

An aerial photograph of a park area. In the center, a person in a black shirt and dark pants is walking on a paved path. To the right, there is a dense area of green trees and bushes. In the bottom left corner, there are some green plants. The overall scene is bright and sunny, with shadows cast across the ground.

# TUKWILA-AlLENTOWN AIR QUALITY STUDY COMMUNITY REPORT

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*This study was completed as part of the Puget Sound Clean Air Agency's (the Agency) equity and community engagement efforts. The Agency believes that no community in the Puget Sound region should bear disproportionate burdens and exposure from air pollution. To learn more about the Agency's equity and community engagement efforts visit our website.*

[www.pscleanair.org/equity](http://www.pscleanair.org/equity)

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## OVERVIEW

The Puget Sound Clean Air Agency (the Agency) conducted an air quality study in 2018 to better understand air pollution levels in the Tukwila-Allentown neighborhood. During the study, the Agency supported a number of community engagement opportunities in order to understand the community's concerns about air quality. Some of the concerns included if air pollution levels are the same across Allentown, is there more air pollution near the railyard and 124th street, and how does air quality compare to other urban areas in the Puget Sound region.

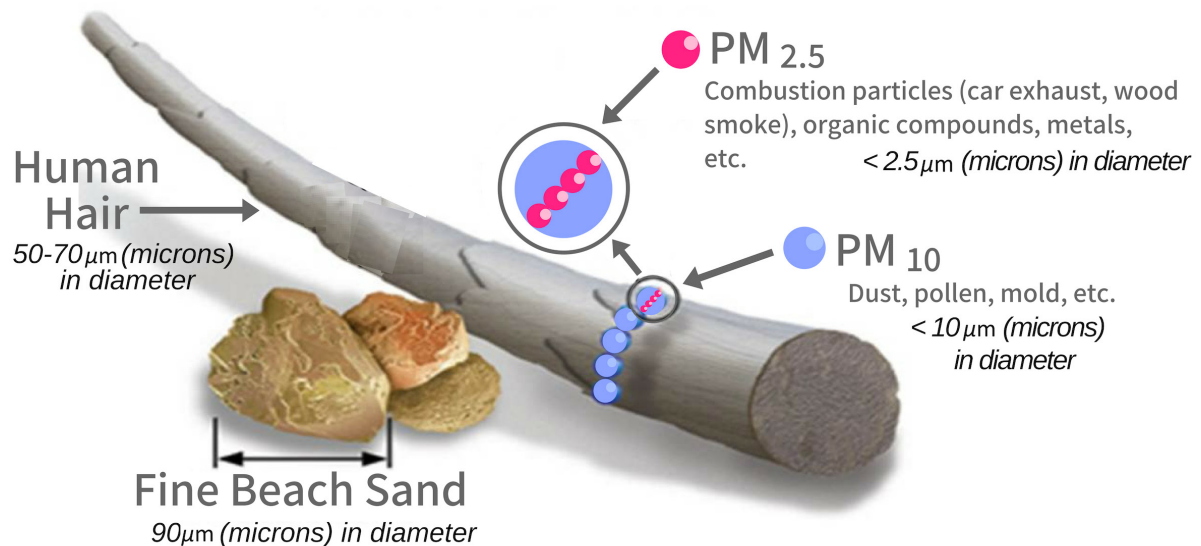
## HEALTH IMPACTS

Fine particles (PM 2.5) can reach the deepest part of our lungs. Decades of research have shown that fine particles can worsen breathing and heart problems, such as asthma, cause heart attacks, strokes, and lead to premature death. These health impacts are greater for sensitive populations like children, the elderly, and people with pre-existing health conditions. Black carbon is associated with combustion and is a particularly toxic portion of fine particles.

Ultrafine particles are even smaller than fine particles (less than 0.1 microns in diameter). While not much is yet known about the health risks of ultrafine particles, some studies suggest similar heart and breathing impacts.

See the figure below that helps visualize the size of these particle.

### Relative Size of Particulate Matter (PM 2.5)



# KEY FINDINGS: RESULTS

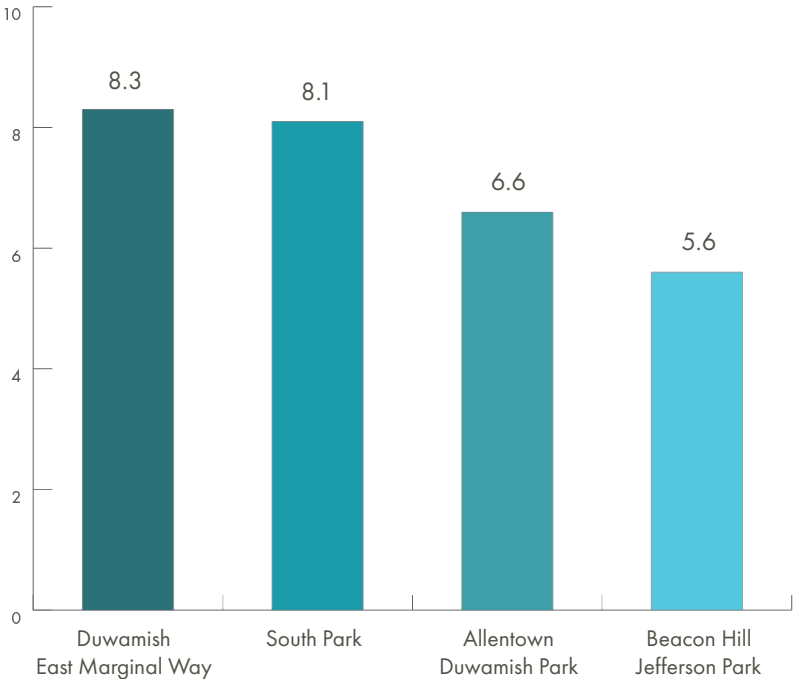
Overall, fine particle (also known as PM 2.5) and black carbon levels in Allentown were similar to and slightly less than other monitoring sites in the Duwamish Valley. Levels at all of the monitoring sites in the Agency’s monitoring network are below national health-based air quality standards. Ultrafine particle levels vary across Allentown and seem to be higher near the entrance to the railyard.

We measured fine particle pollution and black carbon—types of air pollution that are closely related to transportation (cars, trucks, etc.) and wood smoke. To see how fine particle and black carbon levels differ throughout Allentown, we used the air monitoring station in Duwamish Park (located near 44th Ave).

We also attached a portable air monitor to a bicycle and rode across Allentown to look at the levels of ultrafine particles across the neighborhood. This technique is a helpful way to gather information and is easy to use.

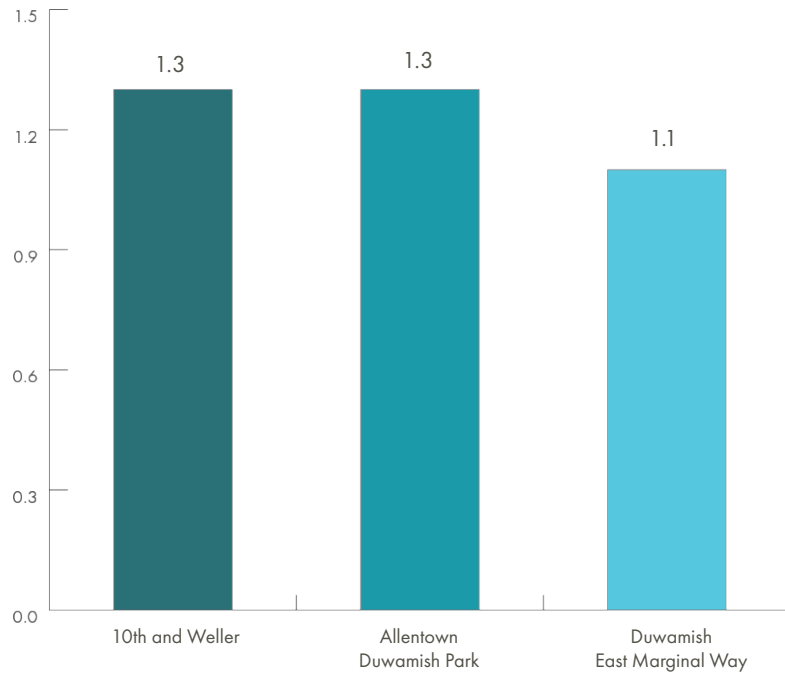
The bar chart below shows the average level of fine particles (PM 2.5) from September to June for Allentown, Beacon Hill, E. Marginal Way, and South Park. Fine particles are the type of air pollution we measure the most because of its health impacts (see back page for more information on this).

Average Fine Particulates



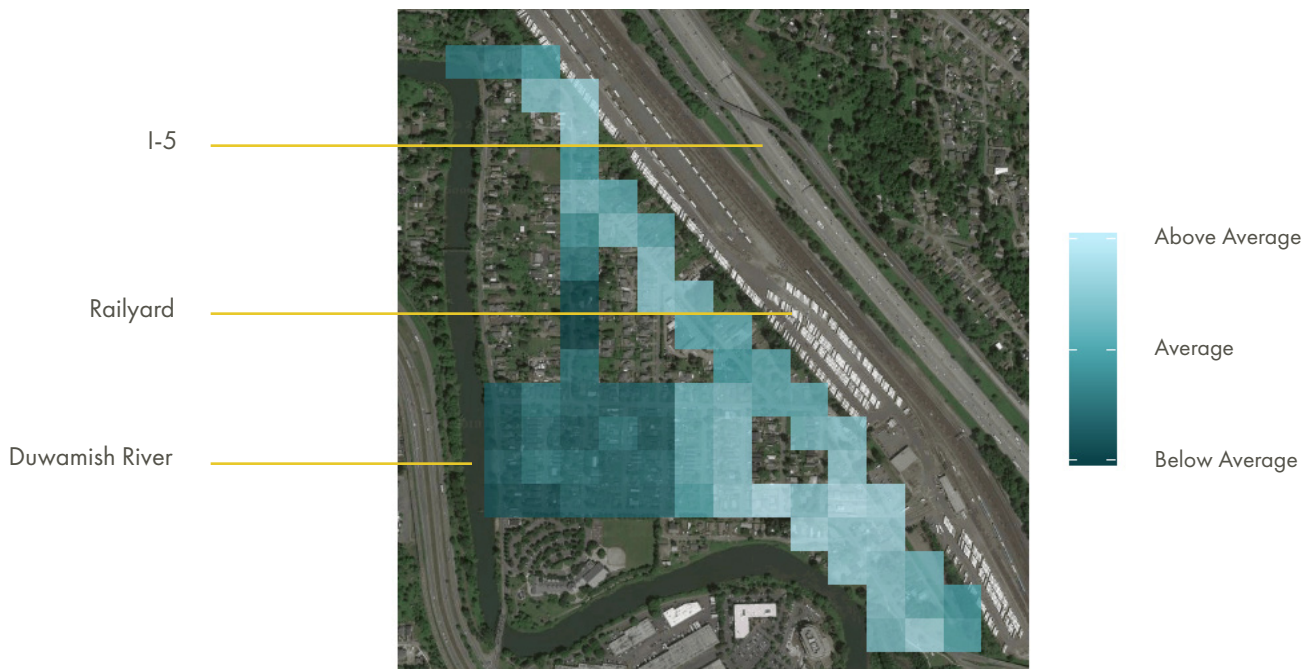
The bar chart on the following page shows the average level of a type of particle pollution called black carbon that is associated with diesel exhaust and wood smoke. Black carbon levels in Allentown were similar to black carbon levels at 10th and Weller, a site located near the I-5 freeway and E. Marginal Way.

## Average Black Carbon



The map below shows the distribution of ultrafine particles across Allentown. This map is based on data from a portable air monitor that was placed on bicycle. There were 17 bike rides on several days in different seasons. The map takes the data from each bike trip's "snapshot in time." The darker squares indicate areas that have ultrafine particle levels below the average in Allentown, the medium shaded squares indicate average ultrafine particle levels, and the lighter squares indicate higher ultrafine particle levels.

Based on this data, ultrafine particle levels are highest near the entrance to the railyard.



## SOLUTIONS + ACTIONS

### What Individuals Can Do Now To Limit Their Exposure:

- When possible, limit time spent near highways when traffic is highest, such as during morning and afternoon commute times.
- Recirculate the air in your car when driving.
- Continue to open windows regularly to prevent mold and other indoor air pollutants, etc. (unless outdoor air quality is poor or unhealthy)
- Review air quality forecasts before outdoor strenuous activities on the Agency's website. [www.pscleanair.org](http://www.pscleanair.org)
  - Continue to exercise outdoors if the air quality is good, especially in the evening when traffic levels are usually lower.
- Support clean transportation policies including cleaner vehicles and transportation systems.
- Use alternative transportation options when possible (e.g. walking, biking, bus, carpool, electric vehicles).
- Reduce overall impacts from air pollution:
  - Limit exposure to second-hand smoke, and to other sources of smoke (incense, candles, idling trucks or buses, etc.),
  - Ensure that home indoor air is also clean,
  - Consider purchasing or making an indoor air filter, and replace filters as needed. For more information on building your own air filter, visit the Agency's website. [www.pscleanair.org/filterfan](http://www.pscleanair.org/filterfan)

## SOLUTIONS + ACTIONS

### What We Are Doing to Reduce Air Pollution Exposure:

#### Diesel Solutions:

The Agency helped retrofit a number of diesel engines that traveled through the Port of Seattle. Many of these trucks also traverse the Allentown neighborhood. The goal was to exchange older, dirty engines and replace them with cleaner, more efficient technologies.

We also created a training series to provide a tool for truck drivers to understand how to maintain their new truck's system. You can learn more at [www.pscleanair.org/trucktraining](http://www.pscleanair.org/trucktraining)

#### Cars and Trucks:

Through the Western Washington Clean Cities Coalition, the Agency helps public and private vehicle fleets use cleaner and more sustainable transportation; such as increasing the use of electric vehicles and alternative fuels.

#### Filter-fans:

The Agency has partnered with community organizations and student leadership groups to teach people how to build their own low-cost air filters that help clean indoor air.

In response to the findings of this study, we will continue to work with the community to reduce emissions and limit exposure and impacts.

**PLEASE CONTACT US  
FOR QUESTIONS,  
CONCERNS, AND  
SUGGESTIONS.**

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