Diving into air pollution data with ArcGIS online tool

West Oakland AB617 Steering Committee Meeting

October 3rd, 2018

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Click link to go to online map
https://arcg.is/1Cf50L

1. What's in the mapping tool

What's in the mapping tool

- Data layers include (so far)
  o Google/EDF air pollution collected during mid-2015 to mid-2016
  o Kaiser/EDF health risk analysis results
  o Sensitive receptor locations such as schools, childcare centers, senior housing and care facilities
  o Locations of truck related businesses and truck routes
- Developed with input from WOEIP
- Use publicly available data
- More data can be added
- Access on browser, no account or login needed

2. How to use the tool

← → C ⌂ 🔒 https://edfmaps.maps.arcgis.com/apps/PublicInformation/index.html?appid=da561b7a0b4f49e89d896c770f157a1d

☰ **Legend** 　ⓘ **About** 　≋ **Layers**

Legend

Truck magnets (shipping, trucking and transportation businesses)

🚚

BC (micrograms per m3)

BC_Value

- 🔴 > 1 – 8
- 🔴 > 0.75 – 1
- 🟠 > 0.5 – 0.75
- 🟠 > 0.25 – 0.5
- 🟡 0 – 0.25

☰ **West Oakland Air Pollution Maps** 　🔍 ⦔

Click on Legends to see what the colors or icons represent.

Esri, HERE, Garmin, INCREMENT P, NGA, USGS | Esri, HERE
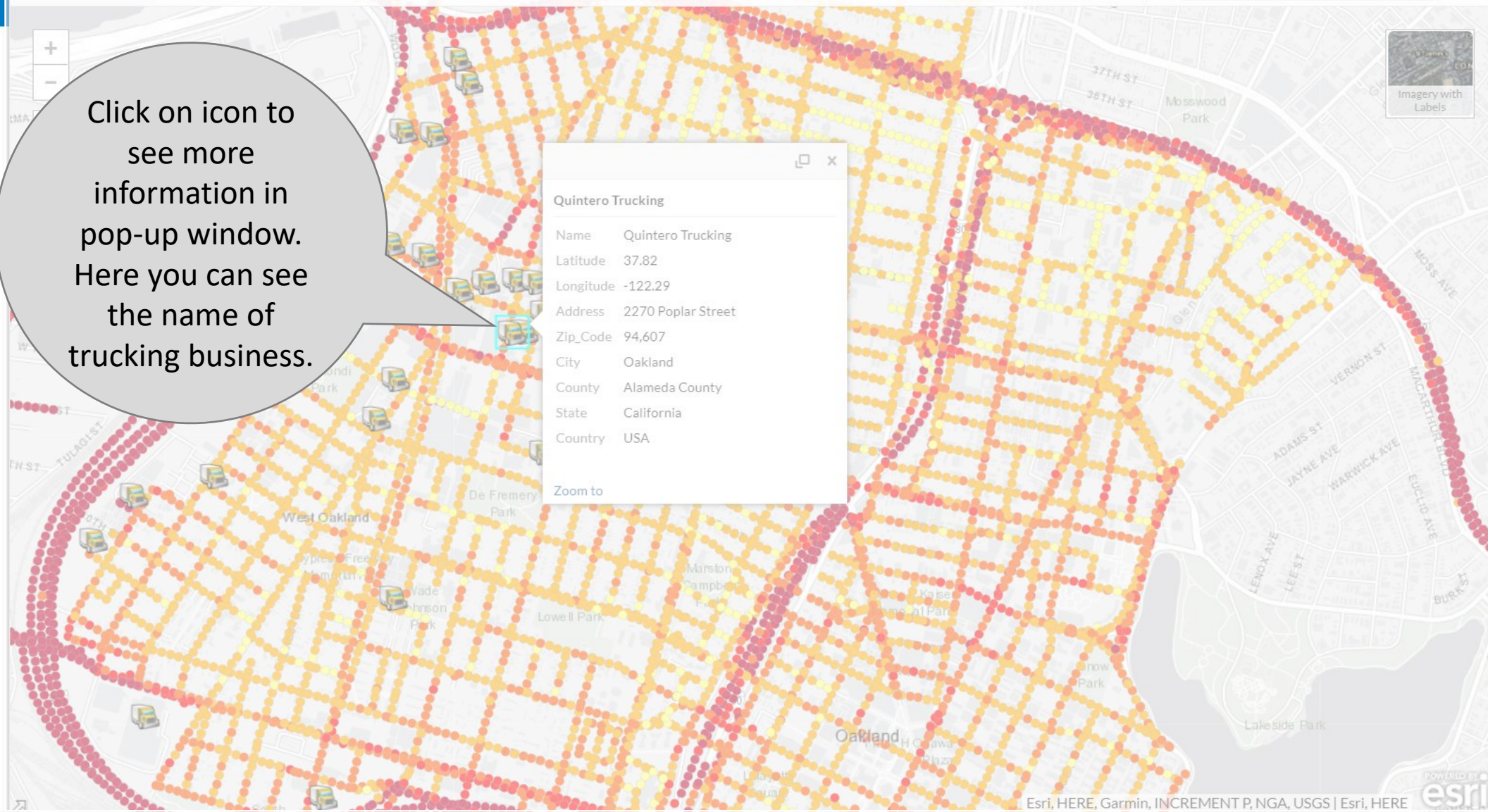
3. Where did data come from

← → C ⟳ 🔒 https://edfmaps.maps.arcgis.com/apps/PublicInformation/index.html?appid=da561b7a0b4f49e89d896c770f157a1d ⊖ ☆ ⚬ ⋮

☰ **Legend** ⓘ **About** ▤ **Layers**

☰ West Oakland Air Pollution Maps 🔍 ⌃

West Oakland Air Pollutio
Maps

Last modified 9/26/18, 10:55 AM

211 views.

More information

Click on About,
then on More
Information to
see where the
data came from.

Imagery with
Labels

https://edfmaps.maps.arcgis.com/home/item.html?id=94316eac9a464a03b6ef2800ca7ecf44

Esri, HERE, Garmin, INCREMENT P, NGA, USGS | Esri, HERE

esri

https://edfmaps.maps.arcgis.com/home/item.html?id=3c455d14f26d4a1db36af9c3b135bf53

Truck-Attracting Businesses

Overview | Data | Visualization

Shipping, Trucking, and Trans

📍 Feature Layer by gzayasde

Created: Sep 24, 2018

> See Description for data source and details about the dataset.

Description

Source: West Oakland Works http://www.westoaklandworks.com/our-directory
From the West Oakland Works list we selected businesses categorized as "shipping, trucking, and transportation" to include in this data layer. Data may be incomplete and/or not fully updated.

Layers

Truck_Businesses

Terms of Use

No special restrictions or limitations on using the item's content have been provided.

Open in Map Viewer ⌄

Details

Source: Feature Collection

Size: 33 KB

★★★★★

[f] [t] [↗]

Owner

gzayasdelrio_edfmaps

Tags

Oakland, trucks, magnets

Credits (Attribution)

No acknowledgements.

Several data layers came from results of studies conducted by EDF and partners

West Oakland Air Pollution Maps

https://e...

- ☐ Child Care Centers (licensed by California Dept of Social Services)
- ☐ Oakland Schools (OUSD)
- ☐ Senior Housing and Centers
- ☐ Residential Care Facilities for Elderly (licensed by California Dept of Social Services)
- ☑ Estimated pollution(NO2)-related cardiovascular risk for the elderly (65+)
- ☐ Residential Parcels
- ☐ Truck magnets (shipping, trucking and transportation businesses)
- ☐ Prohibited Truck Routes
- ☐ Designated Truck Routes
- ☑ BC (micrograms per m3)
- ☑ BC 50th percentile
- ☑ BC 75th percentile
- ☑ BC 90th percentile
- ☑ NO2 (ppb)
- ☑ NO2, 50th percentile
- ☑ NO2, 75th percentile
- ☑ NO (ppb)

### Background on West Oakland Air Pollution Studies

Regulatory air pollution monitoring for West Oakland, CA: 1 stationary site

Data: 1 year of air pollution measurements (BC, NO, NO_2) using fast response sensors on Google Street View cars.

Data: Electronic medical records of 41K people insured by Kaiser Permanente health care, linked with air pollution at residential address.
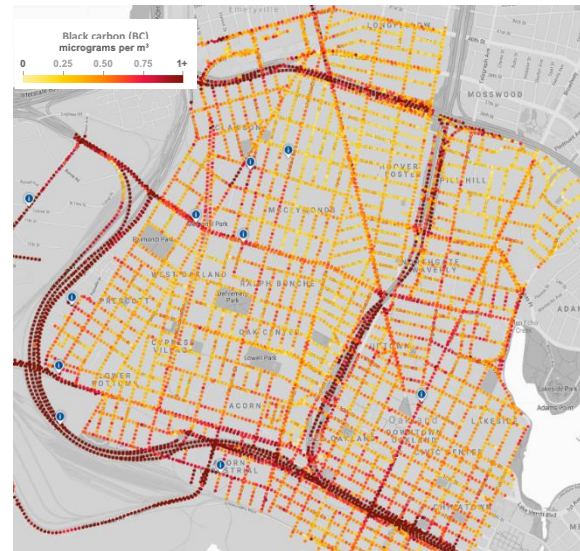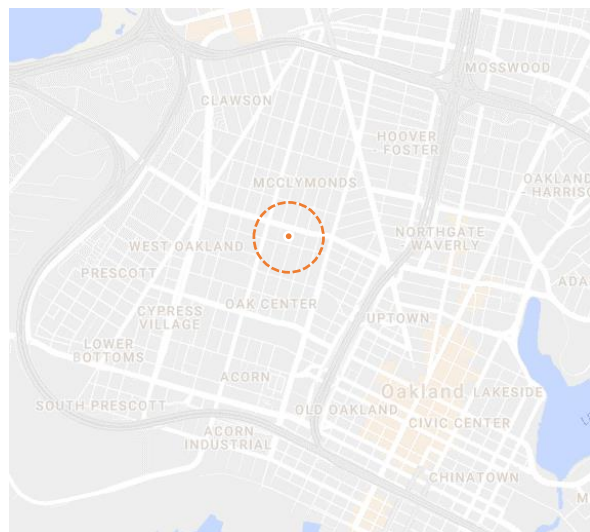
Finding: Within West Oakland, some areas had **5-8 times** higher median pollution levels than others. Many parts of the neighborhood had higher air pollution than levels measured at the central regulatory monitor.
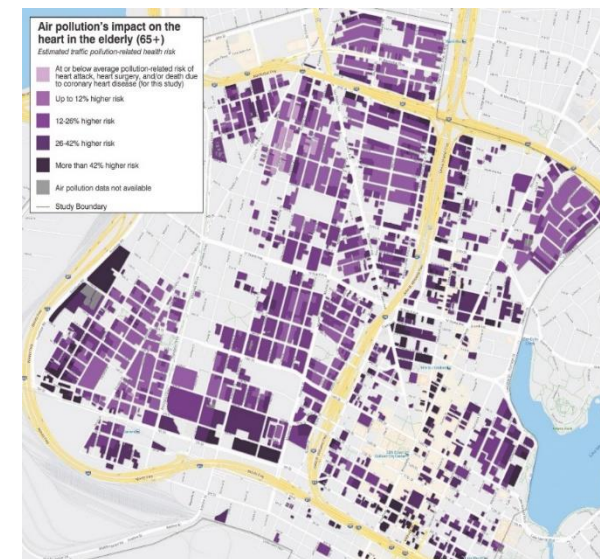
Finding: Elderly residents (age 65+) living in areas of West Oakland with the highest concentrations of NO_2 would have **>40% greater risk** of a cardiovascular disease event than those in less polluted areas of the neighborhood.

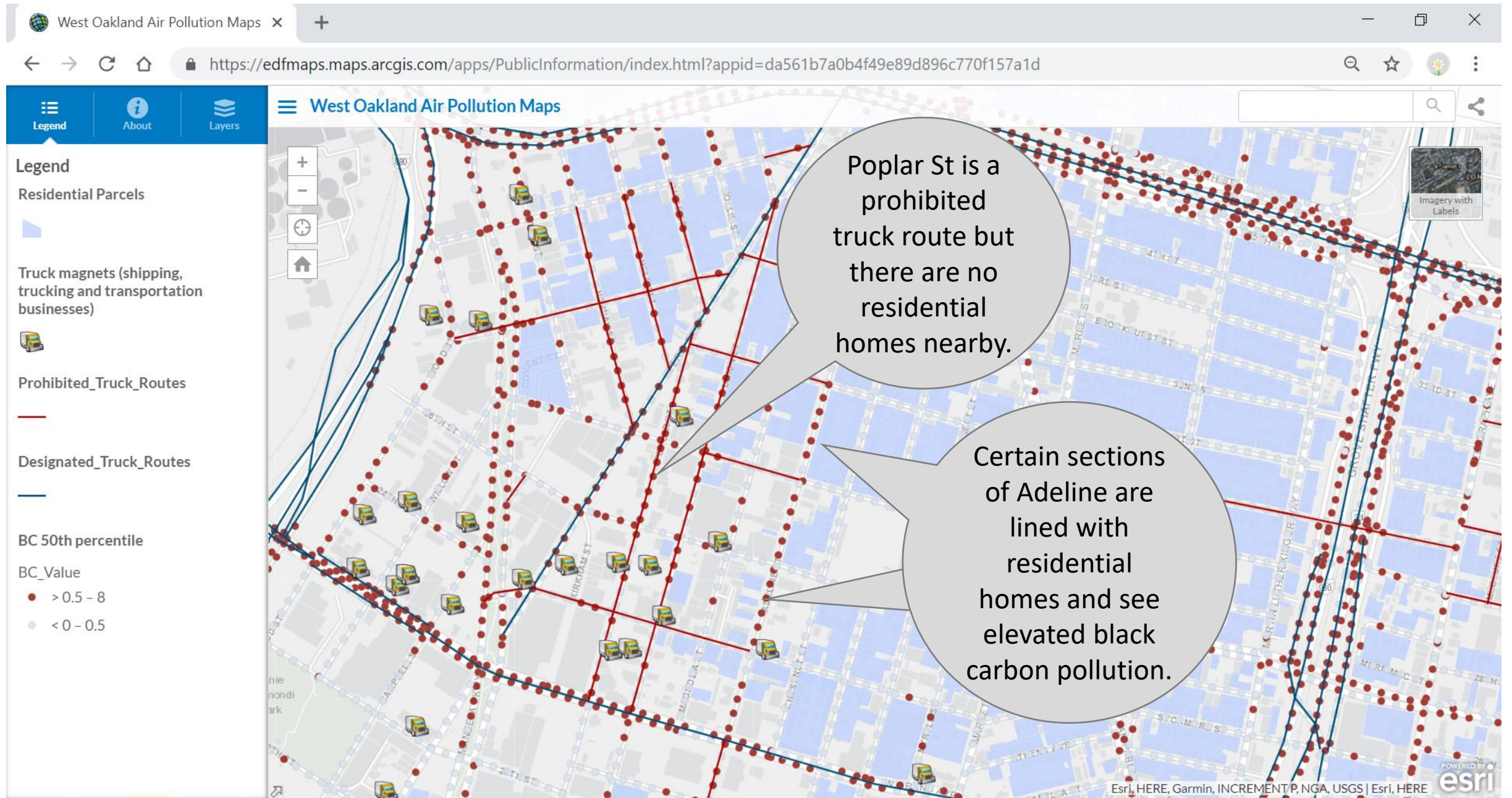# 4. What information or insights can you get from the tool

Example 1: Where black carbon levels are higher than area median & schools/child care centers

Example 2: Areas where black carbon levels is above area median, truck routes & truck magnets, and where people live
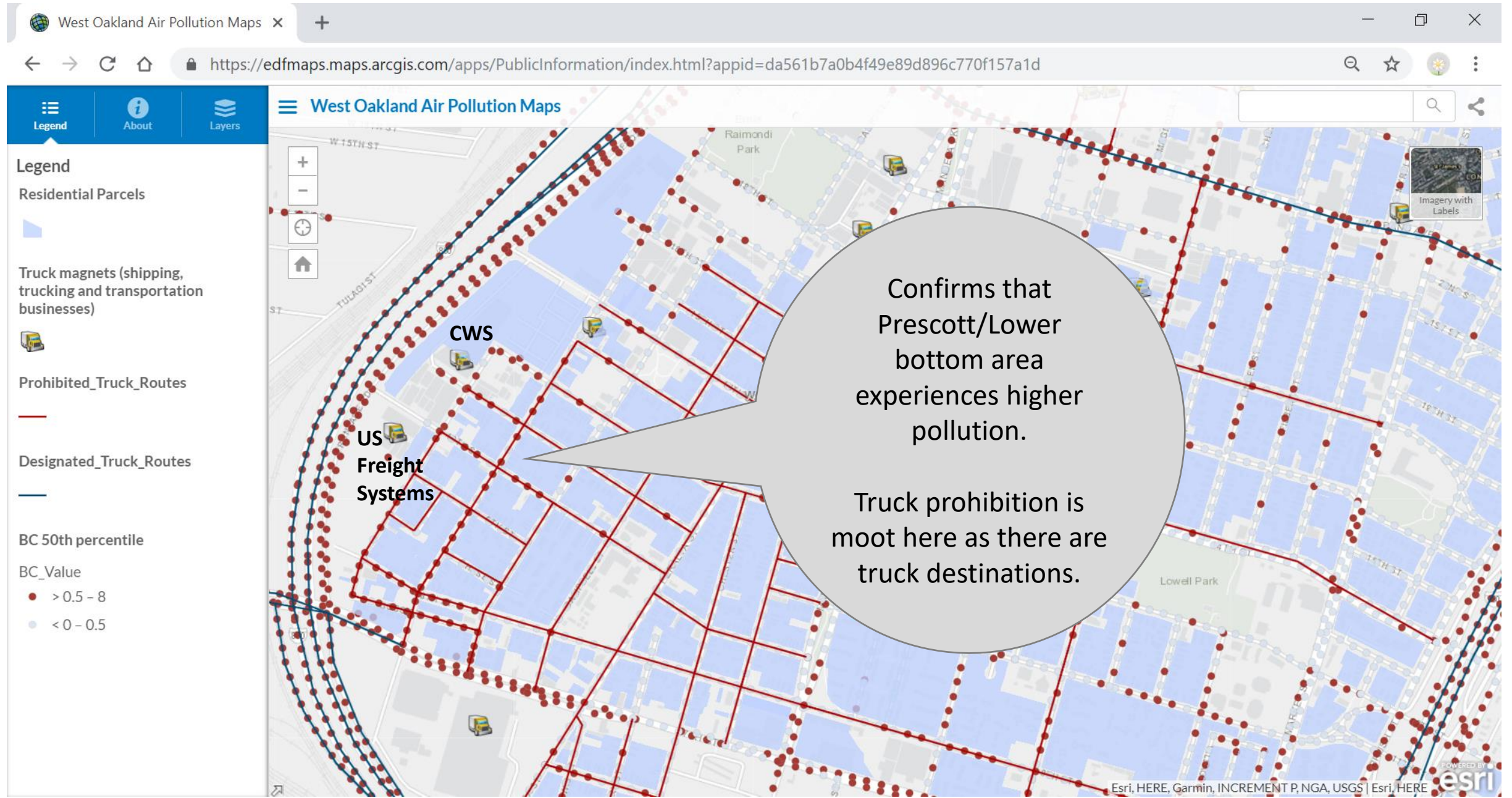
Example 3: Potential impact on residents who live near industrial zone and where trucks frequent

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