

STATE OF THE AIR

- Southern California has some of the worst air quality in the country.
- Freight is a significant contributor to air emissions:
 - The ports of Los Angeles and Long Beach handle **over 40%** of U.S. imports, and cargo volume is anticipated to triple today's levels by 2035.
 - Emissions from freight and goods movement account for **about half of particulate matter (PM) emissions, over 45% of total nitrous oxide (NOx) emissions, and six percent of the GHG emissions in California.**
- Exposure to fine particulate pollution and ozone causes myriad health impacts: NOx aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease, as well as cardiovascular diseases, and premature death.
- Approximately 63,000 to 80,000 premature deaths occur each year in the United States that are related to exposure to PM2.5.
- Localized risks of cancer and other adverse health effects are significantly increased around freight hubs, also referred to as hot spots, particularly for sensitive populations such as infants, children and the elderly.
- Localized risks are prevalent in **all freight hot spots**, even in areas that are otherwise in attainment with NAAQS.
- Governor Brown issued an Executive Order requiring the state's freight system to transition to zero emissions technology.
(<https://www.gov.ca.gov/news.php?id=19046>).

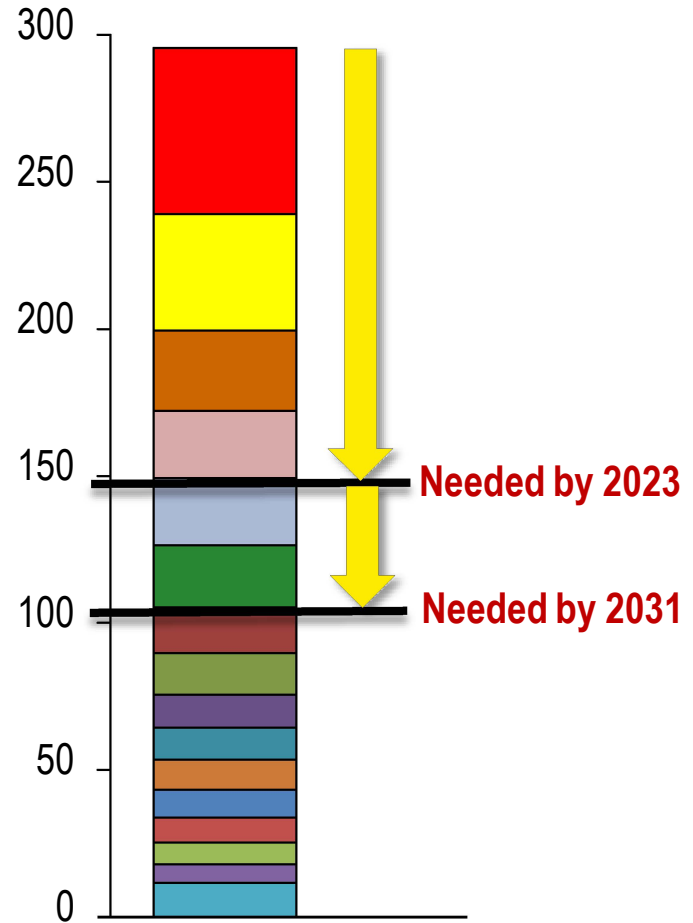
SCAQMD Jurisdiction

South Coast Basin:

- 4-county region
- 10,000 sq. miles
- Almost 17 million residents
- 11,000 Million gasoline vehicles
- Hundreds of thousands of diesel vehicles
- Combined Ports of Long Beach and Los Angeles = nation's largest cargo gateway



- Heavy-Duty Diesel Trucks
- Off-Road Mobile Equipment
- RECLAIM
- Ocean Going Vessels
- Locomotives
- Cars/Light-Duty Trucks/SUVs
- Aircraft
- Manufacturing and Industrial
- Residential Fuel Combustion
- Heavy-Duty Gas Trucks
- Commercial Harbor Craft
- Service and Commercial
- Buses
- Medium-Duty Trucks
- Recreational Boats
- Other



(Source: SCAQMD Zero Emissions White Paper on Goods Movement, From 2012 AQMP, October 2015)

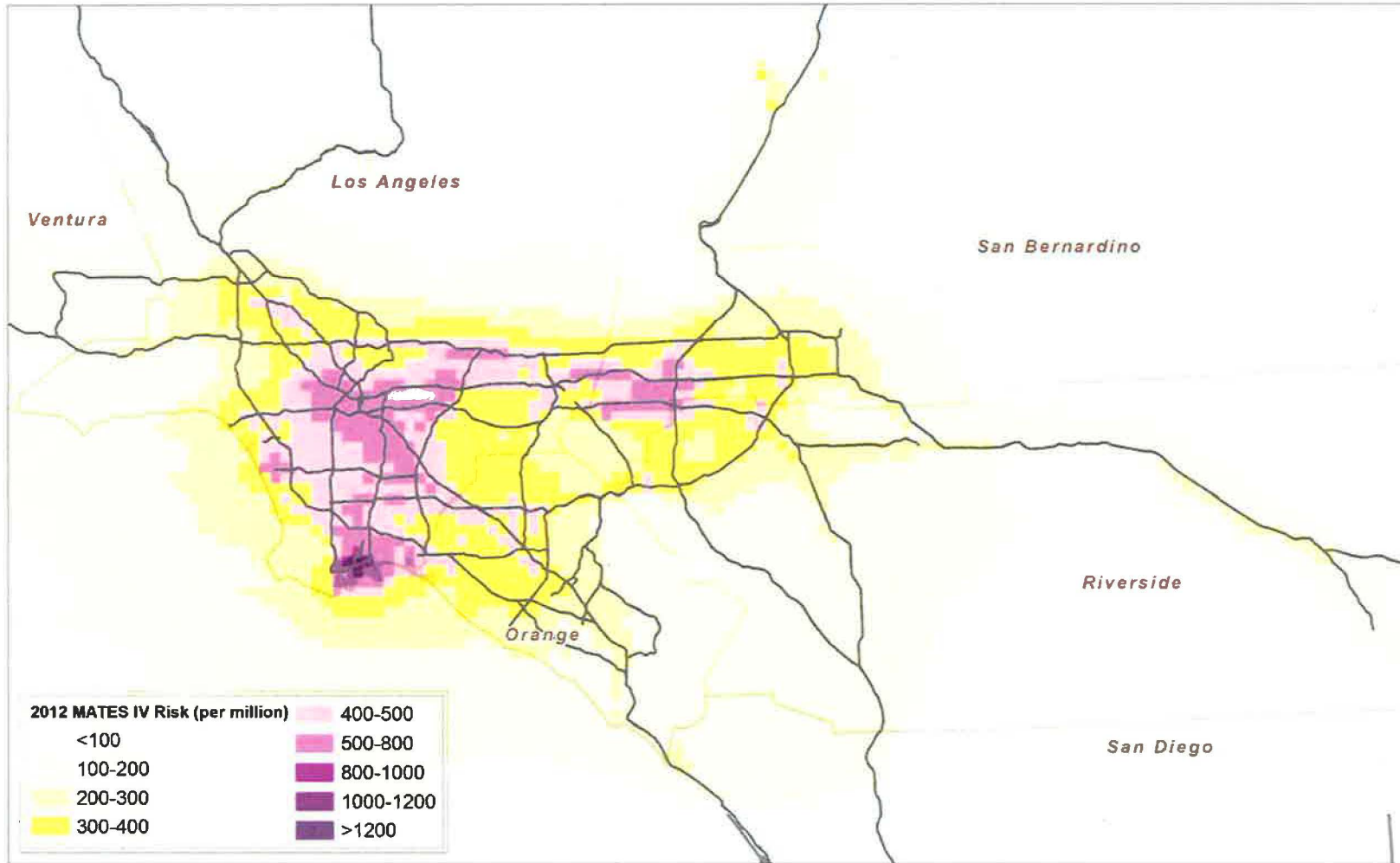


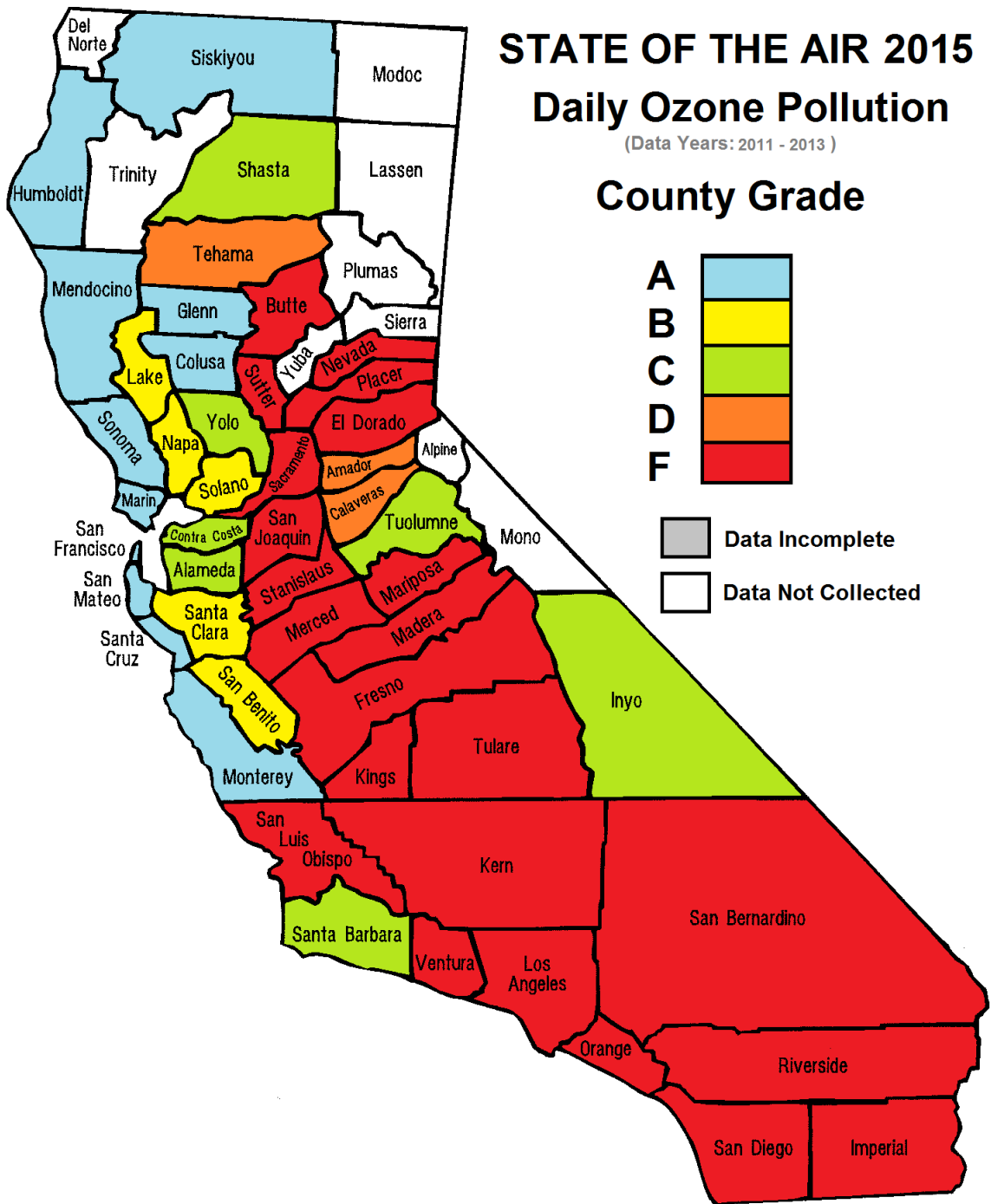
Figure ES-5
MATES IV Modeled Air Toxics Risk Estimates

STATE OF THE AIR 2015

Daily Ozone Pollution

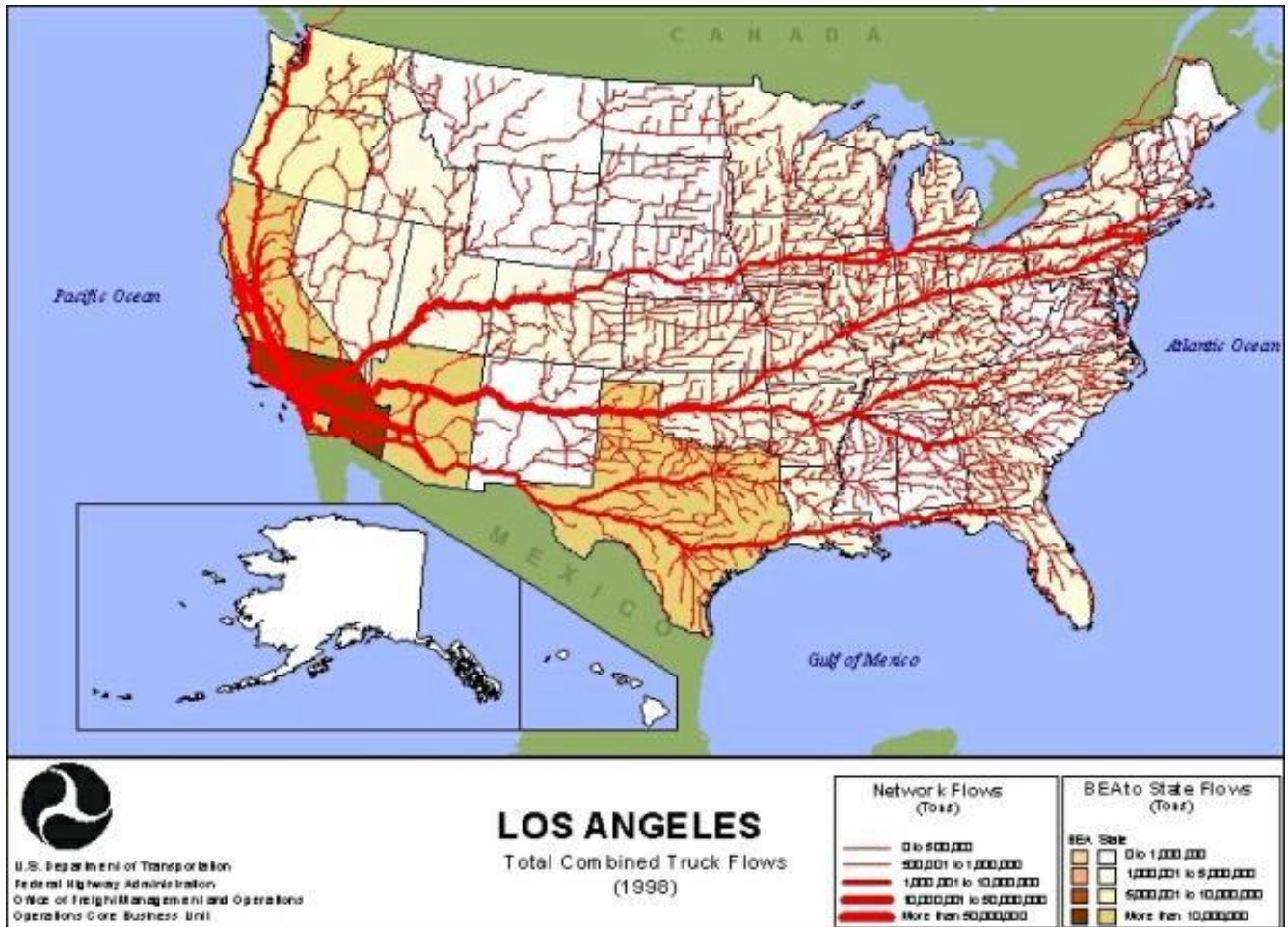
(Data Years: 2011 - 2013)

County Grade



(Source: American Lung Association in California

<http://cpehn.org/blog/201505/california-cities-top-list-most-polluted-areas-american-lung-association-report> (image represents year round averages))



(source: U.S.D.O.T. FHA website:

http://www.ops.fhwa.dot.gov/freight/freight_analysis/reg_ind_studies/so_cal_study.htm)

POLICIES

NRDC has been involved in a variety of efforts to reduce emissions from freight at the local, state, and federal levels:

- The California Air Resources Board (CARB) Sustainable Freight Action Plan (http://www.casustainablefreight.org/files/managed/Document/175/CSFAP_Main%20Document_DRAFT_050216%20v2.pdf)
- Technology Assessments (<http://www.arb.ca.gov/msprog/tech/report.htm>)
- The Ports' Clean Air Action Plan (<http://www.cleanairactionplan.org/>)
- The Clean Truck Program (https://www.portoflosangeles.org/ctp/idx_ctp.asp)
- The Port of Los Angeles Zero Emissions White Paper (https://www.portoflosangeles.org/pdf/Zero_Emissions_White_Paper_DRAFT.pdf)
- The SCAQMD Final Goods Movement White Paper (<http://www.aqmd.gov/docs/default-source/Agendas/aqmp/white-paper-working-groups/wp-goodsmvmt-final.pdf?sfvrsn=2>)

REGULATIONS

- The Truck and Bus Rule
(<http://www.arb.ca.gov/regact/2014/truckbus14/truckbus14.htm>): This rule will require that by 2020, nearly every truck operating in California will have a PM filter, and by 2023, all trucks operating in California will meet 2010 model year emissions standards.
 - Health benefits from this rule alone prevent approximately **3,500 premature deaths** statewide.
 - Air quality studies in southern California in 2013 demonstrated a 65% reduction in cancer risk, which has been mostly attributed to the installation of PM filters in trucks between 2005 and 2012
- The Ocean Going Vessels – Fuel Rule
(<http://www.arb.ca.gov/ports/marinevess/ogv.htm>)
 - In 2006, ocean-going vessels traveling within 24 miles of California’s coast generated 15 tons of PM, 157 tons of NOx and 117 tons of SOx **per day**. These emissions constituted the single largest source of SOx emissions in the state, and the PM emissions represented the equivalent of about **150,000 big rig trucks traveling 125 miles per day**. These emissions were estimated to cause about **300 premature deaths** in California every year, not including cancer effects.
 - The OGV fuel rule prevented approximately **3,500 premature deaths, 100,000 asthma attacks** and significantly reduced cancer risk between 2009 and 2015 alone.
- The TRU/Reefer Regulation
(<http://www.arb.ca.gov/msprog/truckstop/trus/trus.htm>)
- The At-Berth Regulation
(<http://www.arb.ca.gov/ports/shorepower/shorepower.htm>)
- The Cargo Handling Equipment Regulation
(<http://www.arb.ca.gov/ports/cargo/cargo.htm>)
- Memoranda of Understanding and Other Agreements with the Rail Industry
(<http://www.arb.ca.gov/msprog/offroad/loco/loco.htm>)
- Local Regulations:
 - Fleet Rules (<http://www.aqmd.gov/home/library/public-information/2005-news-archives/carb-action-fleet-rules>)
 - The Ports Backstop Rule

PROJECT PLANNING

NRDC advocates for cleaner port expansion and freight infrastructure projects in many different capacities including through the CEQA/NEPA process, and through litigation..

- Port of Long Beach Zero Emissions Terminal
(<http://www.polb.com/news/displaynews.asp?NewsID=1529>)

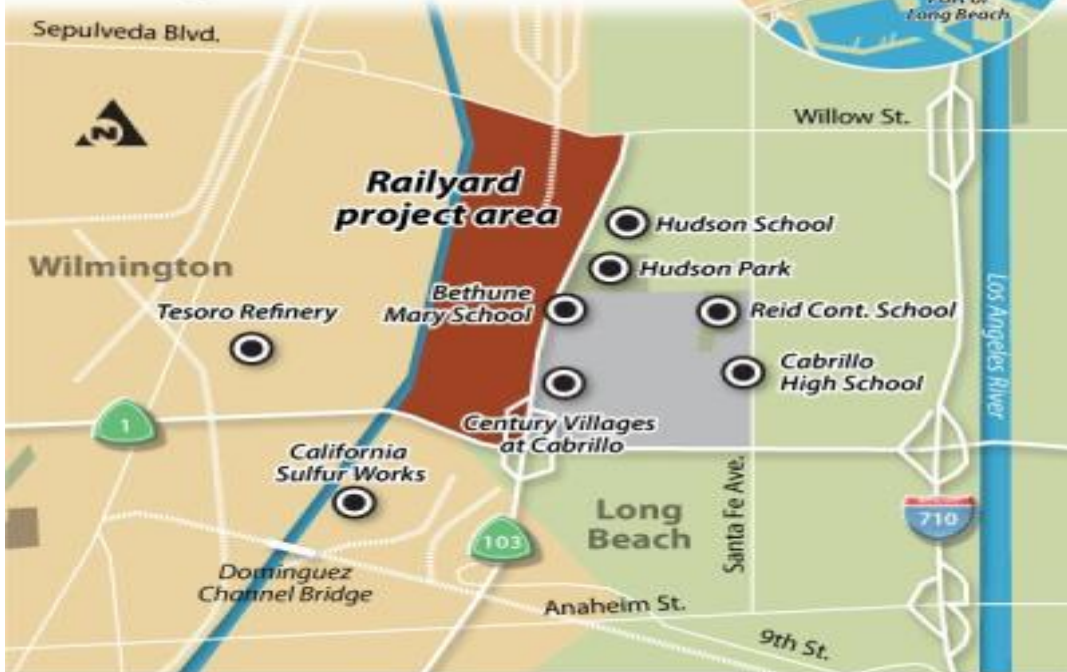
- I-710 Project (http://eycej.org/wp-content/uploads/2012/09/FS_I-710-11.2.09.pdf)



- The Southern California International Gateway Project (SCIG) (<http://www.latimes.com/opinion/editorials/la-ed-port-rail-yard-20160406-story.html>)

Railyard project

Los Angeles harbor leaders will decide whether to certify the environmental impact report for a \$500 million, 153-acre Southern California International Gateway railyard project by BNSF Railway. Some say the project means more jobs and better cargo movement, but opponents say it will worsen traffic and health issues at schools and neighborhoods.



Paul Penzella Staff Artist

RESEARCH, EDUCATION and TOOLS

NRDC creates educational tool such as guides, pamphlets, and infographics to enhance public discourse about freight pollution and solutions.

- The California Cleaner Freight Coalition's Moving California Forward: Zero and Low-Emissions Freight Pathways Report (http://www.ucsusa.org/sites/default/files/legacy/assets/documents/clean_vehicles/Moving-California-Forward-Executive-Summary.pdf)
- The Clean Cargo Guide (<https://www.nrdc.org/sites/default/files/clean-cargo-toolkit.pdf>)
- NEPA Guide (<https://www.nrdc.org/sites/default/files/nepa-toolkit.pdf>)
- Catenary zero emissions truck project (<https://www.truckinsurancenitic.com/company-news/230-electric-powered-trucking-project-moves-forward-in-california.html>;
https://www.portoflosangeles.org/Board/2015/November%202015/111015_Agenda_Item_12.pdf)

COMMUNITY SUPPORT

NRDC is also partners with other environmental groups and grassroots organizations.

- Moving Forward Network (<http://www.movingforwardnetwork.com/>)
- California Cleaner Freight Coalition (<http://www.ccair.org/wp-content/uploads/2016/01/CCFC-Vision-for-a-Sustainable-Freight-System-in-California.pdf>)

CLEAN CARGO

HOW DIESEL EXHAUST HURTS YOUR HEALTH

Diesel trucks, trains, and equipment emit a combination of fine soot, smog forming pollutants and roughly 40 different toxic air contaminants, 15 of which are recognized carcinogens. Diesel soot is a carcinogen and dangerous — *particularly for children and seniors*. It is so small that, when inhaled, it goes very deep within the lungs where it can enter the bloodstream and cause serious health problems.



♥ Cardiovascular Disease

Heart Attacks

🫁 Respiratory Illness

🗣️ Strokes

👶 Preterm Birth

Low Birth Weight

🦋 Cancer

Premature Death

📄 Asthma

New research also links significant exposure to high levels of soot pollution to diabetes and a range of impacts to the brain.



1 in 6 people in the U.S. live near diesel pollution hot spots like rail yards, ports, or freeways.

We can reduce diesel pollution with new, cleaner engines, filters added to older engines, and cleaner alternative technologies.

