



City of Philadelphia
Department of Public Health
Air Management Services

SEPTA MIDVALE
Combined Heat & Power (CHP)

Philadelphia, PA

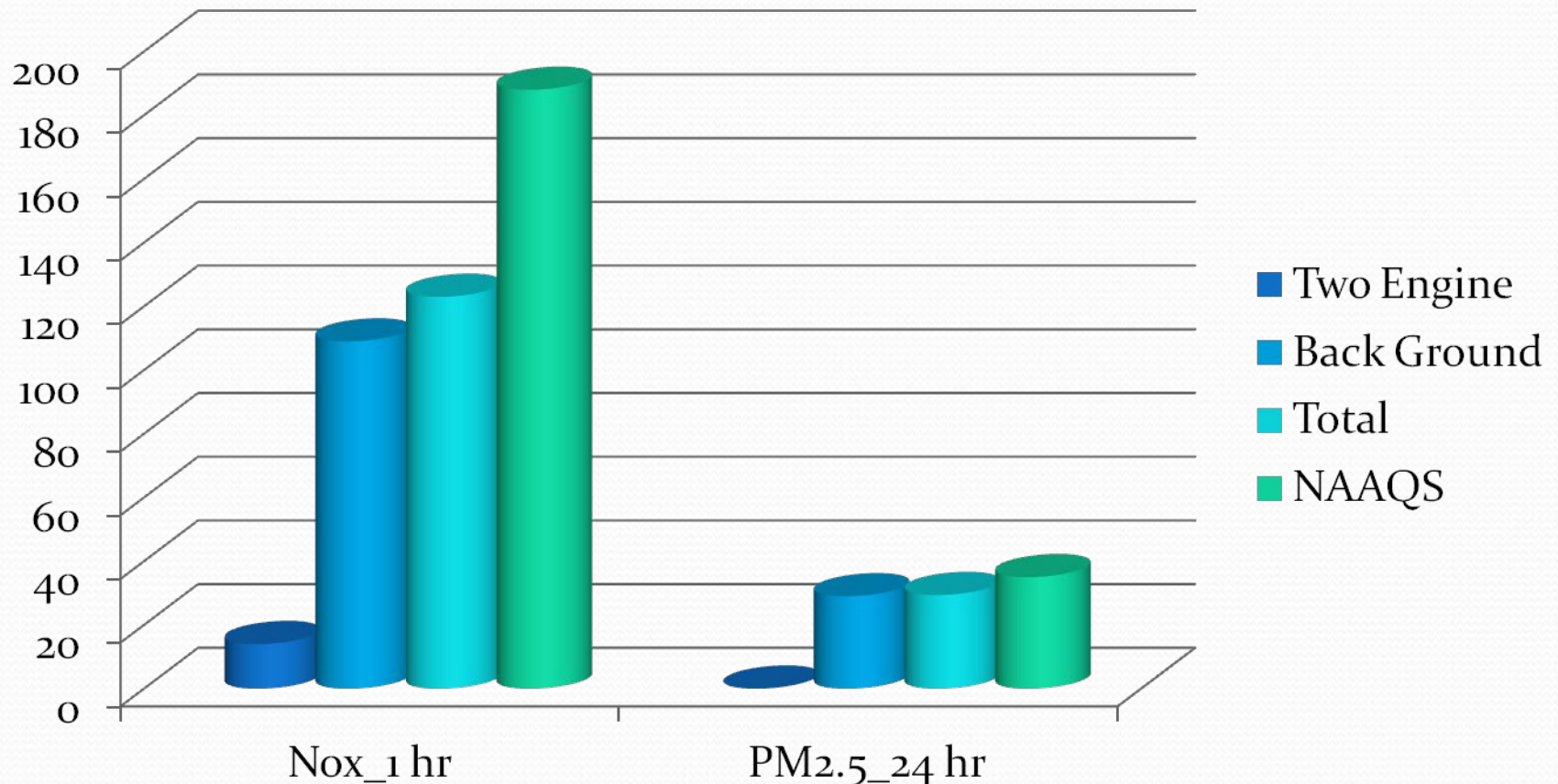
July 27th, 6:00 PM – 8:00 PM, 2023

SEPTA Emissions

Pollutants	Potential Emissions Total for Facilitywide (tons/yr)	Major Source Title V Threshold (tons/yr)	Actual Emissions (tons/yr)	
			2021	2022
NOx	24.71	25	9.9	10.58
CO	28.44	100	0.47	2.53
VOC	18.29	25	0.61	0.45
PM ₁₀	0.30	100	0.27	0.11
PM _{2.5}	0.30	100	0.084	0.076
SO2	0.21	100	0.16	0.123
Formaldehyde	5.46	10	0.0002	0.0002
Total HAPs	7.58	25	0.0002	0.0002

Criteria Pollutants (NO2 & PM2.5)

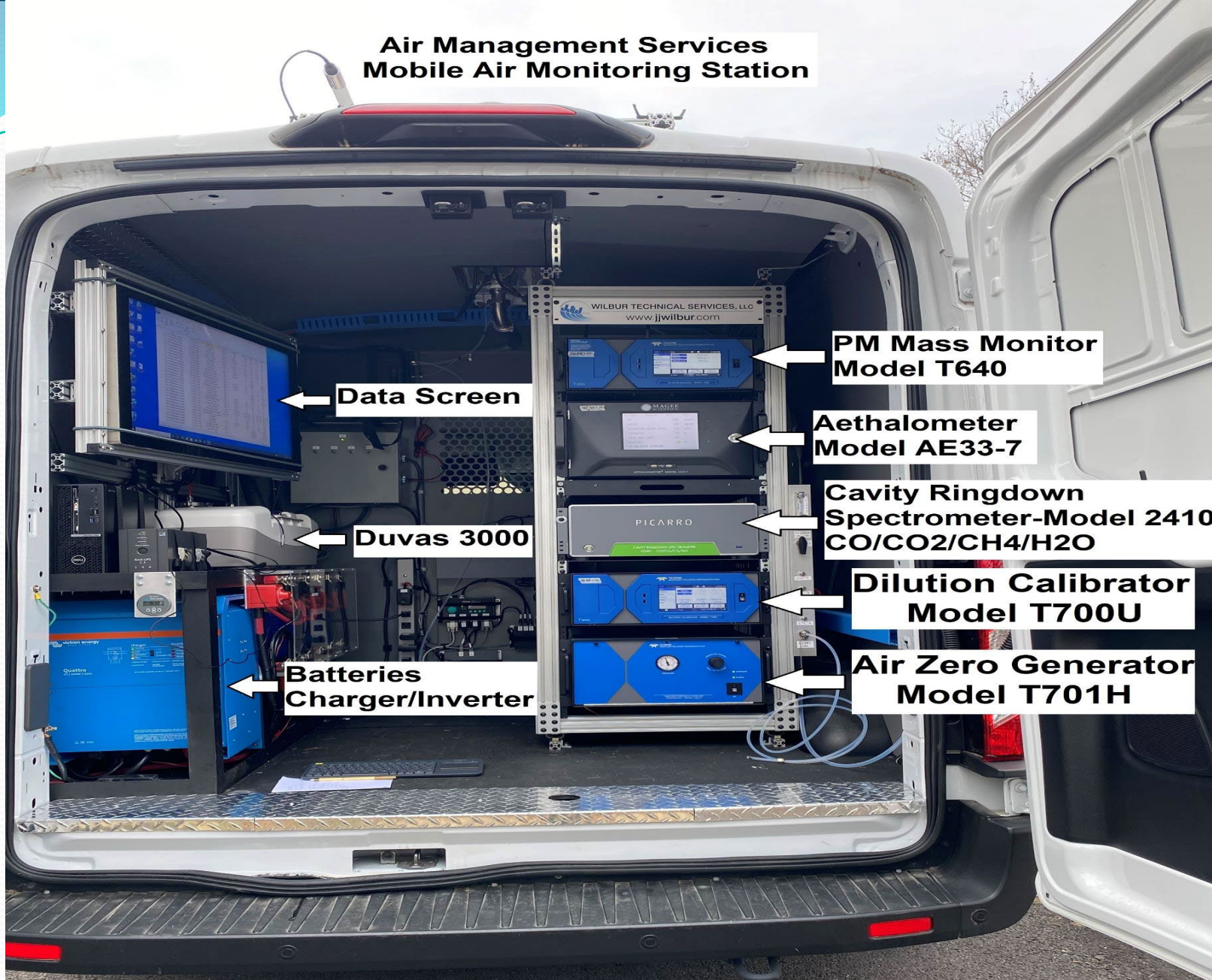
Model Result vs NAAQS



Testing & Monitoring Requirement

- SEPTA Roberts Complex was required to perform initial stack testing within sixty (60) days but not later than 180 days to demonstrate compliance with NO_x, CO, VOC and Formaldehyde emission limits.
- SEPTA shall conduct subsequent performance testing for NO_x, CO, NMNEHC, HCHO, and ammonia slip every 8760 hours of operation or three years, whichever comes first.
- Portable Analyzer tests for catalytic required every quarter to verify the installed SCR and OC Systems are functioning properly
- AMS located air monitor from PAQS project for NO_x, PM_{2.5} and O₃.

Air Management Services Mobile Air Monitoring Station



Data Screen

Dugas 3000

**Batteries
Charger/Inverter**

**PM Mass Monitor
Model T640**

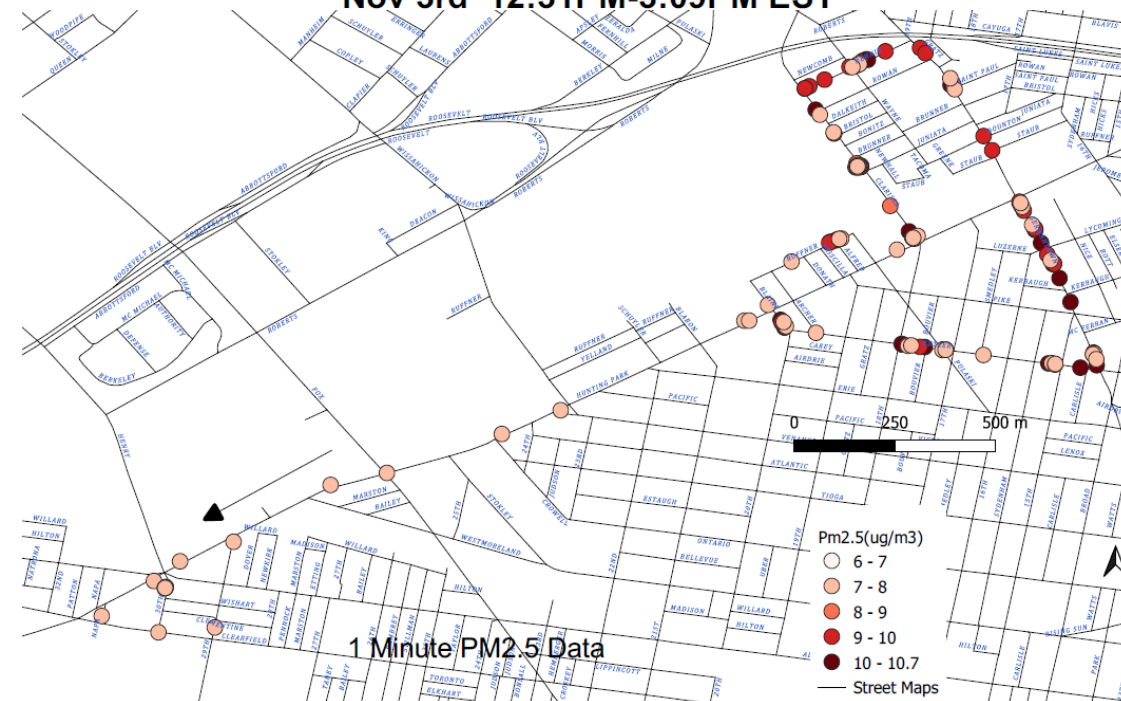
**Aethalometer
Model AE33-7**

**Cavity Ringdown
Spectrometer-Model 2410
CO/CO2/CH4/H2O**

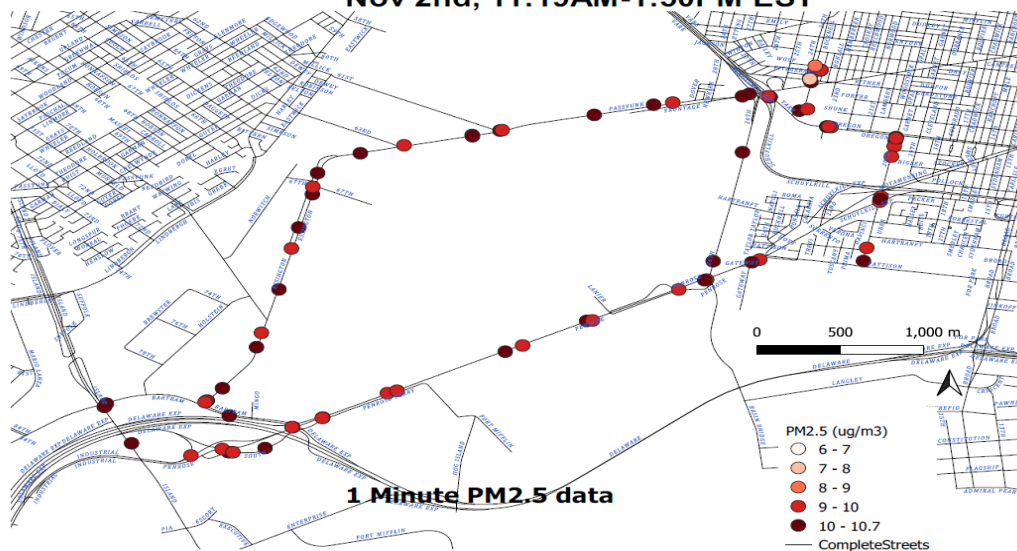
**Dilution Calibrator
Model T700U**

**Air Zero Generator
Model T701H**

Nicetown Mobile Van PM2.5 Nov 3rd 12:31PM-3:09PM EST



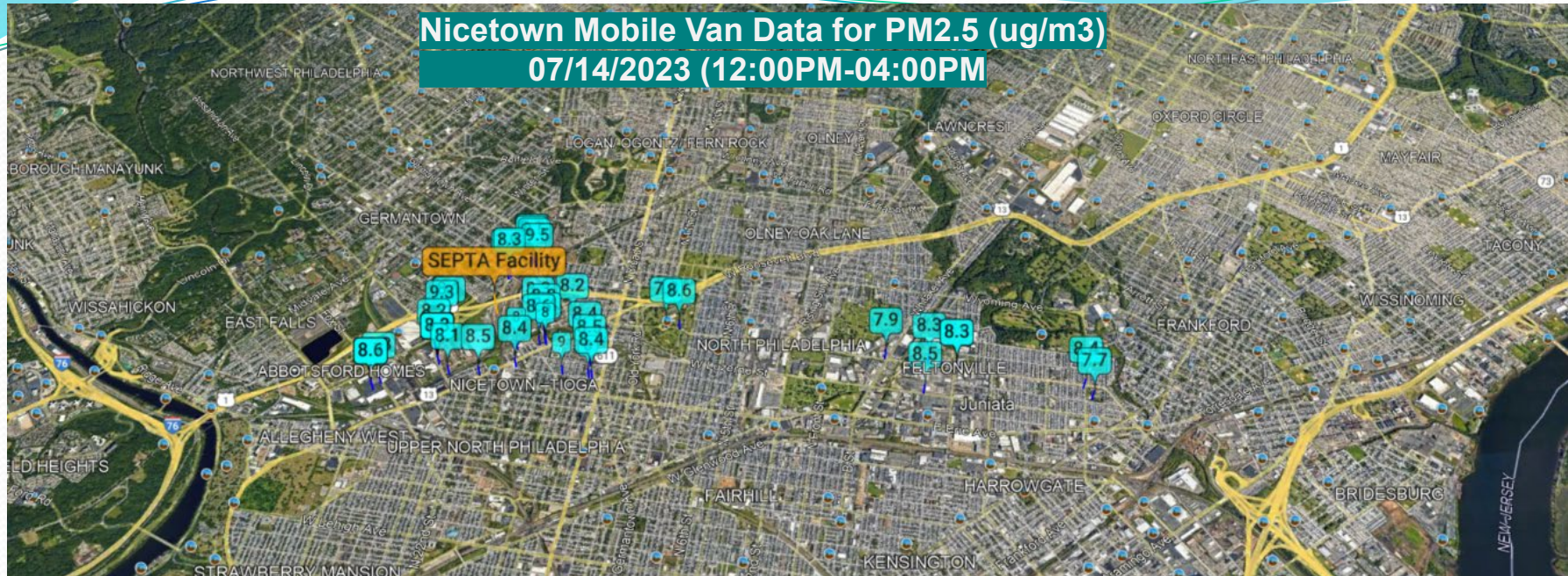
PES_RIT Mobile Van PM2.5 Nov 2nd, 11:19AM-1:50PM EST



SEPTA -- Concentration by MMS(inside the community) Map

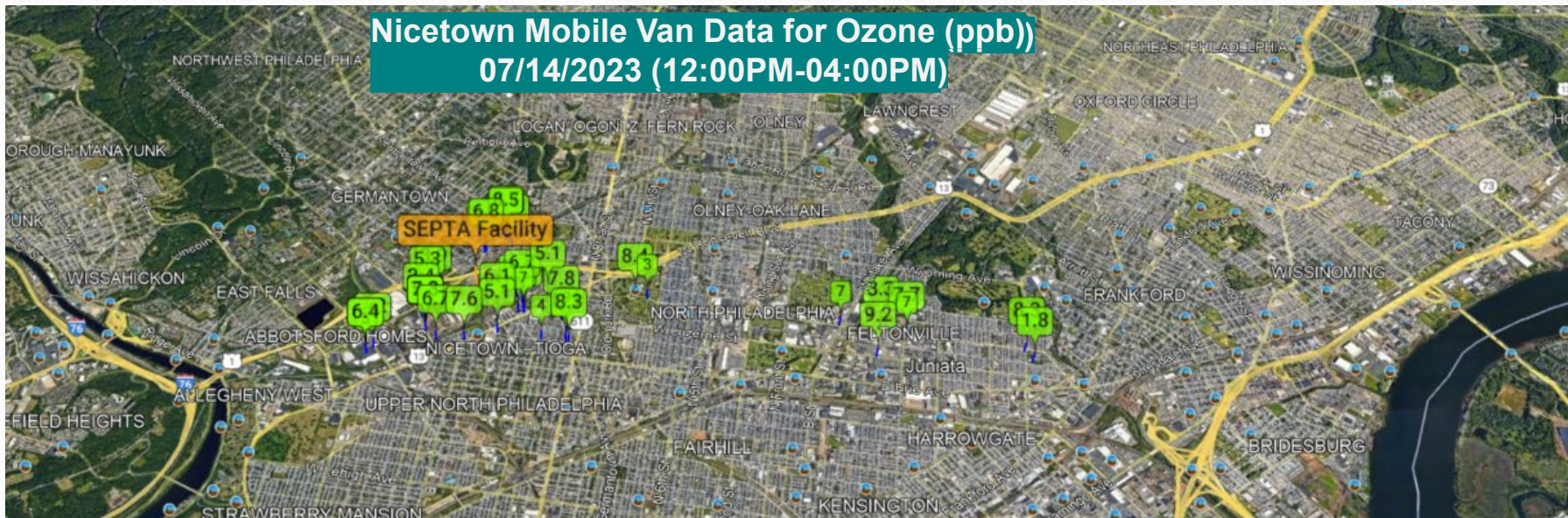
Nicetown Mobile Van Data for PM2.5 (ug/m3)

07/14/2023 (12:00PM-04:00PM)



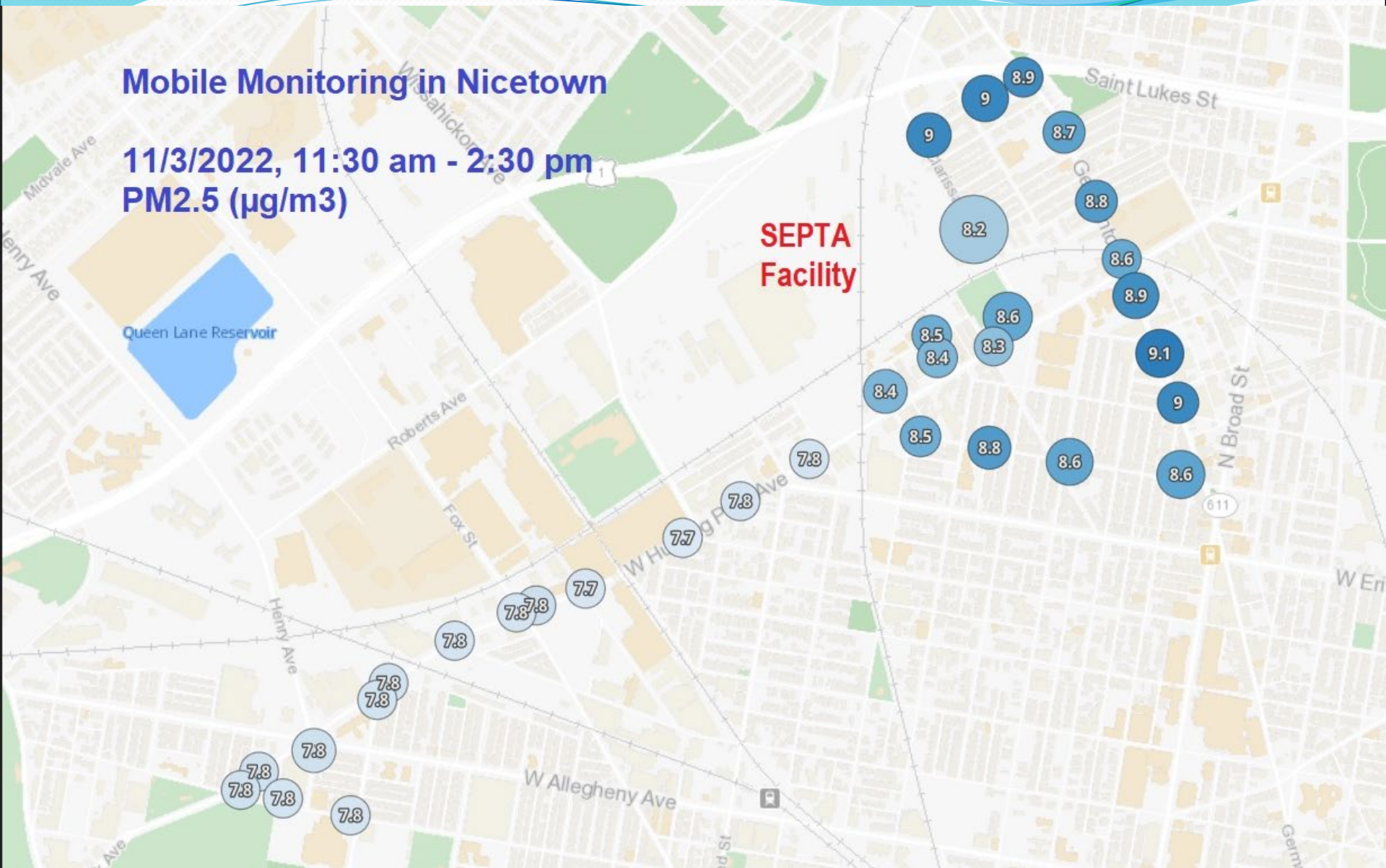
Nicetown Mobile Van Data for Ozone (ppb)

07/14/2023 (12:00PM-04:00PM)

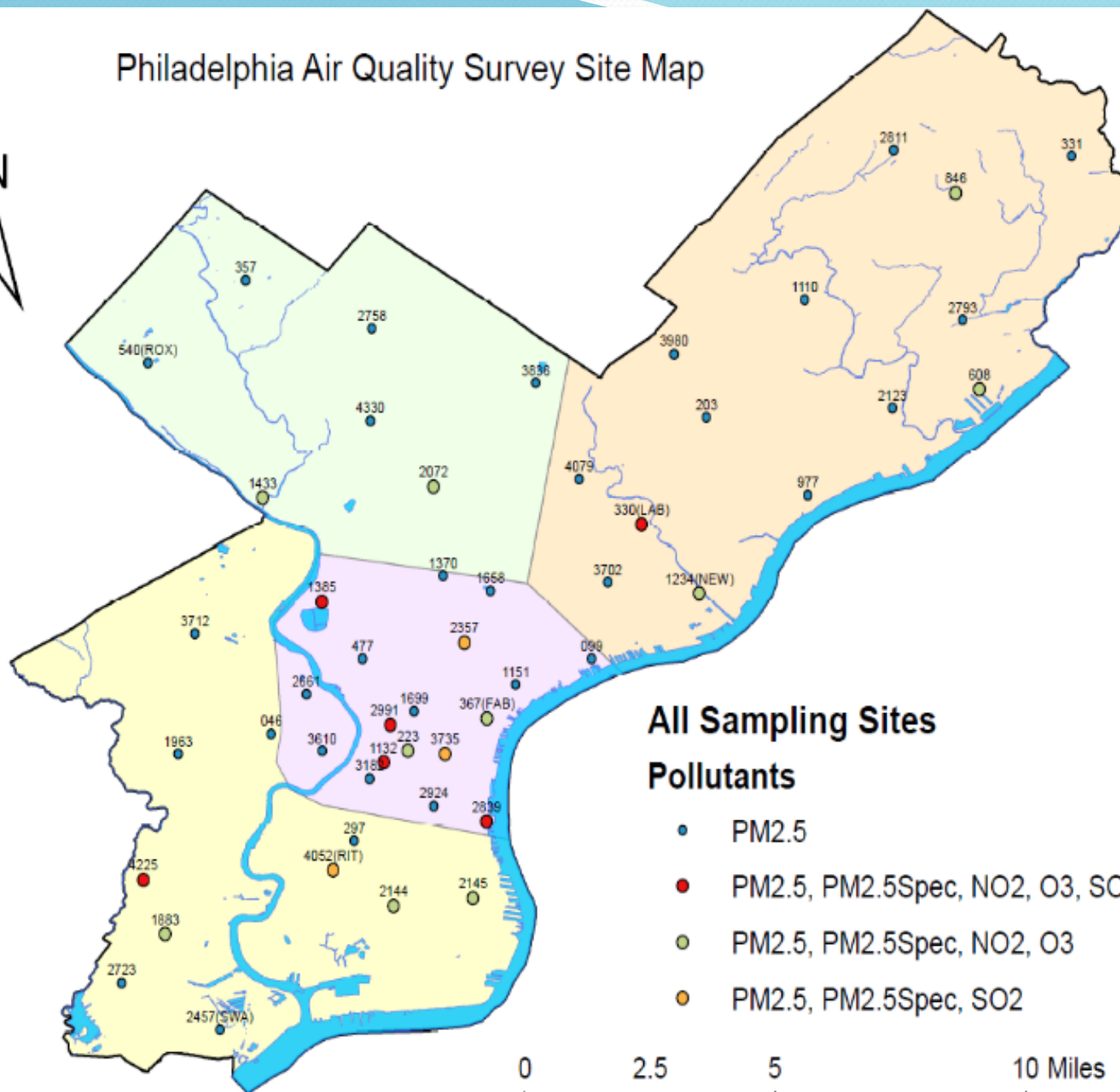


Mobile Monitoring in Nicetown

11/3/2022, 11:30 am - 2:30 pm
PM2.5 ($\mu\text{g}/\text{m}^3$)



Philadelphia Air Quality Survey Site Map

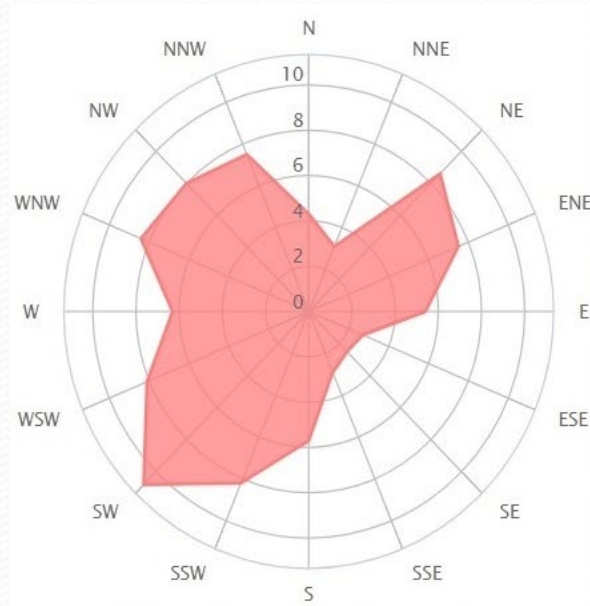


Retrieval/deployment of sampling unit

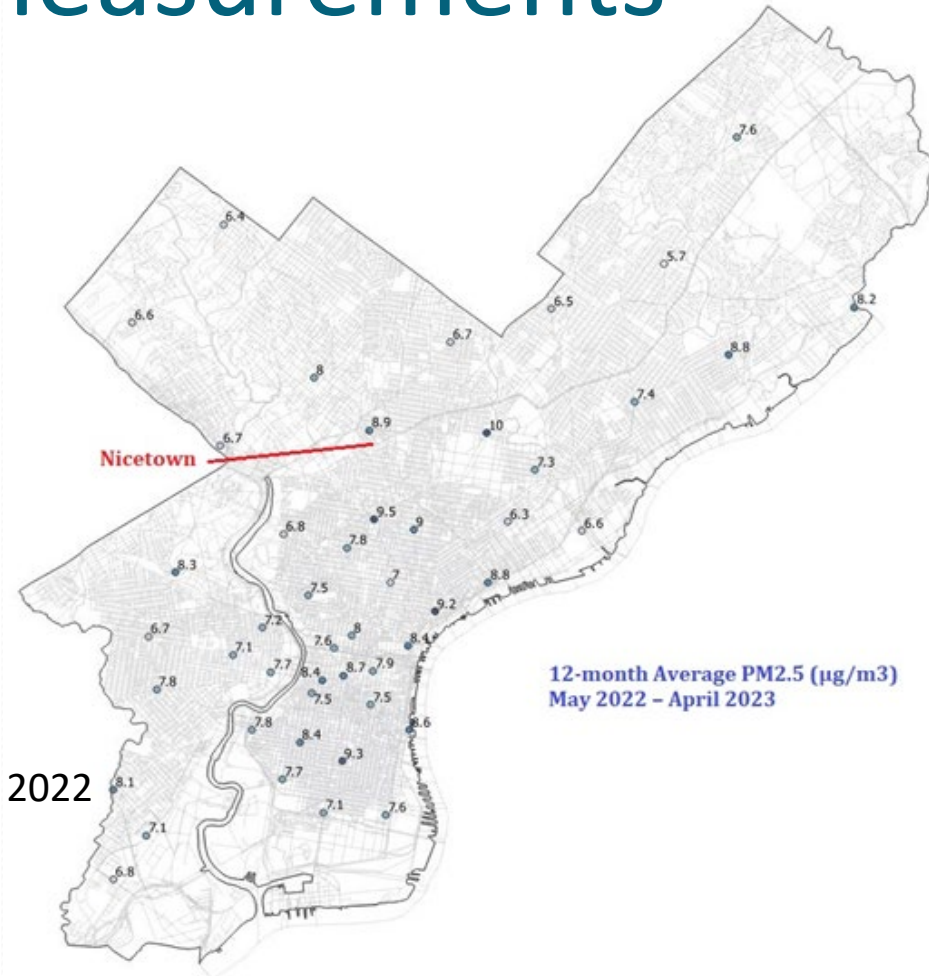
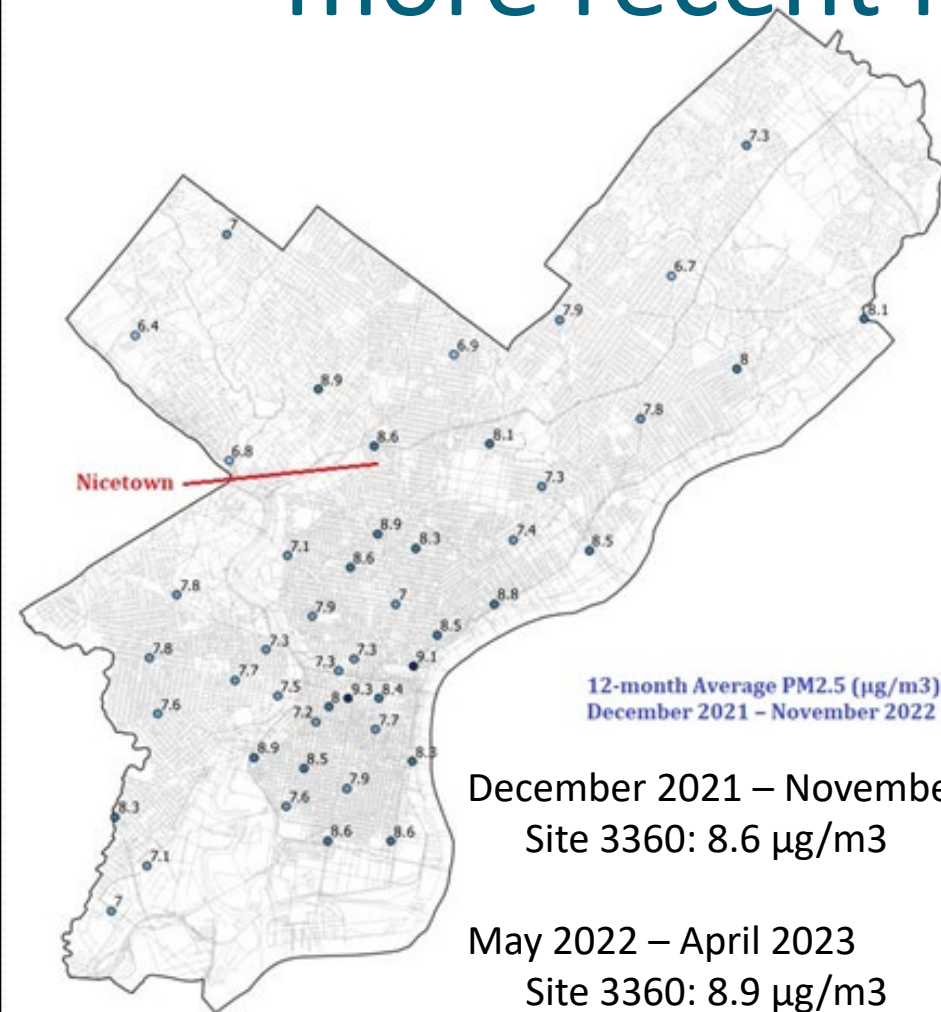


The figure consists of two main parts. The top-left part is a wind rose plot showing wind frequency by direction and speed. The plot has a circular grid with concentric circles representing frequency (0 to 10) and radial lines representing wind direction (N, NNE, NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NNW, N). A red shaded area indicates the wind frequency distribution, showing a prominent peak from the southwest (SSW) and a smaller peak from the east-northeast (ENE).

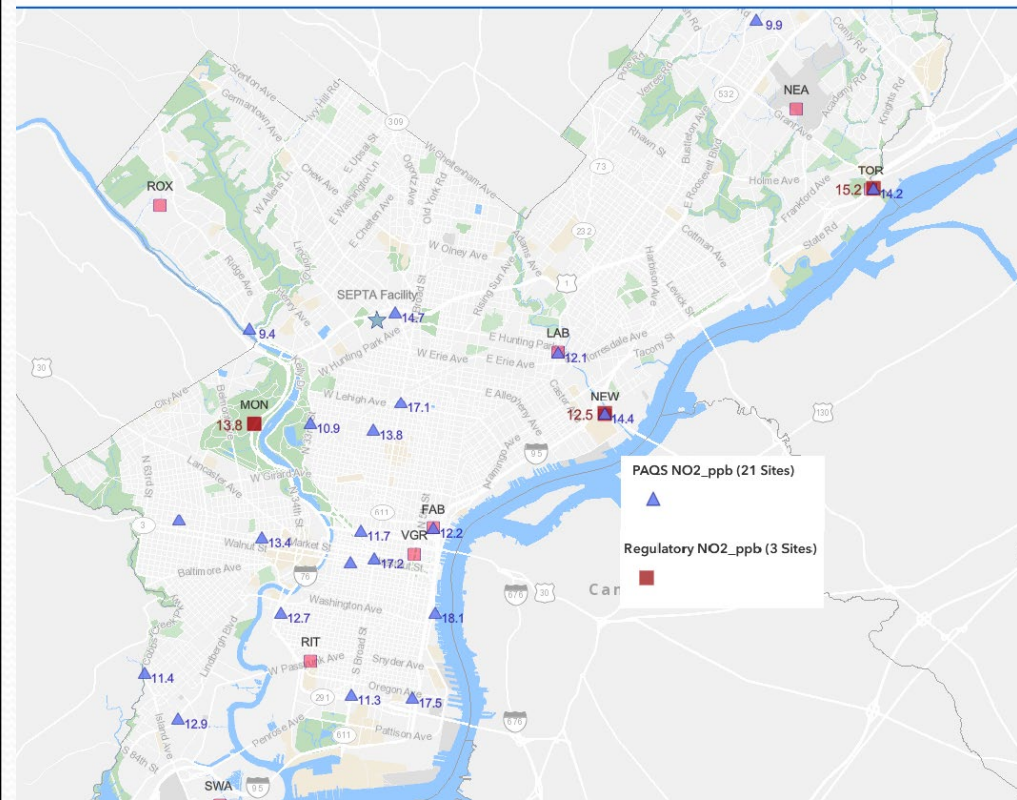
The bottom part is a street map showing the location of PAQS Site 3360 (marked with a green circle) and the SEPTA facility (marked with a red circle). An arrow indicates a distance of about 3000 ft (913 m) between the two locations. The map shows various streets including N 20th St, N 19th St, N 18th St, N 17th St, N 16th St, N 15th St, N 14th St, N 13th St, N 12th St, N 11th St, N 10th St, N 9th St, N 8th St, N 7th St, N 6th St, N 5th St, N 4th St, N 3rd St, N 2nd St, N 1st St, N 0th St, N -1st St, N -2nd St, N -3rd St, N -4th St, N -5th St, N -6th St, N -7th St, N -8th St, N -9th St, N -10th St, N -11th St, N -12th St, N -13th St, N -14th St, N -15th St, N -16th St, N -17th St, N -18th St, N -19th St, N -20th St, N -21st St, N -22nd St, N -23rd St, N -24th St, N -25th St, N -26th St, N -27th St, N -28th St, N -29th St, N -30th St, N -31st St, N -32nd St, N -33rd St, N -34th St, N -35th St, N -36th St, N -37th St, N -38th St, N -39th St, N -40th St, N -41st St, N -42nd St, N -43rd St, N -44th St, N -45th St, N -46th St, N -47th St, N -48th St, N -49th St, N -50th St, N -51st St, N -52nd St, N -53rd St, N -54th St, N -55th St, N -56th St, N -57th St, N -58th St, N -59th St, N -60th St, N -61st St, N -62nd St, N 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PAQS PM2.5 Concentrations – more recent measurements



SEPTA NO2 Concentration by PAQS Jun 2021-May 2022



This is the measurement taken by PAQS and the nice town SEPTA site shows (14.7ppb) the NO₂ is below the standard of 53ppb. The data is for NO₂ is for all 28 locations.

The PAQS monitor in Nicetown is PAQS Site 3360 (Germantown Ave / Rowan St.). You can find data in this document online:

https://www.phila.gov/media/20210316150355/PAQS_Report_Sept4-2020_final.pdf

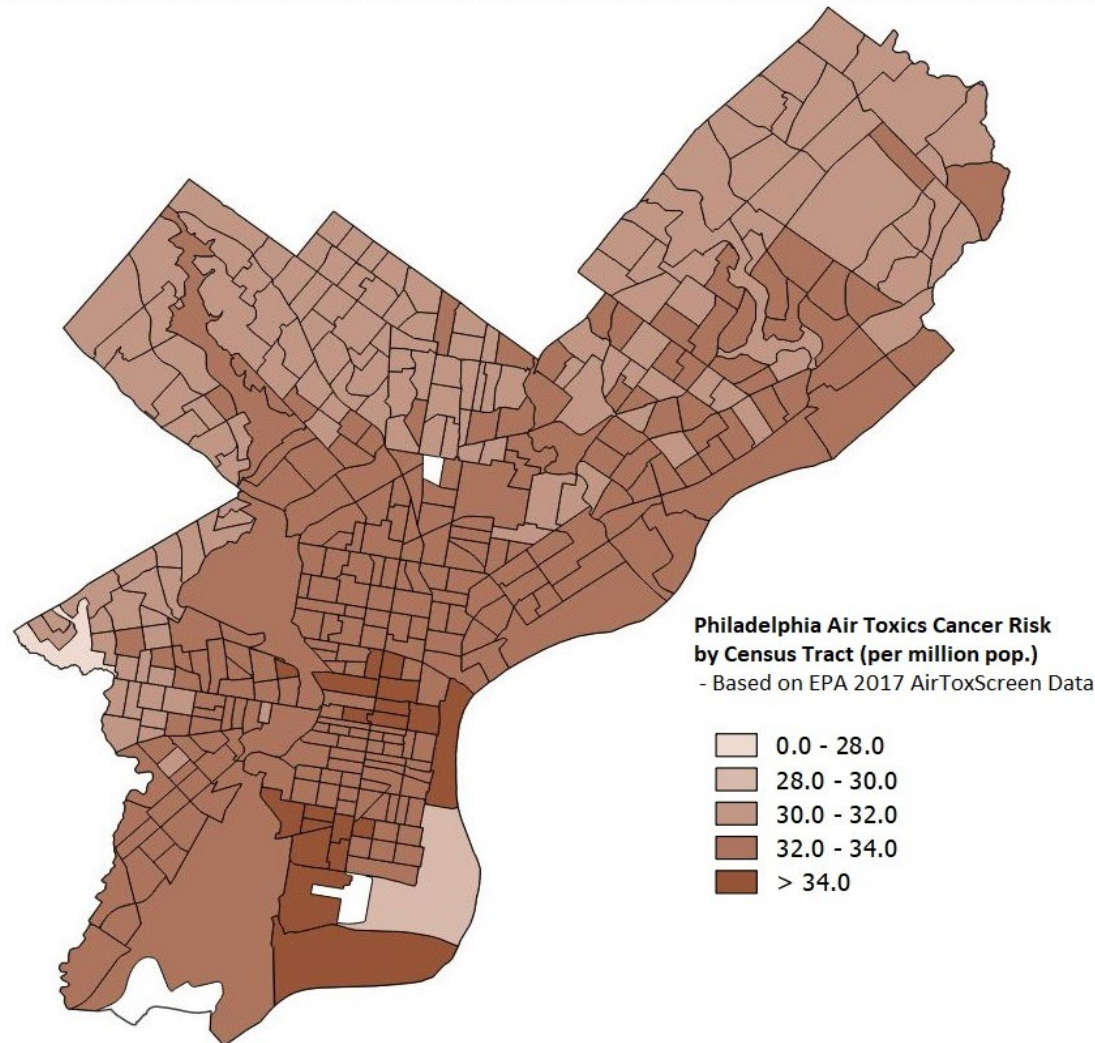
SEPTA Area PM2.5 and Ozone Concentrations

Mobile Monitoring & Regulatory Data

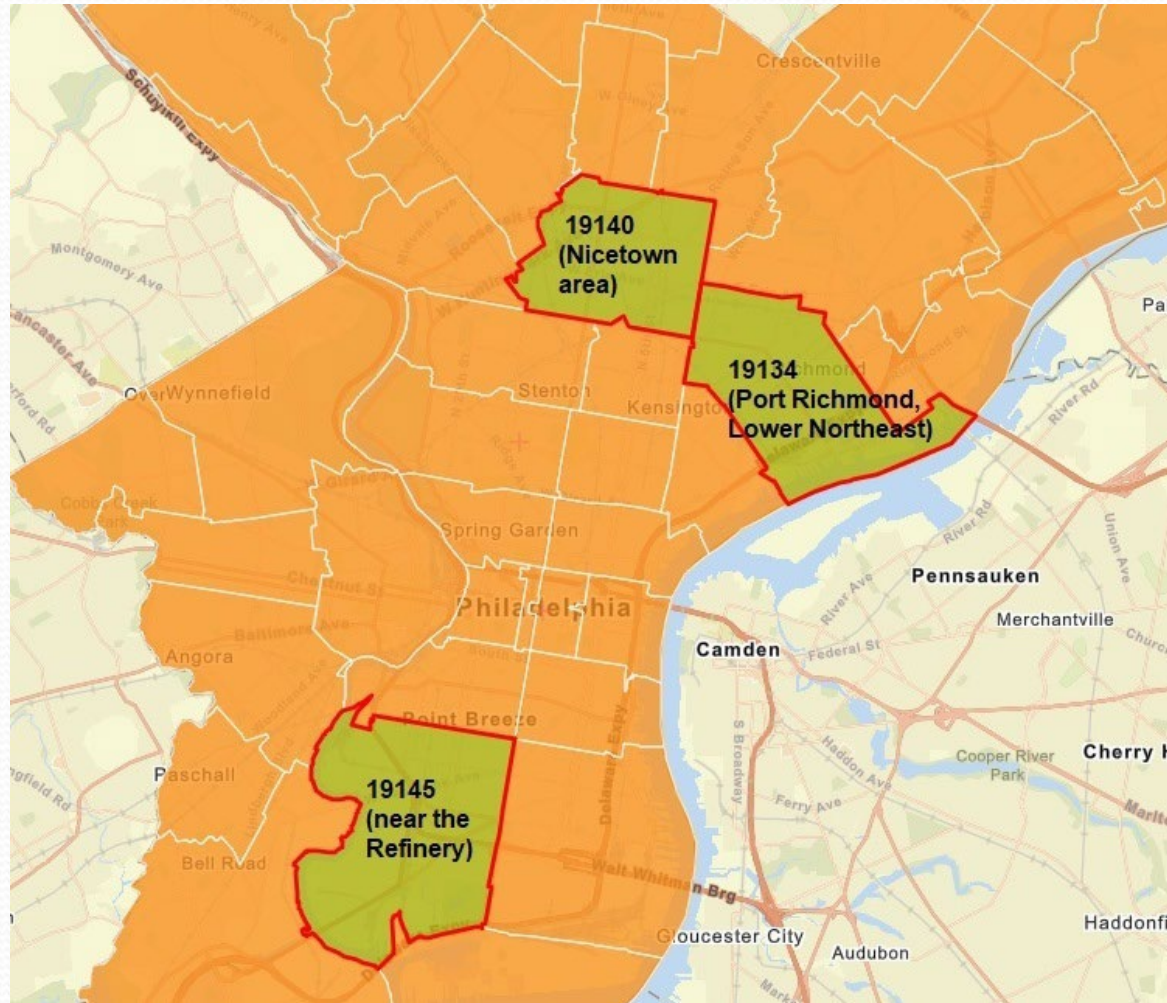
Date (12:00PM-4:00PM)	1-Min Maximum PM _{2.5} (ug/m ³)				1-Min Maximum Ozone (ppm)		
Site	Van	LAB	MON	NEW	Van	LAB	NEW
05-11-2023	16.1	22.3	21.69	26.8	0.056	0.059	0.065
06-01-2023	24.1	18.7	18.9	23.6	0.091	0.071	0.076
06-15-2023	12.9	8.8	9.7	12.2	0.065	0.067	0.056
07-14-2023	9.7	9.7	7.9	8.1	0.079	0.064	0.073

2017 EPA AirToxScreen:

Population weighted air toxics cancer risk by census tract



ARP Grant Project





1962



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THANK YOU