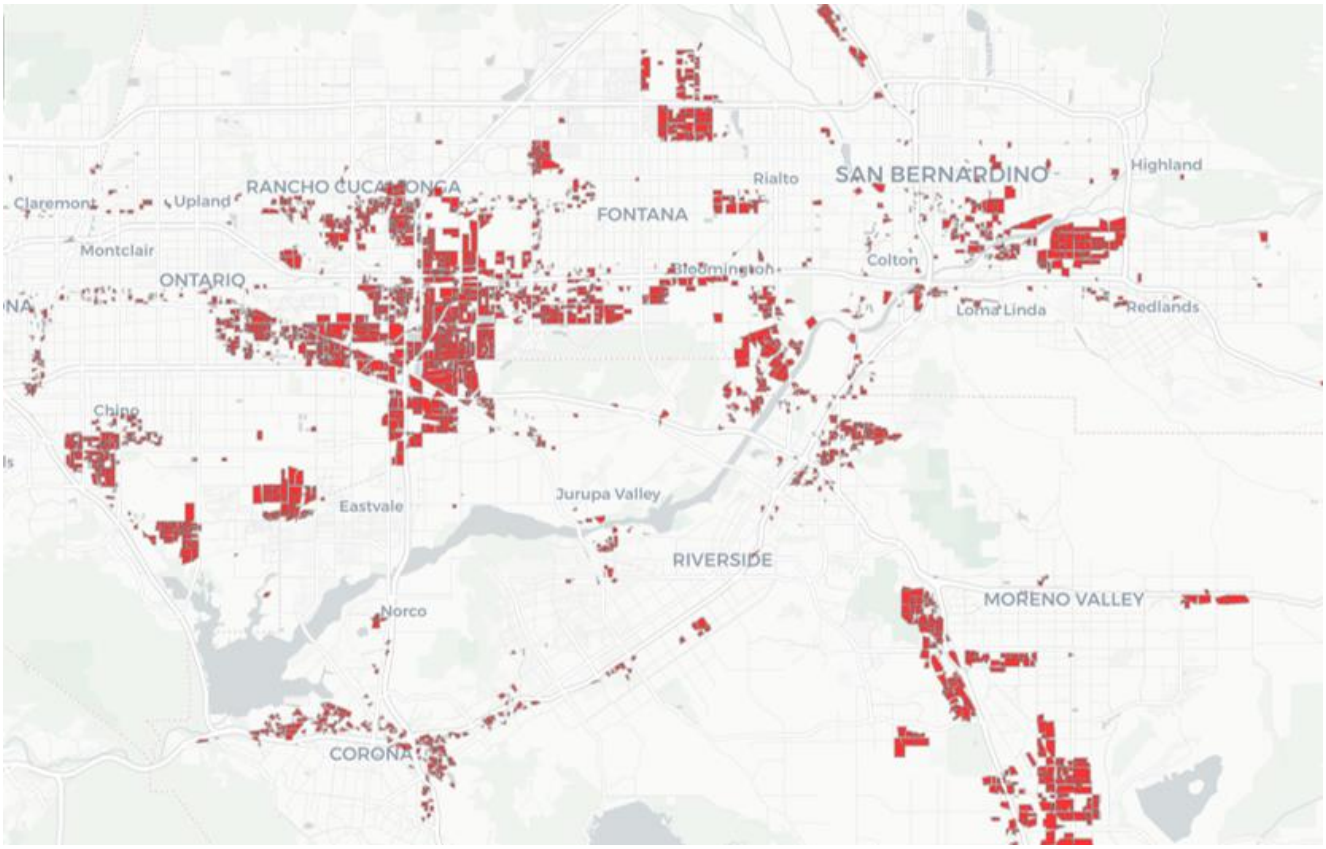


Figure 4. Warehouses of the Inland Empire, shown in brown. Screenshot from Warehouse CITY tool.

Warehouse growth spurs extra train, plane, truck, and shopping impacts as part of the goods movement industry. Most particularly, warehouses generate extra truck trips. In our data set, truck trips and emissions demonstrate a statistically significant correlation with warehouse growth. Assuming 0.67 truck trips per thousand square feet of warehouse space[28], we estimate that over 30,000 extra truck trips are being generated per year by the growth in warehouse space, almost all of which pass through the Inland counties and clogged freeways.

[28] Truck trip estimates are based on South Coast Air Quality Management District indirect warehouse source rule requirements for warehouses greater than 100,000 sq.ft. in Rule 2305.

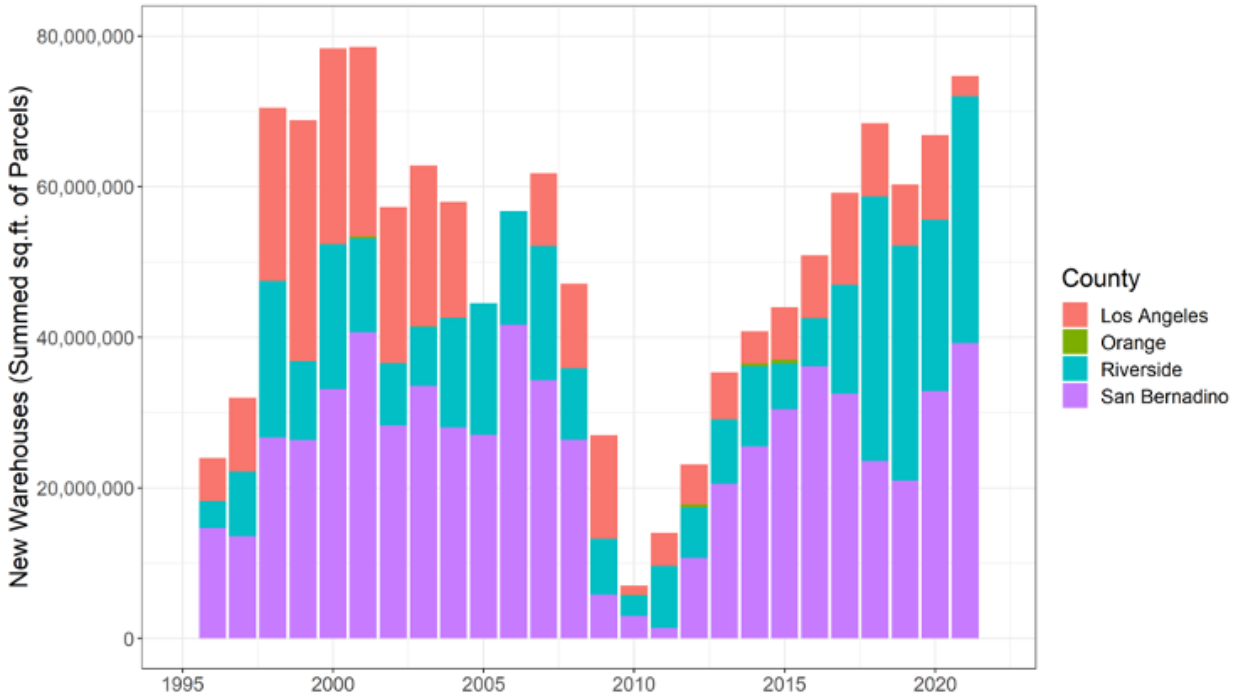


Figure 5. Warehouse building floor space added by year for the four counties based on county assessor database information. The last decade demonstrates disproportionate growth in the Inland region. Data retrieved from the warehouse CITY tool.

In the Inland Empire, an abundance of open land has encouraged warehouse development within relatively young communities and has failed to avoid the siting of these facilities near sensitive receptors such as schools, retirement communities, parks, and housing. New language needs to be developed to acknowledge the pivotal role that warehouses are playing in attracting truck traffic that leads to air quality hazards now and in the future.

With over 1 billion square feet of warehouses, Inland municipalities are continuing the growth of warehouses unchecked within what is being called a “land rush.” This has artificially inflated the cost of land to over $1M per acre–making alternative land use projects and purchases difficult if not impossible. Building of warehouses culminates in the conversion of prime farmland to commercial uses, the conversion of housing to commercial uses, the loss of wildland and greenspace areas, and attendant loss of biodiversity. While some cities, such as Colton, Chino, Redlands, and Pomona, have recently or had adopted moratoriums, these are temporary and very rare. Unless political will changes within other municipalities, there is no way to hold these cities accountable for decision-making that is detrimental to air quality, the environment, and our Inland communities.

Comparing Warehouses by City

	Number	Acres	Daily Truck Trips	Daily PM lbs	Daily NOx lbs	Daily CO2 lbs
Ontario	664	5091	95000	100	1500	8000000
Riverside	254	1864	35000	50	5550	2980000
San Bernardino	227	1860	34000	45	5200	2900000
Rancho Cucamonga	273	1753	33300	40	5200	2800000
Los Angeles	952	3225	62000	85	9800	5300000
Fontana	325	2794	53000	70	8300	4480000
Moreno Valley	85	1622	31000	40	4800	260000

Table 1. A comparison of warehouses in Inland cities. All numbers are estimates. Though Los Angeles has more warehouses, their earlier construction leaves a smaller footprint as compared to contemporary construction patterns. Data estimates generated from Warehouse CITY, retrieved from https://radicalresearch.shinyapps.io/WarehouseCITY/ on November 20, 2022. Data are based on warehouse estimates only for presently constructed warehouses and do not factor in pending projects or include airport or rail, both of which factor prominently into the Inland region's total logistics footprint.

To give one example, the GHG emissions associated with existing Ontario warehouses is more than **2.80 billion pounds of CO_2 per year**, given an assumed Heavy-Duty Diesel Truck (HDDT) VMT of 25 miles per day and calculating operation at 350 days per year. According to current standards, the social cost of carbon is $51 per ton.[29] This calculation was developed to provide guidance for federal clean air policy. This number is based on older mathematical models and there is wide agreement that it is an underestimation of carbon's cost. Utilizing the $51 standard, the annual estimated cost of carbon stemming from Ontario's warehouse infrastructure already **exceeds $71 million per year.** This number will grow by 3.8% per year if warehouse VMT follows current growth projections. Ontario is spotlighted due to its longstanding logistics footprint, which continues to grow as the city has approved more than 25 million additional square feet in the last three years alone. The City of Ontario is by no means the only one following this exponential growth trajectory.

The two-county region is choosing to follow a carbon-intensive trend which has exacerbated public health costs as well as increasing the urban heat island effect (see Figure 6, below).

[29] Rennert, Kevin, Kingdon, Cora Social Cost of Carbon 101 https://www.rff.org/publications/explainers/social-cost-carbon-101/

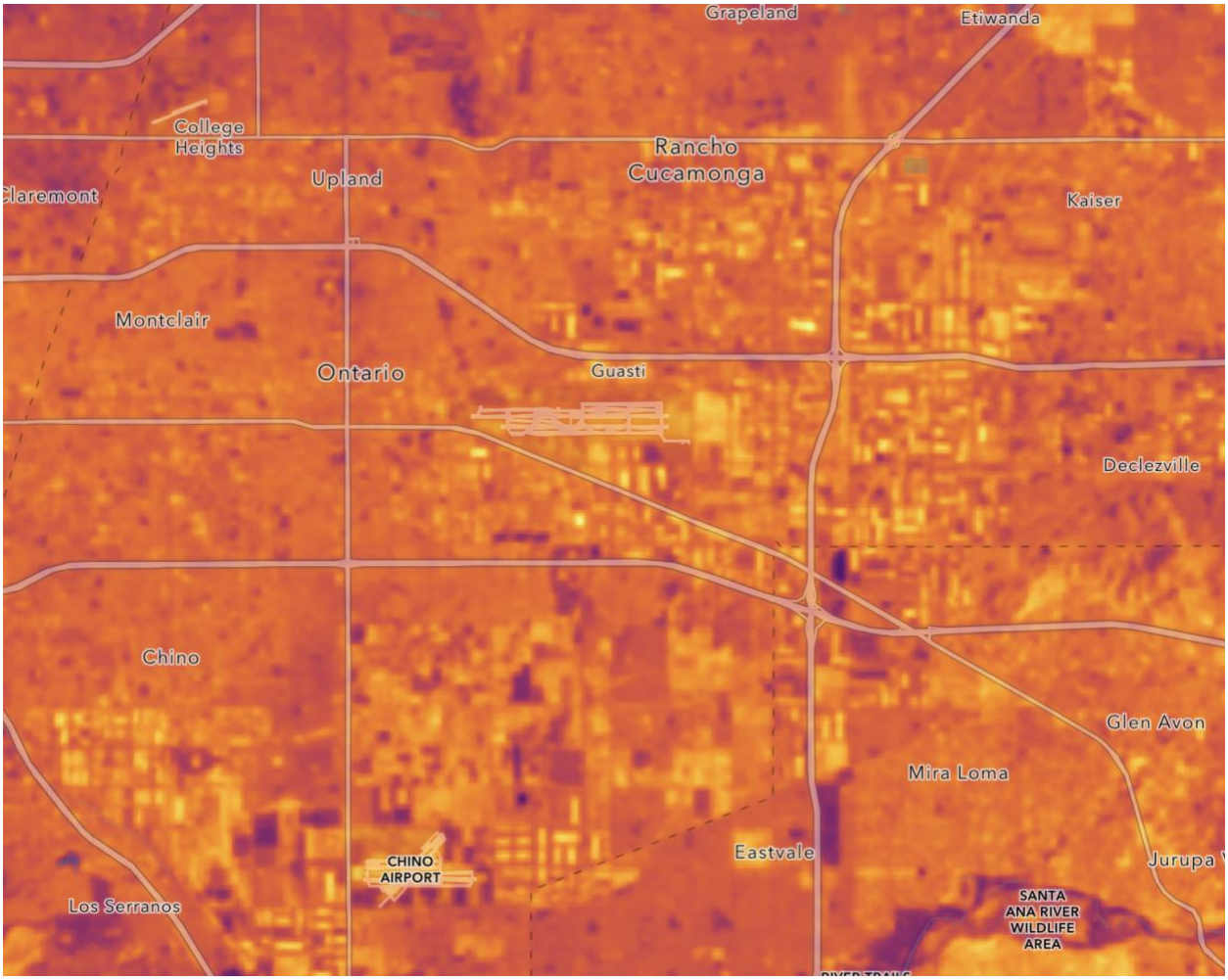


Figure 6. Mean summer temperatures in the Inland Empire. Warehouses with light color indicate extreme heat, while green areas are darker in color. Map from "Environmental Challenges for Southern California, by Michael Dangermond (12-09-2022) https://storymaps.arcgis.com/stories/9e22d182b22d479091d57558146109b1

Key Health Impact Points:

- The City of Ontario is just 50 square miles and has approximately 644 warehouses, 260 fewer than the City of Los Angeles. Los Angeles is 469 square miles with approximately 950 warehouses, but Ontario has almost 40% more warehouse acreage, more than any other city in Southern California. More than 15% of its land is devoted to warehouses.

- Climate impacts include increases in extreme heat and lack of porous surfaces for water filtration, preventing aquifer recharge and increasing flood risk. Warehouse-related traffic also slows emergency vehicle response times.

- Most warehouse growth within the last 10 years has taken place in the Inland regions, and newer warehouses are bigger in size, attract more trucks, and create more emissions.

- Both the World Health Organization and CA OEHHA consider diesel emissions to be a cancer-causing substance.

- Carbon emissions are a topic of special concern, not only because they add to climate catastrophe and extreme weather events, but because carbon compounds increase pollution and smog, causing increased rates of respiratory disease.

- NOx is a topic of special concern and the AQMD's goals to reduce NOx are currently reliant on black box solutions–in other words they are banking on future technologies (often denoted as TBD) that are currently not viable or do not exist. NOx contributes to breathing problems, headaches, and reduced lung function and is a key compound in ozone.

- The cumulative impact of Inland warehouse clusters that cross city boundaries have significant impacts for residents, especially young children, and the elderly. These impacts include asthma, reproductive issues, cancer, as well as safety issues and noise pollution.

- The smaller molecular size of $PM_{2.5}$ can move from the lungs into the bloodstream, bypassing both the blood brain barrier and the placental barrier. PM has been associated with increased mortality from COVID-19.

The **approximately 1 billion square feet of warehouse space** in the Inland region creates an alarming set of daily and annual numbers for the Inland region. To preserve human life and health, these numbers must stop growing. The dizzying increase in numbers which show the detrimental health and environmental costs must be taken seriously. Please note the data do not include rail or airport emissions, which have their own compounding, deleterious impacts in tandem with warehouse clusters. A pause needs to occur to evaluate the true long-term costs and the prospects of the future.

This is particularly important because the cost of carbon has yet to be quantified in a holistic way. A *New York Times* article from 2021 asserted that a "mortality cost" of carbon–the deaths that result from increased emissions–is as much as $258 per metric ton.

City councils and planning commissions that greenlight projects often reference fleet electrification as a cure all for diesel PM and NOx, but EO N-79-20 projects that heavy duty trucks will not be fully transitioned to electric until 2045. According to CARB, the heavy-duty truck fleet will not fully transition to electric until 2045,[30] allowing 23 years of vehicle pollution to continue to devastate the health of the IE communities.

[30]https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets#:~:text=CARB%20is%20developing%20a%20medium,mile%20delivery%20and%20drayage%20applications.

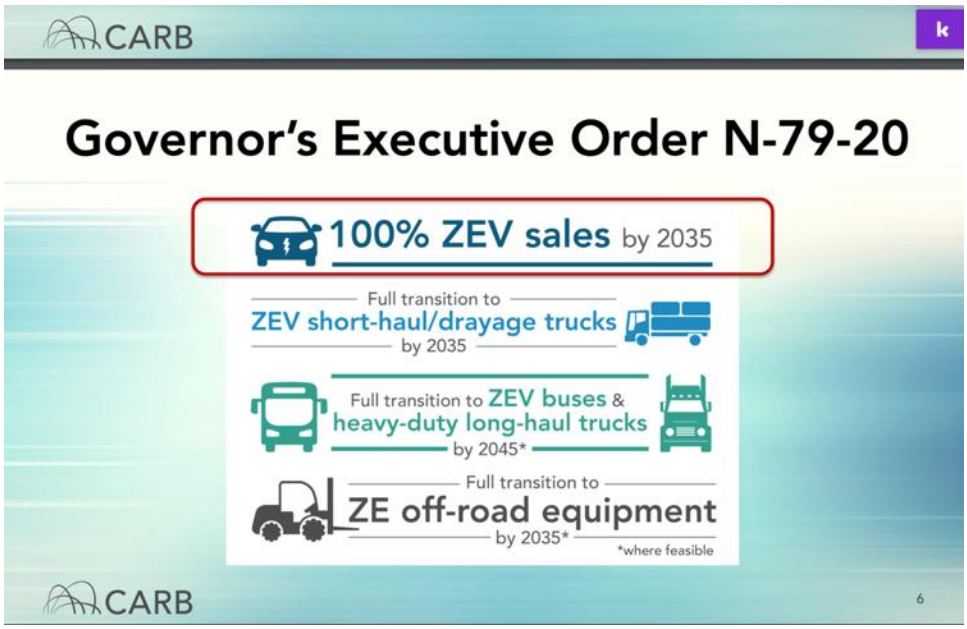


Figure 7. CARB electrification targets. https://ww2.arb.ca.gov/sites/default/files/2021-05/acc2_workshop_slides_may062021_ac.pdf

The true cost of warehouses can be seen in several ways: in land coverage, in diesel PM, NOx, GHG emissions, loss of biodiversity, increased heat island effect, and higher energy usage, days of work or school missed, premature births and deaths, rates of asthma, reproductive health, cognitive, and respiratory issues, and weakened immune systems. In addition, the economic benefits that the IE would have had from the warehouse tax revenue are extracted from our area to benefit multi-national corporations and developers. We disproportionately receive the negative externalities in the form of truck and train traffic and NOx.

If our communities are slated to absorb the negative externalities associated with the global goods movement, then fairness must intercede. We request a transfer of funds to redistribute and mitigate harms and policy changes to put a pause on harmful infrastructure and create pathways for different forms of development that benefit communities, the economy, and the environment. Corporations outside of our state influence land use decisions that do not benefit our communities and that extract the value of this land use. We deserve restitution for the negative externalities associated with these land use decisions.

Incrementalism vs. Cumulative Impact

Project outcomes are determined utilizing incremental rather than cumulative impact. Cumulative impacts have yet to be considered properly or holistically. CEQA's cumulative impacts rule (15130(b)) requires that all past, present, and future projects must be considered; or a summary of projections contained in an adopted local, regional, or statewide plan, or related planning document that describes or evaluates conditions related to the cumulative effect.

This aspect of CEQA guidelines is weak. Projects seldom consider the cumulative pollution burden of past, current, and future projects and the inequitable zoning that has resulted in historical conditions of environmental injustice. Garcia *et. al.* (n.d) conclude that "CEQA coverage of environmental justice has lagged," with several failed pieces of legislation that would have offered protections to Disadvantaged Communities (DACs) already impacted by generations of multi-project exposure. In the Inland Empire, we cannot think of a single warehouse EIR that has attempted to address cumulative impact in a holistic manner. Instead, their focus is on individual sites that are considered either significant and unavoidable, or insignificant when viewed from an incremental perspective. Garcia *et. al.* conclude that, when viewed together with past, current, and future projects,

> a project's contribution may be **individually and incrementally insignificant** but would make a considerable contribution to the overall cumulative impact and **be cumulatively significant when combined with existing conditions**. The existing, often hazardous, environmental conditions in DACs must be taken into account when evaluating cumulative pollution burden impacts.[31]

The failure to consider cumulative impact means that the pollution burden on Inland EJ communities continues to grow.

We are unaware of any CEQA documents that conduct projections even roughly equivalent to the ones we have presented in this report. Second, warehouse growth is outpacing the ability of communities and community groups to participate meaningfully in planning processes. A survey of one general contractor's projects sold in the last two years show that over 94 separate projects are coming to the IE, including a 3.5 million square foot project in Fontana and a possible gigantic project in Fontana estimated at over 24 million square feet. Below is a chart that includes some 170 million square feet of warehouse projects that are pending approval, approved, or under construction. This chart is incomplete, because there is no clearinghouse that tracks these in a manner that allows for cumulative, regional consideration of pending projects. CEQANET could potentially become the site through which cumulative impacts could be calculated more accurately but right now it is not set up to do that.

Below is a list of just some of the warehouses currently slated for construction. This totals over 150 million additional square feet of warehouse throughout the Inland region.

[31] Garcia et. al. "Environmental Justice in the California Environmental Quality Act: It Is Here, and It Is Time." Ascent Environmental, Inc., p. 6.
https://ascentenvironmental.com/files/2915/9908/4232/AscentShare_Environmental_Justice_Paper.pdf

Project	Size (sq ft)	Location
World Logistics Center	40,400,400	Moreno Valley
Legacy Specific Plan - phase 2	14,625,000	Beaumont
Stoneridge Commerce Center	9,398,070	Unincorporated Riverside County (Nuevo)
Merrill Commerce Center Specific Plan	7,014,000	Ontario
Speedway	6,600,000	SB County
Sunset Crossroads	5,500,000	Banning
South Ontario Logistics Center Specific Plan Phases 2	5,412,591	Ontario
West Campus Upper Plateau	4,500,000	March JPA
Hesperia Commerce Center II	3,745,429	Hesperia
Legacy Specific Plan Project	3,580,200	Beaumont
West Valley Logistics Center	3,439,197	Fontana
Project Viento	3,424,698	Desert Hot Springs
Bloomington Business Park	3,235,836	Bloomington (SB County)
South Ontario Logistics Center Specific Plan Phase I	3,172,780	Ontario
Apple Valley 143	2,628,000	Apple Valley
Renaissance Ranch Commerce Center	2,509,056	Horsethief Canyon (Riverside Co)
Northern Gateway Commerce Center	2,487,625	Menifee
South Perris Industrial Project	2350000	Perris
Veteran's Industrial Park	2,000,000	March JPA
Ontario Ranch	1,905,027	Ontario
I-15 Industrial Park	1,850,000	Hesperia
Meridian South Campus Buildings E, F, G, H, I, 1, 2, 3, and a couple more	1,800,000	March JPA
Ontario Ranch subsequent	1,640,690	Ontario
Menifee Commerce Center	1,640,130	Menifee
Legacy Specific Plan - phase 2 cold	1,625,000	Beaumont
Banning Commerce Center	1,320,000	Banning
Altitude Business Center	1,313,000	Chino
Moreno Valley Trade Center	1,300,000	Moreno Valley
Majestic Freeway Center	1,219,222	Unincorporated Riverside County

Beaumont Summit Specific Plan	1,213,235	Beaumont
I-15 Logistics Center (Lytle Creek)	1,170,820	Fontana
Chino Majestic Heritage	1,168,710	Chino
Rider and Patterson Business Center	1,167,000	Unincorporated Riverside County
Knox Business Park	1100000	Unincorporated Riverside County
9th & Vineyard Development	1,037,467	Rancho Cucamonga
Southern California Logistics Airport Lot 44 Distribution Center	1,030,308	Victorville
Ottawa Business Center	996,194	Victorville
Beaumont Summit Spec Plan	985,860	Beaumont
Ramona Gateway	950,000	Perris
Chino Majestic Heritage	914,000	Chino
Heacock Commerce Center	874,000	Moreno Valley
OLC3 - Ramona Expwy & Perris Blvd. Commercial Warehouse Project	774,000	Perris
Duke Warehouse	770,000	Perris
Dara Industrial	750,000	Hesperia
Oleander Business Park	710,000	Unincorporated Riverside County
CADO Menifee Industrial Warehouse	700,037	Menifee
Barker Logistics	700000	Unincorporated Riverside County
Speedway Commerce Center	650,960	Rancho Cucamonga
Mapes Commerce Center	650,000	Perris
Orchard Logistics	610,000	Beaumont
Sycamore Hills Distribution Center	603,100	Riverside
Potrero Logistics	577,920	Beaumont
First March Logistics Project	559000	Perris
United States Cold Storage Hesperia	515,334	Hesperia
Pepper Ave	485,000	Rialto
Harvill Business Center	434,000	Unincorporated Riverside County
Mountain View Industrial	420,937	Redlands
Legacy Specific Plan Project - cold storage	397,800	Beaumont
Nevada & Palmetto Commerce Center	381,000	Redlands (SB County)
Beaumont Summit Specific Plan	358,370	Beaumont

Seaton Ave and Cajalco Rd. Industrial Project	350,000	Unincorporated Riverside County
Perris Valley Commerce Center	347000	Perris
Harvill and Rider	334,000	Unincorporated Riverside County
Redlands Ave West Industrial Project	334000	Perris
Perris Blvd. & Morgan St. Industrial Park Project	283000	Perris
Placentia Logistics	274,000	Unincorporated Riverside County
Duke Slover & Alder	259,481	Bloomington (SB County)
Redlands Ave East Industrial Project	254,500	Perris
Alere Property Group (Redwood Area)	245,000	Fontana
Muranaka Warehouse Project	239000	Unincorporated Riverside County
Ramona-Indian Warehouse project	232575	Perris
Durst Drive Warehouse	201,239	Rialto
Meridian D-1 Aviation Gateway	200,000	March JPA
Temescal Valley	181,495	Unincorporated Riverside County
Multi-Tenant Industrial Warehouse	179,400	Redlands
Ramona Expwy & Brennan Ave Warehouse project	165000	Perris
Moreno Valley Business Center	164,200	Moreno Valley
First Harley Knox Industrial	158000	Perris
Wilson Avenue Project	154000	Perris
Operon	148000	Perris
Harlex Knox Blvd. Industrial project	143000	Perris
Edgemont Commerce Center	142,000	Moreno Valley
Chartwell Warehouse	132,000	Perris
Old 215 Business Park Project	118,600	Riverside
Phelan Warehouse	109000	Perris
Sierra-Summit	102,380	Fontana
Marlborough Northgate Light Industrial Project	100000	Riverside
Seaton Ave and Perry St. Industrial Project	99,000	Unincorporated Riverside County
Kirschner company LLC	25,000	Fontana sphere of influence/SB C
Airport Gateway Specific Plan	9,271,000	SB County
EST TOTAL SQUARE FOOTAGE	**170,965,873**	

Table 2. Pending or in progress warehouse construction; pending approval with in CEQA
https://ceqanet.opr.ca.gov/

Please note that this list is incomplete. The estimated emissions associated with one hundred million square feet of warehouses is approximately 90 pounds of diesel particulate matter per day, 10,400 pounds of NOx per day, and 6,000,000 pounds of CO2 per day—the vast majority of which go into already impacted communities of color.

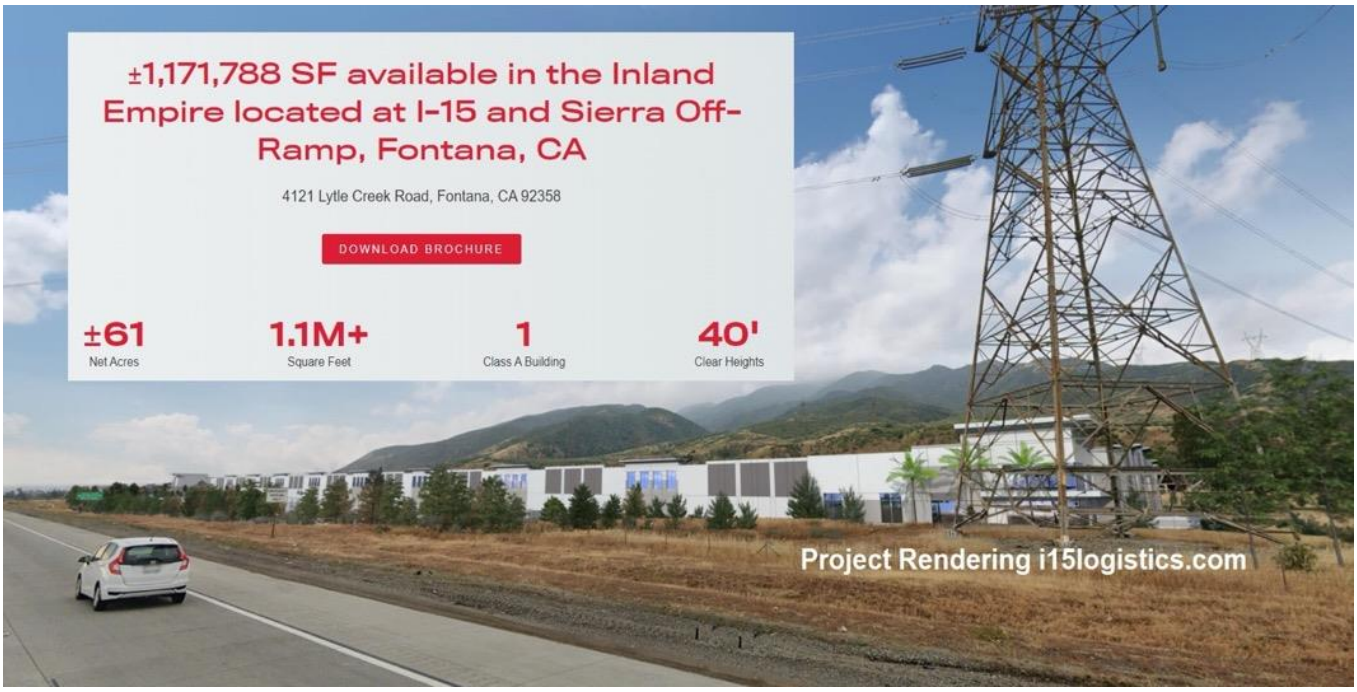


Figure 8. Examples of the land that is for sale for logistics.

With these and additional projects, diesel VMT is projected to grow by 55% by 2037, a rate that exceeds population growth by a factor of 5 and gasoline VMT by a factor of 20. Our analysis has found that, in the past 5 years, heavy-duty and medium-duty diesel VMT grew by almost 20%, almost completely offsetting the cleaner vehicles being introduced into the fleet through cleaner vehicle incentive programs and vehicle turnover, which decreased NOx emissions by 28% per VMT.

Key takeaway: **Warehouse land use is inducing the activity growth of the goods movement sector. Limiting warehouse land use growth to the rate of population growth would help to provide more equity among industries for emissions reductions and avoid disproportional EJ impacts.**

Warehouse Proximity to Schools

Warehouse proximity to schools has been a perpetual problem that has yet to be quantified for the Inland region. According to a 2021 report released by EarthJustice, 640 schools within the South Coast air basin are within a half mile radius of a warehouse.[32,33] New warehouses are constructed in already polluted and economically burdened areas, meaning that children suffer

[32] Torres, Ivette, et al. "Warehouses, Pollution, and Social Disparities: An analytical view of the logistics industry's impacts on environmental justice communities across Southern California" (2021), https://earthjustice.org/sites/default/files/files/warehouse_research_report_4.15.2021.pdf;
[33] Yuan, Quan. "Environmental justice in warehousing location: State of the art." *Journal of Planning Literature* 33.3 (2018): 287-298.

not only from exposure but also with challenges to healthcare. The EarthJustice report highlights:

- Of the 3,712 schools located in the South Coast Air Basin, 473 schools are located within half a mile of disadvantaged communities and 242 schools are located within half a mile of disadvantaged areas where there is at least one warehouse already sited. [34]

Radical Research, LLC and the Redford Conservancy at Pitzer College have begun to map school and warehouse siting data within the Inland counties. We present maps from an in-progress data tool, Warehouse CITY School (https://radicalresearch.shinyapps.io/WarehouseCITY_school/) and then combined CalEnviroScreen data with school and warehouse data to investigate proximity of schools within 1000, 2000, and 3000 feet as well as percentages of PM exposure. Our findings are preliminary and should be taken as a first step in our attempt to investigate disproportionate pollution exposure to children due to the growth of the logistics sector in the Inland region. We will be refining and analyzing the data in more depth in early 2023.

The preliminary results are alarming.

Below are data and maps for Riverside and San Bernardino Counties. The numbers for broader buffer zones of 2000 and 3000 feet include all the previously counted schools:

- **Over 300 warehouses are 1000 feet or less from 139 Inland Empire schools; over 600 warehouses surround these same schools at 1500 feet**.[35]
- 302 schools are within 2000 feet
- 474 are within 3000 feet
- 157 schools are within the 80th percentile or higher for Diesel Particulate Matter exposure due to proximity to warehouses and related truck traffic routes.

Most of the impacted schools are within the western portion of San Bernardino and Riverside Counties, as evidenced by the map below.

[34] Torres, Ivette, et al. "Warehouses, Pollution, and Social Disparities: An analytical view of the logistics industry's impacts on environmental justice communities across Southern California" (2021), https://earthjustice.org/sites/default/files/files/warehouse_research_report_4.15.2021.pdf;
[35] Courtesy of warehouse CITY school, Radical Research LLC.

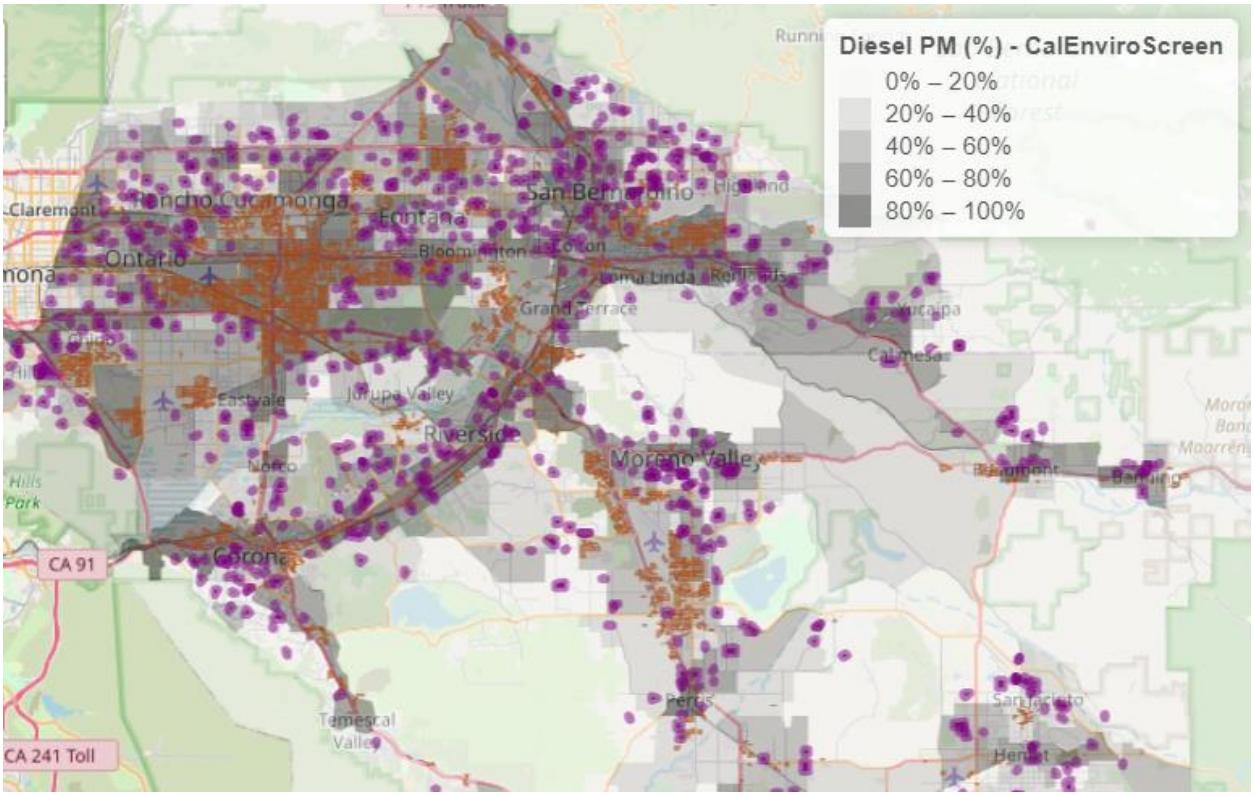


Figure 9. Western portion of SB and Riverside Counties demonstrating proximity of schools (purple) to warehouses (brown) and overlaid with CalEnviroScreen data on Diesel Particulate Matter exposure (gray gradient). Courtesy Radical Research, LLC, and the Redford Conservancy, Pitzer College.

The dark gray clusters of >80% DPM follow truck routes that lead to warehouse clusters. Wind generally moves from north to south in this area, making students and staff in schools downwind and backed by mountains the most vulnerable to higher levels of exposure. Proximity to freeways that act as logistics truck routes also creates high exposure for local school air quality. Below are several maps of areas of concern, including Jurupa Valley/Fontana, Perris, and Bloomington. Some schools are located within the 98th or 99th percentile for particulate matter exposure.

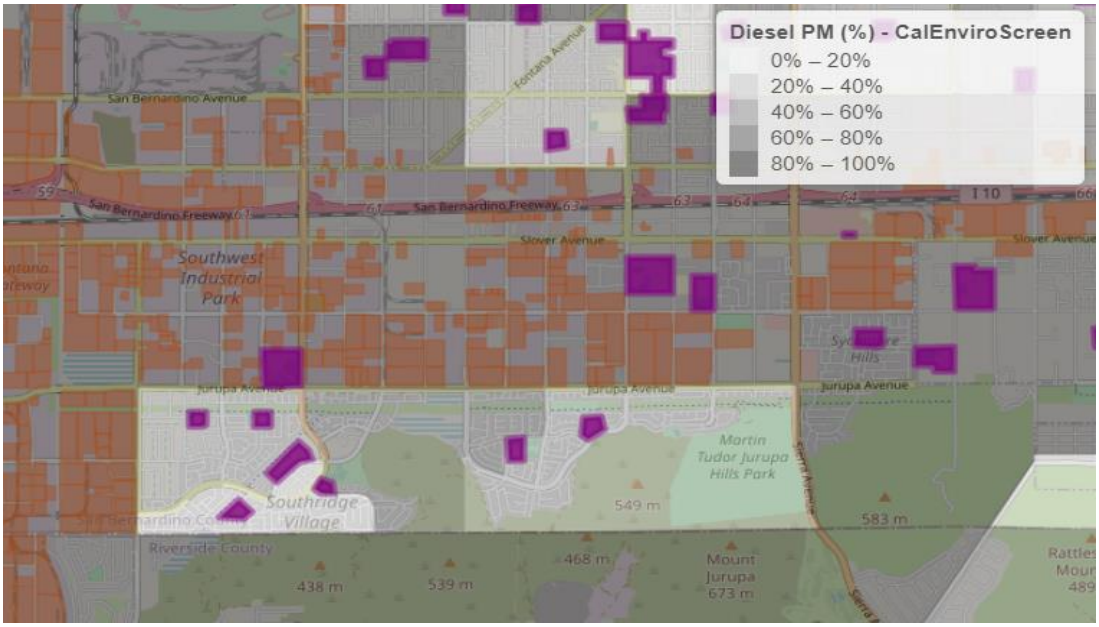


Figure 10. Detail of schools and warehouses within Jurupa Valley-Fontana area, with schools shown in purple and warehouses in brown. DPM percentiles are shown in gray and based on CalEnviroScreen data. Courtesy of Radical Research, LLC and the Redford Conservancy, Pitzer College.

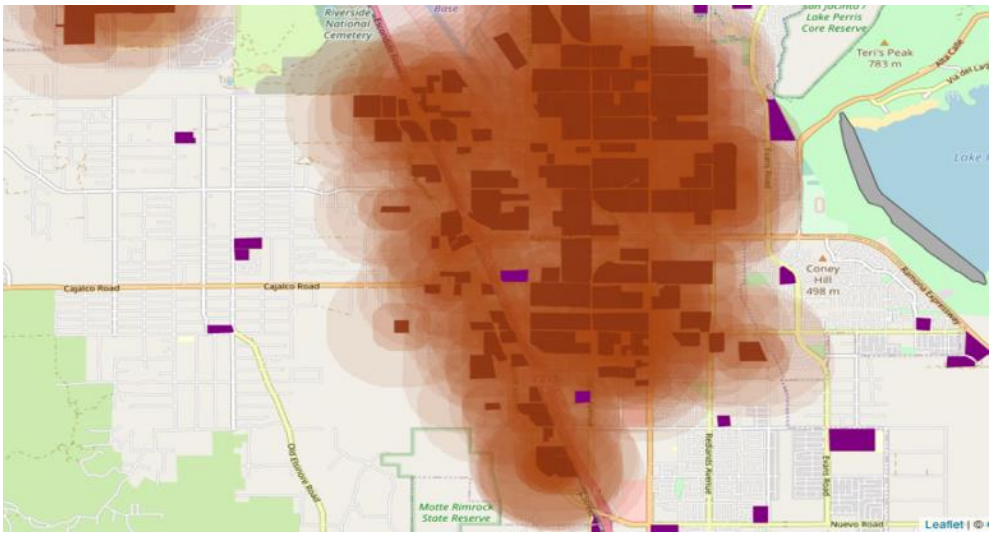
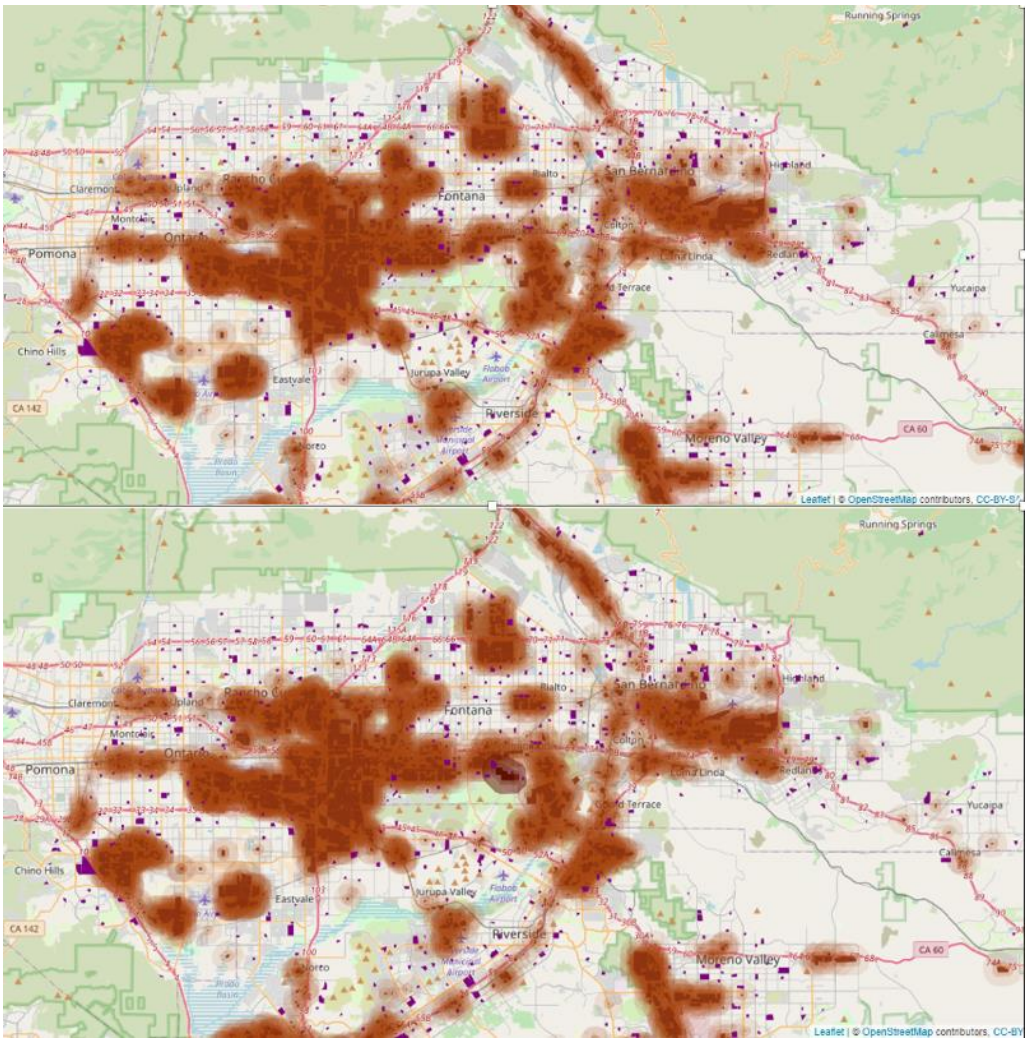


Figure 111. In purple, Val Verde High School and Val Verde Elementary School in Perris are surrounded by warehouses, which are surrounded by 1000 ft and 3000 ft buffers in brown.



Figures 12. Map of inland region warehouses and schools, with Bloomington Business Park Specific Plan, Phase I, shown at center of each of the above Figure. The comparison of the two maps demonstrates the difference in air quality that the addition of just one warehouse project can make. Shown at center in brown-gray, with 1000 ft and 3000 ft buffer zones around warehouses. Schools remain in purple. Courtesy Mike McCarthy, Radical Research, LLC, Pitzer College, and Riverside Neighbors against Warehouses.

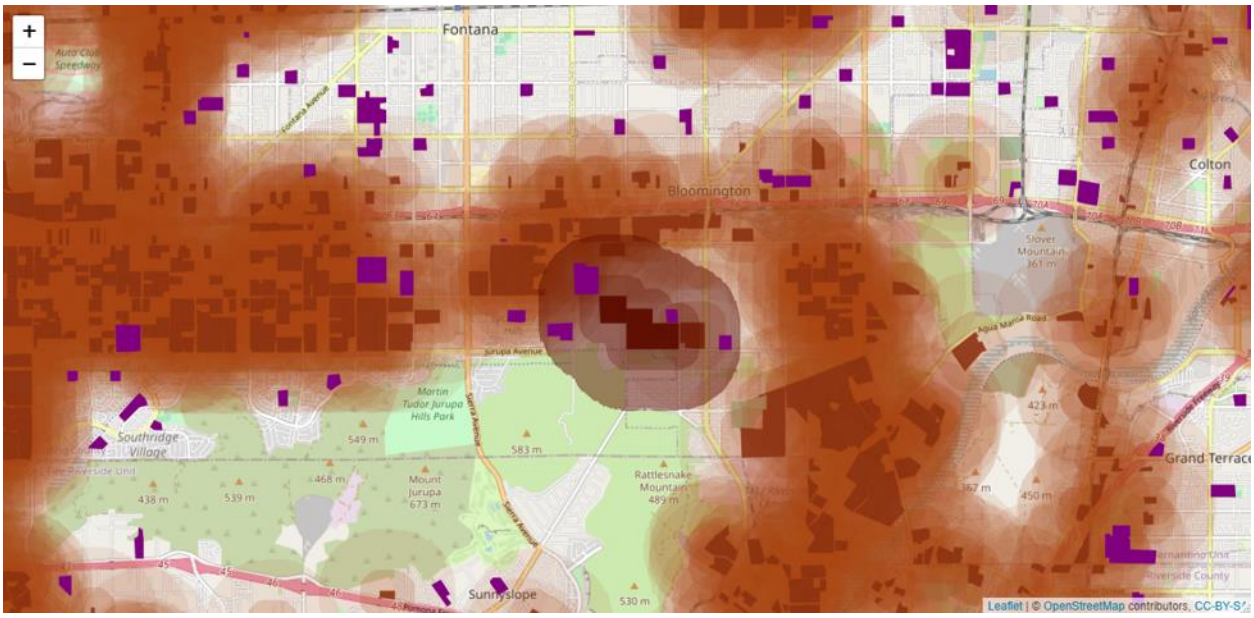


Figure 13. Detail of Bloomington Phase 1. Once built out, the project will impact five schools. 90 homes will be razed for this project. The school on the right is Zimmerman Elementary, which has now been bought by warehouse developers. Brown shapes are warehouses with pollution buffer zones of 1000 and 3000 feet.

In Bloomington, a 2021 Earthjustice report found that "six of eight schools in the Bloomington community sit, or will sit, right next to a warehouse." In the figures above, 1000 and 3000 buffer zones demonstrate how multiple schools, and a key part of the airshed, can be impacted by a single warehouse.

The Bloomington Business Specific Plan not only demolishes approximately 90 homes largely belonging primarily to persons of color but resulted in the sale of local Zimmerman Elementary School, which would have been surrounded by warehousing. The conversion of homes to warehousing needs to stop, especially during a housing crunch. But the demolition of a beloved community school to maximize warehousing is unconscionable. We need stricter rules surrounding siting of warehouses near schools–not just advisories. The final EIR for the Bloomington Business Park Specific Plan, for example, indicates that school playgrounds are not considered to be "living areas" because they are only used on an intermittent basis. This conclusion incorrectly excludes playing children from the protections accorded to living areas. The EIR for this project indicates that emissions will actually decrease with the addition of thousands of truck trips per day. Thousands of residents of Bloomington, and San Bernardino County opposed this project. Ultimately, the residents have no voice in determining local land use, even though they are Bloomington residents who live there already. The project has been approved despite overwhelming opposition.

CEQA is Not Enough: Multiple Forms of Bias

CEQA is not enough to protect the interests and health of community members due to multiple forms of bias inherent in the planning and environmental review process. We review compromises to the EIR process below that include compromises to the consideration of community voices, as well as campaign contributions and other benefits that bias decision-makers in favor of projects. We assert that warehouses comprise a regulatory gray area and require additional protections.

In many instances, stakeholders such as City Councils and Planning Commissions ignore community input in favor of political interests and commitments, as well as perceived benefits that make outcomes essentially predetermined.[36] It is essential to develop policies and practices that balance short-term wins with the long-term impacts in a manner that is equitable to the many and does not benefit only the few. Frontline communities have little impact on the decision-making process; developers have influence and know that even if residents are able to organize strong opposition, they are unable to halt projects. With local city and county leaders ignoring residents,[37] It is time for our leaders at the state level to intervene for the 4.3 million residents of the Inland Empire.

In a recent lawsuit between Attorney General Bonta and the City of Fontana regarding bait and switch tactics that allowed a warehouse to be built feet from a high school, AG Bonta stated: "For years, warehouse development in Fontana went unchecked, and it's our most vulnerable communities that have paid the price, residents shouldn't have to choose between economic opportunity and clean air."[38] Bonta also intervened in a lawsuit challenging Moreno Valley's 2040 General Plan for violations of CEQA. He argued that Moreno Valley's environmental review did not adequately analyze, disclose, and mitigate the air pollution that would be generated from buildout of the 2040 General Plan as required by CEQA.[39] AG Bonta stated in a June 30, 2022, press release:

> Moreno Valley should be working to address existing environmental inequities in the city's western region. Instead, its 2040 General Plan exacerbates them. Communities in Moreno Valley experience some of the highest levels of air pollution in the state. We're intervening today so that those communities do not continue to bear the brunt of poor land use decisions that site warehouses outside their doors. At the California

[36] Maantay, Juliana. "Zoning Law, Health, and Environmental Justice: What's the Connection." Journal of Law, Medicine and Ethics, vol. 30, no. 4, Winter 2002, p.572-593. HeinOnline.
[37] Montes, Noe. Photographing Air Pollution in the Inland Empire: Noe Montes. KCET, May 10, 2022
[38] Attorney General Bonta Announces Innovative Settlement with City of Fontana to Address Environmental Injustices in Warehouse Development April 18, 2022 https://oag.ca.gov/news/press-releases/attorney-general-bonta-announces-innovative-settlement-city-fontana-address
[39] Attorney General Bonta: Moreno Valley General Plan Would Exacerbate Pollution Burden in Environmental Justice Communities June 30, 2022 https://oag.ca.gov/news/press-releases/attorney-general-bonta-moreno-valley-general-plan-would-exacerbate-pollution

> Department of Justice, we're fighting day in and day out for communities who live at the intersection of poverty and pollution. Economic development and environmental justice are not mutually exclusive, and we're committed to helping local governments find a sustainable path forward.

It is evident from Attorney General Bonta's interventions that the IE's local leadership routinely fails to consider the health and environmental determinants of continued industrial development and related truck routes.[40] The Attorney General has taken steps to protect the community from developers and local leaders who are exploiting the working poor, but more needs to be done.

Bias in EIR Process

Another arena of bias is the EIR process. The EIR process is fundamentally compromised by the fact that developers directly hire and pay for environmental consultants. Using technically objective tools, the consultants inherently bend EIR results to the needs of the project. We suggest consideration of an EIR process where developers must go through a neutral third-party to hire environmental consultants who assess projects in an unbiased manner. Many land transactions have already occurred prior to zoning changes, general plan amendments, and project approvals. City Council members smooth the way for project approvals because of early consultation where community members are absent, as well as the other benefits they receive, such as building of infrastructure, increased tax base, and the perception of good jobs. This leaves the planning and EIR process hollow–it is simply part of rubber stamping projects whose outcomes are determined before the first NOP hits the CEQANET website.

Another challenge is timing for feedback with the planning process. Timing varies city by city, but often leaves community members scrambling to read and respond to draft or final EIRs, which are often thousands of pages long. In some cities, the release of these documents happens just days before agenda items come to the table for a final vote. In Ontario, for example, the public only receives three days to comment on a matter after the release of documents. In some cities, such as Riverside, agendas and documents are released 15 days prior to being heard. Sometimes cities will skirt whatever mitigation they agreed to for projects, as has been the case with Fontana, Rancho Cucamonga, and Ontario. Furthermore, our communities are very familiar with timed release of documents on Fridays at 5pm, or for EIRs released between Christmas and New Year's Day. Many warehouses were fast-tracked during the Covid-19 pandemic, not only because of the growth of e-commerce but because people were distracted, confined, and health impacted and thus unaware of the planning processes underway. While not technically illegal, these timeframes result in the exclusion of community voice and further tip the scales toward developers, resulting in a biased decision-making

[40] Attorney General Bonta Announces Innovative Settlement with City of Fontana to Address Environmental Injustices in Warehouse Development April 18, 2022 https://oag.ca.gov/news/press-releases/attorney-general-bonta-announces-innovative-settlement-city-fontana-address

process. Stricter guidelines that protect community input and ensure its contemplation are badly needed.

Bias and Campaign Contributions

Another problematic area of warehouse construction is campaign contributions by developers and others who benefit from industrial projects. These contributions are for variable amounts of money, but they either bias or give the appearance of bias in the decision-making process. AB 571 was introduced in alignment with the Fair Political Practices Commission, which has set standards for the impartial and effective administration of the Political Reform Act. The mission of the Act is to serve as the legal bedrock of governmental ethics in California. Pursuant to Assembly Bill 571 (Stats. 2019, Ch. 556, AB 571 Mullin), beginning January 1, 2021, a state campaign contribution limit will by default apply to city and county candidates when the city or county has not already enacted a contribution limit on such candidates. The default limit for contributions to city and county candidates subject to AB 571 for 2021-2022 is set at $4,900 per election per entity. In the Inland Empire, where the median income in 2019 was $70,757 this cap they would contribute 7% of their income to the candidate.[41] However, several Riverside County cities including Perris have recently set the cap at $20,000 in campaign contributions for local officials. In Perris the median household income is less than $64,000 a year. The poverty rate is just under 17%. Most political donations come from developers rather than Inland residents. These caps are set to allow developers and others who benefit from industrial construction projects to continue to elect leaders who will represent their interests and not the interests of the residents of the Inland Empire.[42]

City	Contribution Limit	Ordinance?	Adoption Date
Murrieta	$1,000*	Yes – pre AB 571	First adopted 2001 Last amended 2015
Hesperia	$500*	Yes – post AB 571	May 2020
Moreno Valley	No Limit	Yes – post AB 571	December 2020
Riverside	No Limit	Yes – post AB 571	December 2020
Grand Terrace	$250*	Yes – pre AB 571	First adopted 1984
Rialto	$4,900	No – AB 571 limits apply	N/A
San Bernardino	$4,900	No – AB 571 limits apply	N/A
Menifee	$4,900	No – AB 571 limits apply	N/A
Colton	$4,900	No – AB 571 limits apply	N/A
Lake Elsinore	$4,900	No – AB 571 limits apply	N/A
Canyon Lake	$4,900	No – AB 571 limits apply	N/A

* Amount has been and is adjusted annually based on CPI since adoption (may not reflect exact current amount) Where AB 571contribution limits apply, amounts are adjusted by the FPPC in January of each odd-numbered year according to the CPI index

Figure 14. Chart demonstrating the purposeful removal of AB 571 limits in several Inland cities.

[41] 2019 American Community Survey shows positive signs for the Inland Empire November 21, 2020 https://www.sbsun.com/2020/11/21/2019-american-community-survey-shows-positive-signs-for-the-inland-empire/#:~:text=Median%20income%20levels%20are%20another,it%20was%20up%20to%20%2470%2C757

[42] Solis, Moserrat, Perris OKs Campaign Donations up to $20,000 August 9, 2022 https://www.pe.com/2022/08/09/perris-oks-campaign-donations-of-up-to-20000/

Figure 13, from Perris City Council Meeting 072622, [43] demonstrates the purposeful removal of AB 571 limits in several Inland cities. Additional cities have followed suit, voting to eliminate campaign contribution limits. For example, Moreno Valley has no cap. One council candidate started with a donation of $50,000 from a single entity which later added even more. This candidate won and easily had more than $100,000 in donations. Most other candidates raise in the range of $10,000 to $20,000. In the November 2022 election no one is challenging the candidate who raised more than $100,000 because they do not have the resources. In Ontario, similar patterns of developer contribution compromise the integrity of the planning process.

Relationships between developers and politicians often go back decades due to the lack of term limits, and scores of projects are approved in the IE despite the lack of short-term and long-term community benefits or mitigation for health and environmental impacts, infrastructure drain, and traffic levels on roadways. In addition, unions are often enticed to support projects by the promise of jobs, but developers sometimes renege on those promises.

Local leaders have failed to act in accordance with Public Resource Code 2112835 and Code of Civil Procedures 1085 or 1094.5, which require that an agency's approval of a project be set aside if the agency has prejudicially abused its discretion. Prejudicial abuse of discretion occurs either where an agency has failed to proceed in a manner required by law or where its determination or decision is not supported by substantial evidence. California Code GOV 53243.4 defines abuse office or position" to mean either of the following:

> (a) An abuse of public authority, including, but not limited to, waste, fraud, and violation of the law under color of authority.
> (b) A crime against public justice, including, but not limited to, a crime described in Title 5 (commencing with Section 67), Title 6 (commencing with Section 85), or Title 7 (commencing with Section 92) of Part 1 of the Penal Code.

If a City Council votes to allow contributions four times greater than AB 571, it signals to the people that their city's representatives are in violation of California Code GOV 53243.4 because the only entities that have such funds are special interests. Further, cities amend their Industrial Plans (SWIP) without a recirculated EIR, creating the appearance of appeasing large campaign contributors and circumventing public comments. Public comments and public engagement are a requirement of CEQA; therefore, it is both a violation of Public Resource Code 2112835 and Code of Civil Procedures 1085 or 1094.5 and California Code GOV 53243. These patterns require state oversight. Several inland cities share the same city attorney and utilize the same set of environmental consultants and lawyers. While there is no regional land use plan for logistics that we know of, there is a regional agenda represented in the form of people and

[43] Perris City Council Meeting July 26,2022
https://drive.google.com/drive/folders/1V0HTOCzcyvVFwKScH6rkFdw2Zno2Qhv6

actions. At least one city (Fontana) has hired developers to work directly for the city in the planning department, which results in streamlining the process.[44]

In another example, according to Form 460s filed as public record, the pattern of political contributions to City Council members Ontario includes donations from several entities associated with landholders that have or will profit from industrial development conversions and zoning changes. Landholders are also part of Additionally, numerous industrial developers that have contributed to members of councils include those who have purchased lands that have been under consideration (and subsequently approved) at council. This pattern of political funding related to properties in warehouse-related EIRs lacks transparency in decisionmaking, and fundamentally undermines the ability for local city councils to make impartial determinations on land use decisions. Political decision-making should be free of bias—even the appearance of bias is problematic. The fact that council members subsequently vote in favor of the warehouse projects when they have accepted donations from entities within the same year gives a clear perception of bias. The City of Los Angeles has outlawed this type of contribution.[45]

Warehouses as a Regulatory Gray Area

Warehouses continue to be approved despite harmful health effects. Partly this is because they now include a focus on "green buildings," but little other mitigation is performed to remove significant impacts. Similarly, the Indirect Source Rule (ISR), which is an important new regulation adopted by the SCAQMD, is frequently referenced by councils greenlighting projects–ISR is self-regulatory and limited. The intent of CEQA Jurisdiction Review is to provide direction for projects receiving state and local approval, permit, oversight, or local or state funding to ensure that environmental impacts are being considered in the decision-making process. Part of the problem is jurisdictional: EPA and CARB govern mobile source emitters, and SCAQMD governs stationary sources, but none of these agencies is willing to consider limited growth scenarios.

We believe that warehouses should be considered toxic source points, because that is the way that our Inland communities experience them. As with dry cleaners, factories, or ports, for example, it is not the building or infrastructure itself that poses a problem, but rather the use of the building or area and the types of activities hosted therein. The same principle applies to warehouses: the buildings themselves may be green, but the activity the buildings generate should put them into consideration as toxic source points. Considering warehouses as a type of

[44] Allen, David "In Fontana, Former developer Phil Berum embraces role at City Hall" October 12, 2021 https://www.sbsun.com/2021/10/12/in-fontana-former-developer-phil-burum-embraces-role-at-city-hall/

[45] Sing, Maanvi. How Giant Amazon Warehouses Are Choking a California Town. Consumer Reports Sept 13, 2022 https://www.consumerreports.org/environment-sustainability/how-giant-amazon-warehouses-are-choking-a-california-town-a7109420991/

toxic source point would force SCAQMD to regulate warehouses as part of the stationary sources as the total volume of trucks would be the emission point.

Current laws and industrial classifications place warehouses within a regulatory gray area that leaves little room for planning, action, analysis, incentives, communication, collaboration, research, and litigation related to addressing what is perhaps the region's biggest challenge to meeting air quality attainment standards. The rapidity of project planning, the pre-determined nature of decision-making, and the ignoring of community voices within the planning process means that few if any alternative plans are considered, even if they represent the will of the people. Halting warehouse projects in the Inland region remains rare despite the number of projects, and the number of groups now fighting for moratoriums or to halt projects in their communities.

The exceptional growth in activity rates associated with warehouse development is problematic for many reasons. From a statistical standpoint, there is the issue of **equity in emissions reductions sectors**. Commuters and stationary sources should not be required to shoulder more emissions activity reductions (and costs) than the goods movement sectors that are allowed to grow at many multiples of the rate of population growth. Secondly, there are **clear environmental justice inequities** in the spatial emissions activity patterns of the goods movement industry, with diesel VMT and ports disproportionately impacting socioeconomically disadvantaged communities, as outlined above. Allowing the goods movement sector emissions activity to grow at rates multiple times the rate of population growth disproportionately harms EJ communities in Inland counties and undermines the emissions reductions resulting from technologically based control measures.

The cities of Rialto, Colton, Pomona, Rancho Cucamonga, Upland, and Jurupa Valley have either formal moratoriums or have rejected recent warehouse projects due to health concerns. But cities like Ontario, Fontana, and Beaumont are greenlighting projects at an unprecedented rate, compromising the airshed that we all share and worsening our air quality and GHG emissions at a critical juncture in human history.

Below is a review of health and economic challenges that are particularly concerning to our communities and additive to an already existing state of environmental injustice.

Health Impacts of Pollution

A common talking point for community leaders in the IE is that the air quality has dramatically improved within our region and throughout Southern California since the 1970s. This is true when it comes to visible pollution. According to the CARB website, black carbon has been reduced by 90% since 1967.[46] In addition to these declines, science has advanced tremendously in its understanding of a myriad of components that make up air quality. The U.S. EPA, in

[46] https://ww2.arb.ca.gov/

partnership with our state agencies such as SCAQMD, CARB, and California Environmental Protection Agency (Cal EPA) have worked successfully to manage the low hanging fruit of pollution such as open burning and the implementation of emission-reducing catalytic converters. This has reduced the thick curtain of smog that blocked our ability to see the beautiful mountains surrounding the IE,[47] but air quality problems continue to disproportionately impact communities of color and other Inland neighborhoods.

$PM_{2.5}$ is so small that it is largely invisible,[48] and therefore is less noticeable when compared to smog from the 1970s. Atmospheric chemists often quip that, if $PM_{2.5}$ were pink, we would already have a solution to it. For now, $PM_{2.5}$ remains an invisible killer. Recently, one study showed that otherwise healthy teenagers have higher rates of irregular heartbeats after breathing $PM_{2.5}$; heart arrhythmias increase the risk of heart disease and, according to the study, can be "triggered even when air pollution is within common air quality limits." This mirrors findings of increased arrhythmias in adult populations.[49] In a 2020 historic first, a London coroner ruled that air pollution was the cause of a nine-year old girl's death.[50]

By continuing to grow the industries that emit $PM_{2.5}$ next to our communities (and in proximity to our schools as we show below), we are putting countless lives at risk–including the lives of children within already EJ impacted communities.

Atmospheric Pollution is composed of different chemical entities, a variation in size, and source as illustrated in Figure 14.[51] Many pollutants are invisible to the human eye but are even more damaging to the human body.

[47] Gonzalez, Josie Air quality has improved dramatically in Inland Empire, but more work needs to be done. Fontana Herald News January 2, 2015 https://www.fontanaheraldnews.com/opinion/air-quality-has-improved-dramatically-in-inland-empire-but-more-work-needs-to-be-done/article_40205678-92a3-11e4-ad16-fbf1b9637bd4.html

[48] Basith, Shaherin, et al. "The impact of fine particulate matter 2.5 on the cardiovascular system: A review of the invisible killer." *Nanomaterials* 12.15 (2022): 2656.

[49] He, Fan, et al. "Individual-level Fine Particulate Air Pollution Is Associated With Arrhythmia In Adolescents." *Circulation* 143.Suppl_1 (2021): A027-A027.

[50] https://www.theguardian.com/environment/2020/dec/16/girls-death-contributed-to-by-air-pollution-coroner-rules-in-landmark-case

[51] A Brief Guide to Atmospheric Pollutants. CHEMEUROPE.COM 31-Mar-2017 https://www.chemeurope.com/en/infographics/244/a-brief-guide-to-atmospheric-pollutants.html

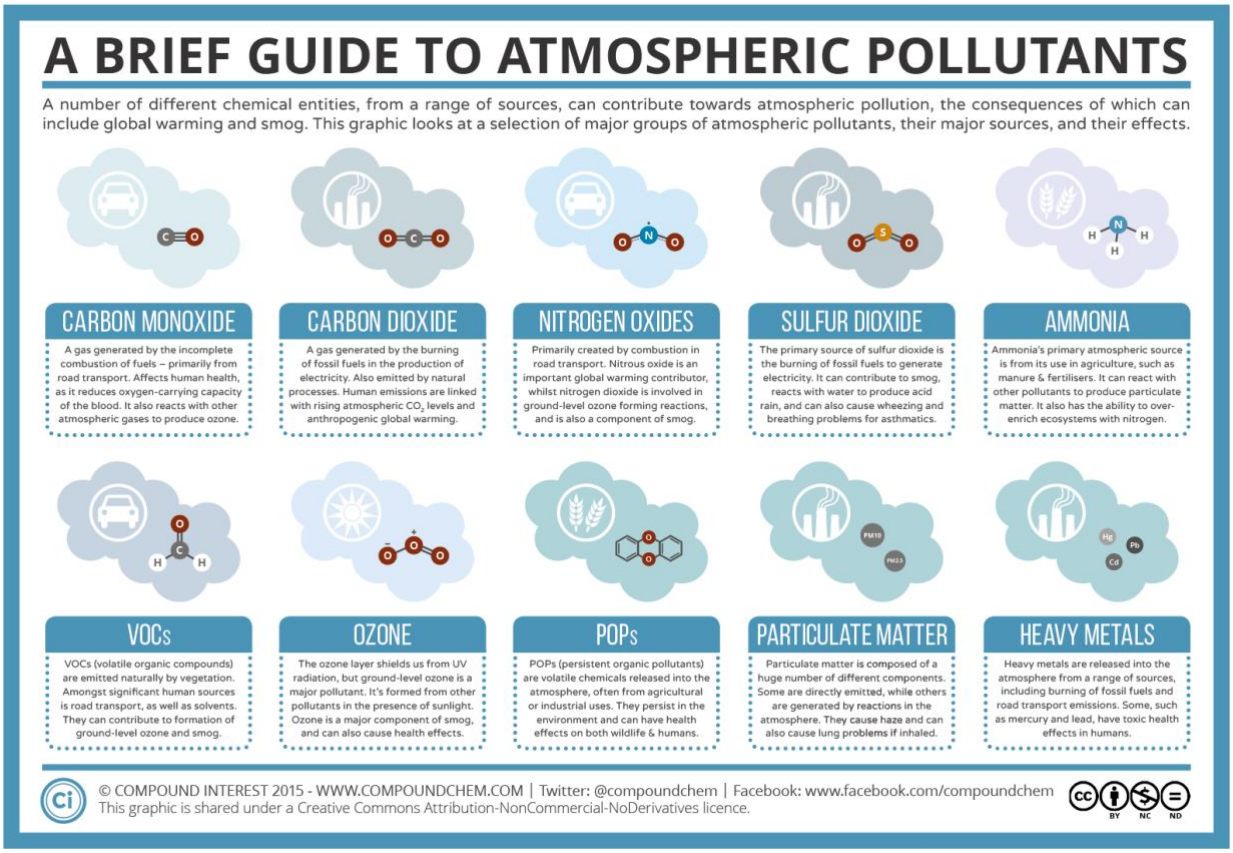


Figure 15. A Brief Guide to Atmospheric Pollutants from CHEMEUROPE.COM
https://www.chemeurope.com/en/infographics/244/a-brief-guide-to-atmospheric-pollutants.html

Unchecked growth has brought warehouse development projects closer to people's homes,[52] in some cases right up against their backyards,[53] despite warnings from state air quality regulators to keep homes more than 1,000 feet from distribution centers because of truck traffic.[54] CARB recommends locating new high polluting industrial land uses such as freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, manufacturing, and gasoline dispensing facilities away from residential communities. A key air pollutant common to many of these sources is particulate matter from diesel engines. Diesel PM is a carcinogen identified by CARB as a toxic air contaminant that contributes to particulate pollution statewide. The U.S. EPA and the CARB have recognized adverse health effects that may be associated with exposure to PM_{10} and $PM_{2.5}$, including: (1) Increased respiratory symptoms, such as the irritation of the airways; (2) Coughing, or difficulty breathing; (3) Decreased lung

[52] Esquivel, Paloma When your house is surrounded by massive warehouses. Oct. 27, 2019 Los Angeles Times https://www.latimes.com/california/story/2019-10-27/fontana-california-warehouses-inland-empire-pollution
[53]Solon, Olivia, Glaser, April 'Treated like sacrifices': Families breathe toxic fumes from California's warehouse hub. Apr 27, 2021 NBC Tech News https://www.nbcnews.com/tech/tech-news/treated-sacrifices-families-breathe-toxic-fumes-california-s-warehouse-hub-n1265420
[54] California Environmental Protection Agency California Air Resource Board Air Quality and Land Use Handbook a Community Health Perspective April 2005

function, particularly in children; (4) Aggravated asthma; (5) Development of chronic bronchitis; (6) Irregular heartbeat; (7) Increased respiratory and cardiovascular hospitalizations; and (8) Premature death in people with heart or lung disease.[55]

To preserve human life and to better support planners and local leaders whose actions have the potential to directly impact life, CARB created a guide. The guide "CARB's Air Quality and Land Use Handbook",[56] highlights the potential health impacts associated with proximity to air pollution sources allowing planners to explicitly consider this issue throughout the land use and planning processes. CARB outlines that careful land use and planning such as infill development, green spaces, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level. In addition, CARB has focused on their goal that being accessible to planners and improving communication between air agencies and land use planners could go a long way to protect human health. However, despite the hundreds of letters in opposition to warehouse development close to homes, schools, and sensitive receptors written by CARB, local leaders approve the new warehouse installations. Warehouses are being built knowing the detriment caused to human life.

Figure 16. This figure illustrates the territory of the South Coast Air Quality Management District

The SCAQMD is another agency that is responsible for implementation and governance of the federal Clean Air Act. The Act requires attainment of National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, i.e., pollutants causing human health impacts due to their release from numerous sources. SCAQMD has also created a "Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning" that itemizes the health

[55] US Environmental Protection Agency California Particulate Matter Basics https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#effects

[56] California Environmental Protection Agency California Air Resource Board Air Quality and Land Use Handbook a Community Health Perspective April 2005

effects of ozone, particulate matter (PM_{10}/$PM_{2.5}$), carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide.[57] The document outlines that local jurisdictions have the responsibility for determining land use compatibility for sensitive receptors. A sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant. The following are land uses (sensitive sites) where sensitive receptors are defined as: schools, playgrounds, childcare centers, long-term health care facilities, rehabilitation centers, convalescent centers, hospitals, retirement homes and residences. SCAQMD clearly defines Toxic Air Contaminants (TACs) and the causational relationship of exposure to TACs and the following health impacts: cancer, birth defects, reproductive damage, neurological disorders, heart damage, damage to the circulatory system, and damage to the respiratory system.[58]

SCAQMD created the Multiple Air Toxics Exposure Study (MATES-I - V) in order to facilitate urban planning considerations in alignment with California's consistent action of being a leader in enacting laws specific to environmental justice, including laws directing funding to environmental justice communities (SB 535 and AB 1550), a law creating a community air quality protection program (AB 617), and another that requires environmental justice to be addressed in local government planning (SB 1000). The MATES project represents one of the most comprehensive air toxics monitoring programs ever conducted in a major urban area in the country, and it has been recognized as a model program. It was created with the intent that planners, local leaders, would utilize this tool to understand how the General Plan is impacting their communities. The MATES-V project revealed major findings from the study that can be summarized with the following:[59]

- Average cancer risk from ambient measurements in the South Coast basin was found to be 425 in a million.
- Diesel exhaust is responsible for about 50 percent of the total cancer risk from air pollution.
- Emissions from mobile sources -- including cars and trucks as well as ships, trains, and planes -- account for about 90 percent of the cancer risk. Emissions from businesses and industry are responsible for the remaining 10 percent; and
- The highest cancer risk occurs in south Los Angeles county -- including the port area -- and along major freeways.

[57] South Coast Air Quality Management District http://www.aqmd.gov/nav/about/authority
[58] South Coast Air Quality Management District Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning https://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4
[59] South Coast Air Quality Management District Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning https://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4; See mates-v-final-report-9-24-21.pdf (aqmd.gov)

- According to one unverified statistic, the asthma-related hospitalization rates in San Bernardino County for children between the ages of 0 – 14 years is 16.7 percent, or about 76,000 children.[60]

Further, the AQMD reports that "Risks posed from $PM_{2.5}$ and diesel PM are also higher for populations located within 0.5 miles of warehousing facilities. Communities within 0.5 miles have an average asthma rate of 56 per 10,000 individuals (64th percentile) and experience heart attacks at a rate of 9.2 per 10,000 individuals (65th percentile). Comparably, the district-wide percentiles for asthma and cardiovascular incidence rates are 53rd and 57th, respectively."[61]

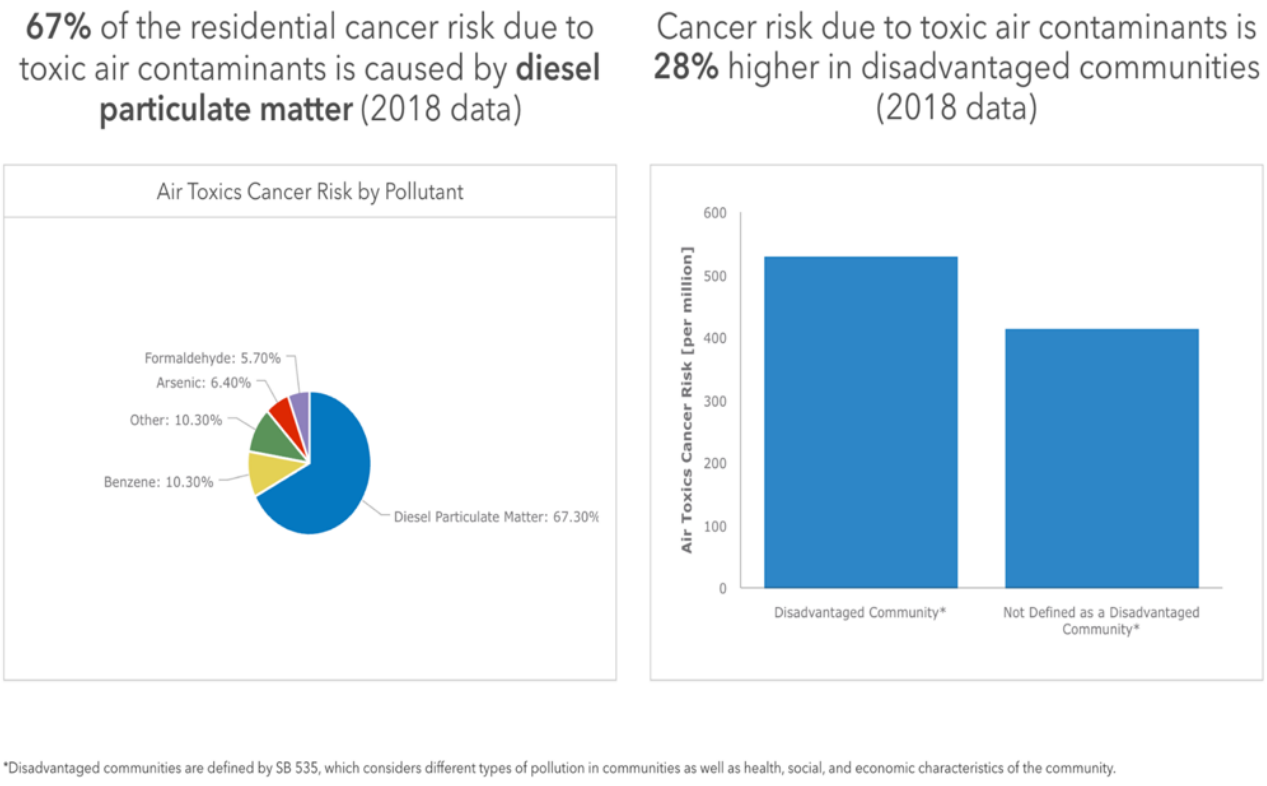


Figure 17. Data from the AQMD's MATES V data visualization tool. https://experience.arcgis.com/experience/79d3b6304912414bb21ebdde80100b23?views=view_38

[60] Arrowhead Regional Medical Center https://www.arrowheadregional.org/community-outreach/breathmobile-program/

[61] SCAQMD, Second Draft Socioeconomic Impact Assessment for Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program and Proposed Rule 316 – Fees for Rule 2305. http://www.aqmd.gov/docs/default-source/planning/fbmsm-docs/pr-2305_sia_2nd-draft_4-7-21.pdf?sfvrsn=8

According to the SCAQMD's MATES V data visualization tool, residential air toxics cancer risk in most of the IE is between the 80th and 90th percentiles. Next to the Ontario warehouse giga cluster, the air toxics cancer risk is 624 per million persons, which is higher than 95.0% of the SCAQMD population. The California Department of Public Health illustrates that San Bernardino County has asthma death rates at 10.3 percent.[62] The asthma related hospitalization rates in San Bernardino County for children between the ages of 0 – 14 years is 16.7 percent or about 76,000 children.[63]

In addition to these two agencies, Cal EPA and its Office of Environmental Health Hazard Assessment (OEHHA) also provides guidance to planners and local leaders. Cal EPA has developed an easy to use web-based screening tool called CalEnviroScreen[64] that the public and governments can use to help identify communities that are disproportionately burdened by multiple sources of pollution. These agencies have also documented the disproportionate impacts of climate change[65] on environmental justice communities. It is apparent that the root cause of the pollution burden that is affecting the IE is not due to a lack of research, or tools to identify where the pollution is creating health impacts. It appears that using the gauge of being able to see the mountains[66,67] is failing the IE; therefore, it is important that we take a deeper look at what those health impacts look like and what those health impacts cost a family, and what the long-term impacts will be for the economic stability in the IE.

Indirect Pollution from Warehouses and the COVID-19 Health Crisis

Southern California has the largest port complex in the nation, 5 major commercial airports, approximately 9,500 locomotive fleets operating per year, and an estimated 4,000 warehouses larger than or equal to 100,000 square feet. The Inland region has met most of the recent development needs for warehouses to accommodate pandemic and online sales, which have come at the expense of Inland neighborhoods.[68]

The COVID-19 pandemic is an instructive case study for the current challenges facing frontline communities from the logistics sector. On March 19, 2020, Governor Gavin Newsom issued a statewide stay-at-home order, restricting travel outside the home to only that which was

[62]California Department of Public Health https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHIB/CPE/Pages/CaliforniaBreathingCountyAsthmaProfiles.aspx
[63] Arrowhead Regional Medical Center https://www.arrowheadregional.org/community-outreach/breathmobile-program/
[64] California Office of Environmental Health Hazard Assessment https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40
[65] State of California Department of Justice Climate Change's Unequal Impacts https://oag.ca.gov/environment/climate-change/unequal-impacts
[66] Fontana State of the City Air Quality Final https://youtu.be/ok6PnojUIX
[67] Fontana State of the City Air Quality Analysis https://www.fontana.org/3427/Air-Quality-Analysis
[68] Bohn, S., Mejia, M.C., & Lafortune, J. 2020. "How Will the Coronavirus Affect California's Economy?" Public Policy Institute of California

deemed essential. This order was issued to protect public health due to the unprecedented threat which COVID-19 posed to society. Even with the economic cost, the order was issued because it was recognized that limiting the spread of the virus and saving lives was more important than profits and that it was vital to slow the spread of the virus. However, the IE, a community that the American Lung Association in 2022[69] has ranked the worst region in the nation for ozone pollution.[70] These two environmental factors coupled with the leaders of the IE strategically circumventing CEQA[71,72,73] mitigation processes caused a tipping point in the battle for respiratory health.[74,75,76] This is despite decades of data and scientific studies that show the causation between air pollution and myriad diseases and an overall decline in human health.[77] Neither science nor empiricism are lacking in this case, only political will and economnic support for a different path. Immediate action is required to prevent catastrophic effects on the IE community.

As a result of the increased demand for e-commerce due to the lock down, residents who worked in logistics of this community were deemed essential workers. Essential workers were required to continue working, thus exposing themselves and family members to the virus and completing a cycle of harm.

Although most regions around the globe have been affected by COVID-19 infections, some regions are more significantly affected in terms of infections and fatality rates than others. The

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[69] American Lung Association State of the Air 2022 https://www.lung.org/research/sota/key-findings/most-polluted-places

[70] Ober, Holly Poor Air Quality and warehouses linked to Inland Empire COVID-19 inequities UC riverside professors call for intersectional approach to COVID-19 exposure interventions https://insideucr.ucr.edu/stories/2021/06/02/poor-air-quality-and-warehouses-linked-inland-empire-covid-19-inequities

[71] Addison, Brian How sports stadiums circumvent environmental laws to streamline their way to reality https://lbpost.com/longbeachize/addison-stadiums-gentrification-environmental-laws-ceqa/

[72] Attorney General Bonta Announces Innovative Settlement with City of Fontana to Address Environmental Injustices in Warehouse Development April 18, 2022 https://oag.ca.gov/news/press-releases/attorney-general-bonta-announces-innovative-settlement-city-fontana-address

[73] Attorney General Bonta: Moreno Valley General Plan Would Exacerbate Pollution Burden in Environmental Justice Communities June 30, 2022 https://oag.ca.gov/news/press-releases/attorney-general-bonta-moreno-valley-general-plan-would-exacerbate-pollution

[74] Chen Z, Salam MT, Eckel SP, Breton CV, Gilliland FD. Chronic effects of air pollution on respiratory health in Southern California children: findings from the Southern California Children's Health Study. J Thorac Dis. 2015 Jan;7(1):46-58. doi: 10.3978/j.issn.2072-1439.2014.12.20. PMID: 25694817; PMCID: PMC4311073

[75] Arthur KN, Spencer-Hwang R, Knutsen SF, Shavlik D, Soret S, Montgomery S. Are perceptions of community safety associated with respiratory illness among a low-income, minority adult population? BMC Public Health. 2018 Sep 3;18(1):1089. doi: 10.1186/s12889-018-5933-4. PMID: 30176823; PMCID: PMC6122647

[76] Arthur KN, Knutsen SF, Spencer-Hwang R, Shavlik D, Montgomery S. Health-Predictive Social-Environmental Stressors and Social Buffers Are Place Based: A Multilevel Example From San Bernardino Communities. J Prim Care Community Health. 2019 Jan-Dec;10:2150132719835627. doi: 10.1177/2150132719835627. PMID: 30896368; PMCID: PMC6429653

[77] Pye, Havala O.T, Appel Wyat K., Ward-Caviness, Cavin K, Murphy, Benjamin. Human- Health Impacts of Controlling Secondary Air Pollution Precursors Environmental Science Technology 2022, 9, 2, 96–101

findings published in Front Public Health by Nurshad *et. al.* demonstrates that both short-term and long-term exposure to air pollution, especially $PM_{2.5}$ and nitrogen dioxide, contribute significantly to higher rates of COVID-19 infections and mortalities.[78]

Particulates are extremely damaging to the respiratory system especially those of a smaller size. When it comes to damaging human bodies PM_{10} acts as a contributing factor, but it is the smaller molecular size of $PM_{2.5}$ (or smaller) that can penetrate the lungs and enter the bloodstream and bypass the blood-brain barrier [79] and the placental barrier. [80] The particles can act as microscopic shrapnel as they circulate within the bloodstream, damaging organ systems and ultimately leaving behind immune compromised[81] humans whose life span has been shortened.[82] The effects can be deadly for those who directly breathe the pollution, and developing fetuses.[83] Specifically, a significant correlation has been found between air pollution and COVID-19 infections, mortality, severity, lethality, and the lingering effects of long term chronic conditions as a result of a weakened body due to pollution compounding as a COVID-19 viral host.[84]

Experimental studies have shown that exposure to air pollution facilitates viral penetration and replication for those with a decreased immune response.[85] For frontline communities, decades of disease and illness caused by the poor air quality exacerbated IE's residents' vulnerability to COVID-19, because their lungs had already been damaged by ozone and toxic particulate matter, hampering people's ability to fight off the virus. As shown in Figure 17, 18, and Table 3 show, the IE is plagued with the highest levels of the respiratory damaging ozone. Several adverse health effects associated with ambient ozone levels have been identified from

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[78] Nurshad, Ali, Farjana, Islam, The Effect of Air Pollution on COVID-19 Infection and Mortality – A Review on Recent Evidence. Font Public Health. 2020;8: 580057

[79] Costa LG, Cole TB, Dao K, Chang YC, Coburn J, Garrick JM. Effects of air pollution on the nervous system and its possible role in neurodevelopmental and neurodegenerative disorders. *Pharmacol Ther*. 2020;210:107523

[80] Ghazi T, Naidoo P, Naidoo RN, Chuturgoon AA. Prenatal Air Pollution Exposure and Placental DNA Methylation Changes: Implications on Fetal Development and Future Disease Susceptibility. Cells. 2021 Nov 5;10(11):3025. doi: 10.3390/cells10113025. PMID: 34831248; PMCID: PMC8616150

[81] Zhao, Jinzhuo, Gao, Zhiyi, Xie, Yuquan, Xin, Feng, Jiang, Rongfang, Kan, Haidong, Song, Weimin, The biological effects of individual-level PM2.5 exposure on systemic immunity and inflammatory response in traffic policemen. Health Safety, Fudan University, Ministry of Education, Shanghai 200032

[82] Jos Lelieveld, Andrea Pozzer, Ulrich Pöschl, Mohammed Fnais, Andy Haines, Thomas Münzel, Loss of life expectancy from air pollution compared to other risk factors: a worldwide perspective, *Cardiovascular Research*, Volume 116, Issue 11, 1 September 2020, Pages 1910–1917, https://doi.org/10.1093/cvr/cvaa025

[83] Janssen B.G., Godderis L., Pieters N., Poels K., Kicinski M., Cuypers A., Fierens F., Penders J., Plusquin M., Gyselaers W., et al. Placental DNA hypomethylation in association with particulate air pollution in early life. *Part. Fibre Toxicol.* 2013;10:22. Doi: 10.1186/1743-8977-10-22

[84]Gillilnd FD, Berhane K, Rappaport EB, Thomas DC, Avol E, Gauderman WJ, London SJ, Margolis HG, McConnell R, Islam KT, Peters JM. The Effects of Ambient Air Pollution on School Absenteeism Due to Respiratory Illnesses. Epidemiology, 2001. 12(1):43-54.

[85] Bourdel, Thoma, Annesi-Maesano, Isabella, Alahmad, Barrak, Maesano, Cara N., Bind, Marie-Abele, THe impact of outdoor air pollution on COVID-19: a review of evidence from in vitro animal, and human studies. European Respiratory Review 2021 30: 200242

laboratory and epidemiological studies. These include increased respiratory symptoms, damage to cells of the respiratory tract, decreases in lung function, increased susceptibility to respiratory infection, and increased risk of hospitalization.[86] Pollution from warehouses along with COVID-19 has caused increased risk of disease and death for the younger and older populations in the IE. The elderly, children, and those with chronic lung or heart disease are most sensitive to particulate matter and ozone pollution. Children may be a particularly vulnerable population to air pollution effects because they spend more time outdoors, are generally more active, and have a higher ventilation rate than adults.

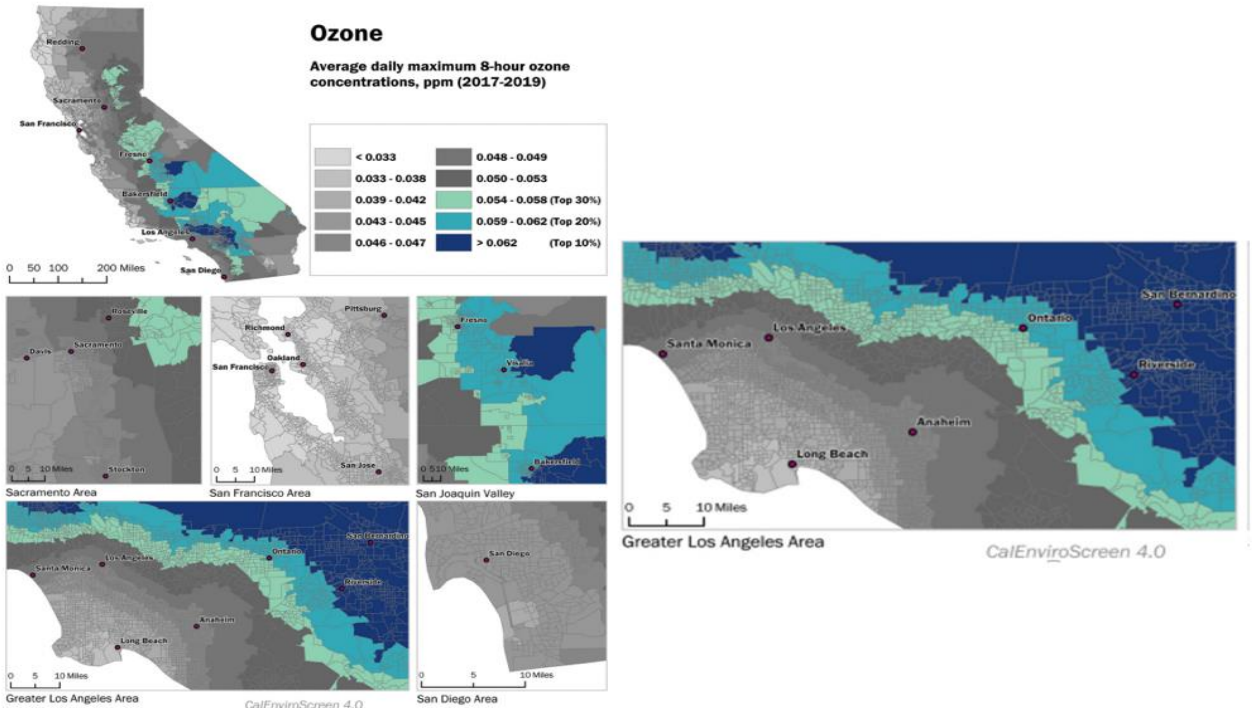

Figure 18. Data from Cal EPA (CalEnviroScreen 4.0)[87] showing the Inland Empire has 140 days+ per year over the NAAQS as seen in the AQMP. This is a level that is dangerous to sensitive receptors.

[86] Zhang JJ, Wei Y, Fang Z. Ozone Pollution: A Major Health Hazard Worldwide. Front Immunol. 2019 Oct 31;10:2518. doi: 10.3389/fimmu.2019.02518. PMID: 31736954; PMCID: PMC6834528.

[87] California Office of Environmental Health Hazard Assessment https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

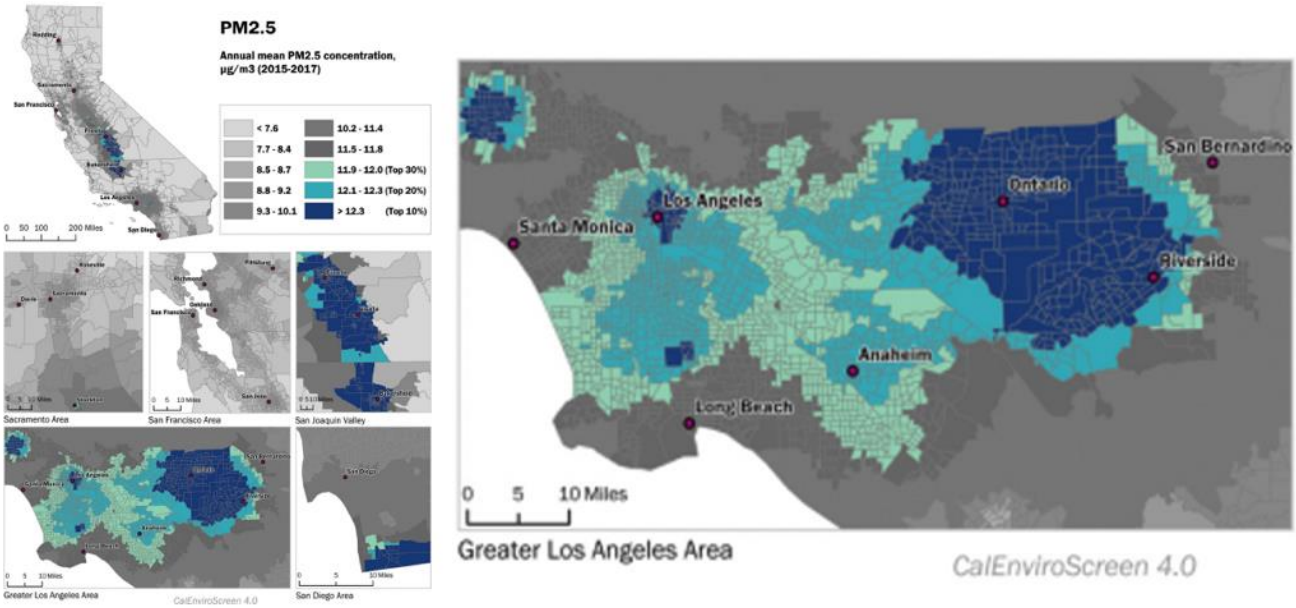

Figure 19. Data from CalEPA (CalEnviroScreen 4.0)[88] showing the Inland Empire often exceeded the 12.5 annual standards. This is a level that is dangerous to sensitive receptors.

2020 NUMBER OF DAYS EXCEEDING CURRENT AND FORMER OZONE STANDARDS AT THE PEAK STATION BY BASIN AND COUNTY

Basin/ County	2020 # Days > Current (2015) 8-Hour Ozone NAAQS (0.070 ppm)	Area of Max Current Federal Standard Exceedances	2020 # Days > Former (2008) 8-Hour Ozone NAAQS (0.075 ppm)	2020 # Days > Former (1997) 8-Hour Ozone NAAQS (0.08 ppm)	2020 # Days > Former (1979) 1-Hour Ozone NAAQS (0.12 ppm)	2020 # Days > Current 8-Hour State Ozone Standard (0.07 ppm)	2020 # Days > Current 1-Hour State Ozone Standard (0.09 ppm)
South Coast Air Basin							
Los Angeles	97	East San Gabriel Valley	71	32	17	100	76
Orange	32	Saddleback Valley	25	10	3	34	20
Riverside	89	Metropolitan Riverside County	62	32	7	96	51
San Bernardino	**141**	**East San Bernardino Valley**	**127**	**78**	**16**	**145**	**104**
Salton Sea Air Basin							
Riverside	49	Coachella Valley (Palm Springs)	28	5	0	53	9

Bold text denotes the peak value.

Table 3. Table 2-6 from the Draft AQMP from AQMD showing days about the national ambient air quality standards by county.

[88] California Office of Environmental Health Hazard Assessment https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40

As IE residents attempt to return to a new normal, some local leaders are attempting to increase the number of warehouses and their associated negative environmental and human health impacts without consideration of its effects on IE residents. These leaders instead provide the incomplete narrative of warehouses bringing jobs–particularly for unionized construction workers.

Indirect Pollution from Warehouses and the Reproductive System

Air pollution has a direct impact on reproductive health for both men and women. A fundamental core criterion for an organism is its ability to reproduce in a manner that creates viable offsprings. In humans, pollution impacts the viability of babies by disrupting genes causing damage in utero, and adversely affecting men's sexual performance. [89] Although birth rates have been falling for years, 2021 marked the lowest rates from 2.2 births per woman to 1.5 births per woman.[90] The data spanned race and ethnicity. The fertility rate is also on the decline in California from 2010-2020. The California fertility rate is currently 52.4 births per 1,000 women aged 15-44. Reproductive health is often both a leading and lagging indicator. Leading indicators of reproductive health disruption are visible in direct impacts such as infant mortality, live births, birth defects, low birth weight, and so on. Lagging indicators can be seen in the fertility supports a community may use such as in vitro services and the use of products that treat erectile dysfunction. Reproductive health and the impacts of pollution can be devastating, as human reproduction health is often discovered due to dysfunction.

Air pollution has been associated with an increased risk of morbidity and mortality associated with multiple diseases including adverse pregnancy outcomes and preterm birth. Studies have shown that maternal exposure to air pollutants during pregnancy increases the risk of preterm birth through various processes related to inflammation, oxidative stress, endocrine disruption,

[89] Shankun Zhao, Jiamin Wang, Qiang Xie, Lianmin Luo, Zhiguo Zhu, Yangzhou Liu, Yihan Deng, Ran Kang, Jintai Luo, Zhigang Zhao, Elucidating Mechanisms of Long-Term Gasoline Vehicle Exhaust Exposure–Induced Erectile Dysfunction in a Rat Model, The Journal of Sexual Medicine, Volume 16, Issue 2, 2019, Pages 155-167, ISSN 1743-6095, https://doi.org/10.1016/j.jsxm.2018.12.013.

[90]Johnson, Hans, McGhee, Eric California's New Baby Bust Public Policy Institute of California Jun 4, 2021

and impaired oxygen transport across the placenta.[91,92,93] In particular, several studies have found that $PM_{2.5}$ is associated with preterm birth and adverse birth outcomes.[94, 95,96]

	Preterm birth (<37 weeks)		Early preterm birth (<32 weeks)	
	N=87,495/953,951		*N*=15,418/87,495	
	Crude	Adjusted[a]	Crude	Adjusted[a]
Exposure to $PM_{2.5}$	COR (95% CI)	AOR[a] (95% CI)	COR (95% CI)	AOR[a] (95% CI)
3 months pre-pregnancy	1.10 (1.08, 1.12)	1.01 (0.99, 1.03)	1.01 (0.97, 1.05)	0.99 (0.95, 1.03)
First trimester	1.10 (1.09, 1.12)	1.00 (0.98, 1.02)	1.04 (1.00, 1.08)	0.95 (0.91, 0.99)
Second trimester	1.12 (1.10, 1.13)	1.02 (1.00, 1.03)	1.00 (0.97, 1.04)	1.01 (0.97, 1.05)
Third trimester	1.08 (1.07, 1.10)	0.97 (0.95, 0.99)	1.07 (1.03, 1.11)	0.91 (0.87, 0.96)
Whole pregnancy	1.16 (1.14, 1.17)	1.05 (1.03, 1.07)	1.04 (1.01, 1.08)	0.96 (0.92, 1.00)
Exposure to O_3				
3 months pre-pregnancy	1.07 (1.05, 1.08)	1.08 (1.06, 1.10)	1.00 (0.96, 1.03)	1.01 (0.97, 1.05)
First trimester	1.05 (1.03, 1.06)	1.05 (1.03, 1.06)	1.03 (1.00, 1.07)	0.97 (0.94, 1.01)
Second trimester	1.01 (1.00, 1.03)	1.02 (1.00, 1.03)	1.01 (0.98, 1.05)	0.98 (0.94, 1.03)
Third trimester	1.04 (1.02, 1.05)	1.05 (1.03, 1.06)	1.02 (0.98, 1.07)	1.05 (0.93, 1.10)
Whole pregnancy	1.00 (0.98, 1.01)	1.04 (1.02, 1.05)	1.08 (1.05, 1.12)	0.94 (0.90, 0.97)

Table 4. Zesemayat K. Mekonnen, John W. Oehlert, Brenda Eskenazi, Gary M. Shaw, John R. Balmes& Amy M. Padula Journal of Exposure Science & Environmental Epidemiology (*J Expo Sci Environ Epidemiol*) ISSN 1559-064[97]

Air pollution from trucks is involved in many pathologies. The pollutants act through several mechanisms that can affect numerous physiological functions, including reproduction. Recent studies have shown that $PM_{2.5}$ can accumulate in the reproductive organs through blood-tests barrier, placental barrier, epithelial barrier, and other barriers protecting reproductive tissues.

[91]Ghazi T, Naidoo P, Naidoo RN, Chuturgoon AA. Prenatal Air Pollution Exposure and Placental DNA Methylation Changes: Implications on Fetal Development and Future Disease Susceptibility. Cells. 2021 Nov 5;10(11):3025. doi: 10.3390/cells10113025. PMID: 34831248; PMCID: PMC8616150.

[92] Mekonnen ZK, Oehlert JW, Eskenazi B, Shaw GM, Balmes JR, Padula AM. The relationship between air pollutants and maternal socioeconomic factors on preterm birth in California urban counties. J Expo Sci Environ Epidemiol. 2021 May;31(3):503-513. doi: 10.1038/s41370-021-00323-7. Epub 2021 Apr 15. PMID: 33859340; PMCID: PMC8134052.

[93]Ritz B, Yu F, Chapa G, Fruin S. Effect of Air Pollution on Preterm Birth Among Children Born in Southern California between 1989 and 1993. 2002. Epidemiology, 11(5)502-11.

[94] Junkai Fang, Choong-Min Kang, Citlalli Osorio-Yáñez, Timothy M. Barrow, Ruiping Zhang, Ying Zhang, Chen Li, Hongbin Liu, Peng-hui Li, Liqiong Guo, Hyang-Min Byun, Prenatal PM2.5 exposure and the risk of adverse births outcomes: Results from Project ELEFANT, Environmental Research, Volume 191, 2020, 110232, ISSN 0013-9351, https://doi.org/10.1016/j.envres.2020.110232.

[95] Mekonnen ZK, Oehlert JW, Eskenazi B, Shaw GM, Balmes JR, Padula AM. The relationship between air pollutants and maternal socioeconomic factors on preterm birth in California urban counties. J Expo Sci Environ Epidemiol. 2021 May;31(3):503-513. doi: 10.1038/s41370-021-00323-7. Epub 2021 Apr 15. PMID: 33859340; PMCID: PMC8134052.

[96]Ritz B, Yu F, Chapa G, Fruin S. Effect of Air Pollution on Preterm Birth Among Children Born in Southern California between 1989 and 1993. 2002. Epidemiology, 11(5)502-11.

[97] Mekonnen, Z.K., Oehlert, J.W., Eskenazi, B. et al. The relationship between air pollutants and maternal socioeconomic factors on preterm birth in California urban counties. J Expo Sci Environ Epidemiol 31, 503–513 (2021). https://doi-org.ccl.idm.oclc.org/10.1038/s41370-021-00323-7

In addition, $PM_{2.5}$ can disrupt hormone levels, ultimately affecting fertility. [98,99] Table 4 illustrates the levels of $PM_{2.5}$ that are threatening the viability of IE live births, respiratory health, and ultimately time will tell if the children born in the EPA's defined "unattainable" air quality will adversely affect their reproduction health. [100]

Maternal exposure to PM_{10} and $PM_{2.5}$ directly and indirectly yields numerous adverse birth outcomes and impacts on children's respiratory systems, immune status, brain development, and cardiometabolic health. The biological mechanisms underlying adverse effects include direct placental translocation of $PM_{2.5}$, placental and systemic maternal oxidative stress, inflammation elicited by both PM_{10} and $PM_{2.5}$, epigenetic changes, and potential endocrine effects that influence long-term health. A study of birth outcomes in Southern California found an increased risk for birth defects in the aortic and pulmonary arteries associated with ozone exposure in the second month of pregnancy. This is the first study linking ambient air pollutants to birth defects in humans.

There are also growing concerns worldwide regarding the adverse health effects air pollution has on blood sex hormones in men. In a recent study by Zheng, Pai *et. al.*, 72,917 men were studied for exposure data of daily ambient levels of particulate matter[101] PM_{10} and $PM_{2.5}$, nitrogen dioxide,[102] sulfur dioxide (SO_2),[103] carbon monoxide,[104,105] and ground level

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[98] Wang L, Luo D, Liu X, Zhu J, Wang F, Li B, Li L. Effects of PM2.5 exposure on reproductive system and its mechanisms. Chemosphere. 2021 Feb;264(Pt 1):128436. doi: 10.1016/j.chemosphere.2020.128436. Epub 2020 Sep 29. PMID: 33032215

[99] Canipari R, De Santis L, Cecconi S. Female Fertility and Environmental Pollution. Int J Environ Res Public Health. 2020 Nov 26;17(23):8802. doi: 10.3390/ijerph17238802. PMID: 33256215; PMCID: PMC7730072.

[100] Thalia R. Segal, Linda C. Giudice, Systematic review of climate change effects on reproductive health, Fertility and Sterility, Volume 118, Issue 2, 2022, Pages 215-223, ISSN 0015-0282, https://doi.org/10.1016/j.fertnstert.2022.06.005.

[101] Prabhat K. Rai, Chapter One - Particulate Matter and Its Size Fractionation, Editor(s): Prabhat K. Rai, Biomagnetic Monitoring of Particulate Matter, Elsevier, 2016, Pages 1-13

[102] U. Ackermann-Liebrich, Respiratory and Cardiovascular Effects of NO2 in Epidemiological Studies, Editor(s): J.O. Nriagu,
Encyclopedia of Environmental Health, Elsevier, 2011, Pages 840-844, ISBN 9780444522726

[103] X. Pan, Sulfur Oxides: Sources, Exposures and Health Effects, Editor(s): J.O. Nriagu, Encyclopedia of Environmental Health,
Elsevier, 2011, Pages 290-296, ISBN 9780444522726

[104] King Edward, Chapter 18 - Air Pollution, Editor(s): J. Jeffrey Peirce, Ruth F. Weiner, P. Aarne Vesilind, Environmental Pollution and Control (Fourth Edition), Butterworth-Heinemann, 1998, Pages 245-269, ISBN 9780750698993

[105] Bruce G. Miller, 4 - The Effect of Coal Usage on Human Health and the Environment,
Editor(s): Bruce G. Miller, Clean Coal Engineering Technology, Butterworth-Heinemann, 2011, Pages 85-132, ISBN 9781856177108

ozone.[106,107] Blood hormone levels were measured to determine correlation of pollution and blood sex hormones, a precursor to sexual function in men. The hormones measured were testosterone, follicle stimulating hormone, luteinizing hormone, estradiol, and prolactin levels The results showed that both immediate and short-term cumulative $PM_{2.5}$, PM_{10}, and SO_2 exposure was related to altered serum sex hormone levels in men, especially testosterone. [108] When $PM_{2.5}$ reaches levels over 10 µg/m3 there is a strong correlation of a decrease in testosterone in men. As indicated in Figure 19 the IE has an ambient $PM_{2.5}$ level that exceeds the 10 µg/m3 threshold frequently.

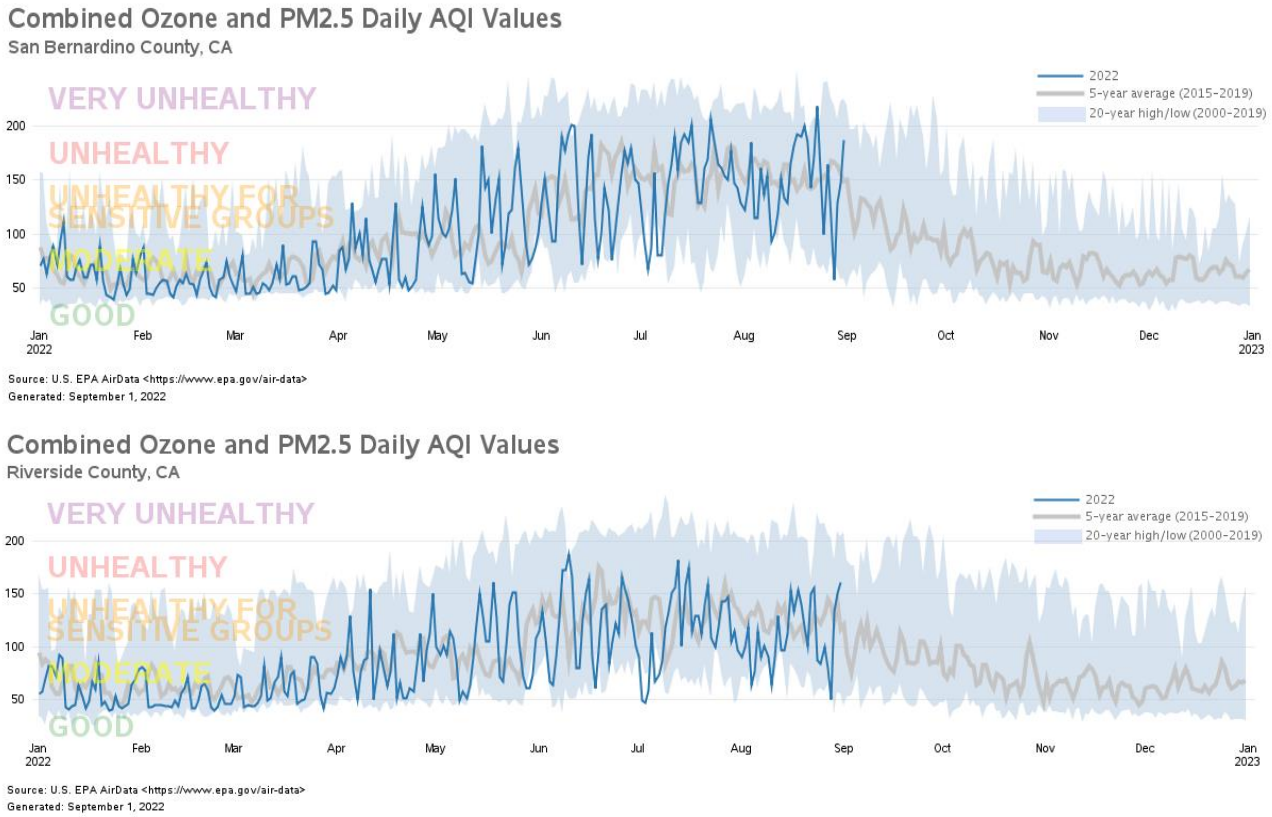

Figure 20. Daily Air Quality Tracker AQI values for any year with the 20-year high and low (2000-2019) and the five-year average (2015-2019) for San Bernardino and Riverside Counties. https://www.epa.gov/outdoor-air-quality-data/air-data-daily-air-quality-tracker

[106] Alessandra De Marco, Hector Garcia-Gomez, Alessio Collalti, Yusef Omidi Khaniabadi, Zhaozhong Feng, Chiara Proietti, Pierre Sicard, Marcello Vitale, Alessandro Anav, Elena Paoletti, Ozone modeling and mapping for risk assessment: An overview of different approaches for human and ecosystems health, Environmental Research, Volume 211, 2022, 113048, ISSN 0013-9351

[107] Stephanie M. Holm, John R. Balmes, Systematic Review of Ozone Effects on Human Lung Function, 2013 Through 2020, Chest, Volume 161, Issue 1, 2022, Pages 190-201,ISSN 0012-3692, https://doi.org/10.1016/j.chest.2021.07.2170

[108] Pai Zheng, Zhangjian Chen, Jiaqi Shi, Yuting Xue, Yi Bai, Yulin Kang, Huiyu Xu, Guang Jia, Tiancheng Wang, Association between ambient air pollution and blood sex hormones levels in men, Environmental Research,Volume 211,2022,113117,ISSN 0013-9351

In addition to adversely effecting sexual hormones in men, studies have shown that elevated $PM_{2.5}$ levels have an adverse effect on sexual function in men. The function of penile erection is impaired by exposure to $PM_{2.5}$. The decrease in the expression of endothelial nitric oxide synthase NOS activity in penile cavernous tissue caused by systemic inflammatory and oxidative stress status induced by exposure to $PM_{2.5}$ may be one of the important risk factors of erectile dysfunction.[109] In addition to erectile dysfunction science has found that $PM_{2.5}$ exposure is linked to hair loss and male pattern baldness, as recent studies have concluded.[110]

New Threat to Children of the Inland Empire: RSV

There is a new threat on the horizon for the IE, and most specifically, for the most sensitive receptors – children. In winter of 2022, the IE saw one of its worst surges in years of a respiratory syncytial virus (RSV) that is sickening large numbers of children and sending many to the hospital. [111] Lungs that are already under attack with the worst air quality in the nation, are now fighting a virus that can progress to pneumonia, respiratory failure, apnea, and death. RSV is one of the most common viruses to infect children worldwide and increasingly is recognized as an important pathogen in adults, especially the elderly. The most common clinical scenario encountered in RSV infection is an upper respiratory infection, but RSV commonly presents in young children as bronchiolitis, a lower respiratory tract illness with small airway obstruction.[112]

In a study conducted in 2003, it was identified that diesel engine emissions (DEE) induced changes in inflammatory and lung epithelial responses to infection and this change increased RSV gene expression in the lungs following DEE exposure. With the exponential increase of DEE exposure to young children, as warehouses encircle them first in the womb, then at home, in their schools, and at day cares, parks, and churches, it is no wonder RSV in the IE has become so devastating. [113] In a 2022 study by Choi et al., data supported that PM_{10} and diesel PM induce severe lung toxicity under stress conditions, such as viral infection. There is a direct increase of severe lung toxicity under RSV infection for those lungs exposed to PM_{10} and diesel PM, which ultimately effects the recovery outcomes. [114] Those recovery outcomes are becoming apparent

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[109] Wang, Xiaoming, Yang, Yubo, Li, Jinhong, Bai, Yunjin. Effects of Fine Particulate Matter (PM2.5) on Erectile Function and Its Potential Mechanism in Rats. Urology 2016 Sept;102. doi: 10.1016/urology.2016.08.034

[110] Wilkes, Jamie Air pollution linked to hair loss, new research reveals. Spink Health Oct 2019 https://www.eurekalert.org/news-releases/697916

[111] Downey, David. RSV surge sending children to the emergency rooms in Inland Empire. November 6, 2022. San Bernardino Sun. https://www.pressenterprise.com/2022/11/06/rsv-surge-sending-children-to-emergency-rooms-in-inland-empire/

[112] Jain H, Schweitzer JW, Justice NA. Respiratory Syncytial Virus Infection. [Updated 2022 Jun 21]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2022 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK459215/

[113] Harrod KS, Jaramillo RJ, Rosenberger CL, Wang SZ, Berger JA, McDonald JD, Reed MD. Increased susceptibility to RSV infection by exposure to inhaled diesel engine emissions. Am J Respir Cell Mol Biol. 2003 Apr;28(4):451-63. doi: 10.1165/rcmb.2002-0100OC. PMID: 12654634.

[114] Sunkyung Choi, Eun-Mi Kim, Seung-Yeon Kim, Yeongsoo Choi, Seri Choi, Namjoon Cho, Han-Jin Park, Kee K. Kim,

in the IE where its trauma hospital Loma Linda has been operating near, or at capacity for the hospital's emergency, pediatric inpatient, and pediatric intensive care units in November 2022, months ahead of the January flu and virus season.

Despite the impacts RSV has had on the IE, on November 1, 2022 Dr. Jennifer Chevinsky, Riverside County public health officer, and Francis Delapaz stated that they had no intention of declaring an RSV health emergency. [115] Riverside County has a median household income of $70,732, and a poverty rate of 12.5%; whereas, San Bernardino County has a medium income of $65,761 and a poverty rate of 15% -- meaning there are families that will suffer economically and emotional as children ill with RSV have extended hospital stays.

In Orange County, a health emergency was declared on November 2, 2022, as the main children's hospital and a smaller pediatric hospital facility were operating at or above capacity and wait times ranged from four to 12 hours. The priority of Orange County, a community with a population of 3.17M and a median household income of $94,441 and a poverty rate of 10.1% was to ensure that a state of emergency was declared to make sure that Orange County was prepared to care for any sick child who required hospital care. [116, 117] This same level of care and caution is needed for the IE. Not just for the current RSV threat, but the overall air quality impacts on our health especially since San Bernardino and Riverside Counties have among the lowest levels of hospital market concentration in California.

The IE will continue to struggle as the region consistently fails to recruit both primary care clinicians and specialists, as well as other health care professionals. In the December 2020, California Health Care Almanac report it is stated that the IE "will never be able to bridge the gap in workforce shortage," noting that "the region is already behind, and the population is growing." According to analysis conducted by the University of California, San Francisco, the IE has fewer primary care and specialty physicians per 100,000 residents than other California regions. The region has just 42 primary care physicians per 100,000 residents, compared with 60 statewide, and just 83 specialists per 100,000 people, compared with 131 statewide. [118] There are fewer physicians per capita in the Inland Empire's eastern regions than in more densely populated communities near the counties' western borders. Based on designations by the Health Resources and Services Administration, nearly 30% of the region's population lives

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Particulate matter exposure exacerbates cellular damage by increasing stress granule formation in respiratory syncytial virus-infected human lung organoids, Environmental Pollution, Volume 315, 2022, 120439, ISSN 0269-7491, https://doi.org/10.1016/j.envpol.2022.120439.

[115] Downey, David. RSV surge sending children to the emergency rooms in Inland Empire. November 6, 2022. San Bernardino Sun. https://www.pressenterprise.com/2022/11/06/rsv-surge-sending-children-to-emergency-rooms-in-inland-empire/

[116] Data USA https://datausa.io/profile/geo/orange-county-ca

[117] Associated Press. Orange County Declares Health Emergency Due to Virus. Nov. 2, 2022. US News and World Report. https://www.usnews.com/news/best-states/california/articles/2022-11-01/orange-county-declares-health-emergency-due-to-viruses

[118] California Health Care Almanac. Inland Empire: Increasing Medi-Cal Coverage Spurs Safety Net Growth. December 2022 California Health Care Foundation. https://www.chcf.org/wp-content/uploads/2020/12/RegionalMarketAlmanac2020InlandEmpire.pdf

within a Health Professional Shortage Area (HPSA).[119] In addition, because of both the geographic spread and lower average incomes, the travel required to access care in the region can present a significant barrier.[120] We would like to see expanded job opportunities within the Inland region that include health careers—and health centers—instead of warehouses.

Warehouses and the Lack of Educational Advancement

In part because of the severity of health impacts below, another argument that has underpinned warehouse growth for decades is that Inland populations are traditionally undereducated. Approximately 82% of IE residents graduated from high school, which is similar to the entire state of California. Unfortunately, this region performs worse than the state average on most measures of higher education despite being similar in high school graduation levels. College preparation and participation rates are worse than the state average and completion rates are varied. To this end, only two in ten adults in the IE have a bachelor's degree or higher; therefore, the area has one of the lowest per capita incomes in California.[121] One reason for the decline in the attainment of higher education can be attributed to employers using temporary employment to derail higher education attendance. Thus, upward mobility for IE residents is slowed and employers have an ample supply of employees for low wage jobs.

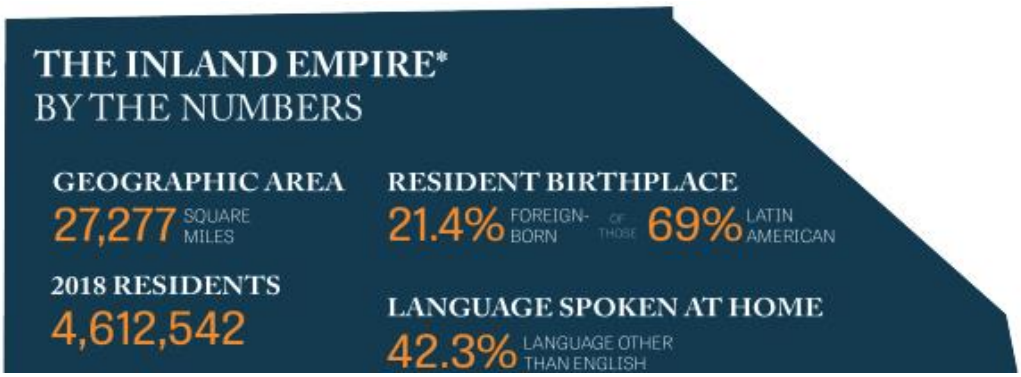

Figure 21. Blum Poverty Report for Inland Empire between 2016-2018.

More specifically, the IE has one of the lowest educational attainment rates in the state, with only 2 out of every 9 adults (23%) over the age of 25 have completed a bachelor's degree, compared to 35% statewide. [122]

[119] California Health Care Almanac. Inland Empire: Increasing Medi-Cal Coverage Spurs Safety Net Growth. December 2022 California Health Care Foundation. https://www.chcf.org/wp-content/uploads/2020/12/RegionalMarketAlmanac2020InlandEmpire.pdf
[120] California Health Care Almanac. Inland Empire: Increasing Medi-Cal Coverage Spurs Safety Net Growth. December 2022 California Health Care Foundation. https://www.chcf.org/wp-content/uploads/2020/12/RegionalMarketAlmanac2020InlandEmpire.pdf
[121] Brady, David, PhD, Curran, Michael PhD, Ross, Justine, PhD Poverty in the Inland Empire 2016-2018, October 29, 2021 Bloom Initiative on Global and Regional Poverty https://blum.ucr.edu/sites/default/files/2021-10/Blum%20Poverty%20Report%20FINAL3%20%28Pages%29.pdf
[122] American Community Survey, 2019 1-Year Estimates.

In their landmark study of life around a San Bernardino railyard, Dr. Rhonda Spencer-Wang et al review academic literature finding that asthma-based absenteeism has been linked to poor academic performance, lower scores on standardized tests, heightened disengagement from school and drop-out rates. They conclude that this pattern "inevitably reduces children's economic earning potential…Environmental exposures that not only hinder children's health, but adversely impact academic achievement as well, in essence creates a 'double jeopardy' situation for children, with the potential for lifelong adverse consequences" (2018:78).

The interlinkages between in utero health harms, decreased lung function in childhood, absenteeism due to asthma and other conditions, lack of educational attainment, warehouse work that leads to injury and disability is a cycle that cannot continue.

There is also increasing evidence of cognitive difficulties associated with air pollution, including autism and ADHD.

Many IE residents find themselves in economic peril even when the overall economy is strong because they lack the skills and education to move to higher paying jobs. In fact, the IE has the largest share of employment in at-risk occupations of any metro area in the state, [123] and during the pandemic, the IE faced unemployment rates as high as 15%, compared to pre-COVID (December 2019) regional unemployment rates as low as 3.5%.[124] When considering the long term viability of the IE to stimulate long term economic development and strengthen the resilience in our workforce, the State of California cannot afford to ignore the lack of IE residents who are stuck in low paying jobs because of the lack of higher education accessibility and opportunity.[125]

Recently it has become common in the IE that warehouse employers like Amazon recruit high school students to work for them not just upon graduation, *but while they are still in high school*.[126] This effectively encourages young people to abandon the idea of college due to receiving wages which appear high to a teenager, but which come from jobs that ultimately are unsustainable, lack benefits, and are challenged by health and safety issues.[127] Such actions on

[123] Bohn, S., Mejia, M.C., & Lafortune, J. 2020. "How Will the Coronavirus Affect California's Economy?" Public Policy Institute of California
[124] State of California Labor Market Information Division, www.labormarketinfo.edd.ca.gov/file/lfmonth/rive$pds.pdf
[125] "Denied a Seat, Projected Shortfalls in Postsecondary Enrollment Capacity in the Inland Empire by 2030" https://inlandempiregia.org/wp-content/uploads/2022/08/Denied-a-seat-GIA-Insights-FR1.pdf
[126] Reese, Ellen, Scott Alexander; Warehouse Employment as a Driver of Inequality in the Inland Empire: The Experiences of Young Amazon Warehouse Workers December 12, 2019 https://belonging.berkeley.edu/warehouse-employment-driver-inequality-inland-empire-experiences-young-amazon-warehouse-workers
[127] Barrabi, Thomas; Amazon Plans High School Hiring Push Amid Warehouse Labor Shortage:Report April 12, 202 https://nypost.com/2022/04/12/amazon-plans-high-school-hiring-push-amid-labor-shortage-report/

the part of warehouse employers create the self-fulfilling prophecy of an undereducated workforce.

Studies show that low income (undereducated) communities have the highest pollution exposures. It is no coincidence that the IE is in the 99 percentiles for air pollution in California along with one of the lowest higher education attainment rates. The IE needs jobs that provide long term employment with full benefits. As economist John Husing explained, "These [warehouse] workers are the workers most threatened by the automation of blue collar/technical and lower skilled jobs,"[128] as even as he has repeatedly championed the logistics industry as a stepping-stone into the middle-class and as an inevitability of ecommerce. This has been a failed promise.

Exploitation of the Working Poor in the Inland Empire by Warehouse Employment

Economists have predicted that the 4th industrial revolution–contingent, at-will labor and the gig economy–will have a significant impact on the IE. Informal labor models will continue to sink further down in economic prosperity as desirable employment opportunities which include benefits will be further decreased because automation and robotics will displace workers. **The government needs to develop policies to protect disadvantaged community workers** who are victims of warehouse predatory employment.[129]

The myth of great jobs created by the warehouses has been strategically used to mask the impact that warehouses have on the quality of life of residents living in the IE. Among those in poverty in the Inland Empire, the largest group (40.5%) resides in a household headed by someone 35-54 years old. The largest group of people in poverty (nearly 60%) resides in a household with a medium level of education (i.e., a high school degree or some college). Nearly 75% of the people in poverty in the IE, are in households headed by citizens and more than 55% are in households headed by a person born in the U.S. Further, a clear majority (63.4%) of those in poverty in the Inland Empire live in employed households.[130] The farce of job creation has left the Inland Empire and the working poor as victims under assault of exploitative developers

[128] Rodriguez, Sal; Education is Key to Inland Empire Prosperity September 22, 2017 https://www.pe.com/2017/09/22/education-is-key-to-inland-empire-prosperity/

[129] Keil, Manfred, Kleinhenz, Robert, Lozano, Fernando, Miller, Ken, Moenius, Johannes, Sirotnik, Barbara The State of the Region The Inland Empire 2022 https://www.lowe-institute.org/wp-content/uploads/2022/03/2022-State-Of-The-Region-The-Inland-Empire-Report.pdf

[130] Brady, David, PhD, Curran, Michael PhD, Ross, Justine, PhD Poverty in the Inland Empire 2016-2018, October 29, 2021 Bloom Initiative on Global and Regional Poverty https://blum.ucr.edu/sites/default/files/2021-10/Blum%20Poverty%20Report%20FINAL3%20%28Pages%29.pdf

who use the working poor as a business or municipal subsidy with the blessings of local leaders whose campaign contributions benefit, as seen in Figure 21.[131]
After the construction phase of warehouse projects, there are low levels of unionization in warehouse work, leaving nonunion workers vulnerable to exploitation.[132] Warehouses utilize higher rates of temporary employment than most other sectors. This means that employers usually have a temp agency between them and the people they hire, creating high rates of abuse, such as wage theft and health and safety issues, and little accountability through "hire at will, fire at will" policies. This makes collective bargaining and unionization difficult if not impossible.

Conclusion: A State of Crisis

The declaration of a state of emergency and accompanying warehouse moratorium of one to two years in the Inland Empire is critical to protect human health and our collective future.

The "land of cheap dirt" is no longer cheap. Warehousing has falsely inflated land values, resulting in $1M+ prices per acre. These are not prices that communities, farmers, or conservation groups can compete with when confronted with the retort from cities that, instead of complaining, we should just buy our own land. Reliance on planning commissions and city councils for balanced decision making generally produces negative results for frontline communities. The current "land rush" in the IE has resulted in projects whose cumulative impacts have yet to be calculated and whose outcomes seem predetermined.

The warehouse industry is increasingly volatile. In addition to contributing to climate problems, such as the heat island effect, air quality issues, and greenhouse gas emissions, the industry itself is vulnerable to climate change. A report from Yale School of the Environment predicts that supply chain disruptions will accompany sea level rise and climate catastrophe.[133] This leaves the Inland Empire's economy and its people vulnerable to catastrophic events, shutdowns, heat waves and extreme weather events, flooding, pandemics, security issues, food shortages, and more challenges, which do not even need to happen here at home to have catastrophic consequences domestically. Asia is vulnerable to climate catastrophe, and the effects of catastrophic events around the globe will create ripple effects back home. This is especially a severe problem for places like the Inland Empire that already shoulder a disproportionate burden for moving our nation's goods.

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[131] Brady, David, PhD, Curran, Michael PhD, Ross, Justine, PhD Poverty in the Inland Empire 2016-2018, October 29, 2021 Bloom Initiative on Global and Regional Poverty https://blum.ucr.edu/sites/default/files/2021-10/Blum%20Poverty%20Report%20FINAL3%20%28Pages%29.pdf

[132] De Lara, Juan D., Ellen R. Reese, and Jason Struna. "Organizing Temporary, Subcontracted, and Immigrant Workers: Lessons from Change to Win's Warehouse Workers United Campaign." Labor studies journal 41.4 (2016): 309–332. Web.

[133] https://e360.yale.edu/features/how-climate-change-is-disrupting-the-global-supply-chain

In addition, the need for and use of warehouses fluctuates. Amazon has recently announced plans to shut down dozens of warehouses or in-progress projects due to declining online sales.[134] Warehouses shift between being in hot demand and standing vacant. Often built on spec, warehouses are highly vulnerable to economic shifts. The movement of the industry toward robotics, as evidenced by Amazon's biggest warehouse in the world in Ontario, will further compromise the already spotty job-related benefits that warehouses bring.

A tremendous amount of opacity surrounds warehouses–even cities sometimes have little idea of the number of warehouses they have and even less of an idea of the emissions they are creating or the region's collective warehouse footprint. City Councils are banking on widespread fleet electrification without knowledge of how or when that electrification will take place. Cities (as well as the AQMD) are also relying on black box solutions for drawing down carbon or limiting emissions. Cities need additional pathways for state, federal, or other revenue to help build infrastructure and housing, because now they are using warehouse development as a privatized pathway for municipal funding. This, in addition to tax revenue, is why cities are eager to greenlight warehouse projects despite knowledge of the harms they bring.

The Ontario-San Bernardino-Riverside area has ranked at the top for poor air quality for decades, and all Southern California is in a perpetual state of severe nonattainment of air quality standards set by the AQMD. Currently, none of the three bodies responsible for air quality in California (AQMDs, CARB, EPA) can address actual warehouse growth because of the way that their roles are currently defined. There is a regulatory gray area for warehouse regulation. This is because the buildings themselves are often touted as "green," and the activity that generates pollution (trucks) is regulated by state or federal authorities.

This working paper has argued for the collective determination of appropriate forms of study, intervention, and pathways for envisioning alternative forms of land use (farming, greenspace, urban agriculture, tree planting, habitat restoration, and housing integrated with all of these). Our communities want to combat the climate crisis and pollution through nature-based solutions aligned with Governor Newsom's 30x30 plan, recently signed into law as AB 2278, to create natural carbon sinks, food security, better health for us and our planet, and increased equity for a diverse population. Right now, people's wages are not enough to make ends meet, let alone weather a disaster. Industrial land use patterns continue to harm people and the planet. We need to flip the script on the "land of cheap dirt" and instead invest in a paradigm where Inland people are considered valuable knowledge holders, planners, and stewards of land that has multiple, unrealized benefits rather than just acting as a storage landscape for the rest of the county. The report supports our request that the State of California issue a resolution declaring a state of emergency and public health crisis in the Inland Empire for the purposes of planning, study, and change.

[134] King, Ryan, Amazon shutters dozens of warehouses as consumers return to stores. Sept 2, 2022. https://www.msn.com/en-us/money/companies/amazon-shutters-dozens-of-warehouses-as-consumers-return-to-stores/ar-AA11pcHn