

Learn.

Grow.

Breathe.

air

factory
mckinley park



The Central Manufacturing District **Clock Tower** was never really a building. Built in 1917, its Gothic brick exterior was just a disguise for a massive water tank meant to fight the industrial age's biggest threat: fire. Today, the tower is an official historical landmark. It sits empty while overlooking McKinley Park, a neighborhood that has become an environmental sacrifice zone.

Trapped between the Stevenson Expressway and the heavy fumes of the **MAT Asphalt** corridor, the community is facing a new and invisible crisis. The main **danger** is no longer fire but the very air people breathe. Treating this historic landmark as just another opportunity for mixed office space shows a complete lack of imagination. In our current climate reality, architectural preservation cannot just be about saving old bricks. It must be about **saving breath**.

Why? | air

factory

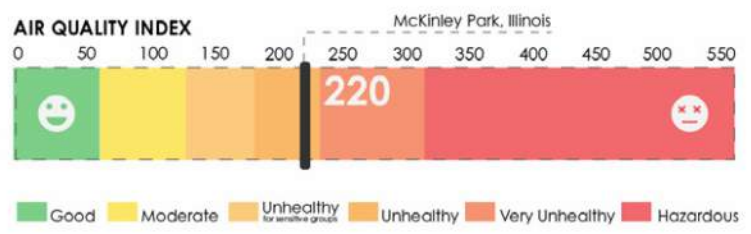
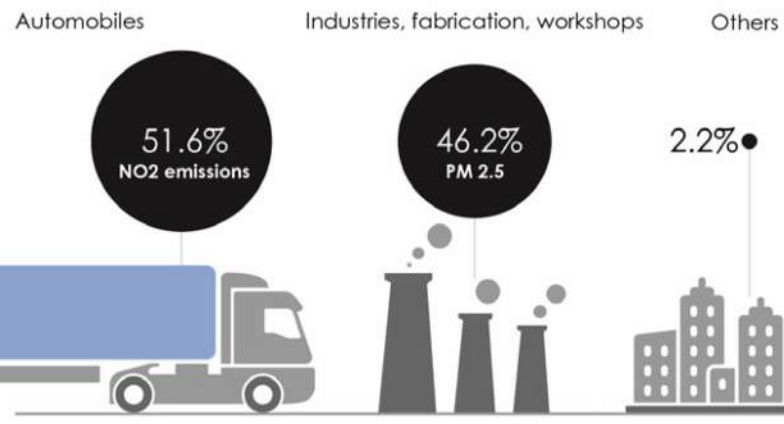
How?

To actually save the tower, we have to return it to its original purpose as working infrastructure. ***The Air Factory project does not just renovate a landmark but transforms it into a district wide air filtration engine.*** ***At the macro scale, we hollow out the base of the tower to install heavy duty ionization turbines.*** By using the existing vertical shaft as a thermal chimney, the system pulls in polluted street level air, scrubs it clean using **electrostatic precipitators**, and releases it at the top to create a massive **clean air** sanctuary around the site. On a micro scale, a network of Sentinel bus stations creates a defensive perimeter along Pershing Road to drastically reduce commuter exposure to **diesel particulate matter**. Beyond the mechanical infrastructure, the ground level features a historic center honoring local industrial roots and active hydroponics growing fresh food for social refuge. To fund this system, a Local Industrial Offset Tax ensures that nearby corporate **polluters** pay for the tower's maintenance. By turning the water tank that once protected factories into an air plant that protects people, we are hacking the architecture of production to become the architecture of repair.

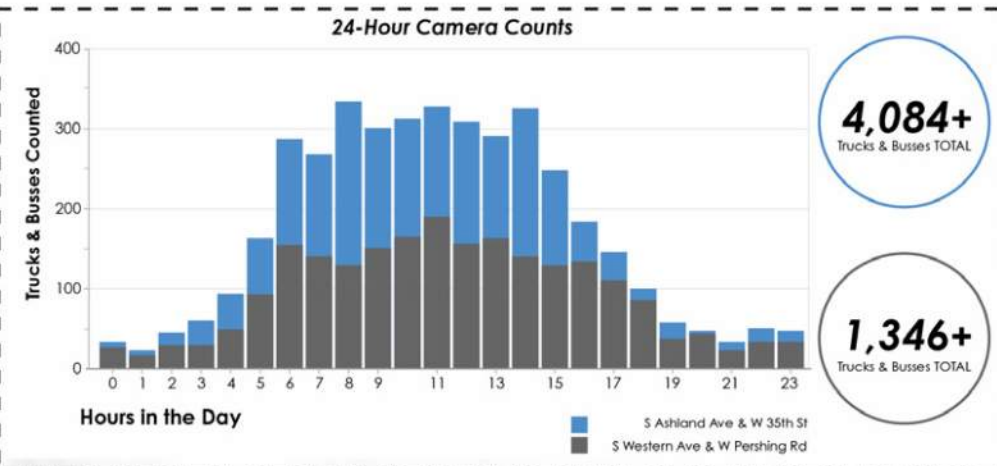
NO AIR! : THE MECHANICS OF THE SACRIFICE ZONE - MCKINLEY PARK, CHICAGO

TOXIC EMISSIONS

Air Contamination : MAT ASPHALT



This ongoing crisis highlights a profound environmental injustice, as the **underprivileged families** of the community are disproportionately forced to bear the toxic, cumulative burden of industrial zoning at the direct expense of their wellbeing and **respiratory health**.

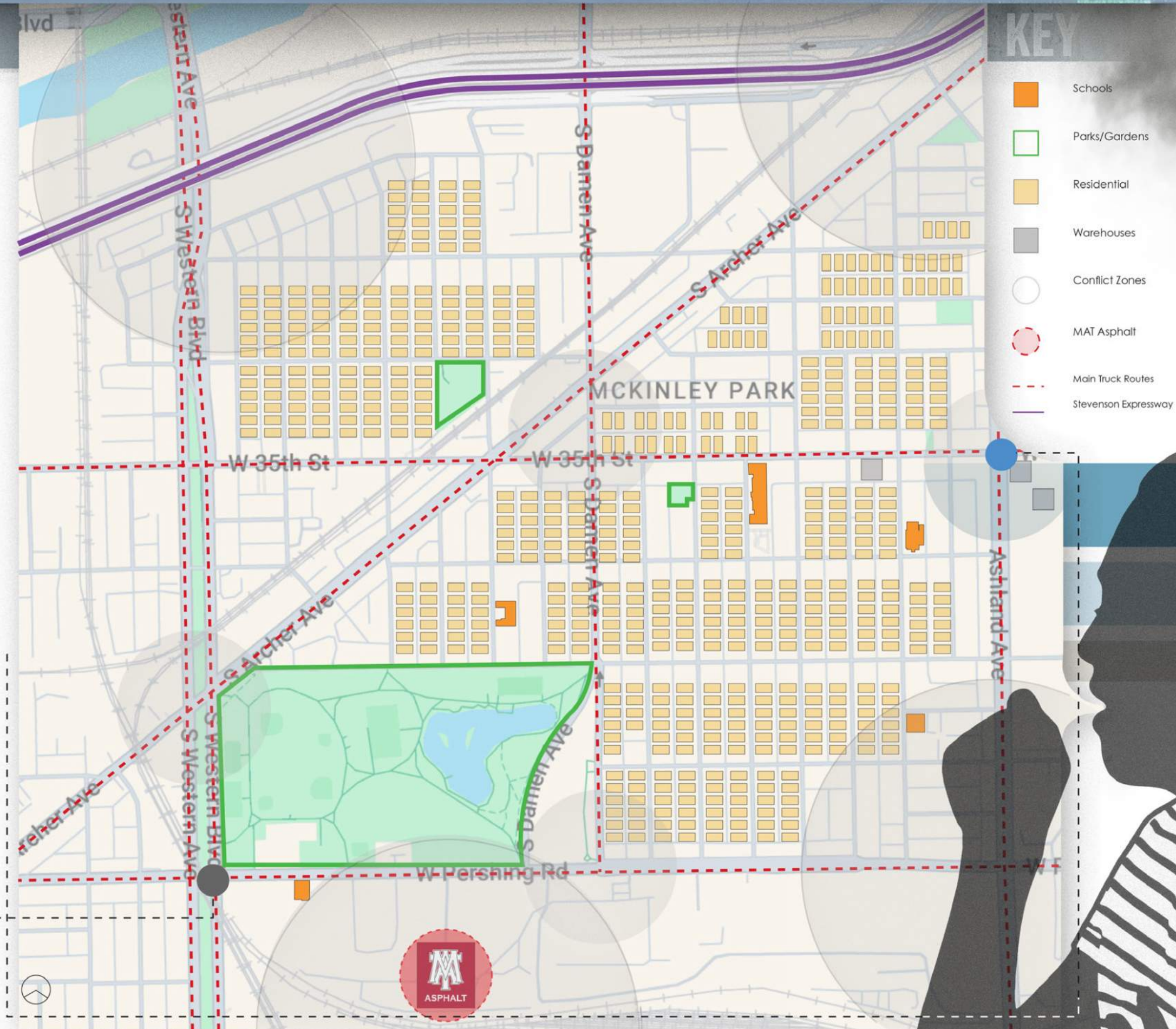


"Starting in 2018 I have smelled toxic and noxious odors while inside my home (with closed windows)...It affects my ability to sleep because the smell permeates my house in the early morning hours while windows are shut."

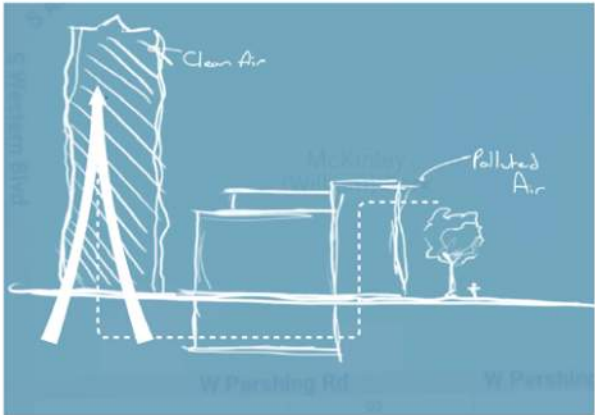
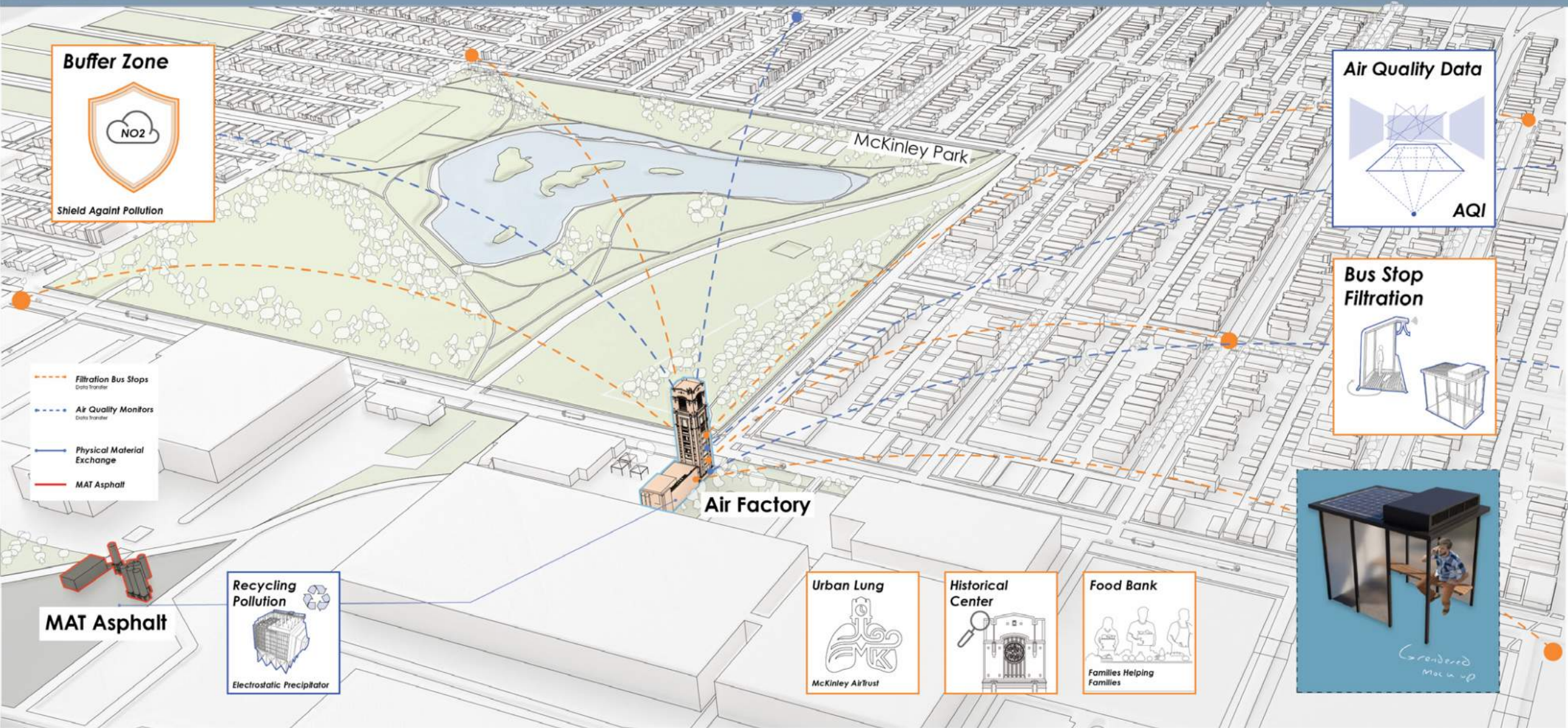
-Testimony from Plaintiff in the class-action lawsuit "Rodriguez vs. MAT Asphalt LLC"

<https://mckinleypark.news/neighborhood/publications/mckinley-park-existing-conditions-report/1376-issue-threats-to-housing-affordability-choices-and-quality?showall=1>

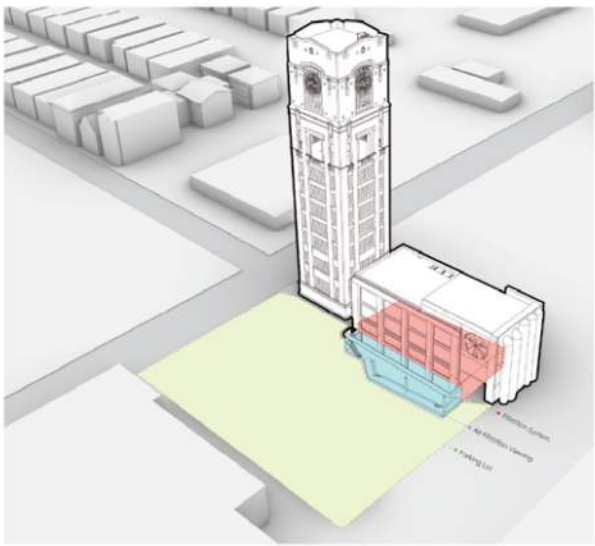
<https://mckinleypark.news/news/5390-truck-count-study-shows-impact-on-mckinley-park-neighborhood>



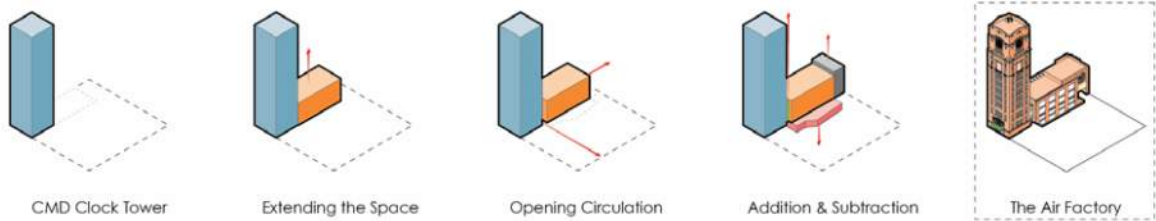
Jurisdictional: Site Strategies



Flow Parti

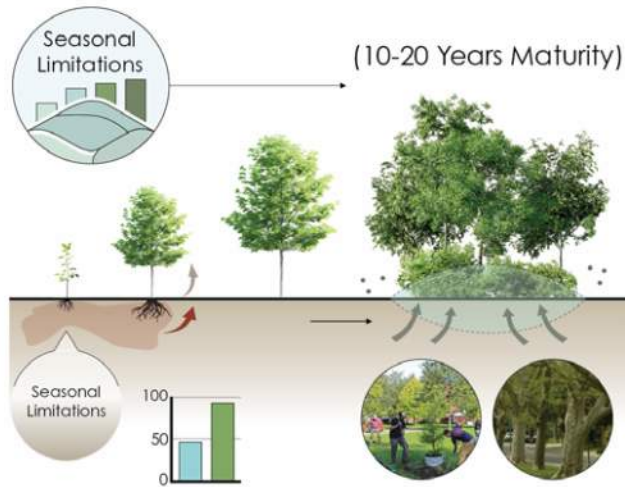


Site Context



- 1 Active Filtration: Integrated systems capture rising **PM 2.5 emissions** from heavy semi-truck and automotive traffic, creating immediate clean air zones for commuters.
- 2 Real-Time Telemetry: Operating as active monitoring stations, each shelter collects local air quality metrics and transmits the data back to the central Air Factory to optimize the site's overarching remediation strategy.

McKinley Park, Chicago Active Filtration Over Passive Filtration



Trees: Secondary Step, Long Term Ecology

	Acute Remediation	Survivability	Civic Value	Time to Maturity
TREES TOWER				 3-10 Years
TREES				 10-20 Years

Retrofitting a McKinley Park clock tower with **active air filtration systems** offers faster and more effective acute pollutant remediation than planting trees, which are categorized as a secondary, long-term ecological step.

Coalitions of Care



McKinley Air Trust
CIVIC-INDUSTRIAL AIR UTILITY

Trust Us With Your Air

The *McKinley Air Trust* is a pioneering civic organization dedicated to safeguarding public health by transforming everyday urban infrastructure into advanced air-purification systems.

We are engineering a future where every community has constant access to clean, breathable air.

WHO?

Community advocacy groups collaborate with local industries using offset taxes for funding, while the CTA provides transit network support.

HOW?

Together these partnerships ensure the clock tower operates smoothly and feels like a cohesive part of the neighborhood.

The Community Will Stand Together

The community connects by turning their shared fight for clean air into a physical gathering space. Local residents and environmental groups team up to fill the historic tower with grassroots programs and public viewing areas.

COMMUNITY & HEALTH



McKinley Community Play Garden



PEOPLE FOR COMMUNITY RECOVERY



MCKINLEY PARK MUTUAL AID



McKinley Park Community Garden



Families Helping Families
Chicagoland



LOCAL INDUSTRY OWNERS
(OFFSET TAX & TECH)



CTA
(NETWORK & OPERATIONS)



HYBRID FILTRATION TOWER
(AN URBAN LUNG)



N4EJ



The HAZEL JOHNSON
Cumulative Impacts Ordinance



MCKINLEY PARK DEVELOPMENT COUNCIL



CDPH
Chicago Department of Public Health



LVEJO



CEJN



EARTHJUSTICE
BECAUSE THE EARTH NEEDS A GOOD LAWYER



Chicago Metropolitan Agency for Planning

Environmental Justice & Advocacy Groups



Poli-Economical



**McKinley
Air Trust**

CIVIC-INDUSTRIAL AIR UTILITY



Julia Ramirez
12th Ward
Alderdwoman

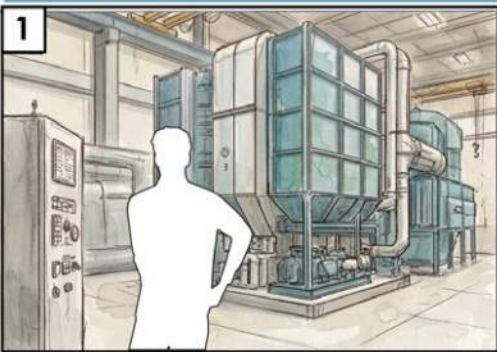


Alfredo Romo
Executive Director of
Neighbors for
Environmental Justice
(N4EJ)



Hazel Johnson
Mother of the
Environmental Justice
Movement

City Utility: Air Filtration



Air Trust: Food Bank



Air Trust Volunteers. Helps volunteers, diverse canned goods, helps moderate the food bank storage. Community members would help with the cause.



ECONOMIC BARRIER:
FUNDING



INEFFECTIVE MITIGATION
(SOURCE CONTROL FAILED)

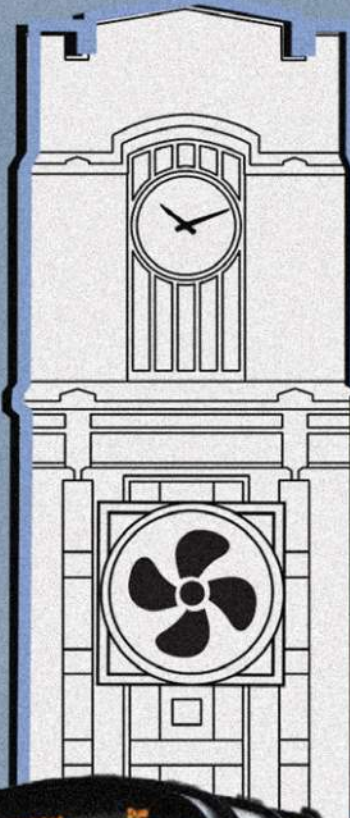
POLICY BARRIER:
STRICT PRESERVATION



INDUSTRIAL EMISSIONS
(0% REMEDIATION TAX)

OUTCOME:
ECOLOGICAL INFRASTRUCTURE

HYBRID FILTRATION TOWER
(PRESERVED & ACTIVE)



HEALTH FIRST TRANSIT MANDATE
(REQUIRES FILTRATION)

LOCAL INDUSTRIAL
OFFSET TAX

ADAPTIVE HERITAGE OVERLAY
(PERMITS ECOLOGICAL USE)

HISTORICAL LANDMARK
(NO MODIFICATION)

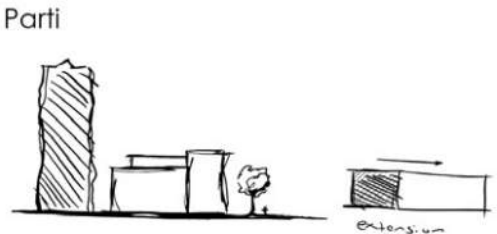
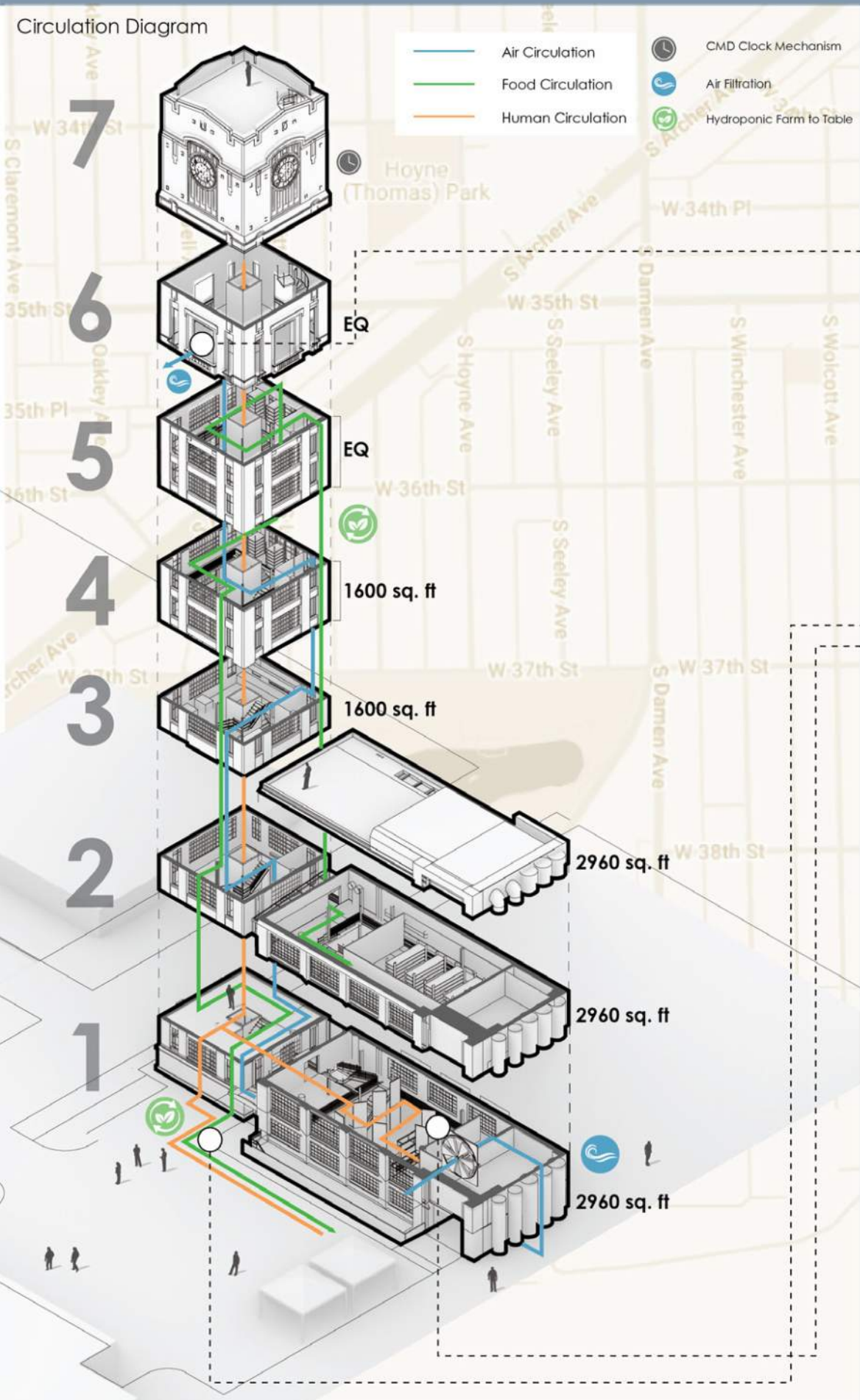
**ZONING
REFORM
SYSTEM**

PUBLIC TRANSIT

REMEDIA-
TION
MAINTENANCE
FUND



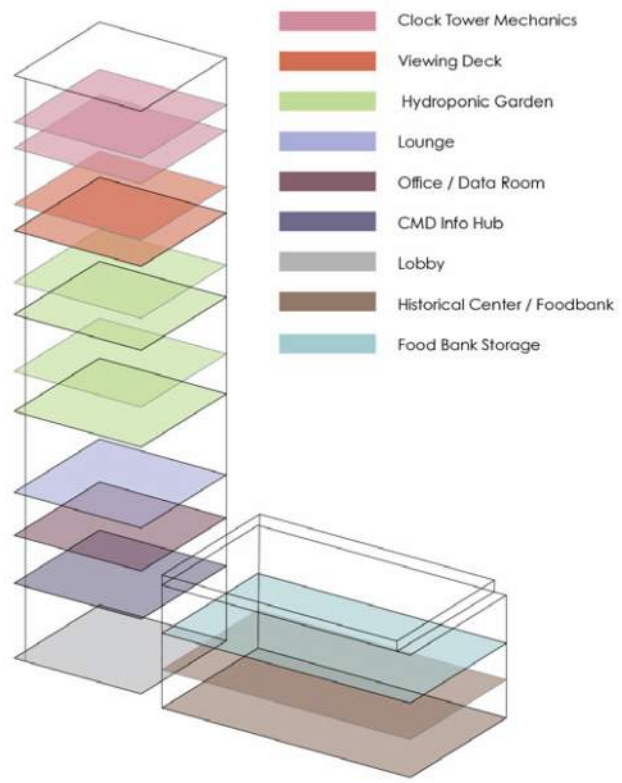
Programmatic: Key Moments



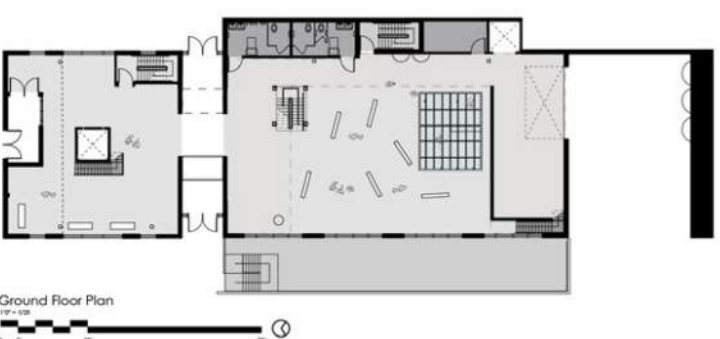
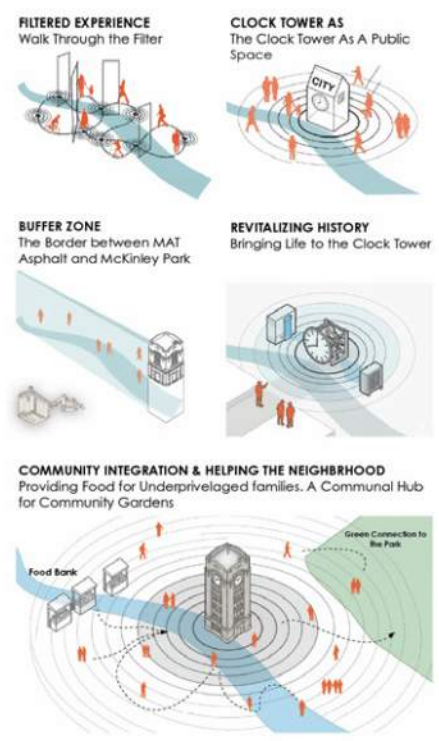
The **Air Factory** transforms a historic landmark into a new type of civic infrastructure for McKinley Park. The design stacks public spaces like a local market, galleries, and a historical archive alongside active environmental systems, specifically hydroponic farming and air purification.

By opening up the interior and making the historic clock mechanism visible, the building becomes a transparent and accessible hub that bridges the industrial history of the site with a sustainable future.

Programmatic axon



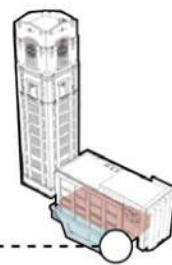
Purpose Diagram



Urban-Ecological: The Process



Key



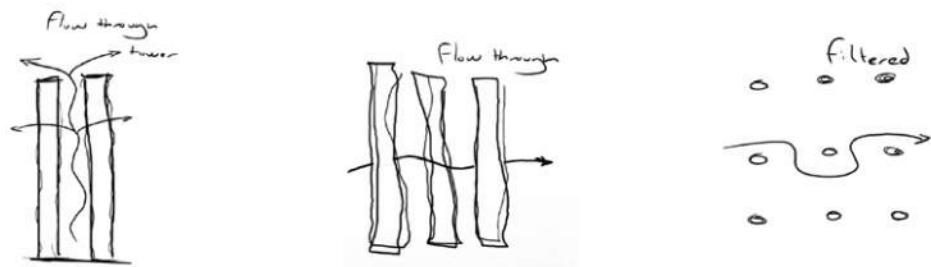
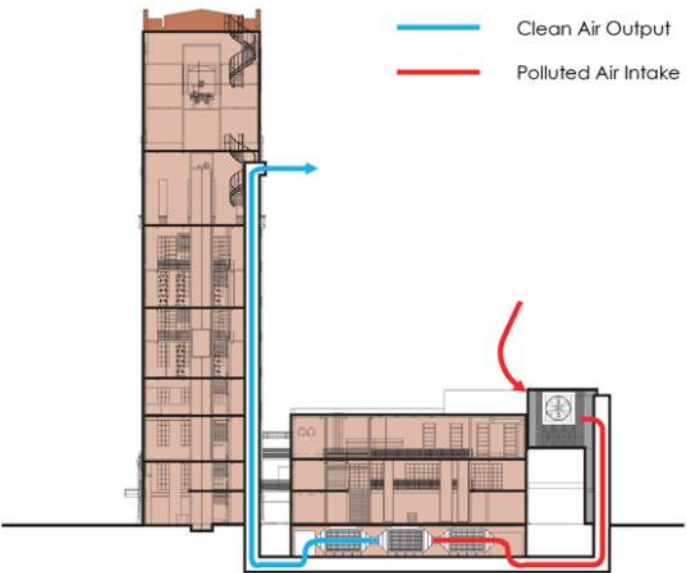
East Section

1"0" = 1/20

0 5' 25' 75'

Flow diagram

Clean Air Output
Polluted Air Intake



1

Polluted Intake: The system pulls in ambient polluted air from the surrounding area, specifically targeting particulate matter generated by nearby asphalt plants and semi-truck traffic.

2

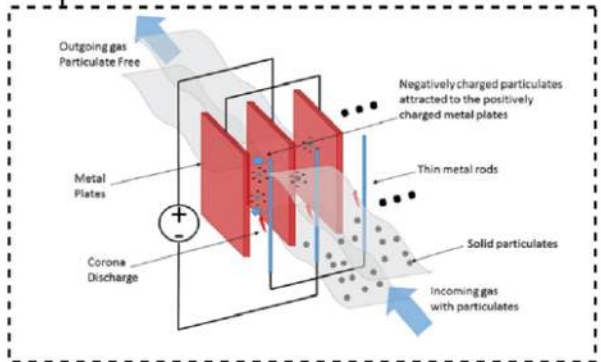
Electrostatic Precipitation (ESP): The intake air is channeled through internal electrostatic precipitators, which actively charge and filter out the contaminants and solid particulates.

3

Distribution & Diffusion: Finally, the filtered, clean air is pumped throughout the interior of the building and actively exhausted out through the viewing decks to create localized clean air zones.



Electrostatic Precipitator



https://www.researchgate.net/figure/Conceptual-diagram-of-an-electrostatic-precipitator-Source-Data-from-Becker-30-C-2010_fig3_313428450

Landscape Architectural: Benefits to the Community

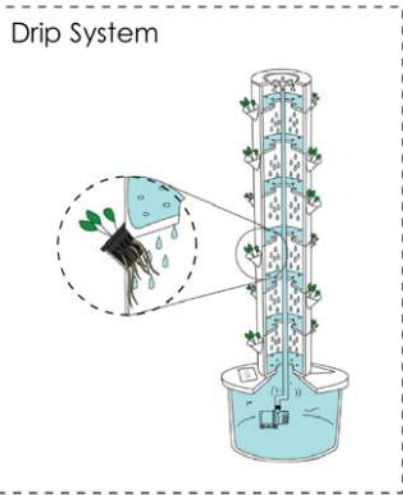
McKinley Park, Chicago Park District



Benefits



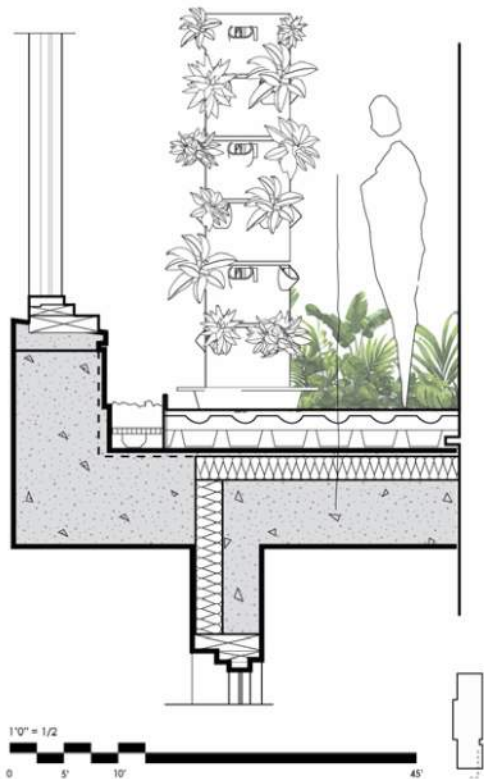
Ecological Green



Many Families in the McKinley Park area struggle financially. Coupled with the poor air quality, they are experiencing **Environmental Racism**. The **Air Factory** gives back to the community by olding food banks and underprivileged programs to help those in McKinley Park.

The goal of the **Air Factory** is to improve both the livelihood of the neighborhood and the well being of its family.

Community Garden Section



Farm to Food Bank



1. Families are able to cultivate crops in the Community Garden
2. From Farm to Table, Families Helping Families, Communal Crops are harvested to distribute in the Food Bank

Connection Diagram

