

Low-Cost Air Quality Monitoring Pilot Study



Presented by:

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Project Overview

Purpose: To study air quality in communities most impacted by transportation related air pollution (TRAP) and provide access to air quality data.

- Increase access to air quality data
- Inform future transportation planning
- Equitably improve air quality

Goals



- Establish pilot monitoring sites in communities
- Collect data using low-cost air quality monitors and share with communities
- Develop methods to establish a larger community monitoring network

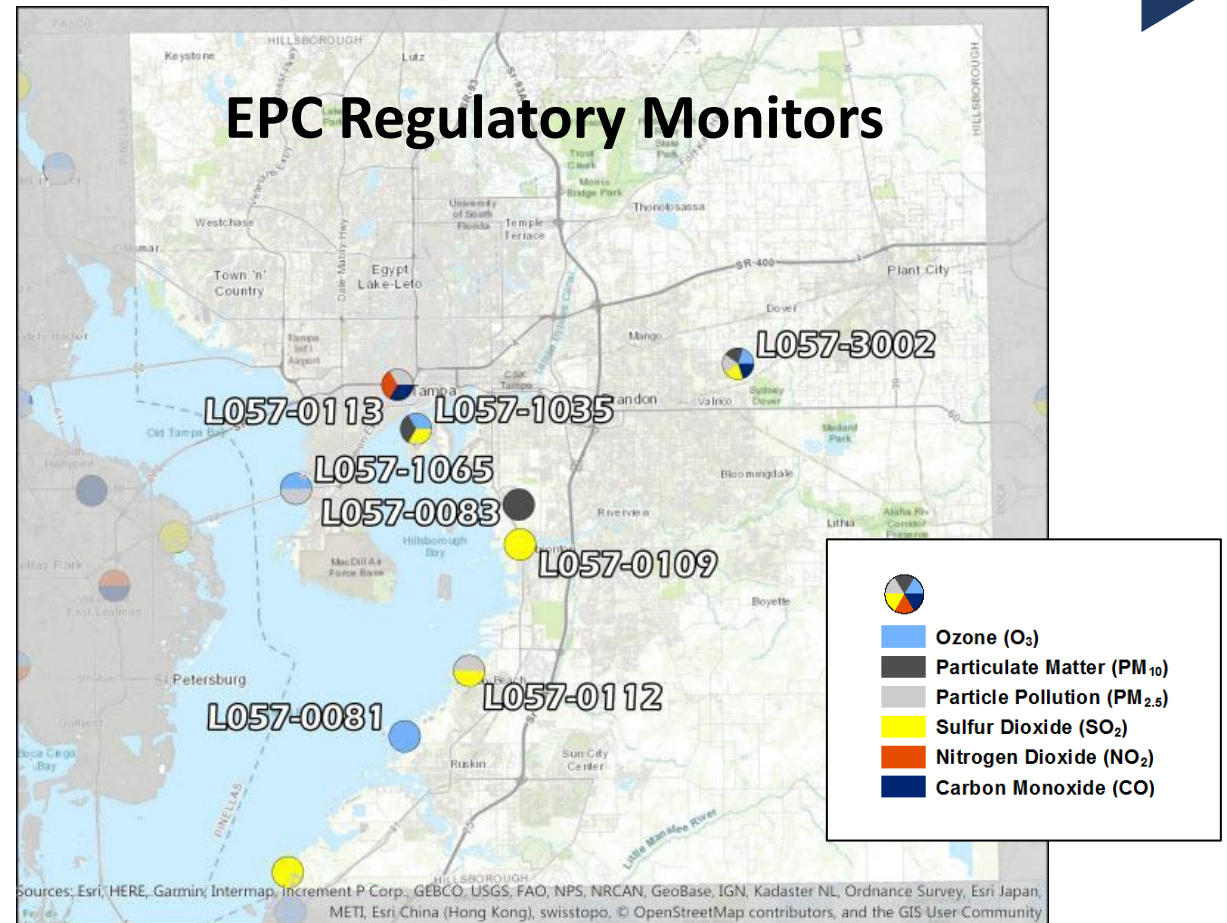
Objectives



Regulatory & Low-Cost Monitoring

Low-Cost Monitors

- Refers to emerging types of sensors that are smaller and more affordable.
 - Researchers and companies are evaluating and developing low-cost monitors that provide reliable data.
- Benefits:
 - Greater coverage of air quality measurements
 - Gain a localized understanding
 - User-friendly



Timeline

Select and purchase monitors

Install monitors at control site and begin testing

Identify community monitoring areas

Engage community partners

Collect and analyze community air quality data

Public engagement with community sites



Community Focus Group

Select community monitoring pilot sites

Install community monitors

Report findings



Action to Date and Next Steps

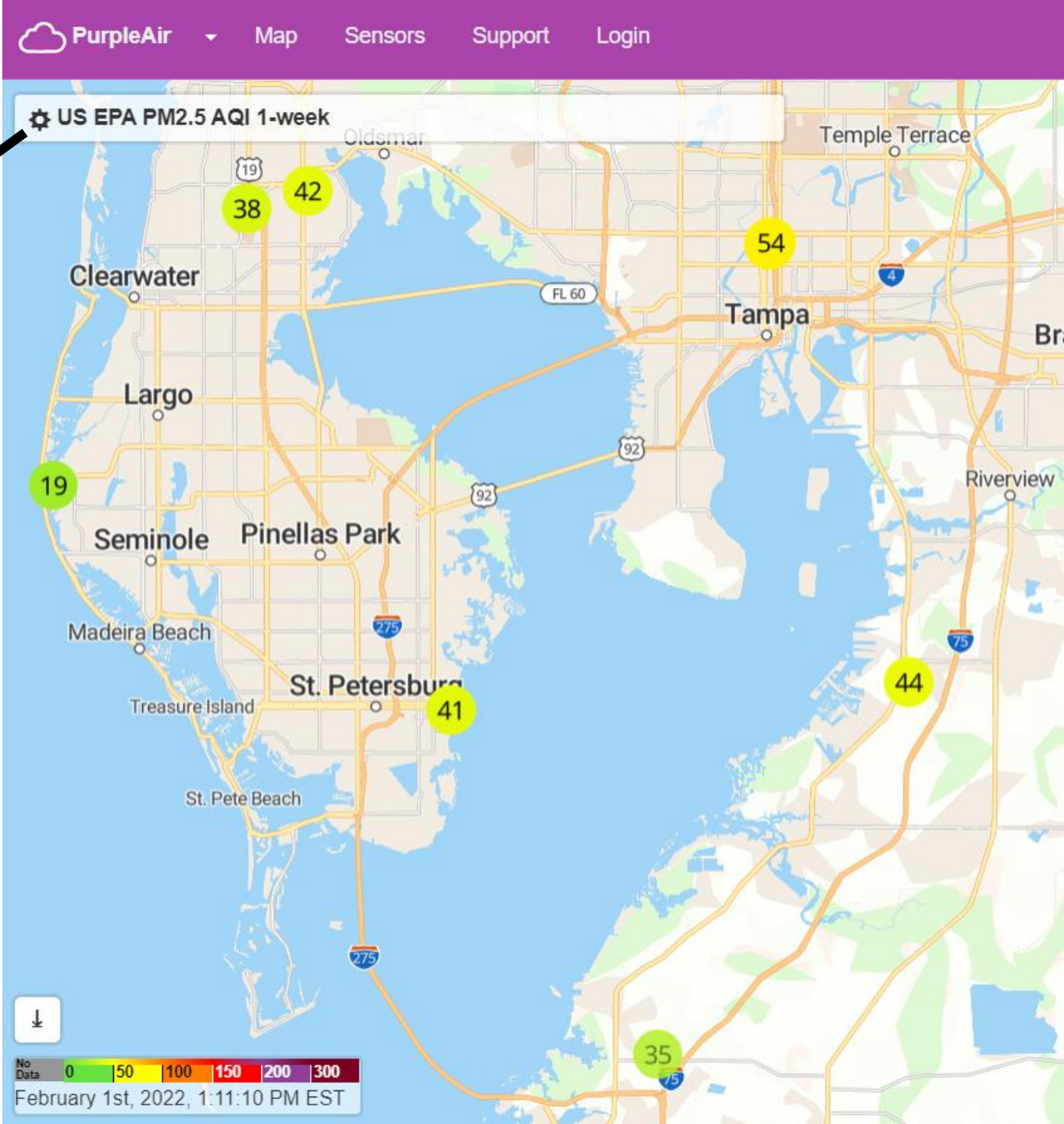
Monitors

- Researched and purchased monitors
 - [PurpleAirII PM](#) (PM_{2.5}) and ENVEA [Cairsens NO₂](#)
- Conducted small-scale field testing
- Began testing and calibrating monitors at the control site, Hillsborough County EPC Munro Site
- Next phase: install monitors in the community to begin testing at community monitoring sites



USF Researchers installing PurpleAir monitors at the control site, EPC Munro Monitoring Site

Real-Time Air Quality Map | PurpleAir



Data layer:
US EPA PM2.5 AQI

Apply conversion: No

Averaging period: 1-week

Base map type: Detailed

Show outside , show inside and show my sensors

Reporting or modified within: 10-minutes

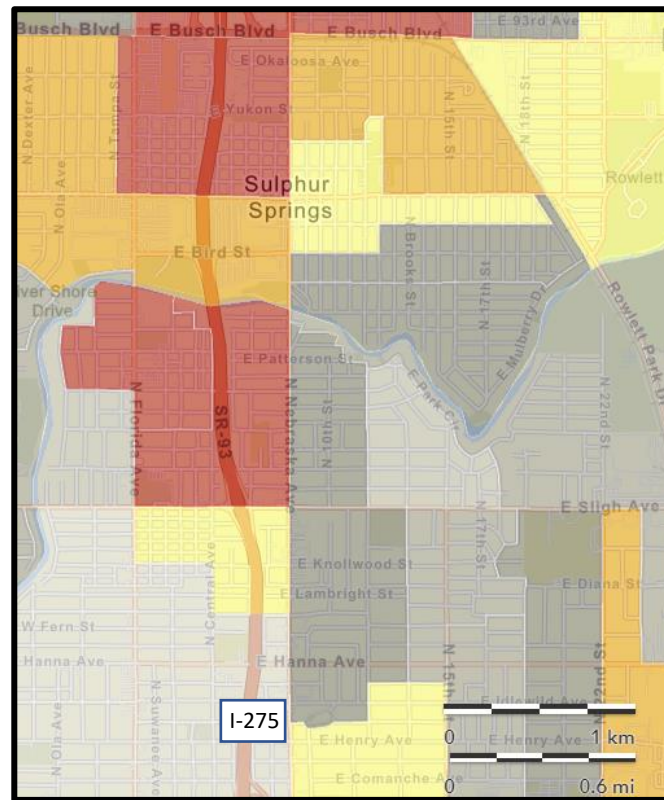
Show averages as rings:

Experts tip: After choosing options, zoom and pan, bookmark the page or copy and share the url to open the map with those options pre-defined.

For a limited time: [revert back to the old map](#) but please let us know why by emailing contact@purpleair.com with your comments.

Community Monitoring Sites

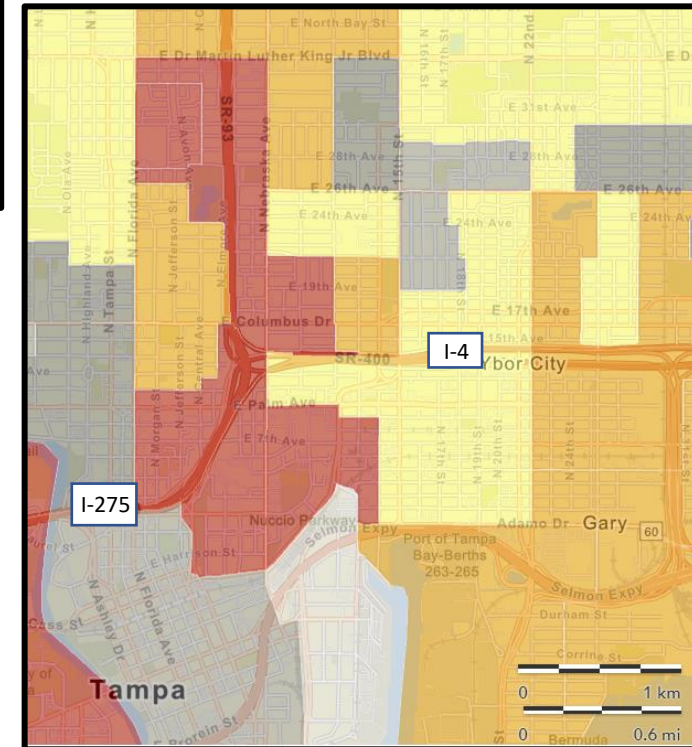
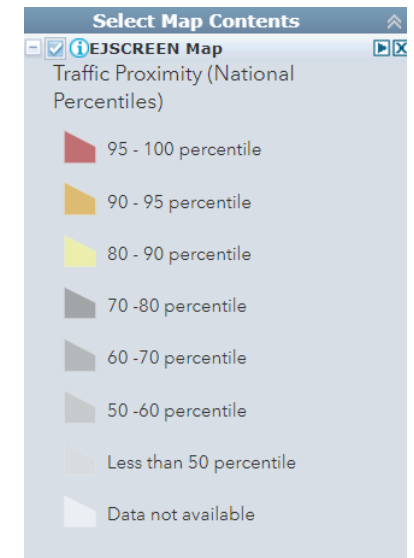
- Selected potential communities to monitor based on:
 - Environmental and demographic factors that indicate a community's potential susceptibility to harmful environmental impacts
 - Identified via EJSCREEN and the Plan Hillsborough Nondiscrimination and Equity Plan
 - Opportunities for community access and engagement
- Conducted preliminary site visits to scope logistical requirements



Northern portion of I-275



Robles Park, Tampa, FL



Downtown Tampa and I-275 and I-4 Interchange

Public Engagement

- Developed a project website and fact sheet
- Introduced the study to community organizations
- Asked volunteers to participate in the Focus Group
- Next Phase: Focus Group in February with community stakeholders
 - Gauge community interest in hosting sites
 - Identify final community monitoring sites





Thank you.

Questions or comments?

