



Recharge America: Zero Emissions Trucks and the Low Carbon Future

September 21, 2020

**Air Alliance Houston
believes everyone has a
right to breathe clean air
and where you live,
work, learn, and play
should not determine
your health.**



The Houston Region continues to embrace irresponsible development and transportation planning practices that prioritize cars.

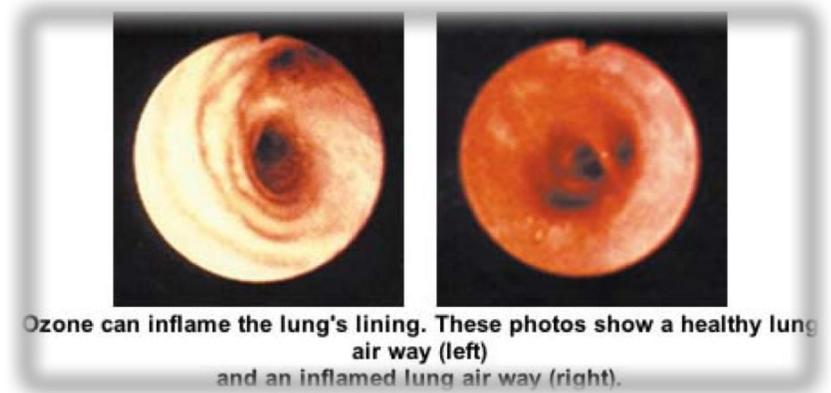
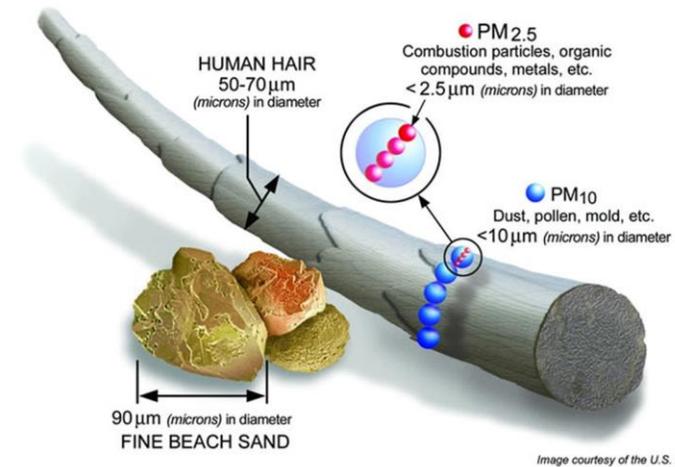
- q Harris County has the highest vehicle miles traveled (VMT) in Texas and the population is growing
- q Majority of air and GHG emissions are already from transportation sources (automobiles)
- q Public transit (and other modes of transportation) is limited throughout the region
- q Allocation of transportation funding is heavily skewed toward highway infrastructure
- q Minimal adoption of electric vehicles among governmental and organizational fleets
- q **80,000** Houston-area children attend schools in traffic-related air pollution (TRAP) zones



Heavy-duty vehicles contribute 28 percent of global warming emissions from the nation's on-road transportation sector. ²



Particulate Matter

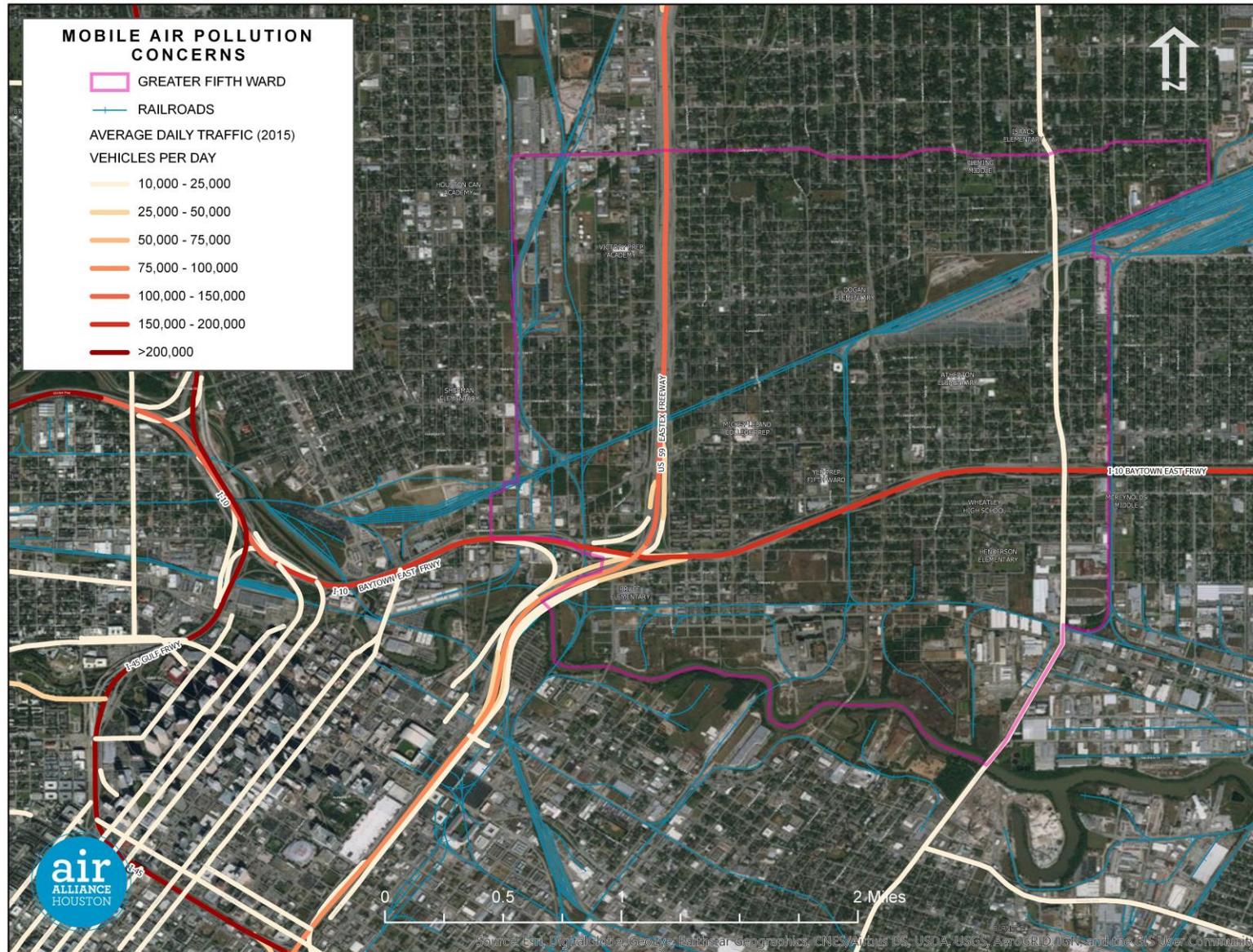


Climate change is contributing to worsening air quality in the form of extreme heat, drought and catastrophic wildfires. Increasing temperatures lead to greater formation of ground-level ozone pollution, and smoke from more frequent and intense wildfires contributes to particle pollution that can travel hundreds of miles.¹

1. American Lung Association, 2020. The Road to Clean Air: Benefits of a Nationwide Transition to Electric Vehicles. Available at: <https://www.lung.org/getmedia/99cc945c-47f2-4ba9-ba59-14c311ca332a/electric-vehicle-report.pdf>

2. Union of Concerned Scientists, 2019. Ready for Work: Now is the Time for Heavy-Duty Electric Vehicles. Available at <https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf>

On-road sources of air pollution disproportionately burden communities of color and low-income neighborhoods due to their proximity to roads and vehicular traffic.

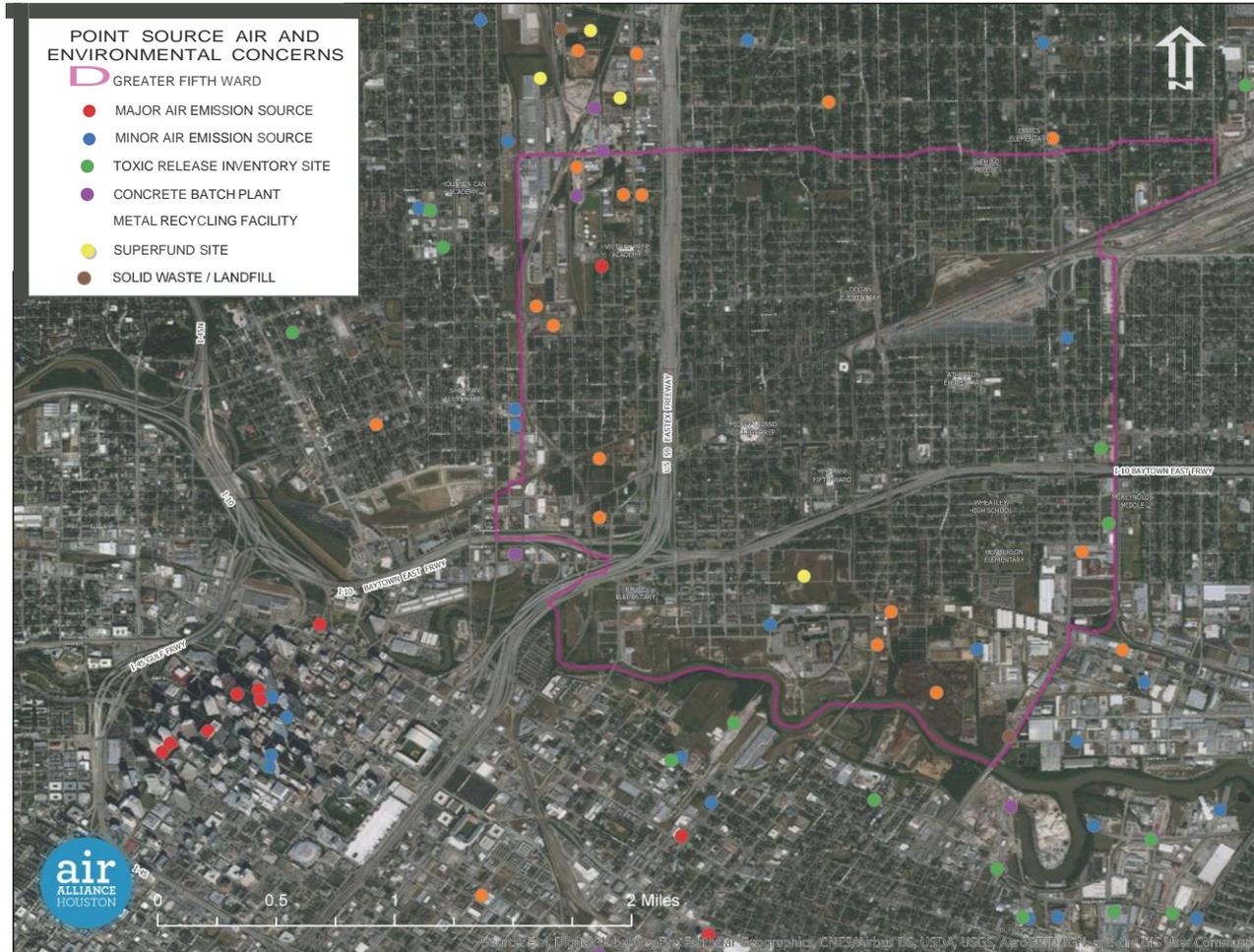


- Asian Americans, African Americans, and Latinos are exposed to 34 percent, 24 percent, and 23 percent more PM_{2.5} pollution (respectively) from cars, trucks, and buses than the national average.¹
- Nitrogen dioxide (No₂) levels here were 48% higher than the rest of the city.²

1. Union of Concerned Scientists, 2019. Ready for Work: Now is the Time for Heavy-Duty Electric Vehicles. Available at <https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf>

2. Environmental Defense Fund. Finding pollution- and who it impacts most- in Houston. Available at <https://www.edf.org/airqualitymaps/houston/findings>.

Nearly a third (29%) of Houston's concrete batch plants and more than half (51%) of the area's metal recycling facilities are located within a half mile of at least one school or childcare center.



Everything you need to know about the cancer cluster in Houston's Fifth Ward

By Jay R. Jordan Updated 5:35pm CST. Tuesday, January 21, 2020



Eijls



Source: <https://www.chron.com/news/houston-texas/houston/article/Everything-you-need-to-know-about-the-cancer-J4993103.Dhv#photo-J8z36518>

1. Environmental Defense Fund. Finding pollution- and who it impacts most- in Houston. Available at <https://www.edf.org/airqualitymaps/houston/findings>.

The pollution outside of 1/3 of the concrete batch plants and metal recyclers surveyed was similar to that in the areas along major freeways.¹

Company withdraws application to build concrete batch plant in Houston neighborhood

Erin Douglas and Perla Trevizo | Jan. 22, 2020 | Updated: Jan. 22, 2020 8:10 p.m.



Soto Ready Mix's site is shown from the yard of Donna and David Williams. Residents in the Acres Homes neighborhood have been fighting the concrete company's proposal to build a batch plant at the site for nearly two years. On Wednesday, the company withdrew its application.

Photo: Steve Gonzales, Houston Chronicle / Staff photographer

- The standard concrete batch plant permit allows concrete production up to 6,000 cubic yards/day
- The average concrete mixer holds 8-10 cubic yards
- The permit's maximum allowable production capacity translates into **600-750 trucks a day for one facility**

1. Environmental Defense Fund. Finding pollution- and who it impacts most- in Houston. Available at <https://www.edf.org/airqualitymaps/houston/findings>.

Children attending Bruce Elementary School are exposed to more than **4 times** the Vehicle Miles Travelled/square mile as an average Houston-area school campus.

Bruce Elementary

HISD Pre K - 5th Grade

Current VMT Within 150m of Campus

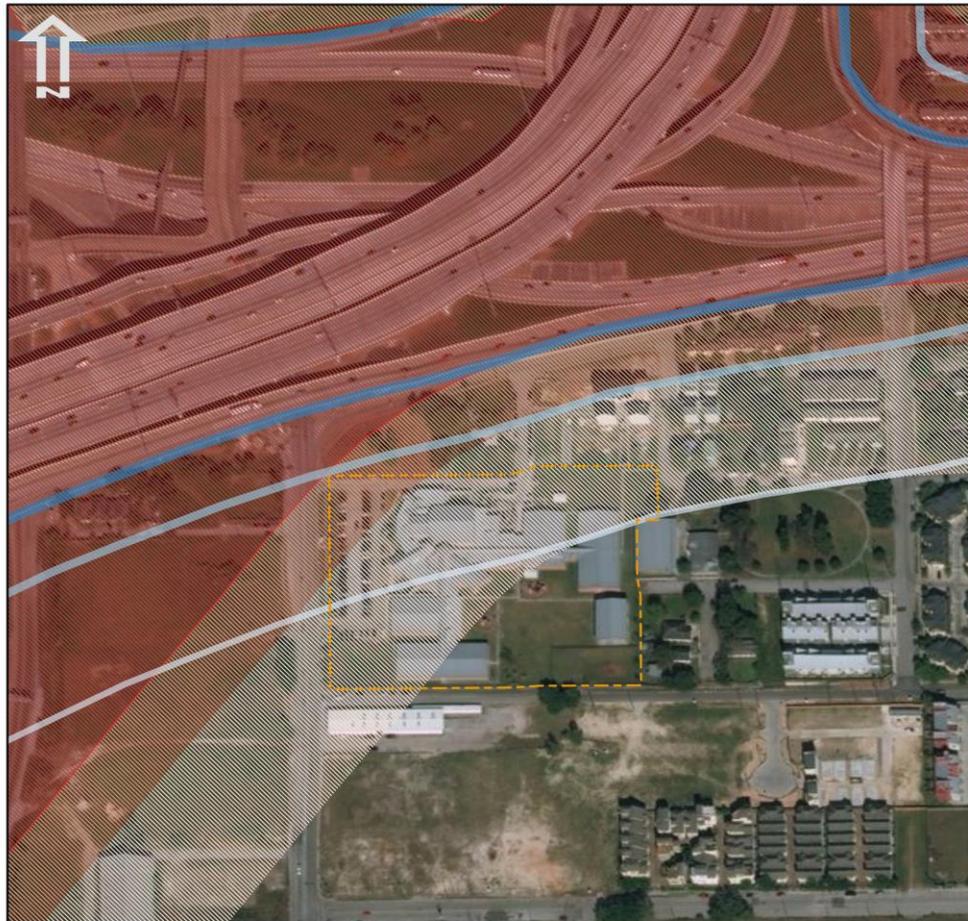
40,797

Campus Demographics 2016-2017

Total Enrollment: 563
Total Minority: 99.3%
African-American: 68.7%
Hispanic: 29.1%
Economic Disadvantage: 94.7%
Recent Immigrant: 3.7%

Houston's Fifth Ward²

- Higher rates of asthma - 11%, compared to 9%
- Chronic Obstructive Pulmonary Disease (COPD) - 10%, compared to 6%
- Coronary Heart Disease - 9% compared to 5% and stroke - 6% compared to 3%
- Life expectancy is almost a decade lower than the rest of the region - **69 compared to 78 years**



Legend

- ▭ Campus Boundary
- ▭ Current Freeway Extent
- ▭ Current 50m Buffer
- ▭ Current 150m Buffer
- ▭ Expansion Path
- ▭ Expansion 50m Buffer
- ▭ Expansion 150m Buffer



1. Union of Concerned Scientists, 2019. Ready for Work: Now is the Time for Heavy-Duty Electric Vehicles. Available at <https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf>
2. Environmental Defense Fund. Finding pollution- and who it impacts most- in Houston. Available at <https://www.edf.org/airqualitymaps/houston/findings>.

No matter the operating characteristics of the vehicle or electricity grid, battery-electric heavy-duty vehicles have lower global warming emissions than diesel vehicles. This advantage comes in addition to the public health benefits resulting from zero tailpipe emissions of harmful air pollutants such as particulate matter and nitrogen oxides.¹

- Transportation funds at the federal level need to have aggressive emissions-based performance measures.
- States need to incorporate health impacts into transportation planning.
- Texas can do much more to pave the way for mass electrification.
- The City and County can use their power and influence to push the Port to make electrification a priority.
- Air permitting could be leveraged as a mechanism to incentivize owners to electrify their fleets.



1. Union of Concerned Scientists, 2019. Ready for Work: Now is the Time for Heavy-Duty Electric Vehicles. Available at <https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf>