



Sampling the City:

Community Air Quality Mapping Results

From Plume Air Monitors provided by Air Alliance Houston

June 23, 2021

Everyone has a right to breathe clean air.

Presenters

Xiara Day - Clean Air Fellow, Air Alliance Houston

David MacLean - President, McMac CX

Dr. Bakeyah Nelson - Executive Director, Air Alliance Houston



[Air Alliance Houston](#) is a research-based non-profit organization that advocates for policies to reduce air pollution because we believe that where you live, work, learn, and play should not determine your health.




Our Vision

Air Alliance Houston envisions healthy communities with clean air every day, for everyone.

Our Mission

Air Alliance Houston's mission is to reduce the public health impacts from air pollution through applied research, education, and advocacy.

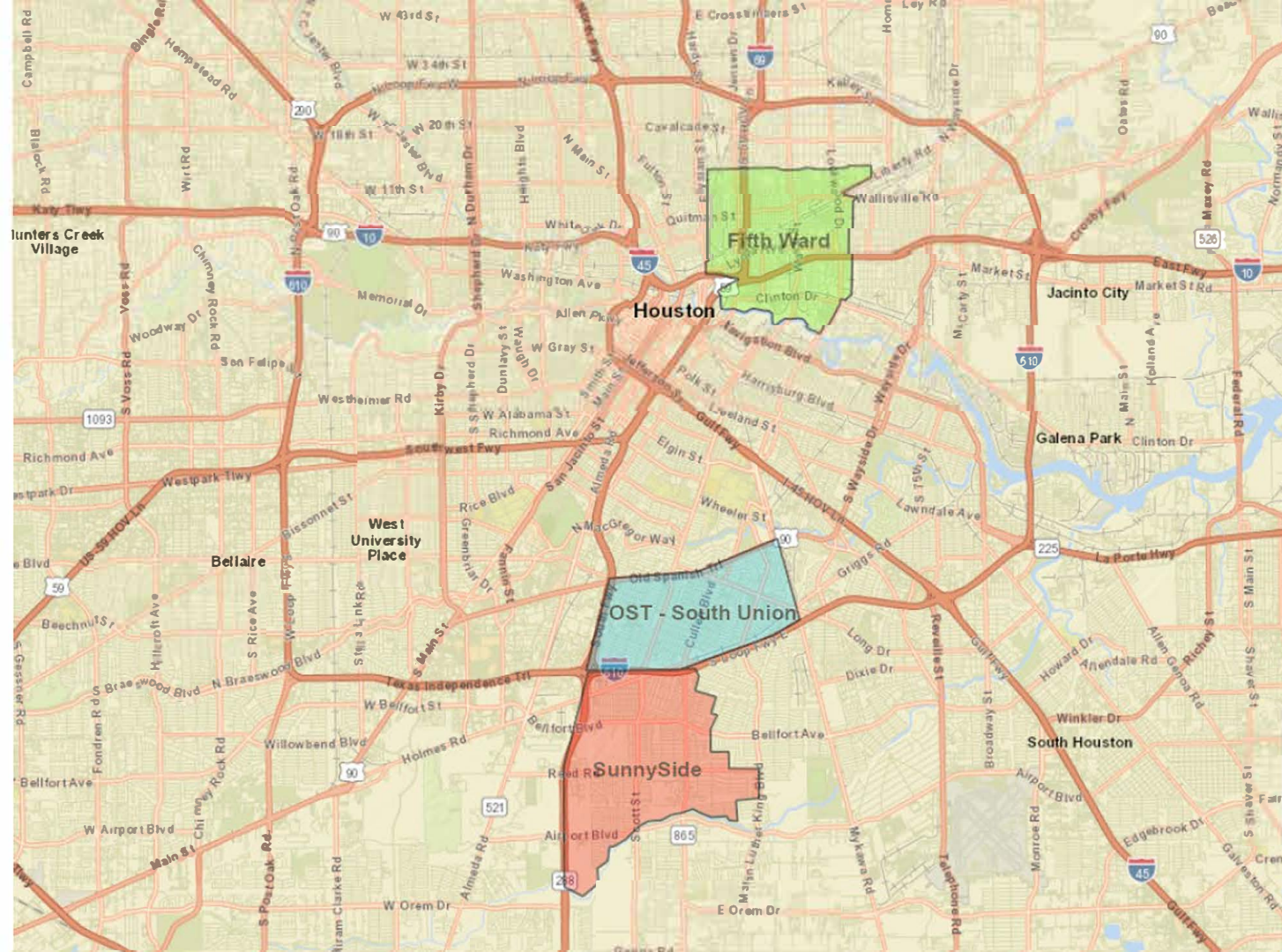


Sampling the Cities Events

- Sunnyside
- OST - South Union
- Fifth Ward

Members of the Cotton family during the OST event





Sunnyside - June 5th

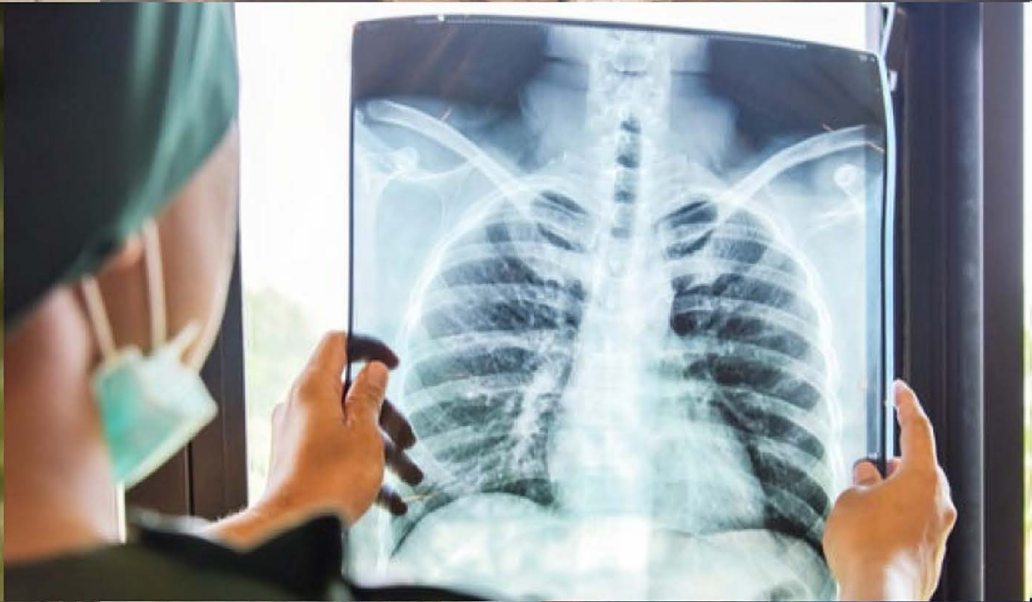


OST - South Union - June 12th



Fifth Ward - June 19th





Learning Objectives

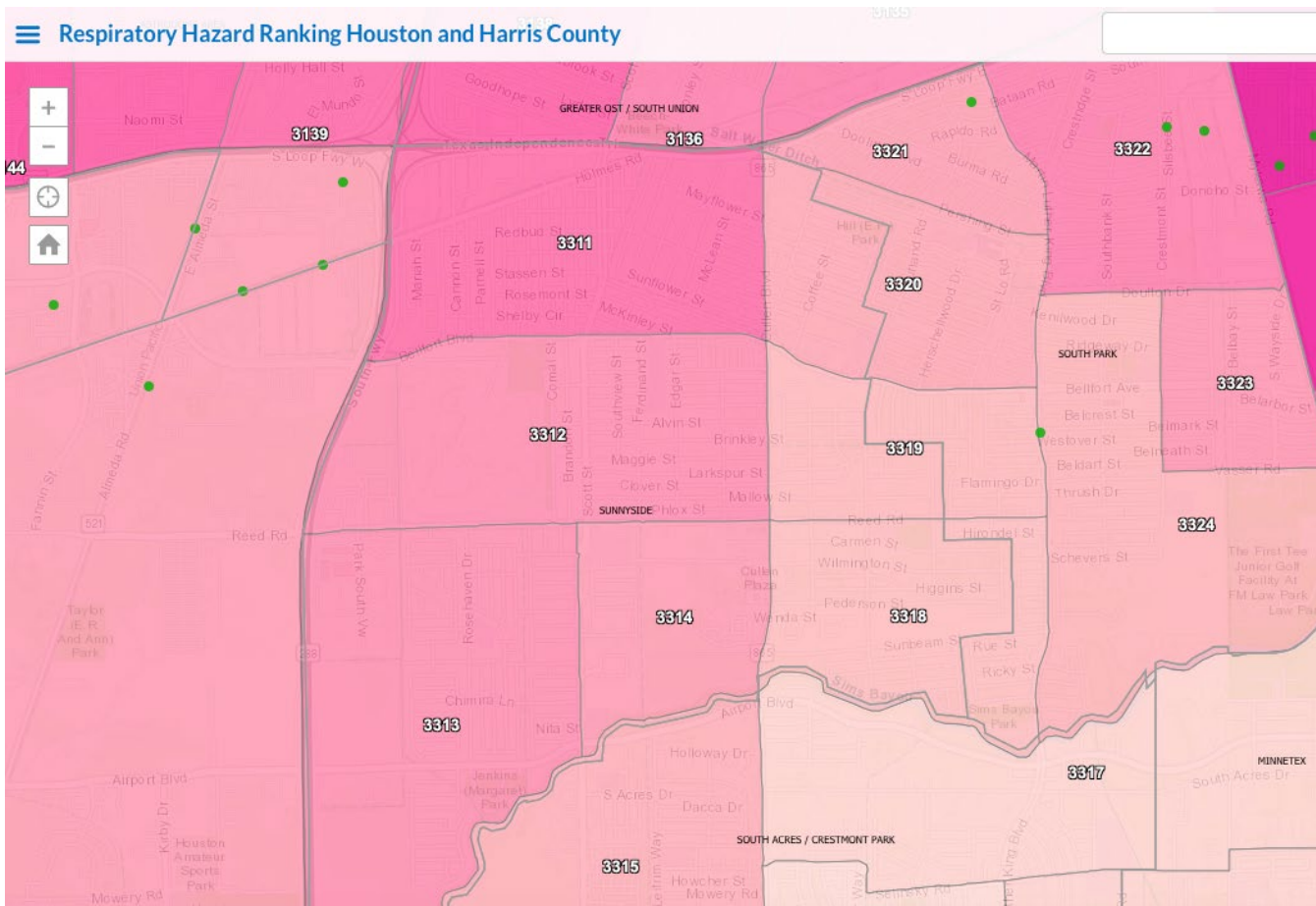
- Define air pollution and its components in training sessions
- Become familiar with various personal air quality data tools including Plume monitors that help see the invisible and Air Quality Index and Toxic Release Inventory Map
- Learn ways on how to get involved including how to file complaints



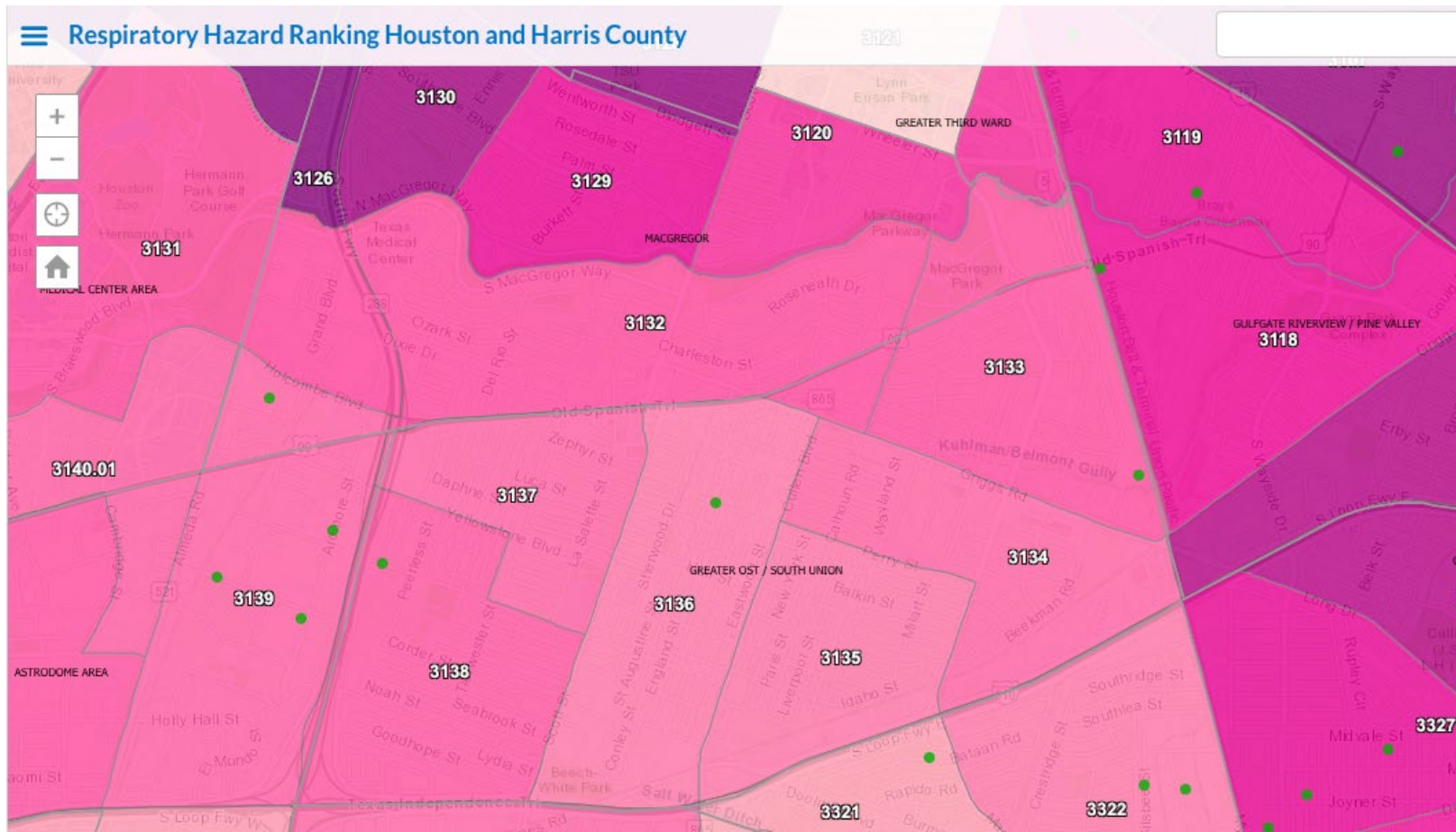
Air Quality Index (AQI)

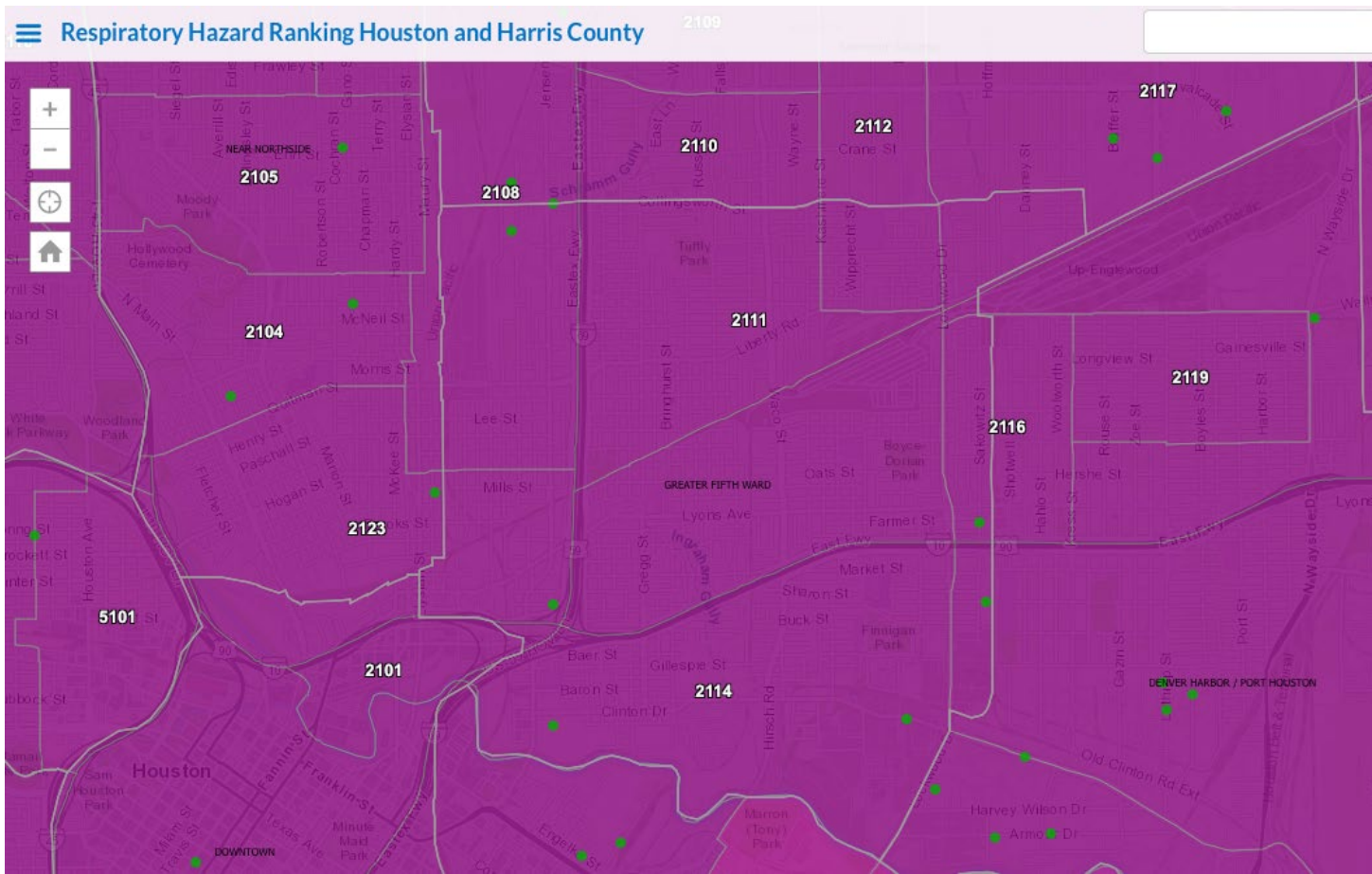
Daily AQI Color	Levels of Concern	Values of Index	Description of Air Quality
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	<u>Unhealthy</u>	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

TRI Map of Sunnyside



TRI Map of OST/South Union





Air Champions Social Change Scientists



David MacLean - Founder / President McMac Cx





ENVIRONMENTAL JUSTICE

McMac CX

Advanced Data Analytics



McMacCX

Advanced Data Analytics

 plume labs

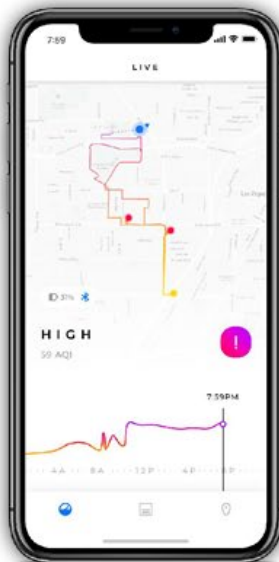


FLOW personal air quality monitor

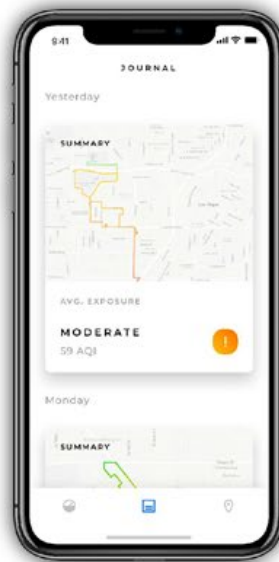


reddot design award
winner 2019

FAST
COMPANY



Live exposure



Journey tracking



Community maps

How does Flow work?



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Step 1: Air enters your Flow.



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Step 9: AQI receives the visual treatment on a screen near you.



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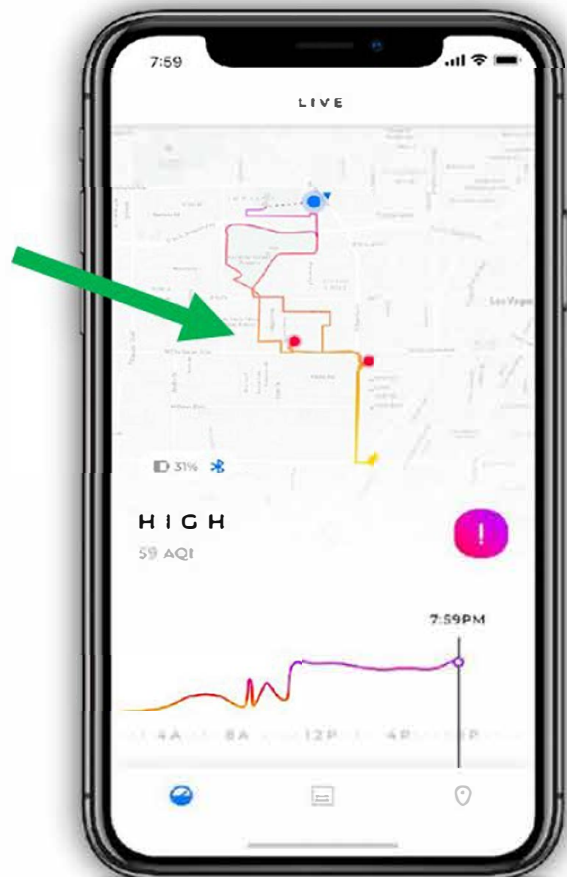
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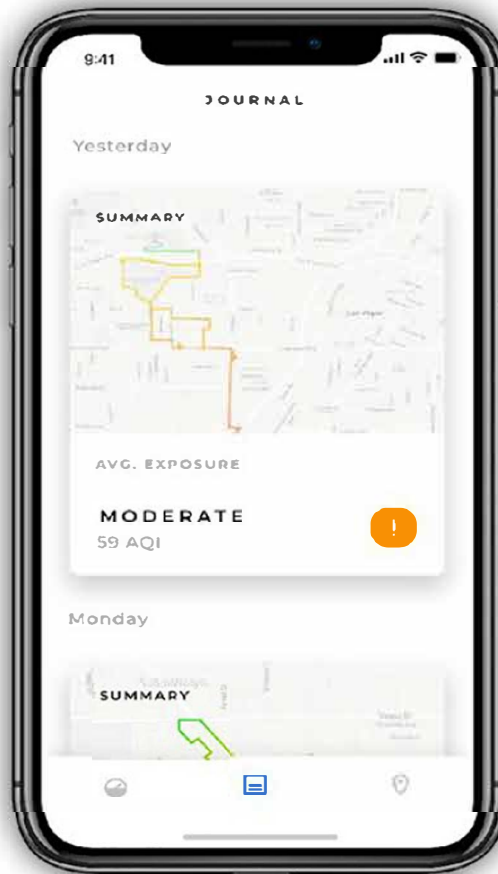
Step 10: Data is synced to the cloud.



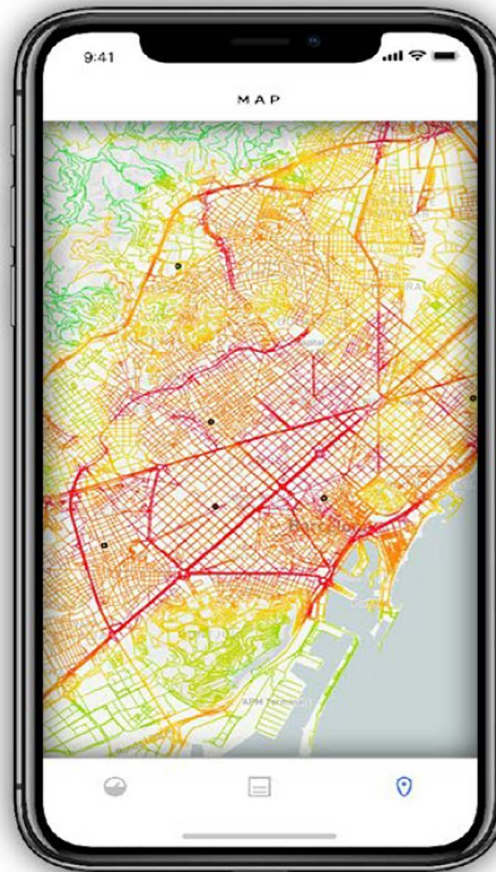
FLOW personal air quality monitor - App



Live exposure



Journey tracking

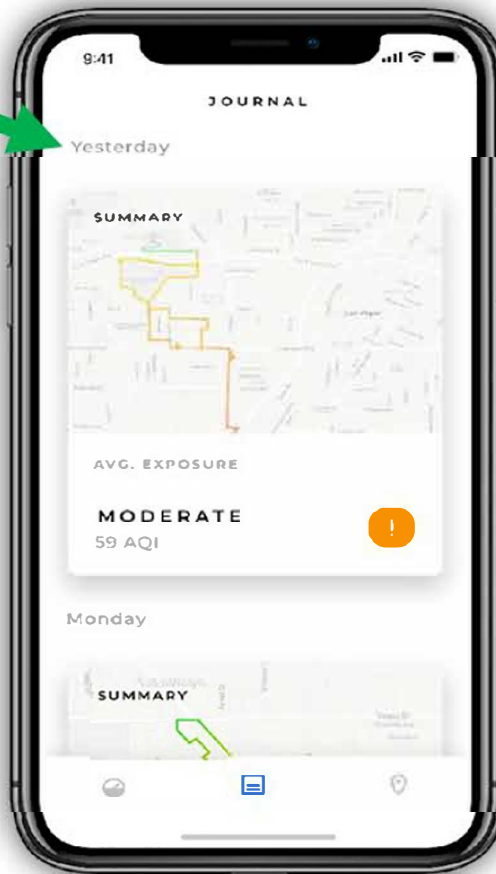


Community maps

FLOW personal air quality monitor



Live exposure



Journey tracking

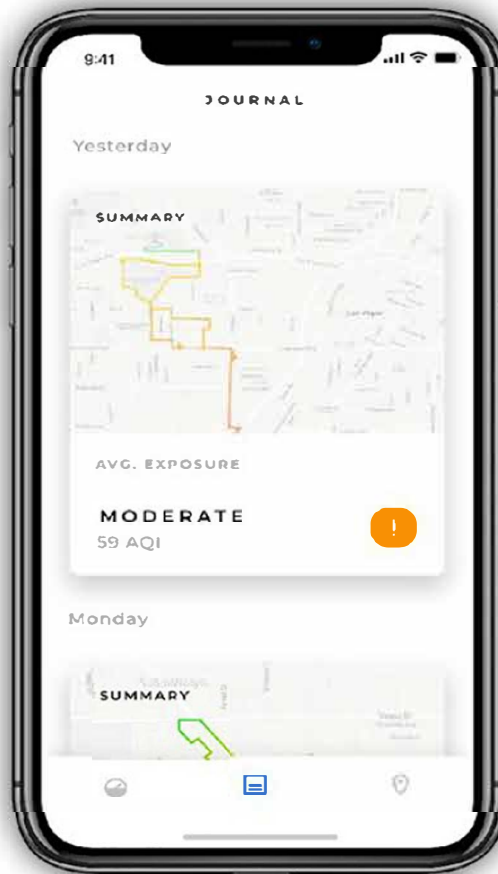


Community maps

FLOW personal air quality monitor



Live exposure



Journey tracking



Community maps

June Event Snapshots



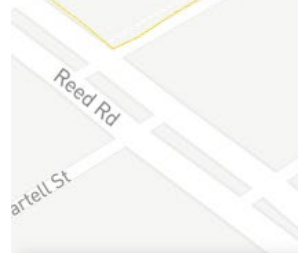
Moves / Spots

- ☐ Spots
- ☒ Moves - Walk
- ☐ Moves - Bike
- ☐ Moves - Car
- ☐ Moves - Train

Sunnyside

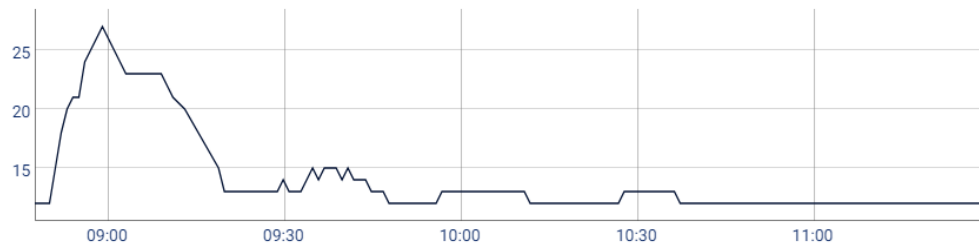
Pollutants

- ☐ NO2
- ☐ VOC
- ☐ PM2.5
- ☐ PM10
- ☐ PM1
- ☒ AQI



PLUME INDEX

All pollutants



Plume Index



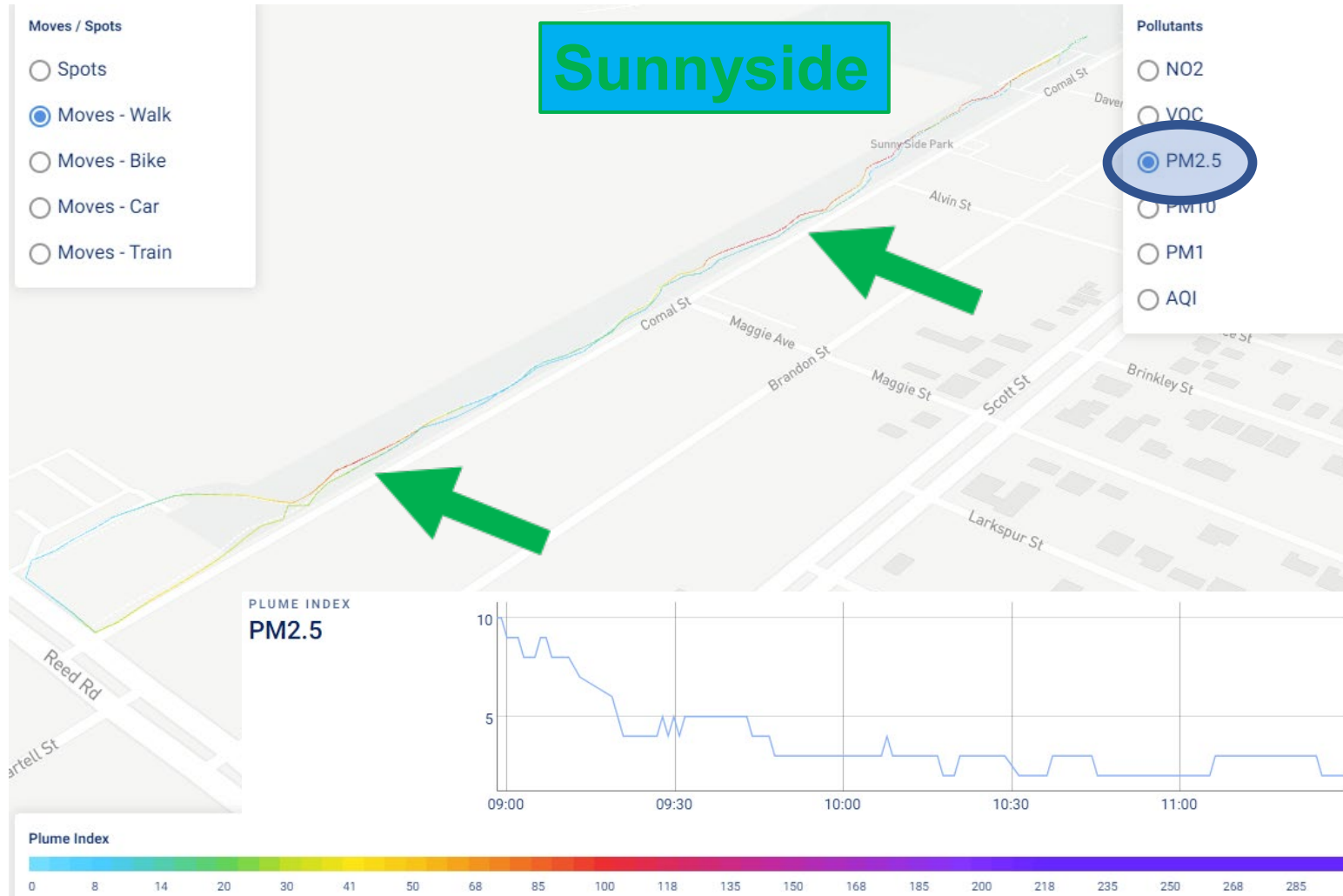
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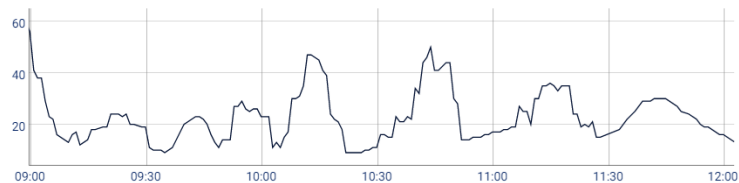
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Sunnyside

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Sunnyside



PLUME INDEX
PM10



Plume Index



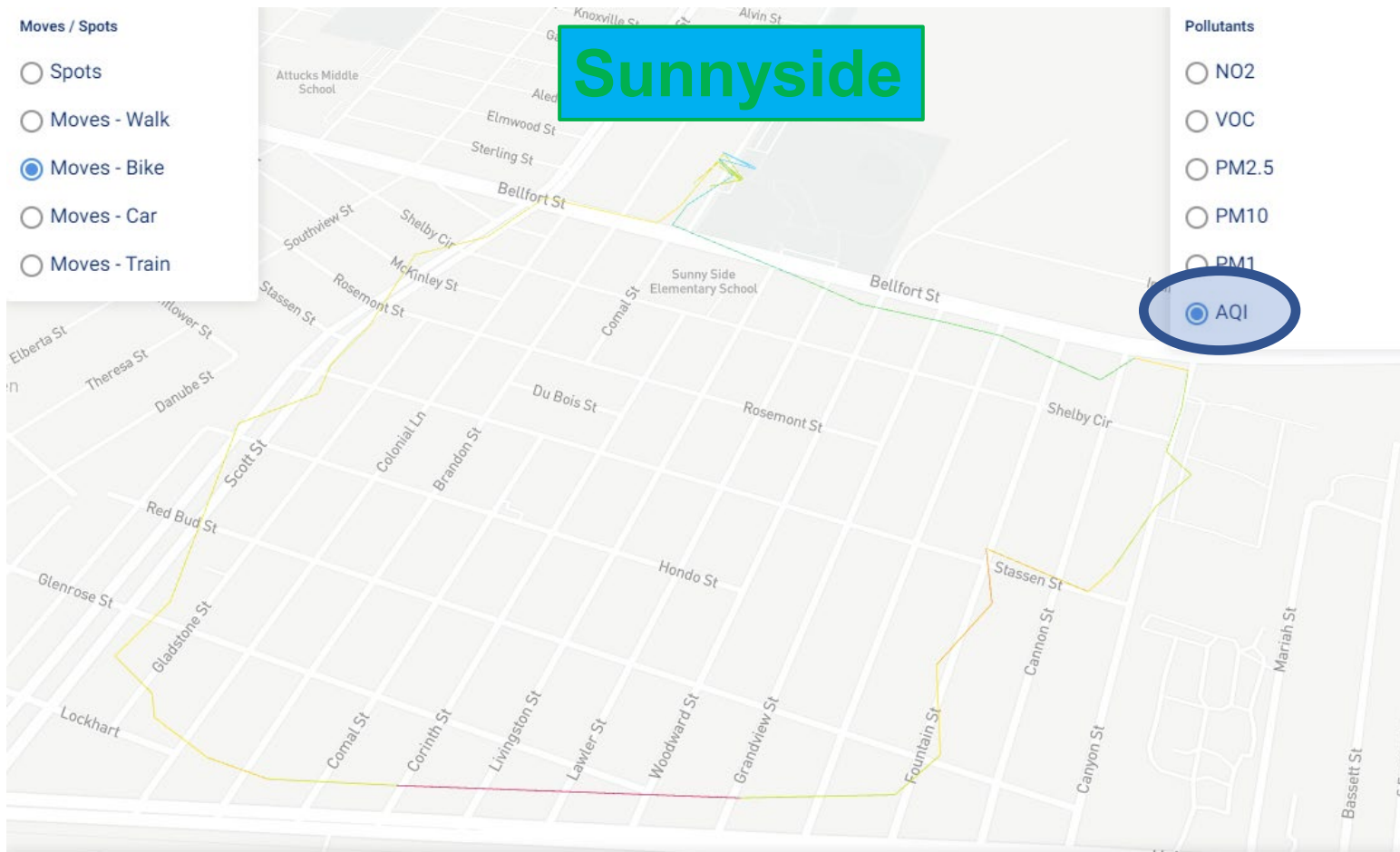
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Sunnyside



Plume Index



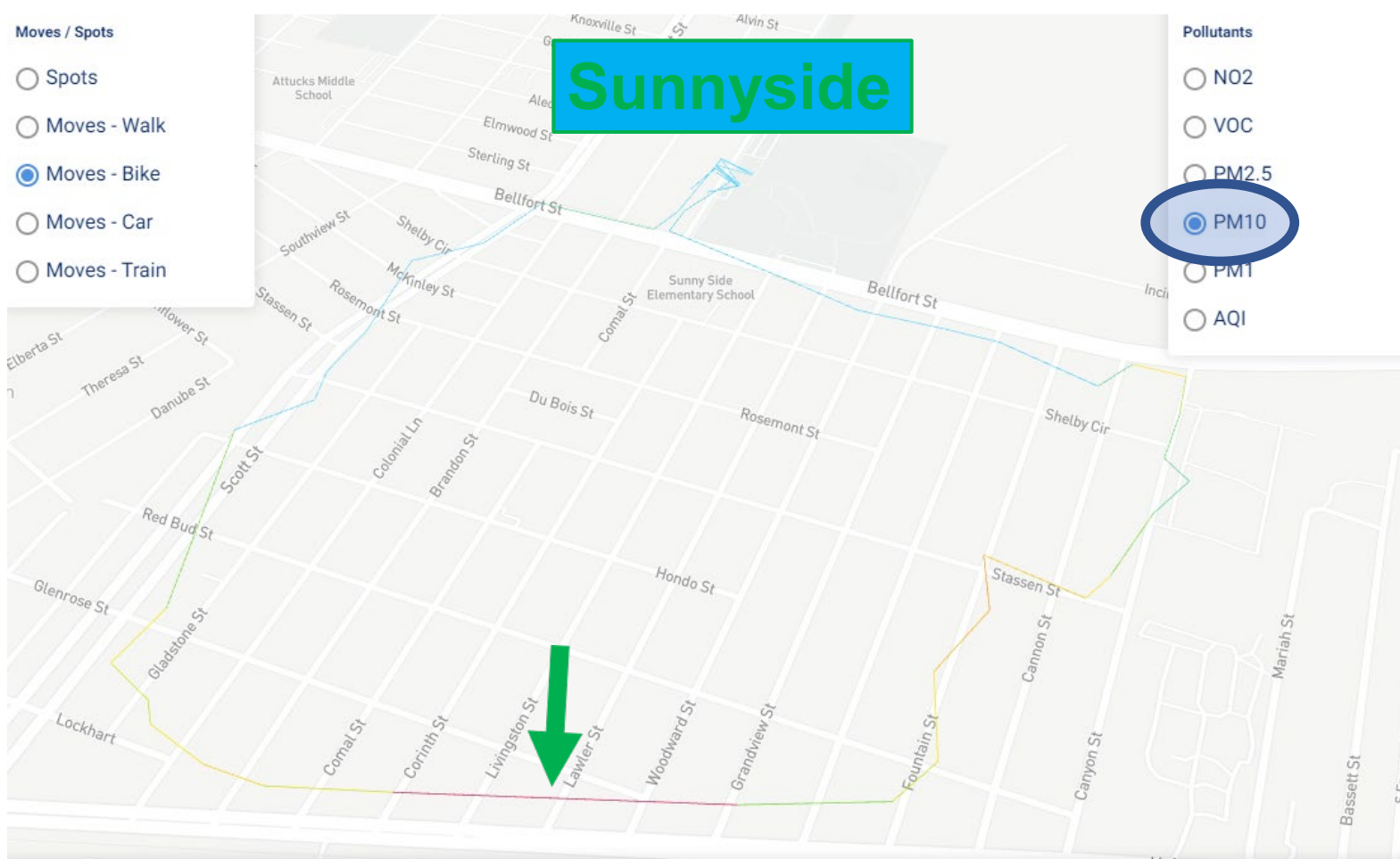
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Sunnyside



Plume Index



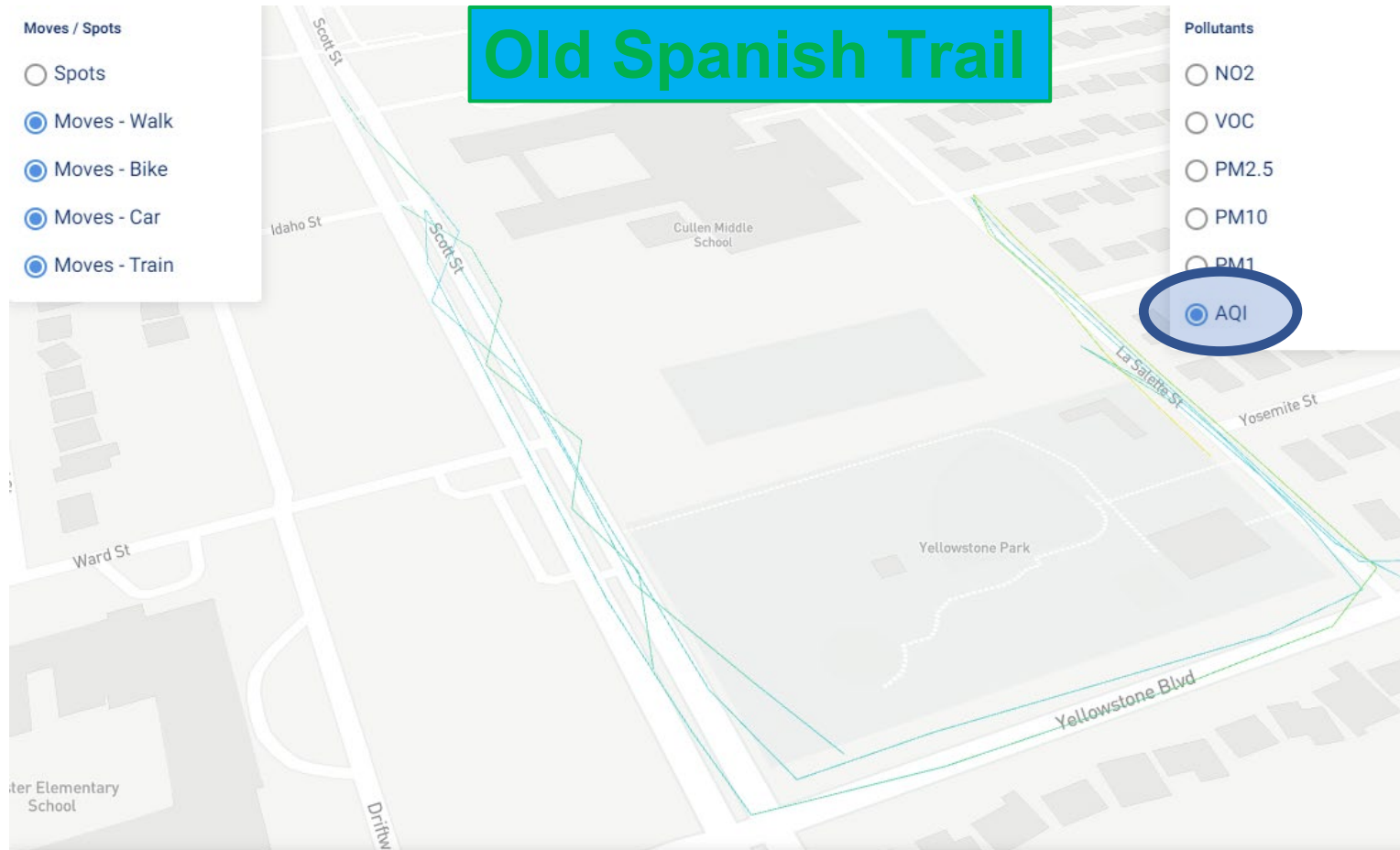
Old Spanish Trail

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Plume Index



PLUME INDEX
All pollutants



PLUME INDEX
NO2



Old Spanish Trail

PLUME INDEX
VOC

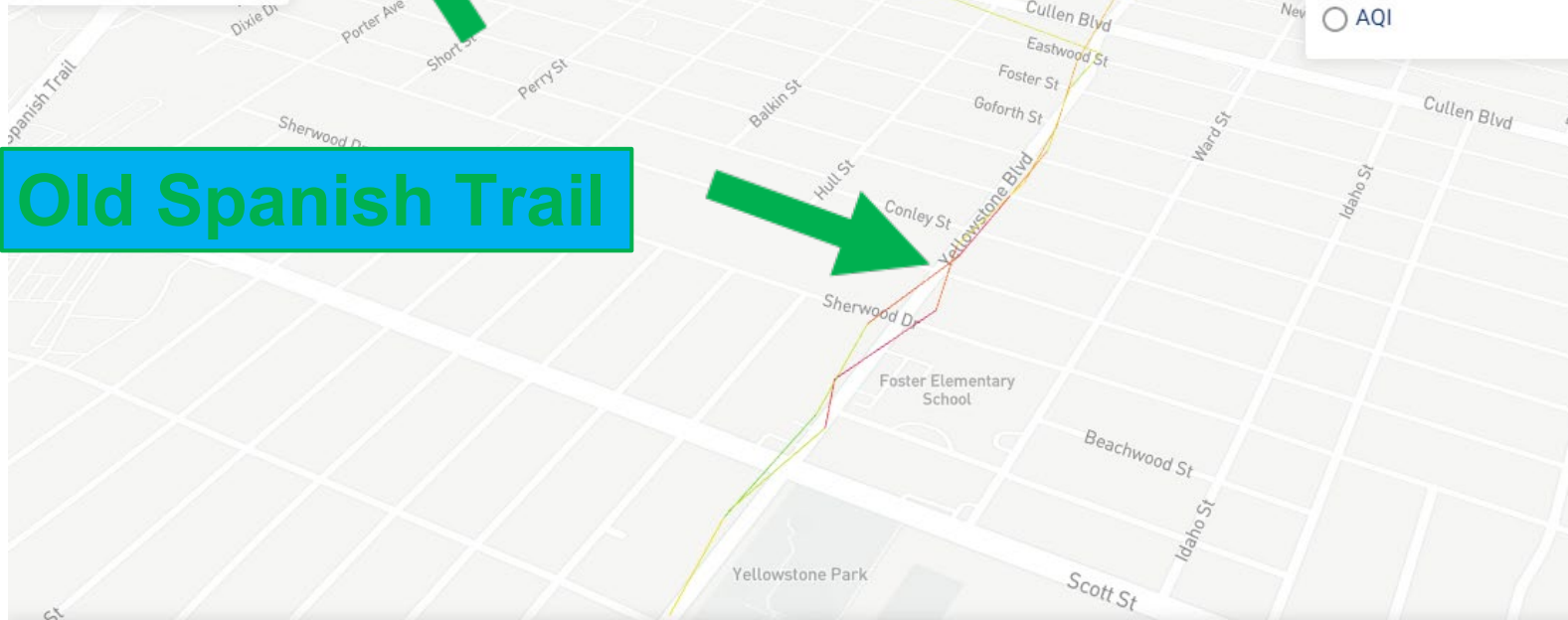


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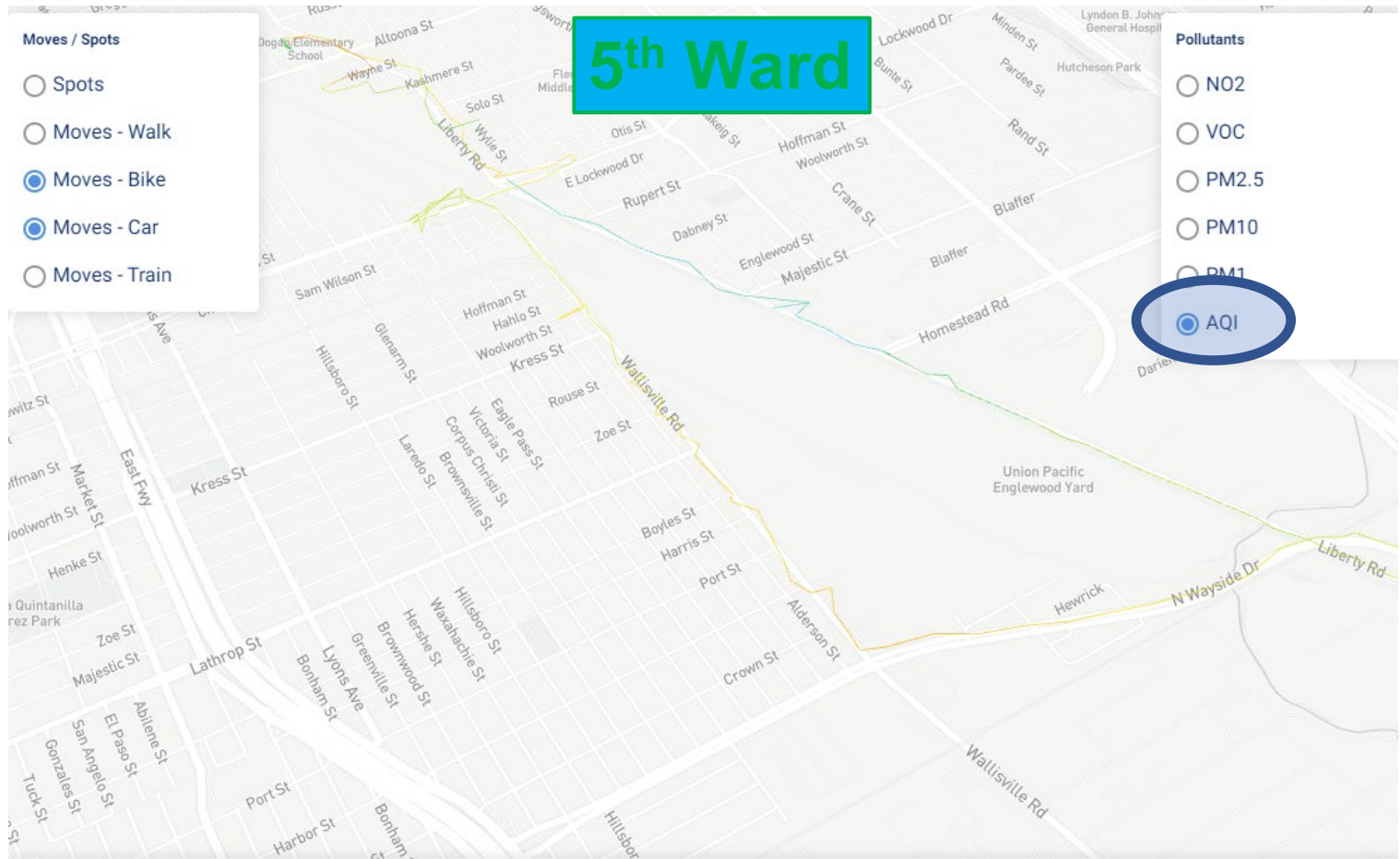
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Plume Index





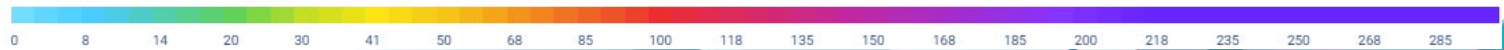
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Plume Index







Make connections
across the
neighbourhood

Find people
with
interests,
skills or
passions

Connect
people
with shared
interests

Support people
to take action

Connect to
local assets

MY NEIGHBOURHOOD

EVERYONE WELCOME

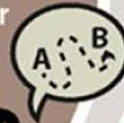


We have a voice



We take action

We share our stories



NEIGHBOURHOOD



Plume Labs: free air quality app

A city-level view of what the world is breathing



Plume Labs: Air Quality App

Air Pollution & Fresh Air

Plume Labs

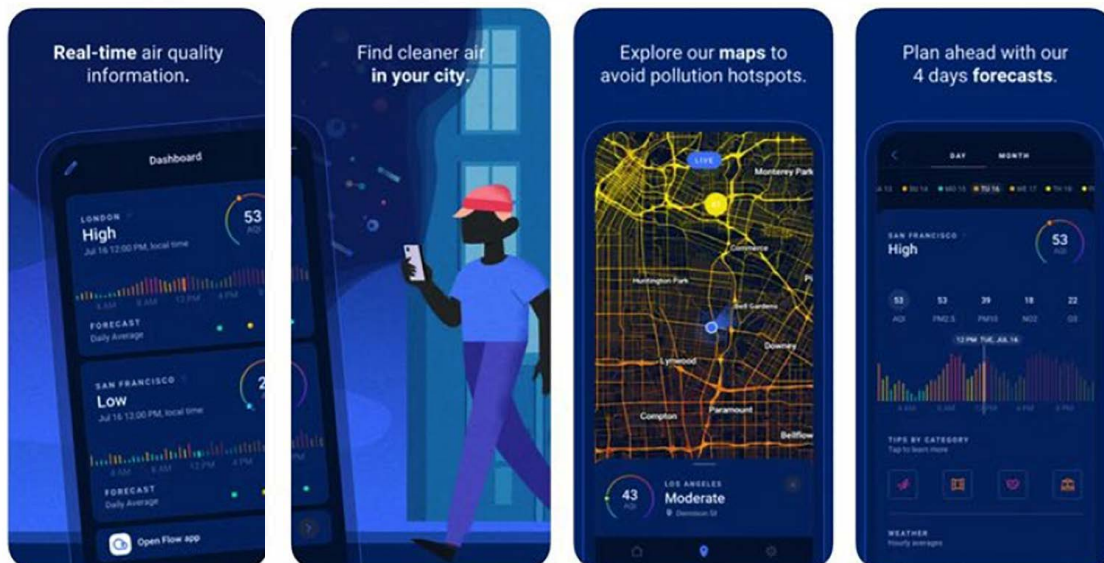
Designed for iPhone

★★★★★ 4.7 • 7.6K Ratings

Free

[View in Mac App Store](#)

- Live air quality reports
- Forecast pollution highs & lows
- Historical data
- Compare cities
- Street-level air quality maps



Air quality map LIVE

Street-by-street air quality

Explore another city:

Houston

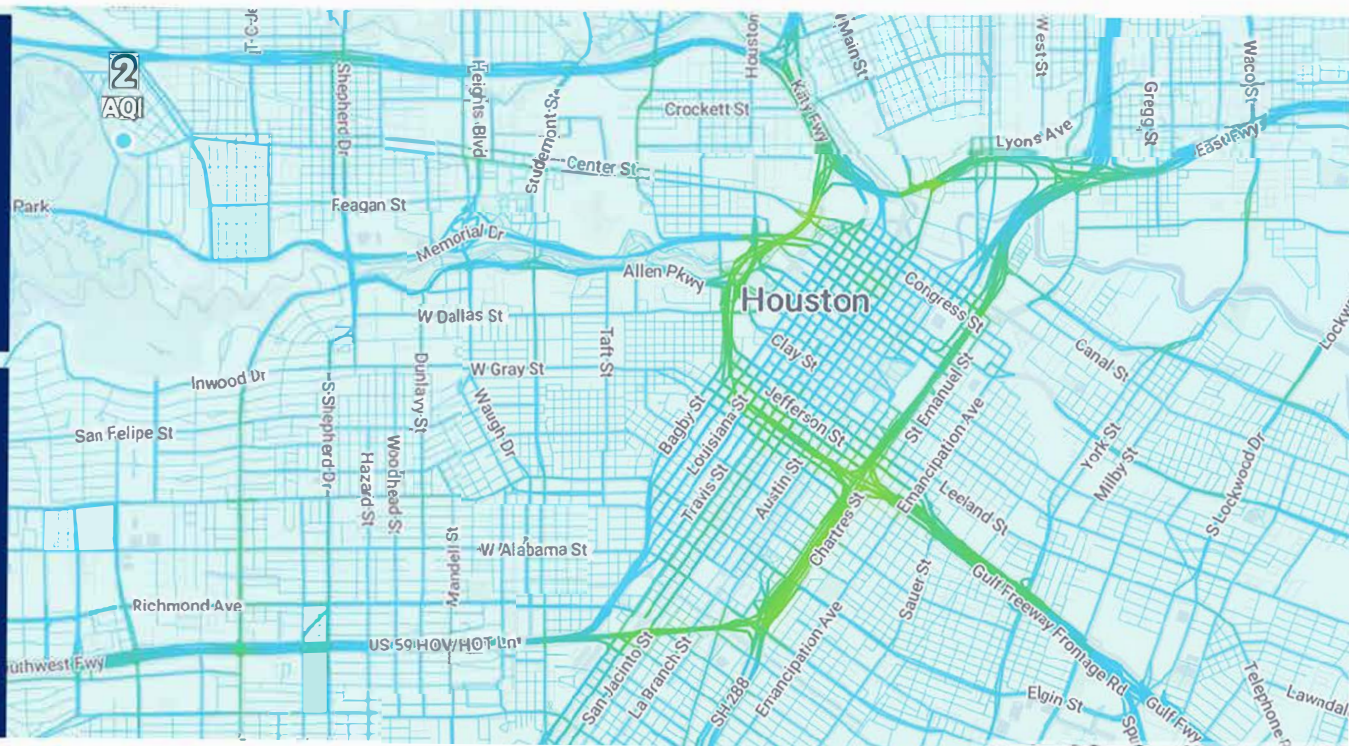


Minimize map control panel

Pollutant selection

- ☐ Plume AQI ☒ NO2 ☐ O3
☐ PM2.5 ☐ PM10

Air quality index colour scale



Real-Time Indoor Air Quality – Sunnyside Community Center

Sunnyside Center

Office



Sensors

	Temperature
	79 °F
	Humidity
	58 %
	CO2
	416 ppm
	TVOCs
	228 ppb
	PM2.5
	2 µg/m³

McMac Cx

Powered by AWAIR

9:27 AM

<https://share.getawair.com/view?url=8U1QmJRnR&tempUnit=F&theme=awair&factor=score>

What happens when groups work together?

- Dr. Nelson
- Slide of concrete batch plants



What's Next?

Each community individual Case Study

- August 3rd, August 4th, or August 5th
- Each community will pick one date and hour time frame that works best for your community members
- More maps, more graphs and more details will be provided for each individual neighborhood



Meeting of leaders together, from Sunnyside, Fifth Ward and OST communities

- In Fall, 2021
- To discuss shared concerns, work together for mutual issues
- Make plans for next spring's Sampling the City events



Thank you for Participating!

Sampling the City:

Community Mapping Results



June 23, 2021

Everyone has a right to breathe clean air.

Questions?

