

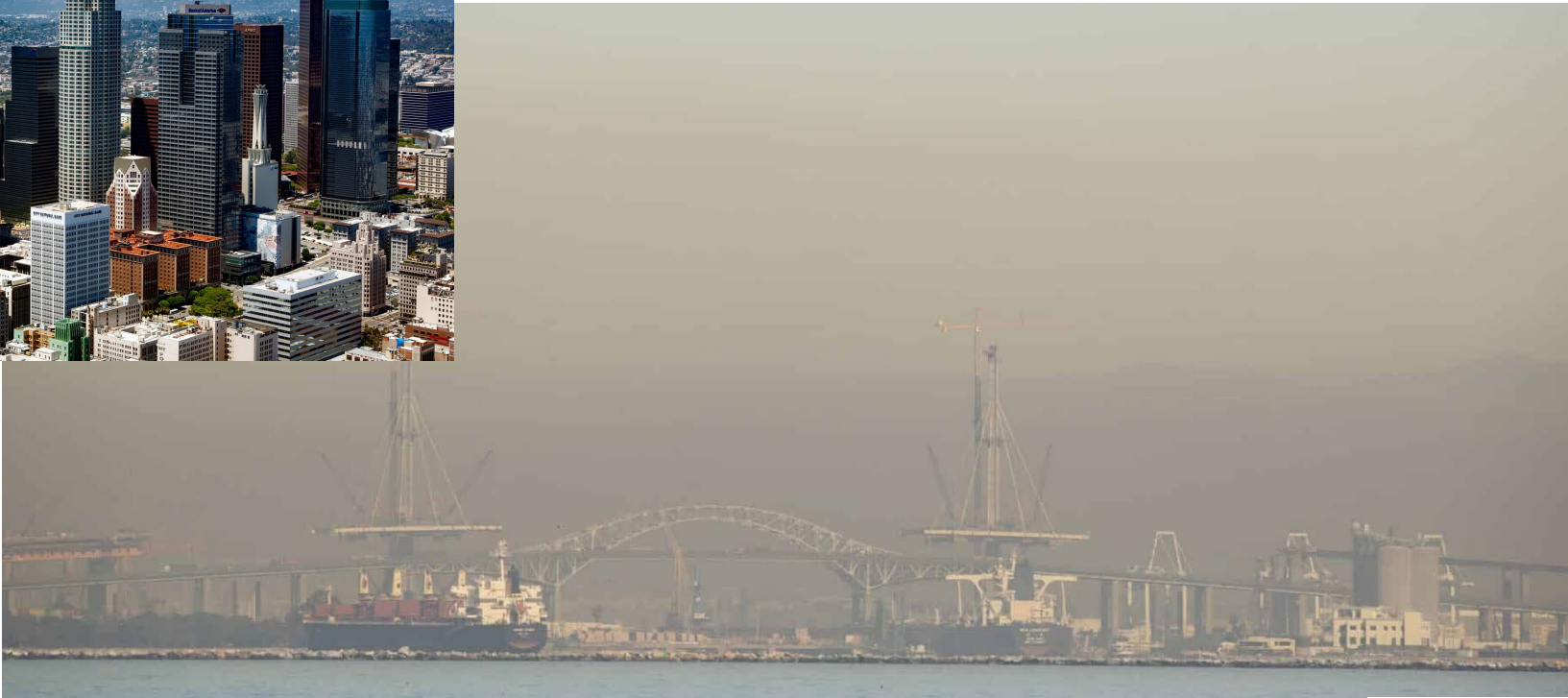


USC
Center for Children's
Environmental Health

Southern California Children's Environmental Health Research Translation Center

Elizabeth Kamai
Dayane Dueñas Barahona

Urbanism, Air Pollution, Children's Health and Environmental Justice



Development Core

ISCHE FELLOWS

Translation skills



ische
INTERNATIONAL
SOCIETY FOR
CHILDREN'S
HEALTH AND THE
ENVIRONMENT

Be Heard! Seminar Series

In this series, we aim to inspire students and practitioners of environmental health science to share their research in an effort to promote meaningful change.



Writing a White Paper

Meghan Rebuli, PhD
Vince Tedjasaputra, PhD
Moderator: John Balmes, MD
Friday, February 9th, 10:00 - 11:00 am



Advocacy and Community Partnerships Drinking Water PFAS Monitoring

Anna Reade, PhD
Erick Orellana
Moderator: Max Aung, PhD
Friday, March 8th, 10:00 am - 11:00 am



Working with Lawyers - Torts

Gary DiMuzio, JD
Steven Markowitz, MD, DrPH
Moderator: Sofia Gruskin, JD, MIA
Friday, April 12th, 10:00 am - 11:00 am



What to Do if Your Research Makes Vested Interests Mad

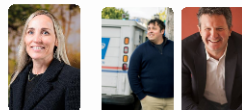
Jonathan Samet MD, MS
Lisa Bero, PhD
Moderator: Anna Wu, PhD
Friday, June 14th, 10:00 am - 11:00 am

2023 Be Heard! seminars



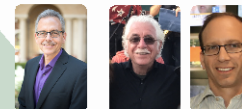
Working with Communities

Mark Lopez, Nse Witherspoon
Moderated by Sylvia Betancourt
Friday, April 28th, 2023, 10:00 - 11:00 am



Working with Policy Makers

Ellu Nasser, Adrian Martinez
Moderated by Colin McClay
Friday, August 4th 2023, 10:00 am - 11:00 am



Writing an Op-Ed

Manuel Pastor, Bill Gallegos
Moderated by Gabe Khan
Friday, December 8th 2023, 10:00 am - 11:00 am
Register [HERE](#)



Writing a Commentary

David Gonzales, Bhavna Shamasunder
Moderated by Carly Hyland
Friday, December 15th 2023, 10:00 am - 11:00 am
Register [HERE](#)

Register for
upcoming
Be Heard!
seminars here



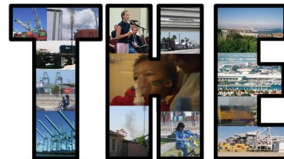
Translation Core



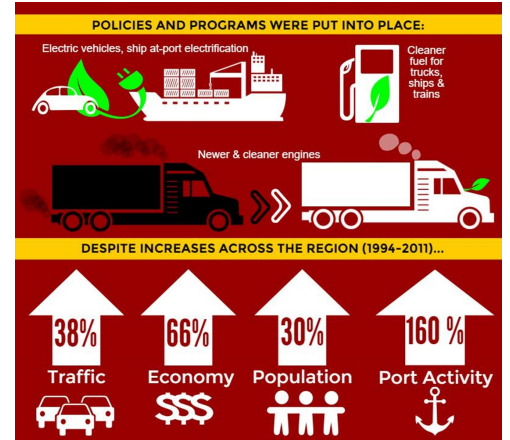
Co-create & Democratize Data

Document Reality

Develop Solution-Oriented Strategies



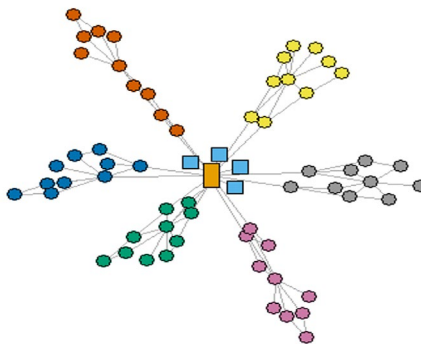
Impact Project
Trade · Health · Environment



Pilot projects

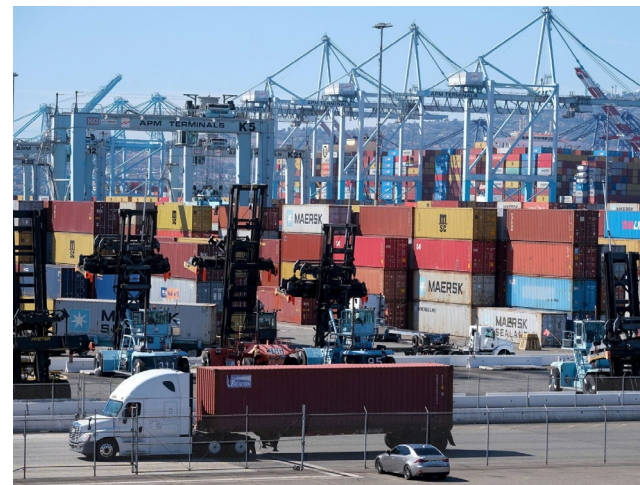
Por un Cielito Lindo

For a Beautiful Sky



- CEHN
- NIH
- USC
- Emory
- NYU
- JHU
- PENN
- OSU

Figure 1: Hypothetical network of all children's centers



Cargo containers sit in stacks at the Port of Los Angeles on Oct. 20
Ringo H.W. Chiu/AP





Sylvia Betancourt
Long Beach Alliance for Children
with Asthma (LBACA)/ Miller's
Children's Hospital



Paula Cizmar
Professor of Theatre Practice in
Dramatic Writing; Co-Director,
Institute for Theatre & Social Change



Breathe In Por un Cielito Lindo

An arts and science program created by the **Southern California Center for Children's Environmental Health Translational Research (SC-CCEHTR)** to illustrate the adverse effects of pollution created from goods movement on the communities surrounding the I-710 Corridor and the Ports of Los Angeles and Long Beach.



Objectives

- To **help** understand how goods movement through the ports of Los Angeles and Long Beach produces a significant amount of harmful pollution.
- To **illuminate** the correlation between this pollution and community health, particularly the effects on children.
- To **demonstrate** how community action can lead to positive changes in port policy and infrastructure.

Essential Questions

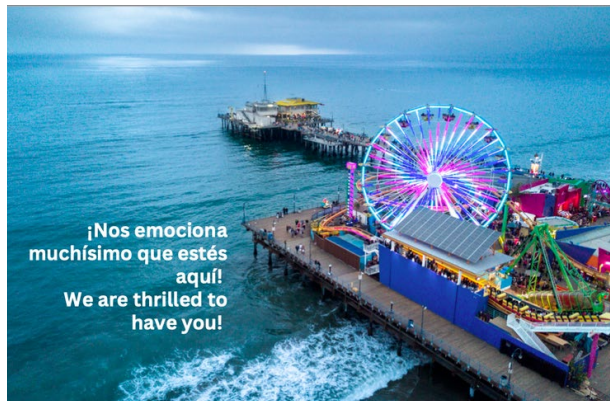
- What does a Los Angeles with clean air look like?
- How does the movement of goods adversely affect community health and well being?
- What can we, as individuals and communities, do to lessen air pollution and improve health and well being?



Learning Objectives

Participants will understand...

- How goods move through the twin ports and create pollution.
- How this pollution can adversely affect community health and well being.
- How community action has forced positive changes in port policy and infrastructure, but more needs to be done.



¡Nos emociona
muchísimo que estés
aquí!
We are thrilled to
have you!

Por un Cielito Lindo: Activity Handout

Now that we have learned about pollution's negative impact on our communities, we want to invite you (and your friends!) to do an activity that represents your thoughts, feelings, and concerns about the environmental issues within your community.

SOMETHING TO THINK ABOUT

What are the adverse effects of pollution in your community?

How are you affected by it?



Raise your voice. Be aware. Make an impact!

ADVERSE EFFECTS OF GOODS MOVEMENT



Twin Ports and the I-710 Corridor Community Impact of the Los Angeles and Long Beach Ports and the I-710 communities

- Twin ports of Los Angeles and Long Beach are the **largest ports in the country**.
- 40% of U.S. imports** enter through the twin ports and are transported by trucks and trains throughout the country.
- The ports operate **24 hours a day, seven days a week**.
- 50,000 diesel-fueled freight trucks** travel the I-710 each day.
- Some of the worst air quality in the United States
- Port traffic expected to triple between 2012 and 2035.

"I-710 freeway is the main artery for the nation's largest port complex, through which nearly a third of the nation's goods are moved."

LA Times

"Diesel emissions account for 70% of total cancer risk from air pollution, and areas around ports and truck congested freeways are most impacted."

South Coast Air Management district

"For every 10 grams of fine particulate air pollution, there is a 4% increase in all causes of mortality."

Diesel Death Zone

What to know

Movement of goods creates significant amounts of **Diesel Particulate Matter (DPM)** pollution and other **Traffic Related Air Pollution (TRAP)**.



DPM contains hundreds of different chemicals, including **40 known cancer-causing** organic substances.



DPM **penetrates deep into the lungs** and can contribute to health problems including:

- Eye, nose, and throat irritation
- Heart and lung disease
- Asthma
- Lung cancer
- Prenatal and postnatal risks and complications

Breathe In Workshop

Long Beach Alliance for Children with Asthma (LBACA)



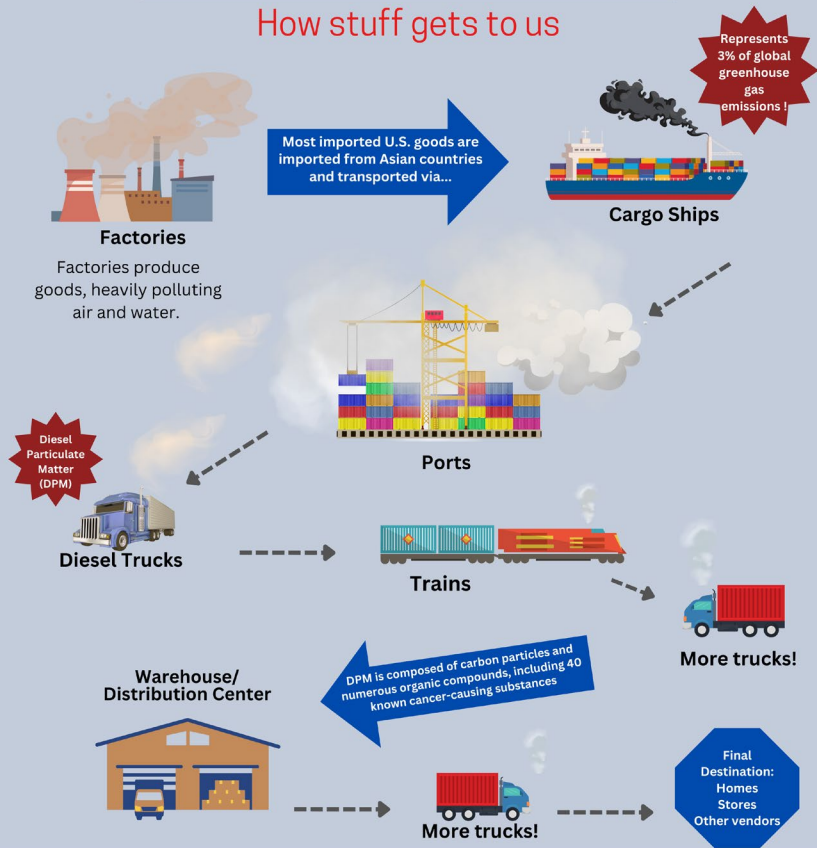
Breathe In Workshop

Long Beach Alliance for Children with Asthma (LBACA)












GOODS MOVEMENT

How stuff gets to us



GOODS MOVEMENT

How stuff gets to us

 <p>Factories</p> <p>Goods are produced in factories that heavily pollute air and water. Most U.S. goods are imported from Asian countries.</p>	 <p>Cargo Ships</p> <p>From factories, goods go to ports, are loaded onto cargo ships, and transported over oceans. Cargo ships use bunker fuel, which is among the dirtiest fuels.</p>	 <p>Ports</p> <p>At the destination port, cargo ships idle creating significant toxic pollution. This pollution is harmful for port communities.</p>
 <p>Cargo Container</p> <p>Port workers, using mostly diesel equipment, unload containers and transfer them to diesel trucks.</p>	 <p>Diesel Trucks</p> <p>Typically, diesel trucks transport containers to distribution centers, local rail yards, or far-away destinations.</p>	 <p>Trains</p> <p>Diesel-powered trains transport goods in containers across the country, producing not only diesel pollution, but also noise and light pollution.</p>
 <p>More trucks!</p> <p>From railyards, goods are transferred to mostly diesel trucks. These trucks transport goods to warehouses and distribution centers.</p>	 <p>Warehouse/ Distribution Center</p> <p>Goods are unloaded, organized, and prepared for their final destination.</p>	 <p>Final Destination</p> <p>Packages are delivered to homes using trucks. Goods are moved to department, furniture, electronic, grocery stores, and more.</p>



This resource is provided by a project from the Southern California Center for Children's Environmental Health Translational Research. The center is funded by the National Institute of Environmental Health Sciences (NIEHS Grant # 5P2CE5033433-02), part of the National Institutes of Health.



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Data accessibility: coastal air monitors



LA by the Numbers

The Port of Los Angeles promised to measure pollution; its equipment keeps breaking

During the worst months of air pollution in recent years, half of its monitors were not functioning

Air

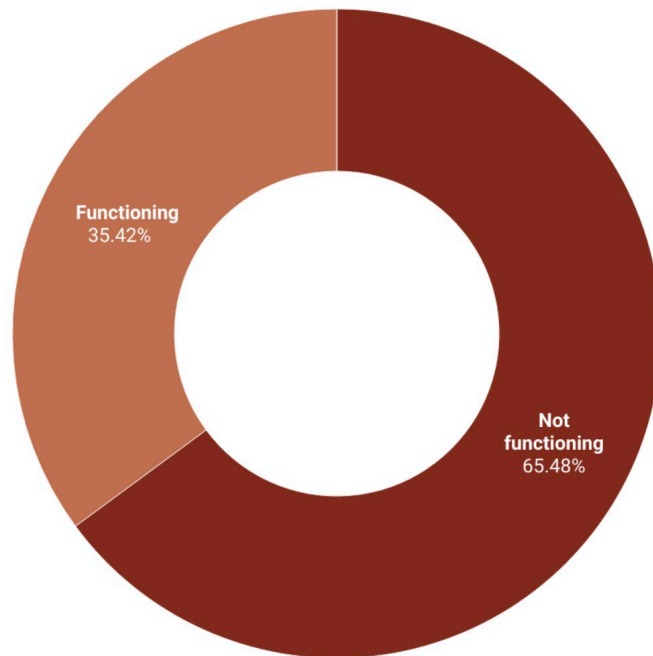
By **Ethan Ward**
October 4, 2023

Read the full
story here →



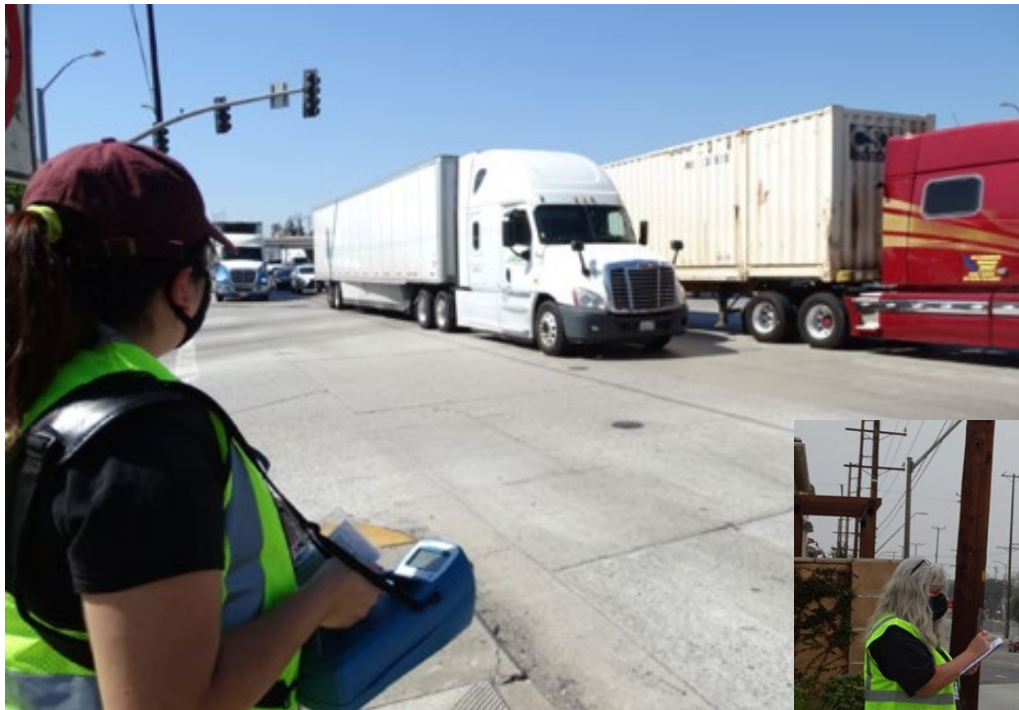
Coastal Monitoring Station 2022

■ Not functioning ■ Functioning



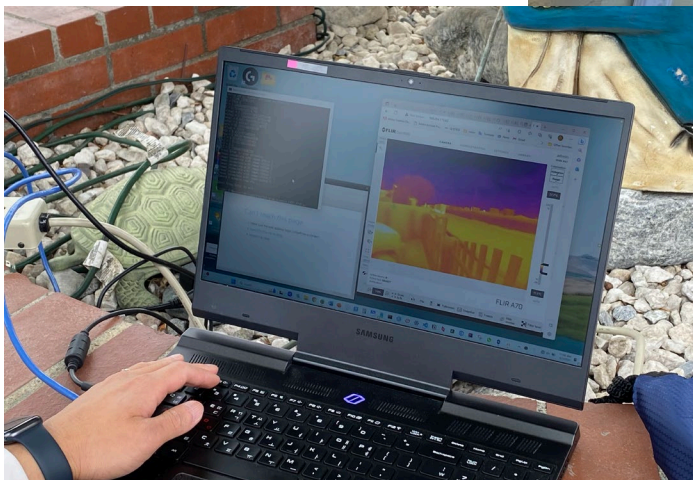
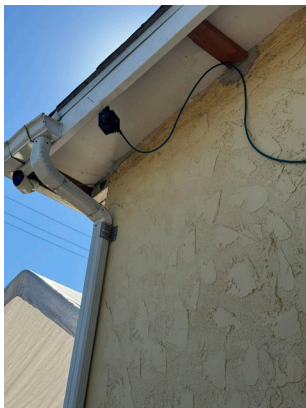
Source: Port of Los Angeles. The coastal station is one of four air-quality monitoring facilities maintained by the port. • Created with Datawrapper

Data compiled by Brandyn Ruiz



Evolving data needs: truck counting







Daytime IR Image

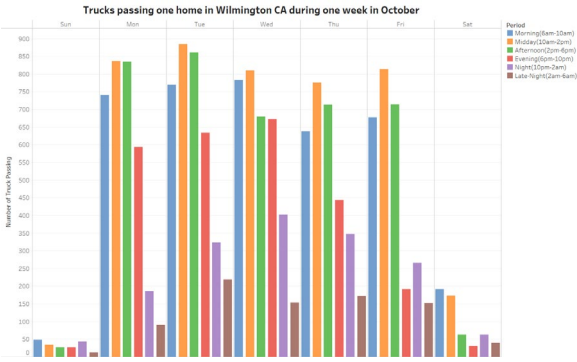
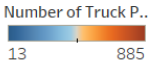
Sample Images

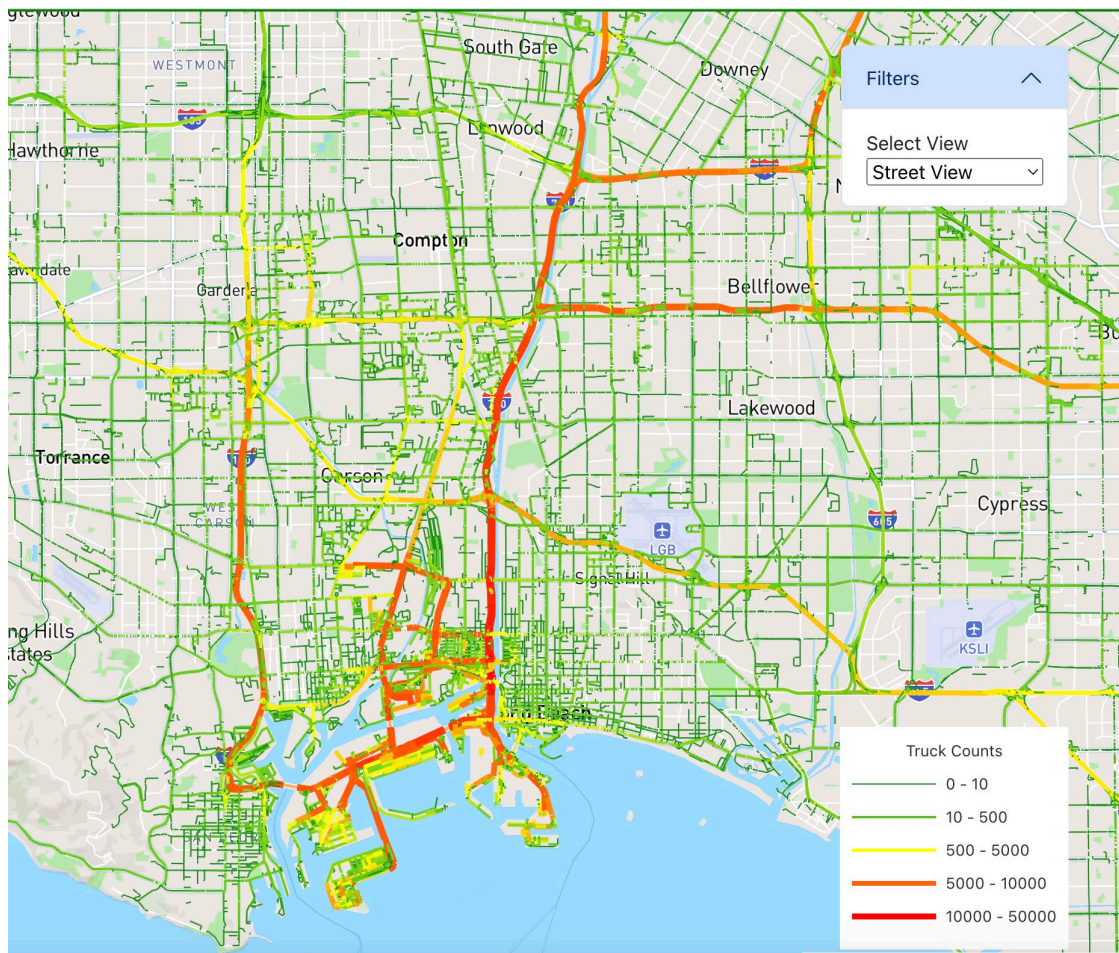
Nighttime IR Image



Trucks passing one home in Wilmington CA during one week in October

Period	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Morning(6am-10am)	48	740	769	783	638	677	191
Midday(10am-2pm)	34	837	885	810	776	814	173
Afternoon(2pm-6pm)	27	834	860	679	713	714	63
Evening(6pm-10pm)	28	593	634	673	444	191	31
Night(10pm-2am)	43	186	323	402	347	266	63
Late-Night(2am-6am)	13	90	219	153	172	152	40





In progress:
interactive
public dashboard
of proprietary
truck count data

For more information visit our website:
<https://sc-cehrt.org/>



USC

**Center for Children's
Environmental Health**

Questions?

email: Kamai@usc.edu