Land | Water | Air

Community Design for Equitable Futures in the Duwamish Valley

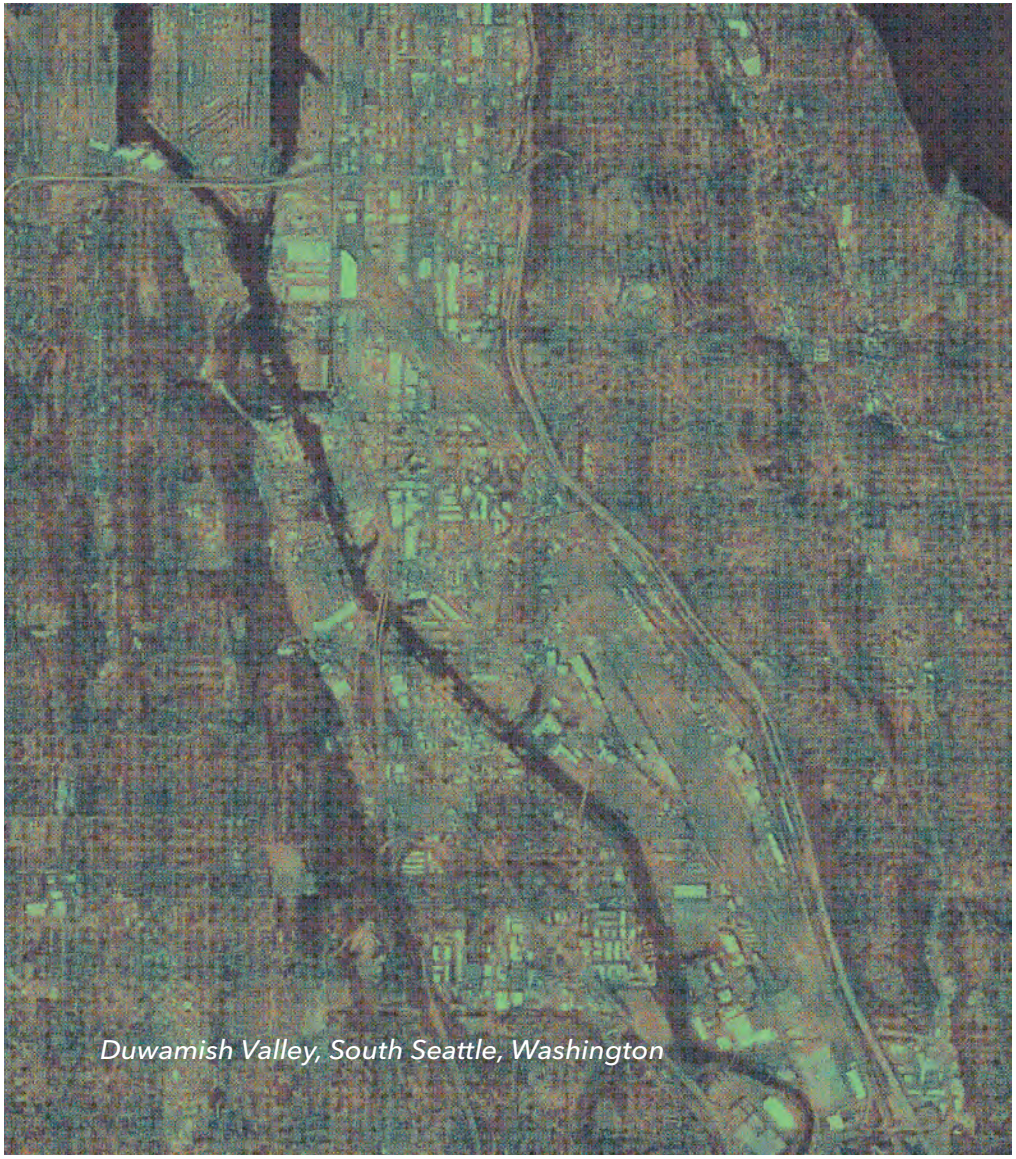
MLA Capstone Project Exhibition
Georgetown Steam Plant

Friday, May 31, 2024 *5:30-8:00p*

Work Authored By:
Malka Hoffman
Nat Gregorius
Kat Golladay
Meredith Grupe
Meaghan O'Connor Lenth
Daquan Proctor

Advised By:
Catherine De Almeida, Associate Professor

description



Duwamish Valley, South Seattle, Washington

This exhibition showcases the research and design efforts of three graduate student projects in the UW Landscape Architecture Department advised by Associate Professor Catherine De Almeida. Each project addresses distinct environmental injustices in the Duwamish Valley of South Seattle.

LAND

Repairing Waste Relations focuses on Seattle's solid waste management system and its disproportionate impact on the Duwamish Valley. This design research aims to make purposefully invisibilized systems visible; support a culture of care and collective agency of land, people, and material; and create accessible resources for community to further existing efforts toward a Regenerative Waste Economy.

Authors: Malka Hoffman and Nat Gregorius

WATER

Pollution Prevention: Mitigation Strategies for the Duwamish River and its Inhabitants offers Green Stormwater Infrastructure strategies focused on improving the Duwamish River's water quality.
Authors: Meaghan O'Connor Lenth, Meredith Grupe, and Kat Golladay

AIR

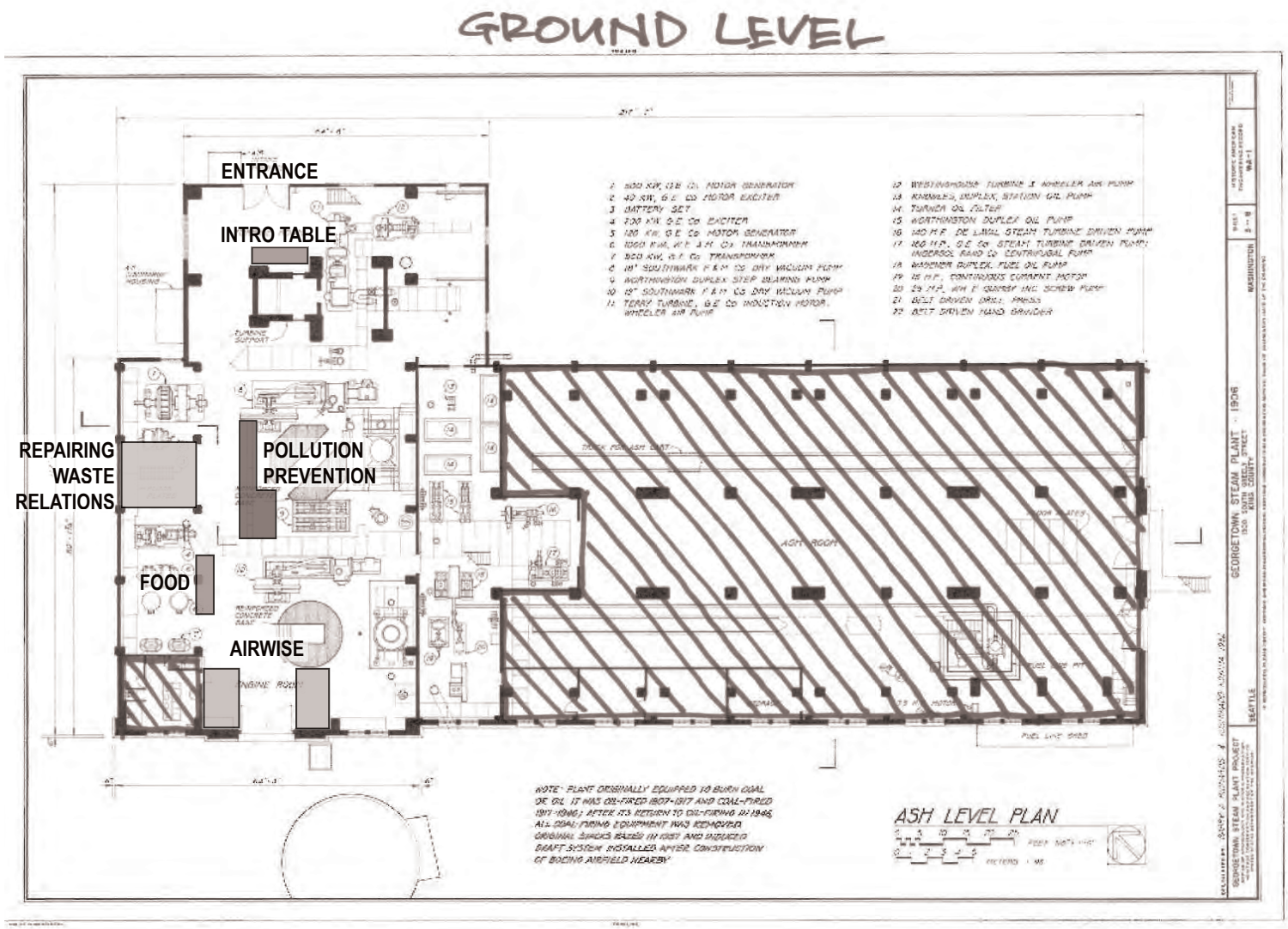
AirWise: Collection for Clean Air is centered on air quality enhancement, emphasizing the importance of environmental justice and community health disparities. This project asks, "How can design interventions in the built environment address air quality health inequities, and foster a more equitable urban environment?"
Author: Daquan Proctor

description

The work exhibited in this event seeks to center and amplify Duwamish Valley communities through design research tools such as mapping, case study analysis, and speculative visioning.

We acknowledge that our work and studies take place on the ancestral lands of the Coast Salish peoples including the Muckleshoot, Suquamish, and Duwamish Tribes, and stand in solidarity with all Native peoples and their continued struggle towards justice and sovereignty.

exhibition layout



georgetown steam plant

Georgetown Steam Plant in Context: Slip 4 + Boeing Field

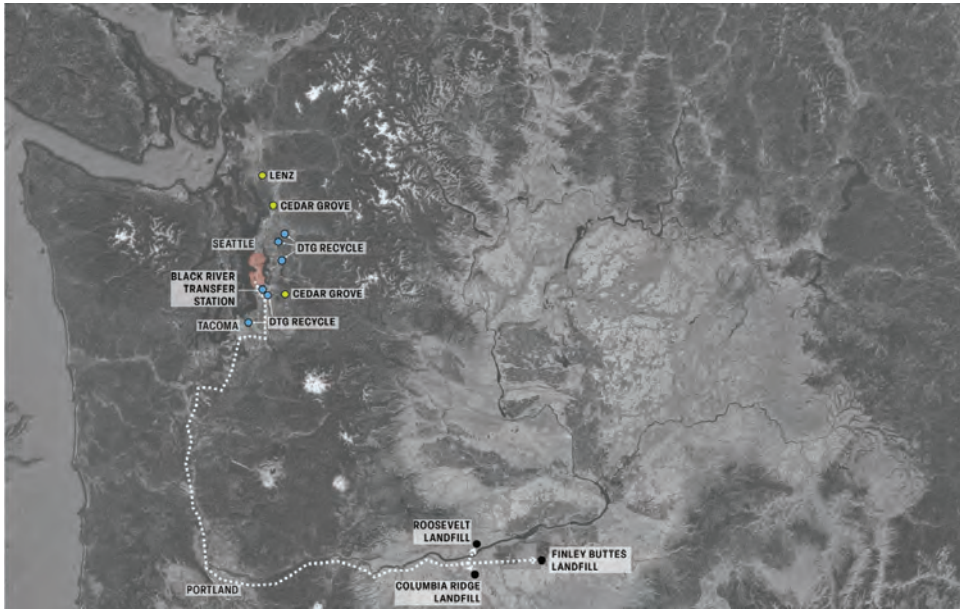
LAND

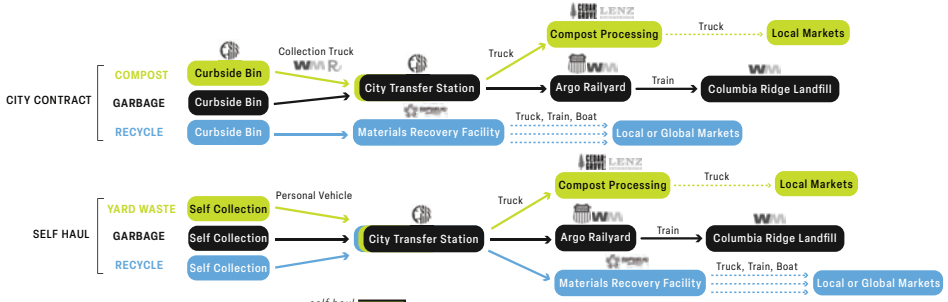
REPAIRING WASTE RELATIONS

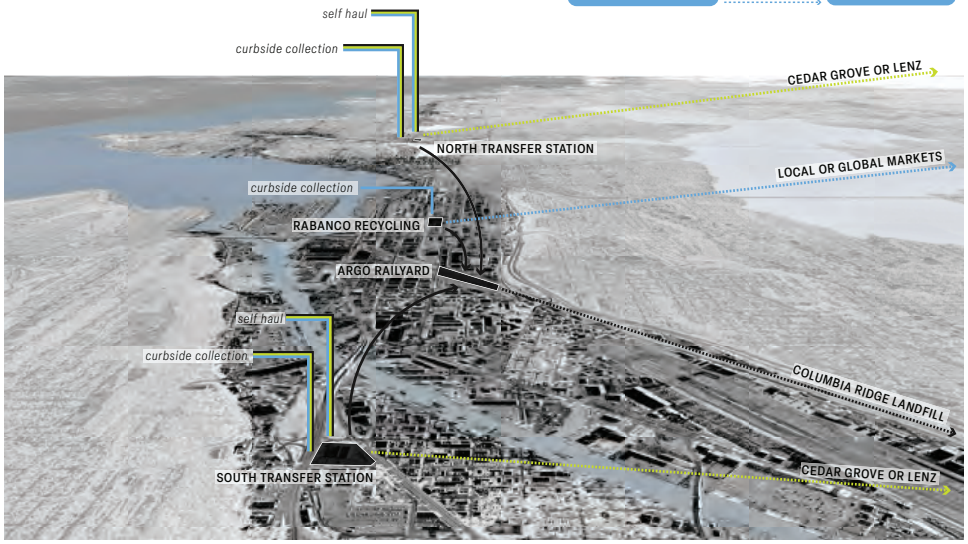
Repairing Waste Relations focuses on Seattle's solid waste management system and its disproportionate impact on the Duwamish Valley. This design research aims to make purposefully invisibilized systems visible; support a culture of care and collective agency of land, people, and material; and create accessible resources for community to further existing efforts toward a Regenerative Waste Economy.

Malka Hoffman + Nat Gregorius

Repairing Waste Relations

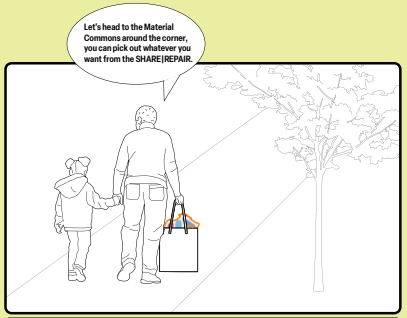




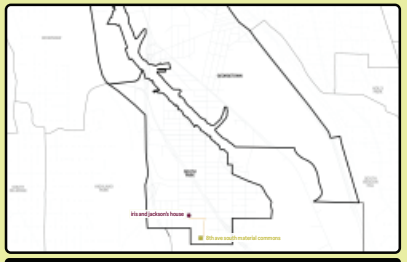


This Regenerative Economy story begins at Iris and Jackson's house in South Park, in the Duwamish Valley of Seattle.

Iris and Jackson pack up a bag of things to take to their local Material Commons where Iris can exchange her shirt for something that fits better.

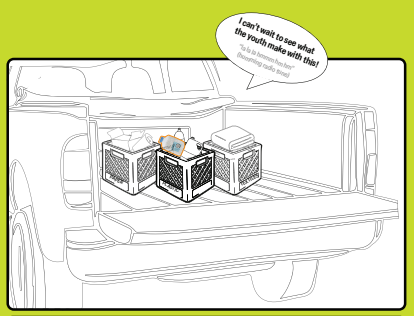


Iris, Grandpa Joe, and The Shirt spend their morning on a walk through their neighborhood. Iris tells Grandpa Joe all about the "Trash to Treasure" art class she's taking at Seattle ReCreative in Georgetown this summer.



Iris, Grandpa Joe, and The Shirt travel 0.2 miles to their local Material Commons. It takes them about 5 minutes to walk through the neighborhood.

Arlo pulls up to the 13th Avenue South Material Commons and unloads some materials into the categorized bins. Other neighbors are there dropping off and picking up their supplies, as well as hanging out in the gathering space, and shopping at the Free Store.



Arlo and The Milk Jug then continue on their route after grabbing more bins of recyclables that will head to a nearby Resource Regeneration Center to get processed.

Arlo and The Milk Jug drive 2.4 miles for 7 minutes in the Biogas truck from the 13th Avenue South Material Commons to the Occidental Avenue South Resource Regeneration Center.

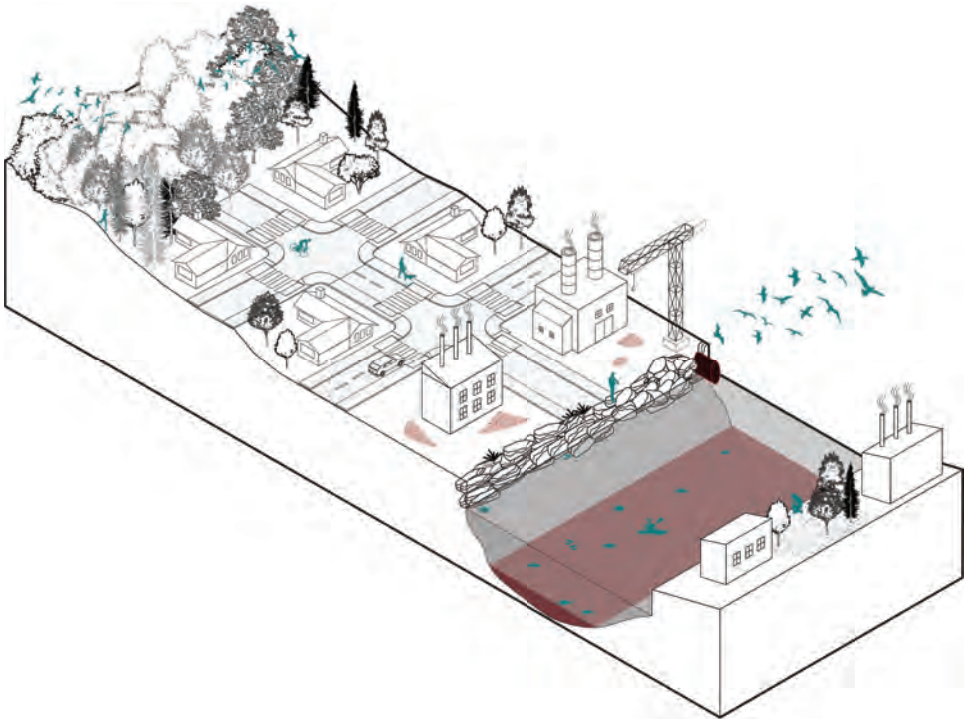
In the backyard of the Occidental Avenue South Resource Regeneration Center is the Post Plastic Design Build School where teens learn how to use upcycled plastic as a building material using Precious Plastics machinery. Arlo gives The Milk Jug and other plastics to the students and they add it to their supplies needed for their bench build.

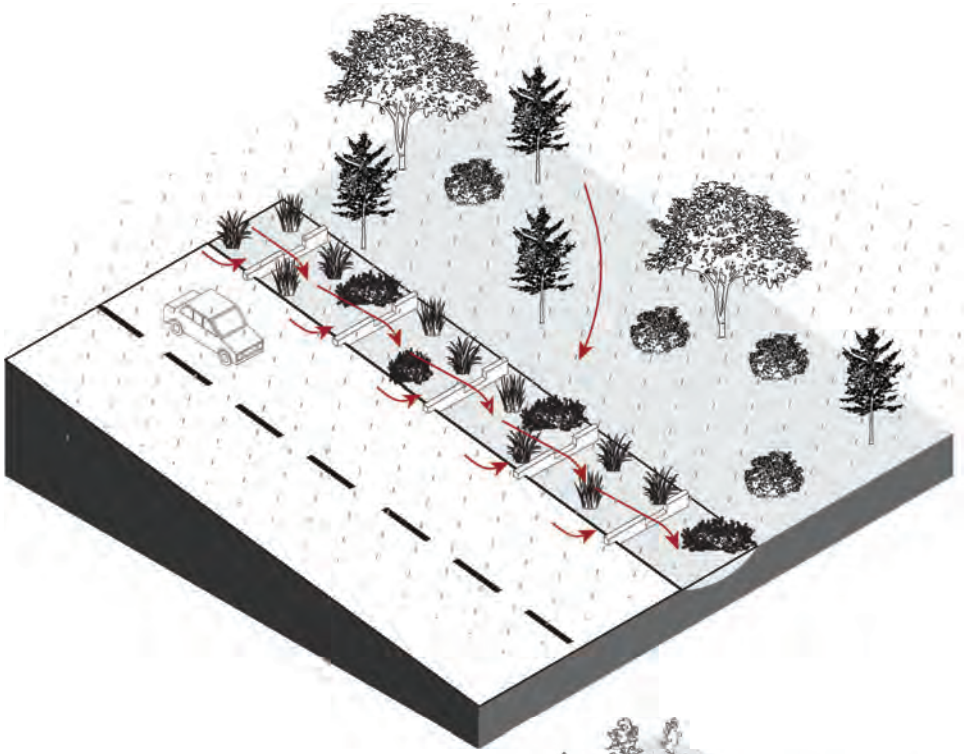
WATER

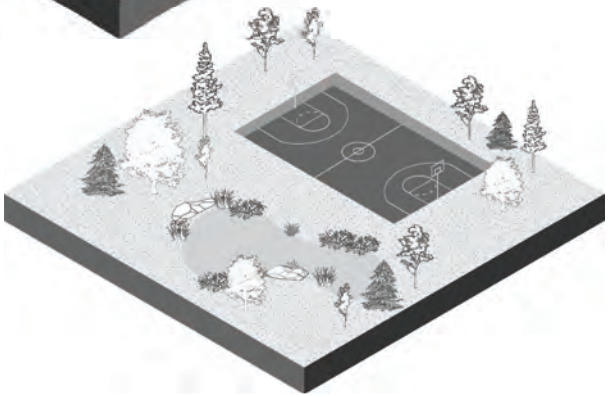
PREVENTING POLLUTION

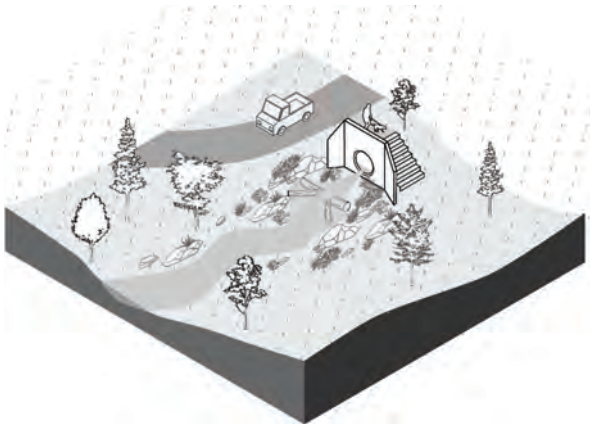
Preventing Pollution aims to mitigate the ongoing pollution of the Duwamish River by connecting and amplifying existing community efforts, conducting spatial analysis, and developing speculative scenarios for functional outdoor spaces. Utilizing methods such as GIS mapping, literature reviews, and both site-based and transect-based design approaches, we identify critical areas for intervention and propose scalable solutions.

Kat Golladay, Meredith Grupe, and Meaghan O'Connor Lenth







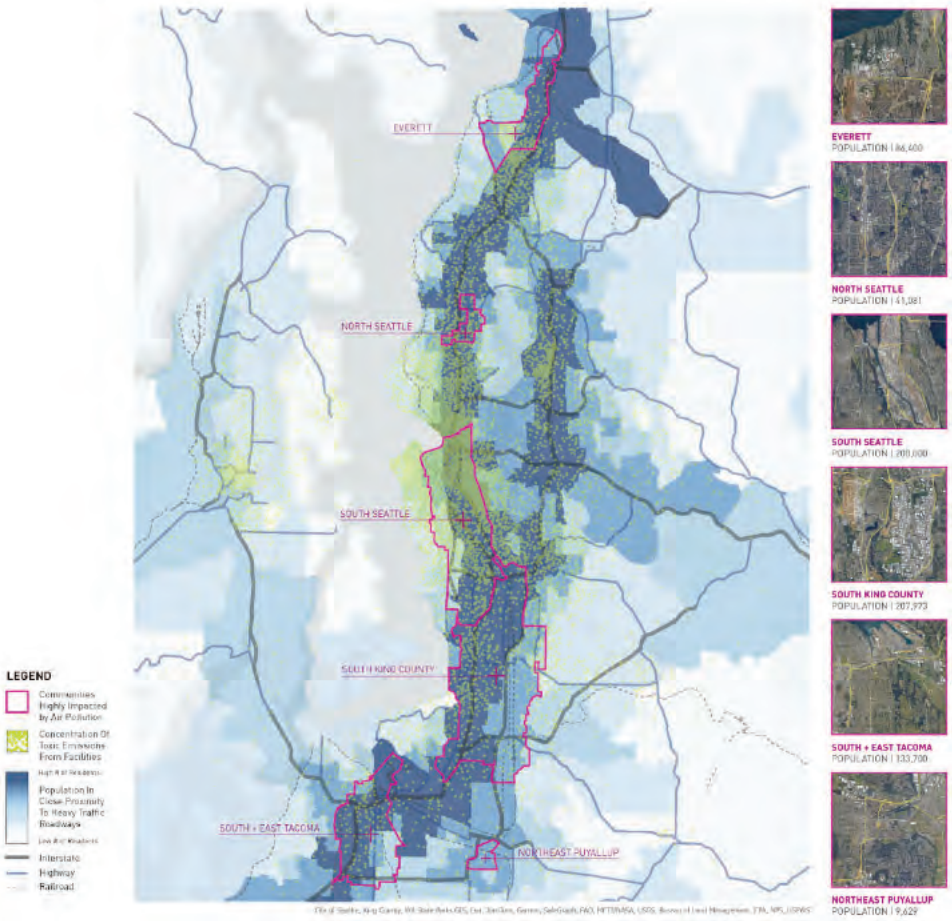


AIR

AIRWISE

The built environment plays a crucial role in shaping health outcomes. *Airwise*, focuses on the disparities exacerbated by air quality within urban settings. The research employs a place-conscious approach to unveil the unequal distribution of environmental risks and harms, particularly affecting marginalized communities in the Duwamish Valley. Applying a health equity framework, the project progresses through phases of exploration, localization, strategy development, and communication, with the aim of providing actionable design interventions to mitigate health inequities. The research serves as a practical guide for designers and communities, emphasizing the transformative potential of health equity-driven design interventions in fostering healthier and more equitable urban environments.

Daquan Proctor



EVERETT
POPULATION | 86,600

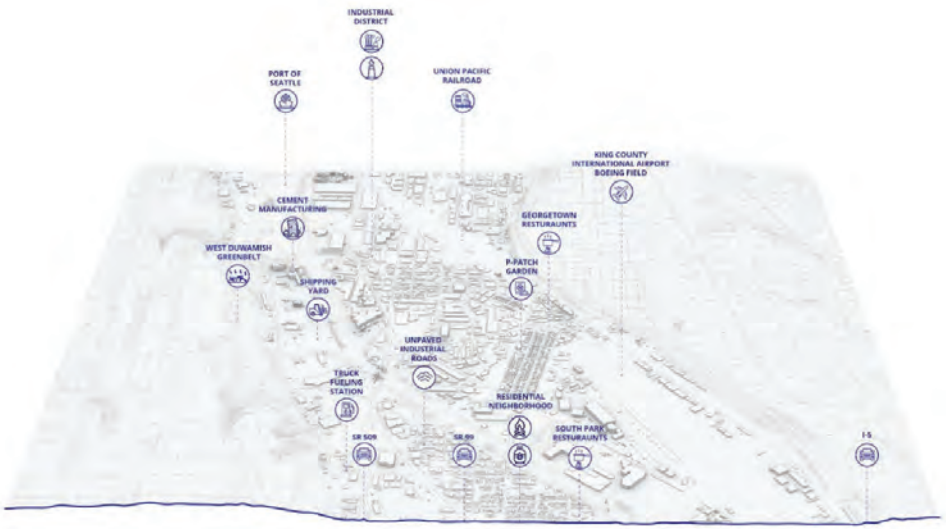
NORTH SEATTLE
POPULATION | 41,081

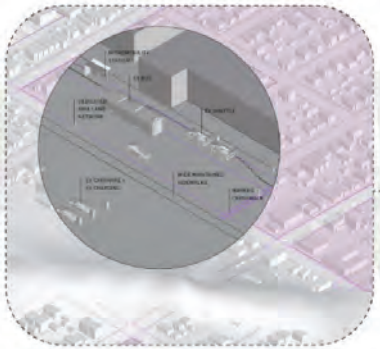
SOUTH SEATTLE
POPULATION | 208,000

SOUTH KING COUNTY
POPULATION | 207,973

SOUTH + EAST TACOMA
POPULATION | 133,700

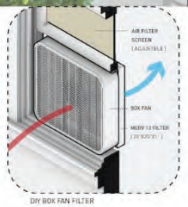
NORTHEAST PUYALLUP
POPULATION | 9,629





MULTIMODAL CONNECTIVITY

AIR FILTER SCREEN



DIY BOX FAN FILTER

FILTERED NATURAL VENTILATION

NATURAL VENTILATION IS OFTEN HIGHLIGHTED AS A PRIMARY STRATEGY FOR ENHANCING AIR QUALITY. HOWEVER, IN AREAS WITH POLLUTED OUTDOOR AIR, ADDITIONAL CONSIDERATIONS ARE NEEDED TO MINIMIZE EXPOSURE TO EXTERNAL POLLUTANTS. SEVERAL APPROACHES EXIST TO ADDRESS THIS ISSUE, INCLUDING NANOFIBER AIR FILTER SCREEN WINDOW INSERTS AND DIY FAN FILTERS. THESE METHODS CAN HELP REDUCE THE AMOUNT OF OUTDOOR AIR INFILTRATION WHILE STILL FACILITATING PASSIVE VENTILATION STRATEGIES.

ENVELOPE AIRTIGHTNESS / WEATHERIZATION

Department of Landscape Architecture
College of Built Environments
University of Washington