PITCAIRN
COMMUNITY MEETING

Presented by:

Protect PT

ENVIRONMENTAL HEALTH PROJECT
DEFENDING PUBLIC HEALTH SINCE 2012

JOIN US FOR A PRESENTATION TO DISCUSS OUR FINDINGS FROM THE LANDFILL HEALTH SURVEY

Monday, August 18th

6 PM - 7 PM

Pitcairn Firehall

Who we Are

About Protect PT: Protect Penn-Trafford is a citizen's group working to ensure the safety, security, and quality of life from the effects of unconventional gas development in Penn-Trafford and surrounding communities in Westmoreland and Allegheny Counties. Learn more at www.protectpt.org.

About EHP: The Environmental Health Project (EHP) is a nonpartisan nonprofit organization that defends public health in the face of shale gas development. EHP provides frontline communities with timely monitoring, interpretation, and guidance while engaging diverse stakeholders: health professionals, researchers, community organizers, public servants, and others.

Meet the Team

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Agenda

- Monroeville Landfill Health Survey 2025
- Landfill Health Impacts & Facts
- Environmental Monitoring
- PPT Environmental Reporting App
- Call to Action
- What are your experiences? + Q&A

Monroeville Landfill Health Survey 2025

Protect PT

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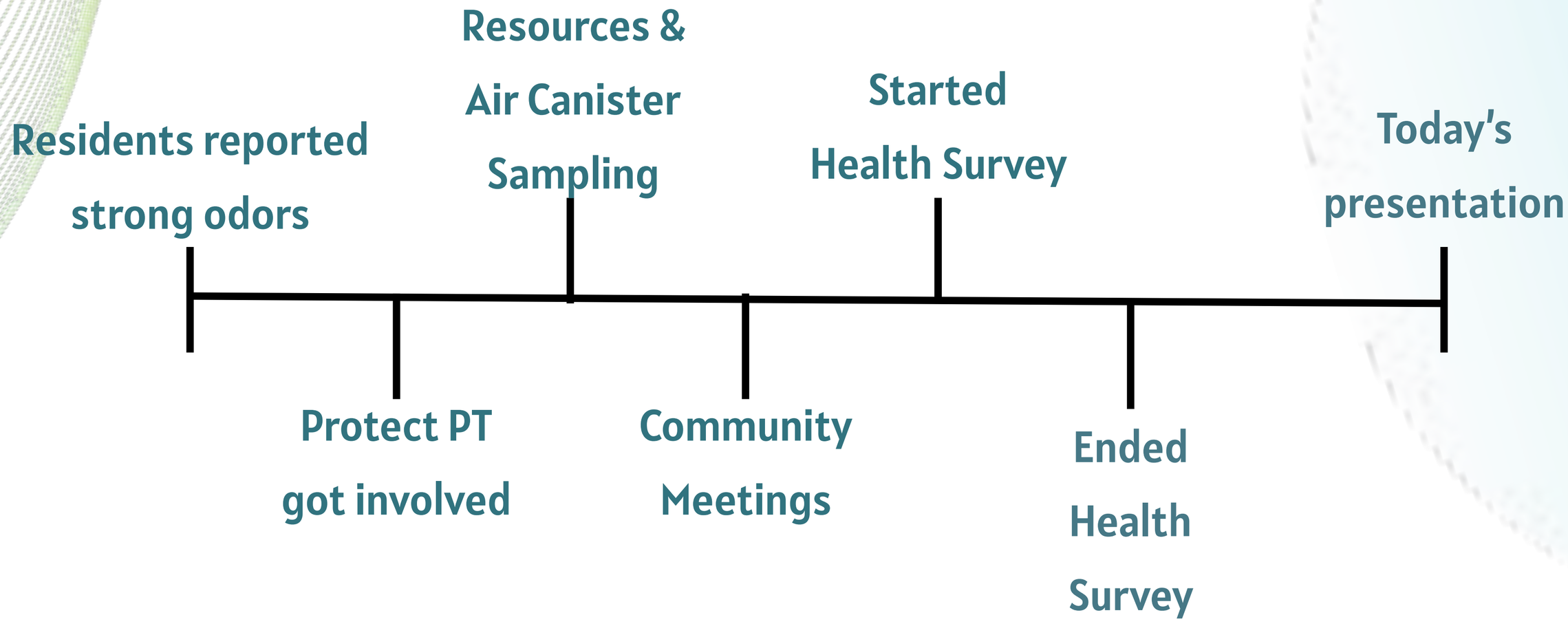
Health Survey Overview

Community concerns about odors and health impacts have been reported for years

Protect PT went to homes around around the Monroeville Landfill to learn about current experiences

Timeline


Residents reported strong odors
Protect PT got involved
Resources & Air Canister Sampling
Community Meetings
Started Health Survey
Ended Health Survey
Today's presentation

Demographics

Gender:

Female: 46%

Male: 51%

Other: 3%

Age:

18-49: 31%

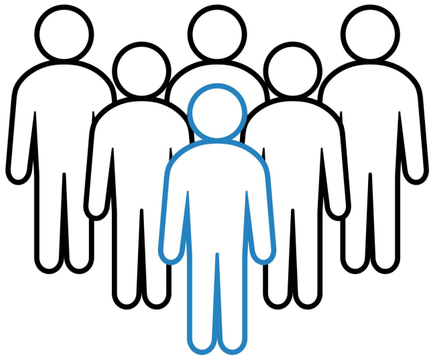
50-70: 49%

71+: 20%

Number of children under 12 living in the home:

0-1 children: 92%

2-3 children: 8%



Demographics

Household size:

1-3 people: 74%

4-7 people: 26%

Homeowner:

Yes: 82%

No: 18%

Amount of time living at current address:

Greater than 10 years: 77%

Less than 10 years: 23%

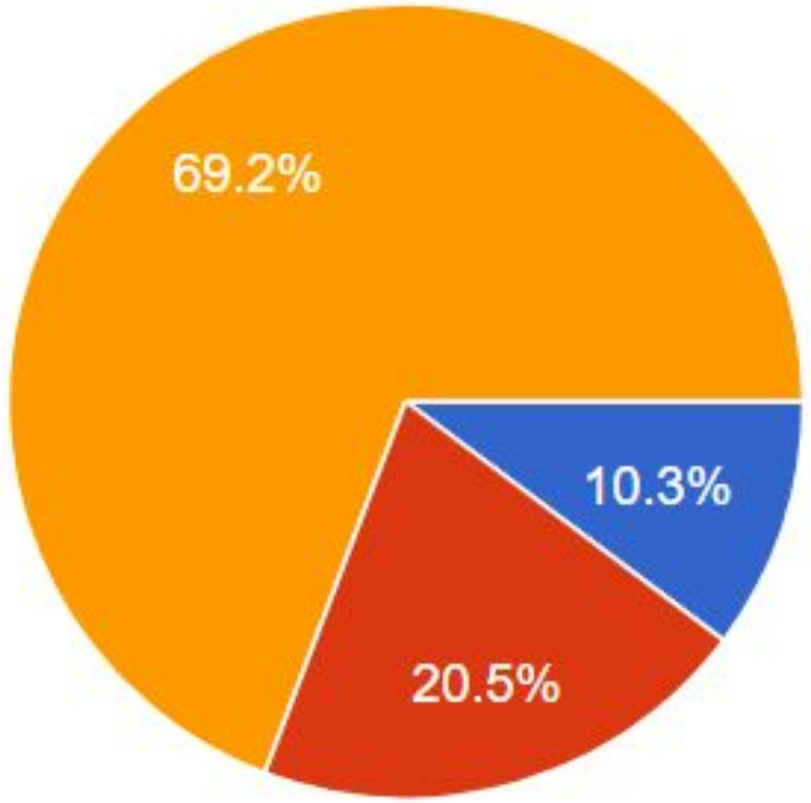
Respondents to our survey reported **living at their location for an average of 25 years (average 41% of current lifespan)** showing that a significant portion of the people have been living here for an extended period of time and percentage of their lives

Have there been any incidents such as spills or leaks surrounding the landfill near your home?

Yes: 10.3%

No: 20.5%

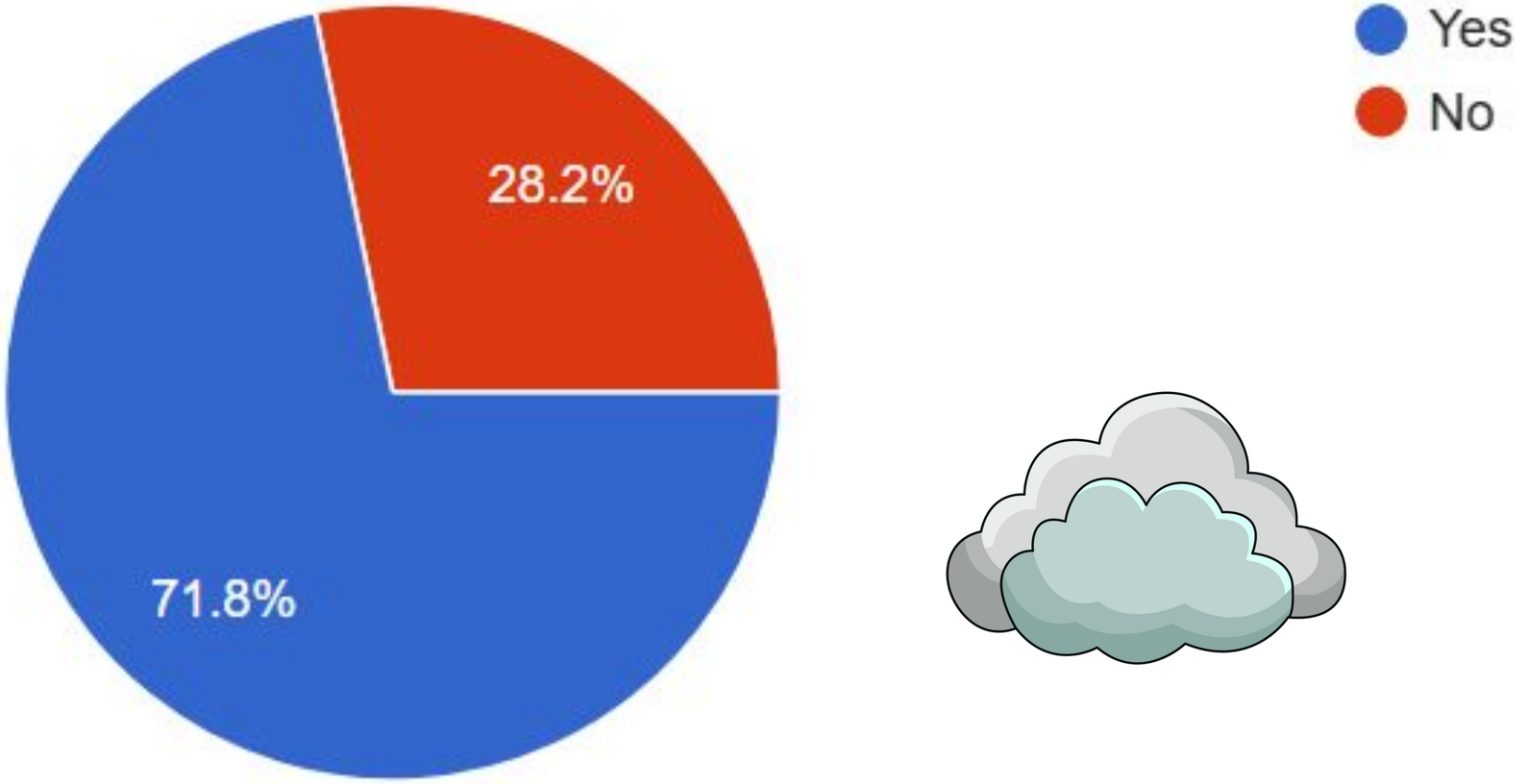
Unsure: 69.2%



Have you noticed an unusual smell or cloudiness in the air near your home?

Yes: 71.8%

No: 28.2%



In the past year, the odors near your home have:

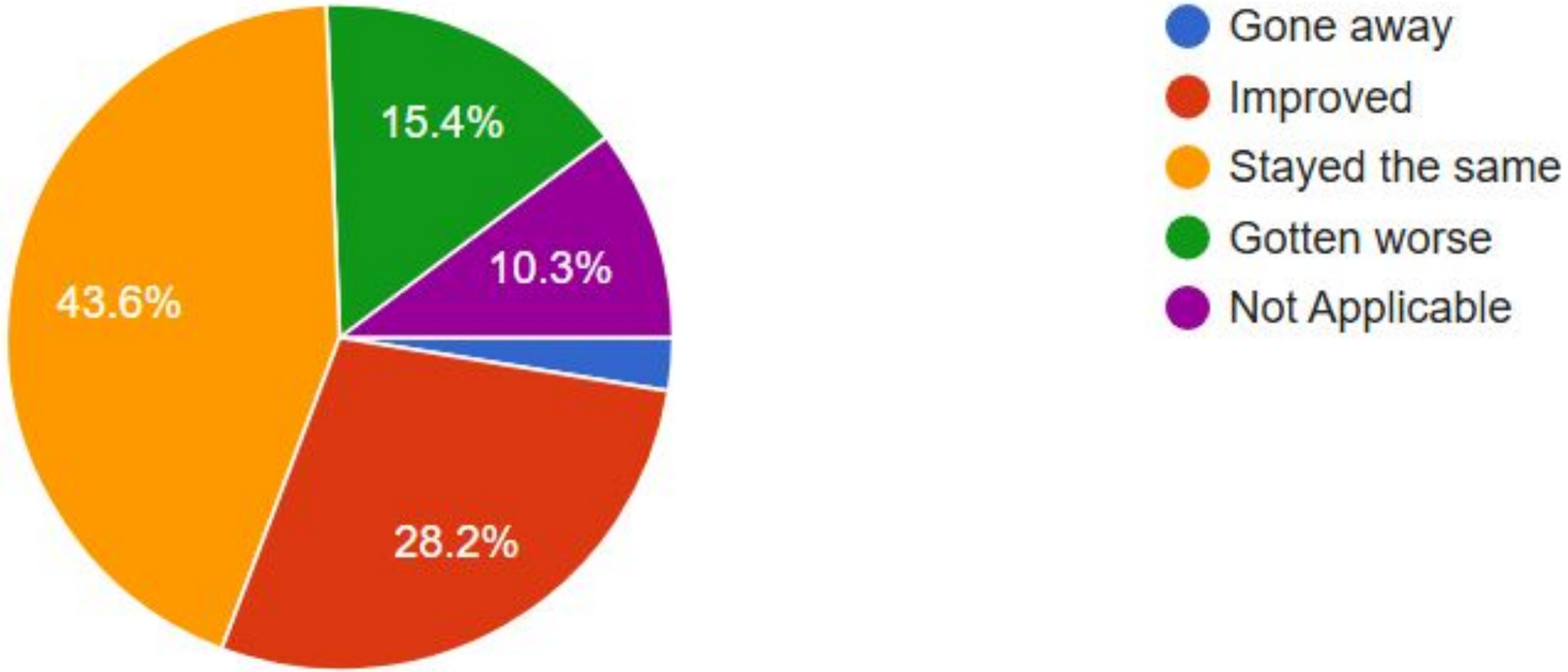
Improved: 28.2%

Gone away: 2.6%

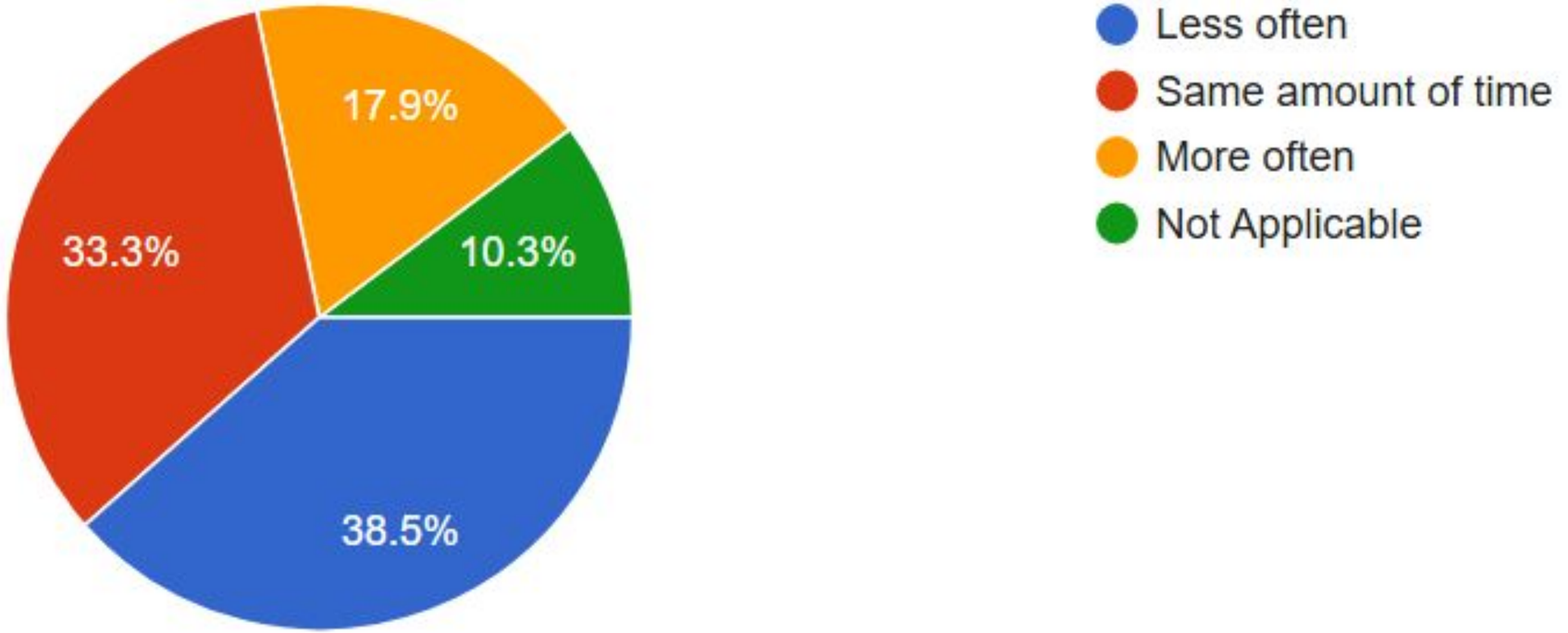
Stayed the same: 43.6%

Gotten worse: 15.4%

Not applicable: 10.3%



In the past year, odors have been happening:

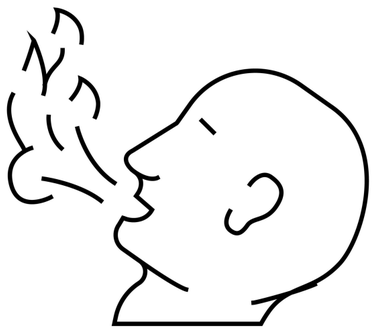


Less often: 38.5%

Same amount of time: 33.3%

More often: 17.9%

Not applicable 10.3%



If you are experiencing an odor, how would you describe the smell?

Methane

Heavy Diesel

Burning

Fuel

Rotten

Gas

Musty

Flowery

Sulfur

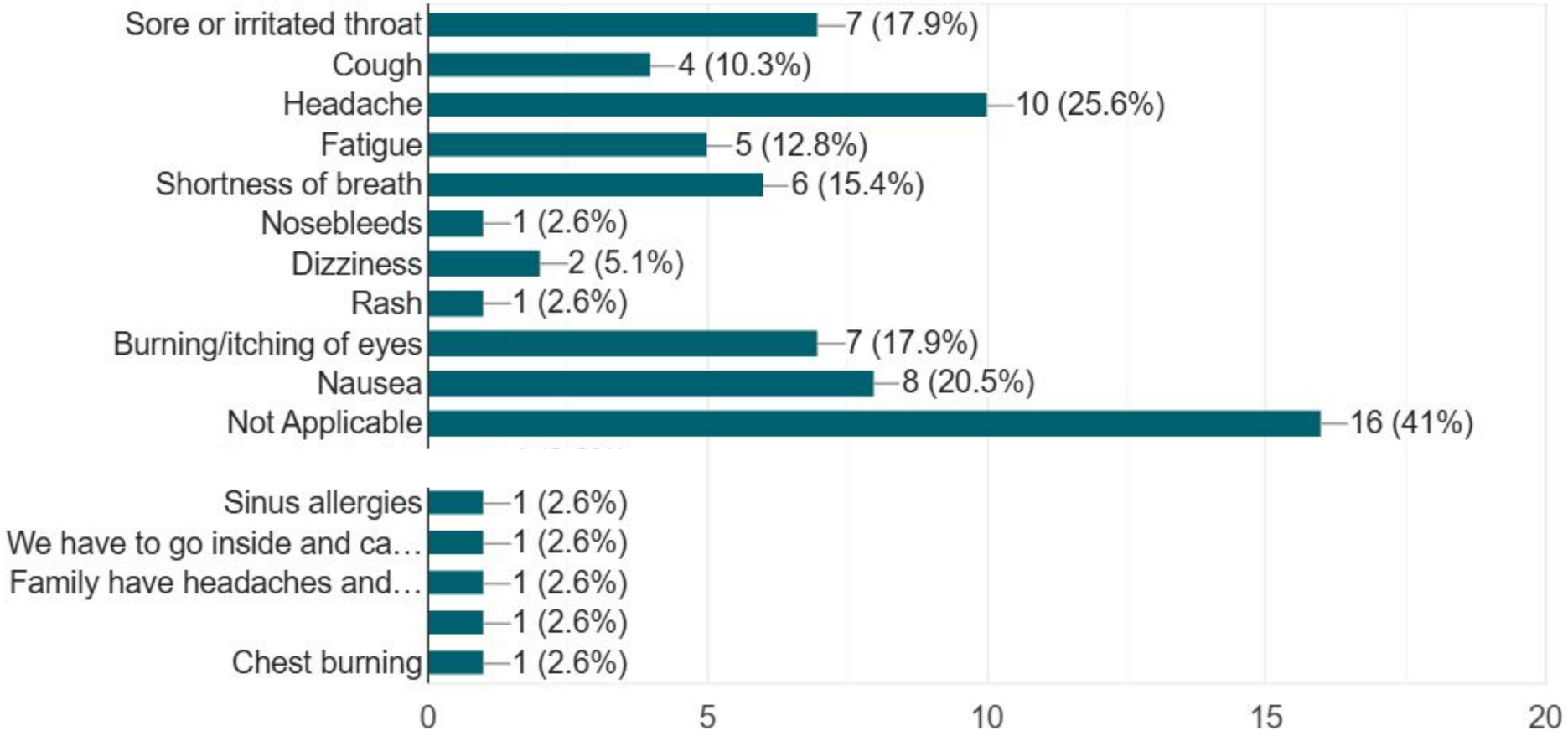
Egg

Sweet

Decaying

Skunky

Have you experienced any of the following symptoms after an odor event?



59% of *households* within 6 miles of pollution source, reported symptoms (from survey responses that included location)

Additional Comments

- Self reported cancers
- Neighbors reported having cancers
- Asthmas and respiratory illness
- Concerns on air quality, long term health effects & home value
- Odors are noticeable when temperature drops
- Homes shake and vibrate often
- Concerns about growing hillside & leachate from the landfill
- Burning eyes & nose

Landfill Health Impacts & Facts

How is landfill gas produced?

Bacterial decomposition

- Organic waste is naturally broken down by bacteria (in four phases - see next slide)

Volatilization

- When compounds change their state of matter (ex: solid to liquid)

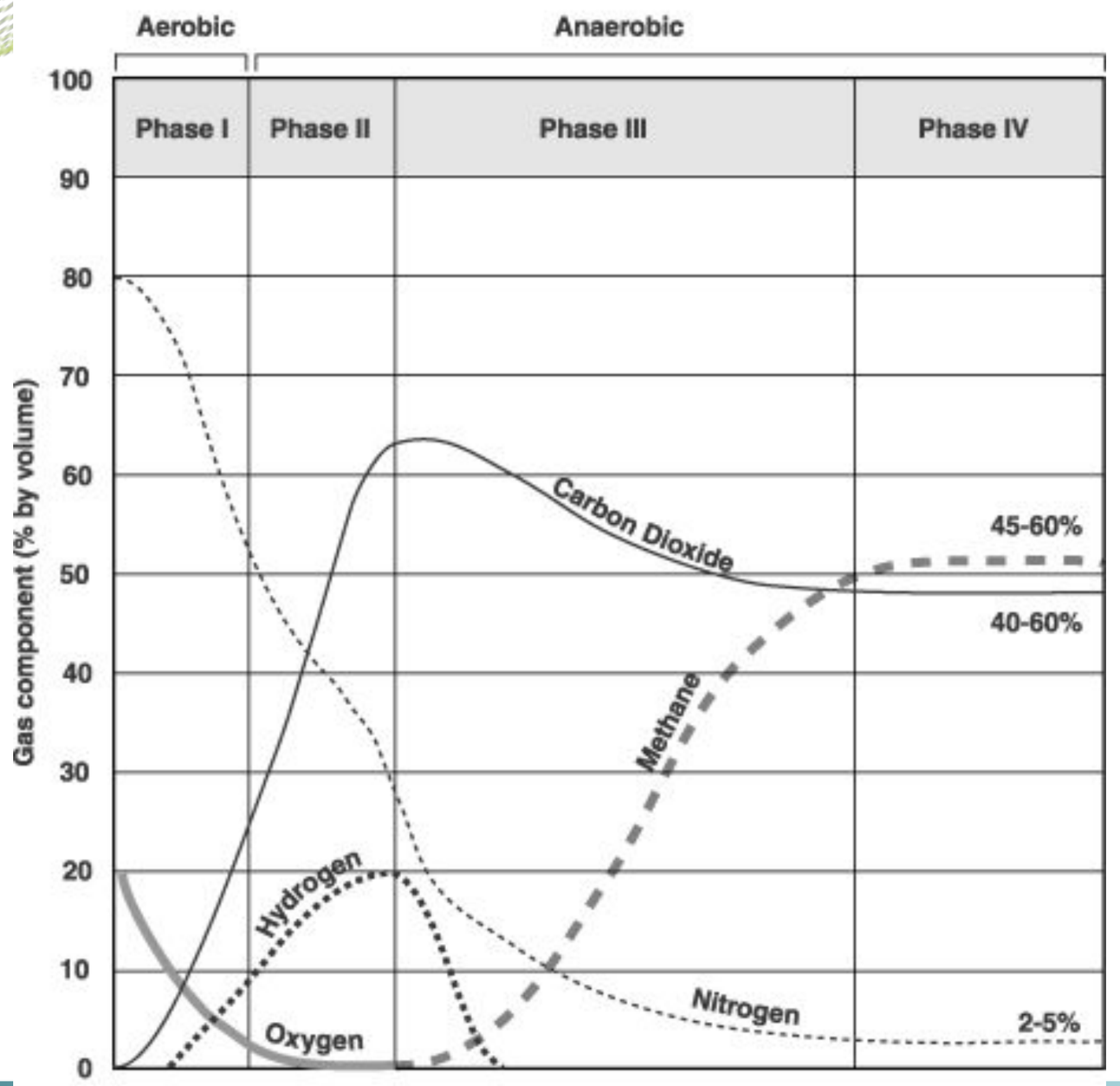
Chemical reactions

- Reactions can occur when some compounds interact
- Ex: chlorine bleach + ammonia = chloramines

What is Emitted from Landfills?
4 Phases

- Phase I
  - **Carbon dioxide (CO2):** formed through breakdown of organic compounds by aerobic bacteria.
- Phase II
  - **CO2 and Hydrogen (H2):** byproducts from Phase II converted to acids and alcohols by anaerobic bacteria
- Phase III
  - Anaerobic bacteria consume the acids from Phase II to produce **acetate**; this is where methane-producing bacteria thrive
- Phase IV
  - Landfill gas production stabilizes, production of **methane and carbon dioxide** for 20 - 50 years

Emissions vary over time. Since landfills can accept waste between 20-30 years, any of these phases can be occurring at a given time with no discrete time period in which each phase happens.



Note: Phase duration time varies with landfill conditions

Source: EPA 1997

Other Contributing Factors to Emissions

Weather

- Low wind speeds can hinder pollutant dispersion
  - Winds can also carry pollutants to different areas
- Higher temperatures
- Rainfall can affect dust levels

Seasonal differences

- Accelerated decomposition in warmer months
- Dust in dry seasons
- Odor complaints often increase in summer

Air Pollutants from Non-Hazardous Landfills

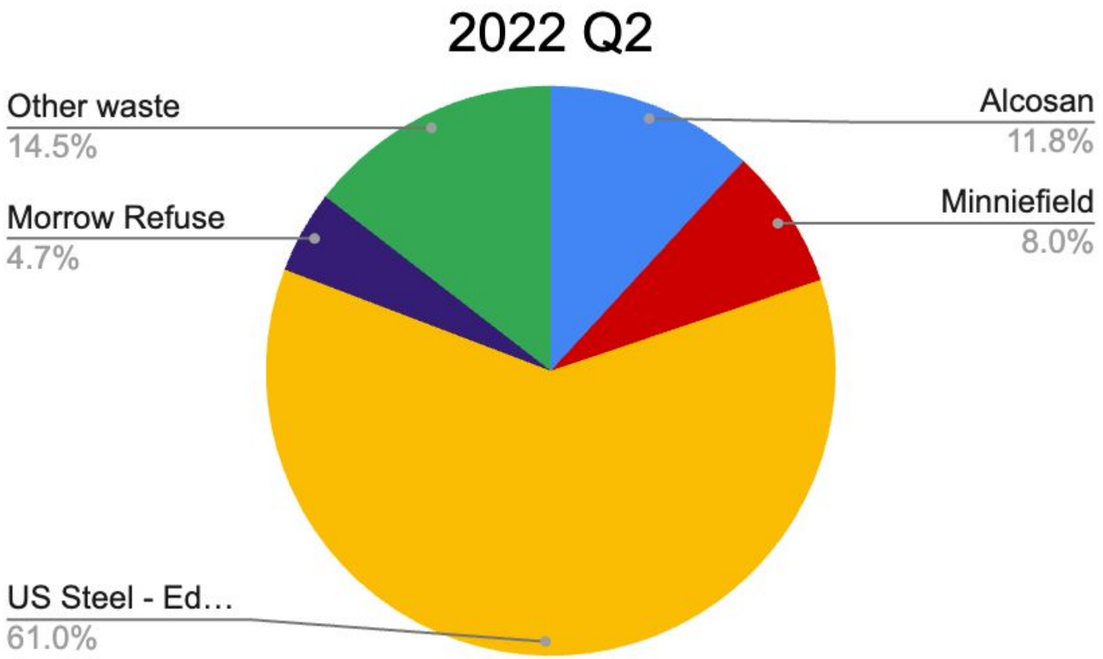
- Methane, Carbon Dioxide, Nitrogen, and Trace amounts of VOCs
  - The most significant source of air pollution from non-hazardous landfills is gas generated through anaerobic decomposition of organic waste.
- PM2.5
  - Generated in large quantities via mechanical processes: waste sorting, tipping, compaction, vehicle movement over deposited waste and when transporting waste.
  - Wind dispersion also affects the propagation of PM2.5
- Dust
  - 40% of study participants living closer to a landfill indicated dust was a serious problem, compared to only 4% of those living farther away.
    - Dust emissions become more noticeable to residents living near landfills for longer periods (6-20+ years).

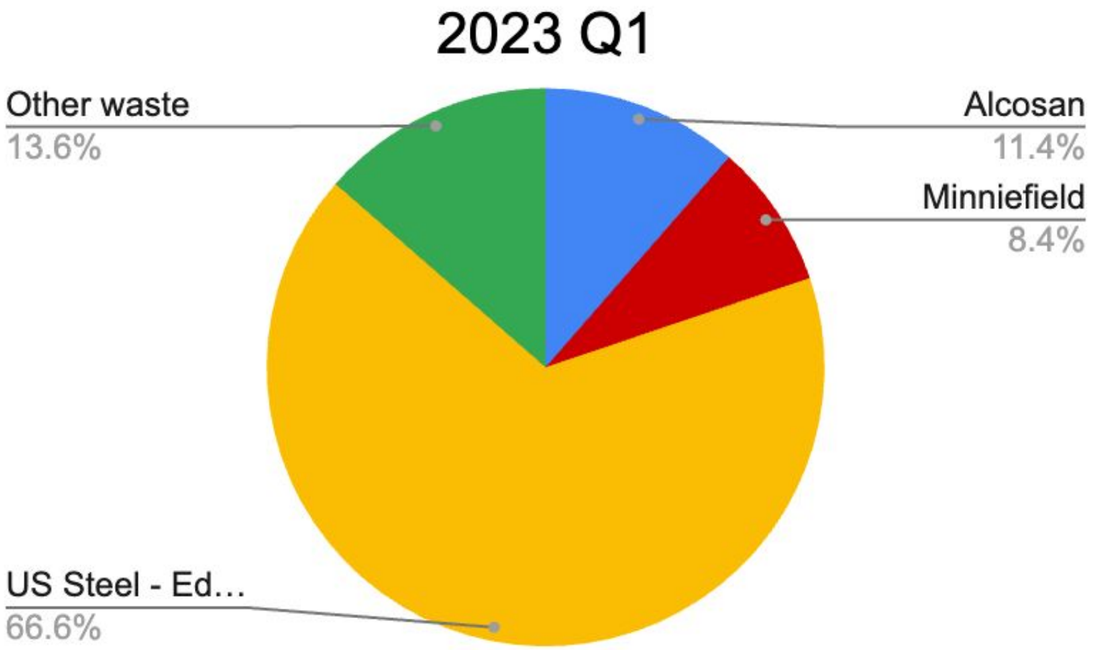
Air Pollutants from Non-Hazardous Landfills

- PFAS (per- and polyfluoroalkyl substances)
  - Solid waste, including many consumer goods, contains PFAS.
  - Escapes in landfill gas and leachate in similar amounts.
  - Existing air and water treatment equipment does not remove these chemicals.
- Odors
  - Decomposition of organic waste materials
  - Storage of leachate in open lagoons
  - Release of landfill gases like hydrogen sulfide (rotten egg smell)
  - Odor issues tend to be worse during low wind conditions that hinder pollutant dispersion, especially in complex terrain.
- Truck Traffic Emissions
  - Moving fill also contributes to air pollution.
  - Vehicle and equipment emissions (CO, NOx, SO2, etc.) fluctuate based on operational activity levels.

The specific composition and quantity of emissions from landfills can vary based on factors like waste content, landfill age, environmental conditions, and management practices.

WHERE IS THE WASTE COMING FROM?





Landfill Health Impacts

Chemical	Short-Term Exposures, Acute Health Symptoms	Long-Term Exposures, Chronic Health Effects
Diesel Exhaust (contains VOCs and PM2.5)	• Eye, nose, throat, and lung irritation • Headaches • Dizziness • Nausea	• Worsening respiratory disease • Lung cancer
Particulate Matter 2.5 (PM2.5)	• Asthma attacks • Acute bronchitis • Heart attacks in individuals with cardiac disease	• Reduced lung function • Chronic bronchitis • Neurodegenerative diseases
Hydrogen Sulfide	• Eye, nose, and throat irritation • Difficulty breathing for asthmatics • Headaches • Fatigue • Poor memory • Balance problems	• Respiratory distress or arrest if exposed to very high levels • Headaches • Poor attention span • Poor motor function
Sulfur Dioxide	• Breathing difficulties • Nose and throat irritation	• Decreased lung function

Landfill Health Impacts

Chemical	Short-Term Exposures, Acute Health Symptoms	Long-Term Exposures, Chronic Health Effects
Nitrogen Oxides (NOx)	• Respiratory symptoms • Worsening asthma	• Respiratory disease • Worsening heart disease
Carbon Monoxide	• Decreased exercise tolerance • Decreased vigilance • Increased risk for cardiac ischemia in individuals with heart disease	• Decreased exercise tolerance • Decreased vigilance • Increased risk for cardiac ischemia in individuals with heart disease
Methane and Carbon Dioxide	• Faster heartbeat • Breathing difficulties • Reduced coordination • Fatigue • Nausea, vomiting • Unconsciousness	• Impaired cognitive function • Long term respiratory Issues • Cardiovascular problems • Increased Cancer Risk

Modeled Relative Average Pollution from the Monroeville Landfill

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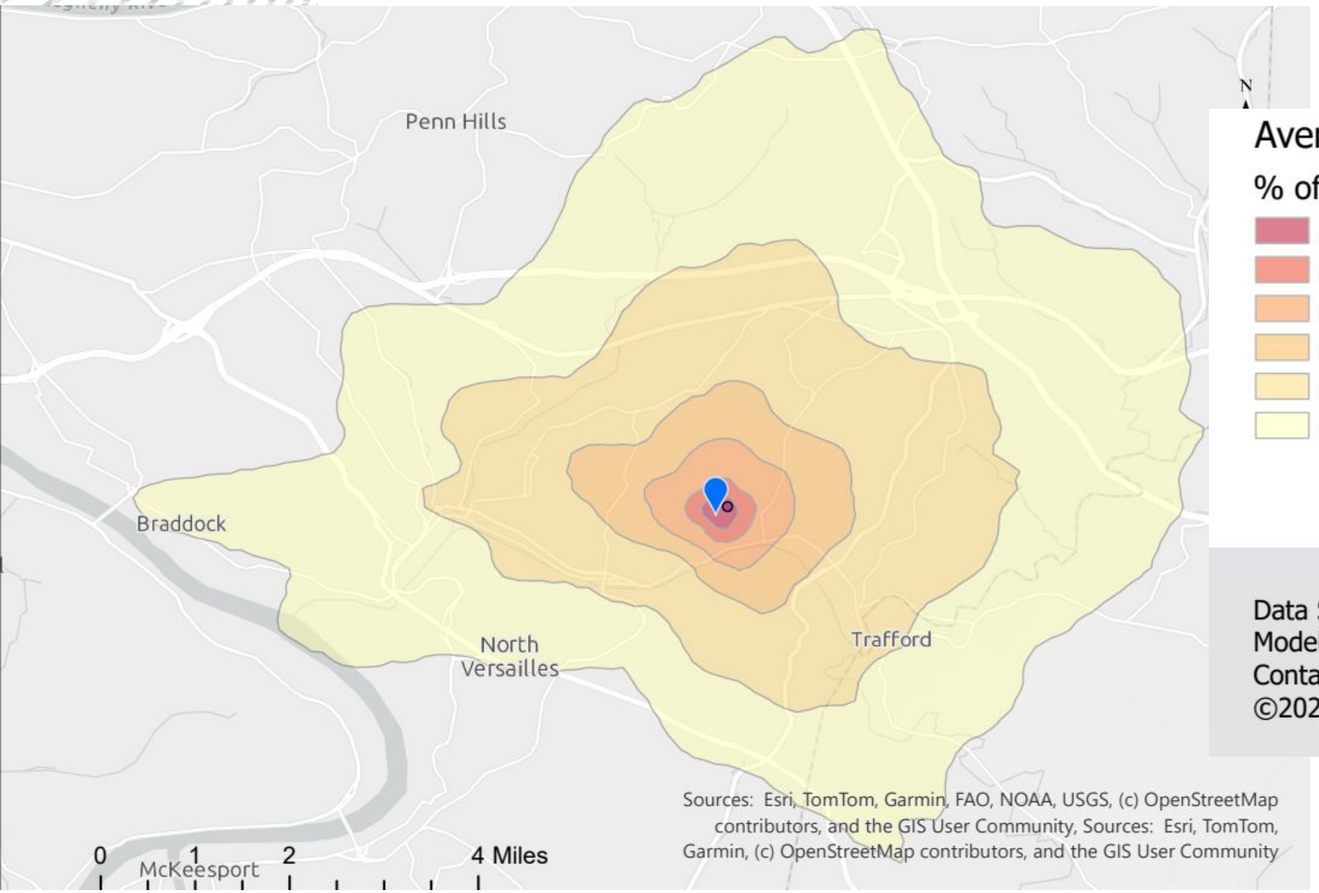


Average Annual Impact

% of Maximum Receptor

- >50%
- >25%
- >10%
- >5%
- >2%
- >1%

- Monroeville Landfill
- Maximum Receptor

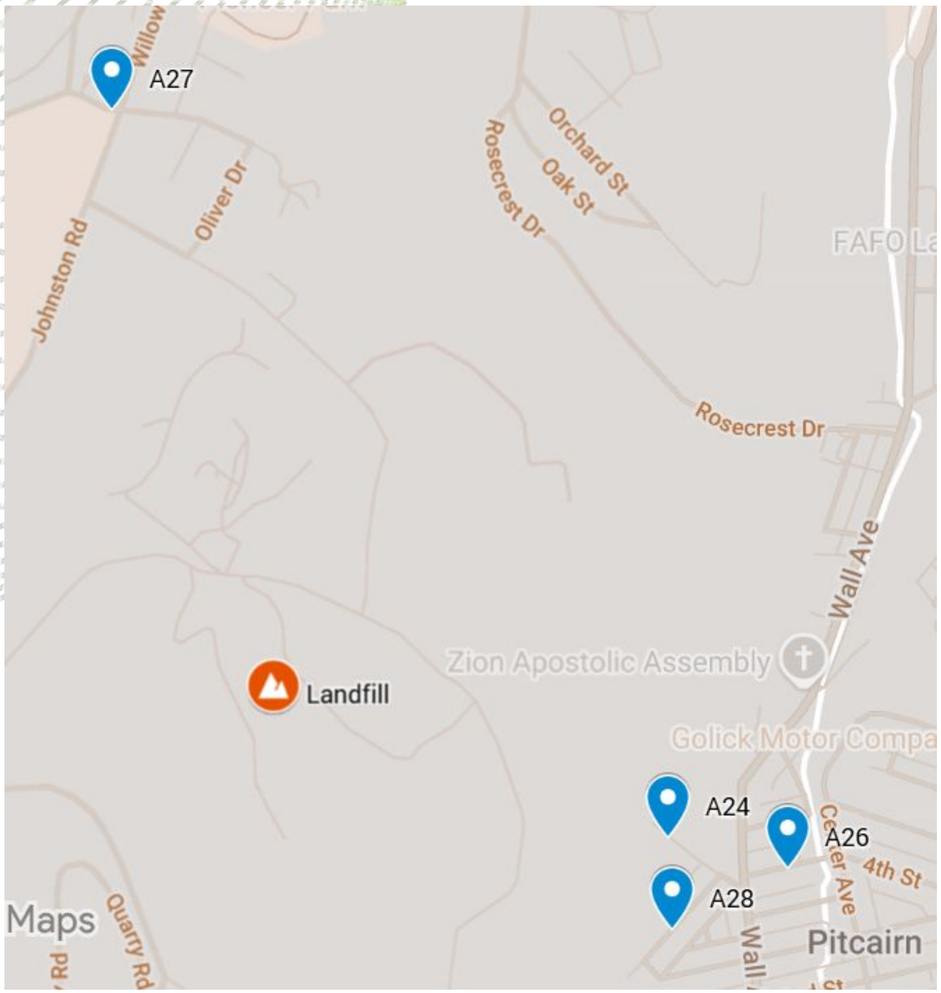
This map shows the modeled average annual concentration of primary air pollutants coming from the Monroeville Landfill. The meteorological data used covers 5/1/2024-/30/2025.

This map provides any understanding of the geographical distribution of primary pollutants on a relative scale. It does not provide specific levels of pollutants expected at any location. Secondary pollution formation has not been modeled.

Data Source: NOAA High-Resolution Rapid Refresh Atmospheric Model
Modeling Conducted by the Environmental Health Project using NOAA HYSPLIT
Contact Nathan Deron at nderon@environmentalhealthproject.org

Air Monitoring Results

VOC Monitor Comparison (8/2024 - 6/2025)



Monitor	Median ppb	Upper levels Aug - June	Readings %High	Jan	May	Aug - Sept
A24	320	3365	0.67%	1544	5,512	1526
A26	136	824	0.71%	1183	445	523
A28	171	938	0.89%	1185	NA	646
A27	105	362	2.68%	243	444	367

- **500 ppb used by some as a threshold of concern**
- **Monitor north of landfill had lowest levels**
- **Highest readings at A24 on Wood Street**
- **Readings were higher for A26 and A28 in January**
- **Readings were higher for A24 in May**

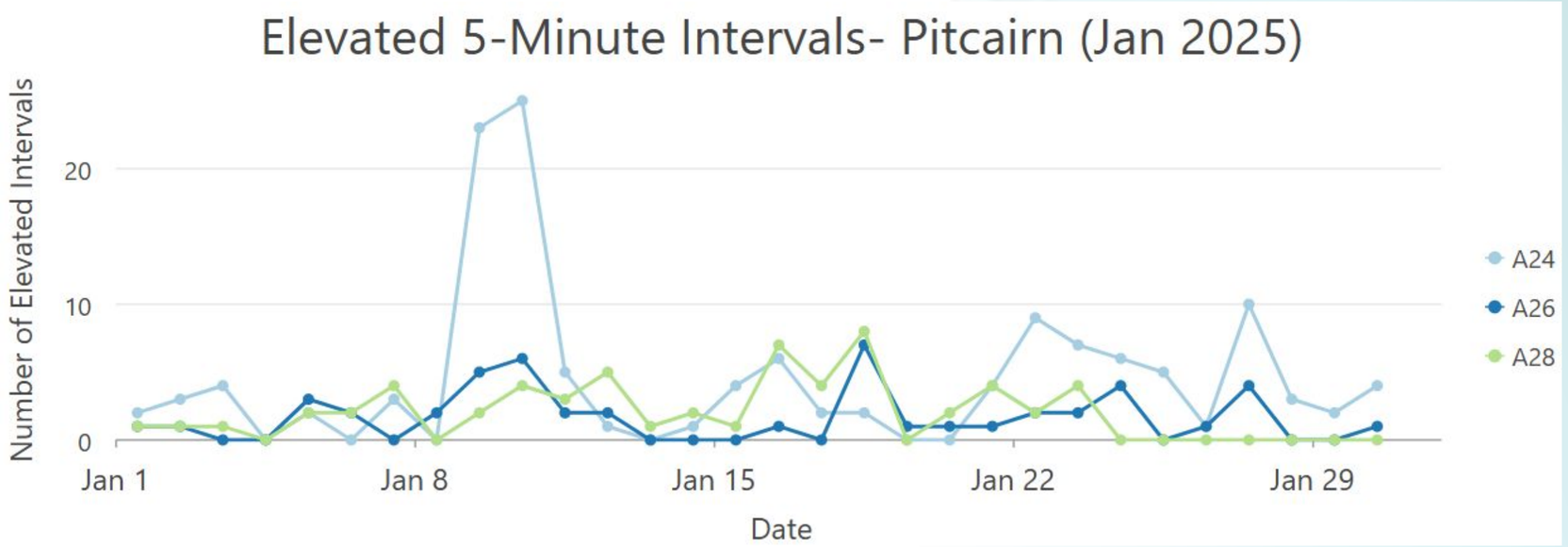
High levels: winter and summer

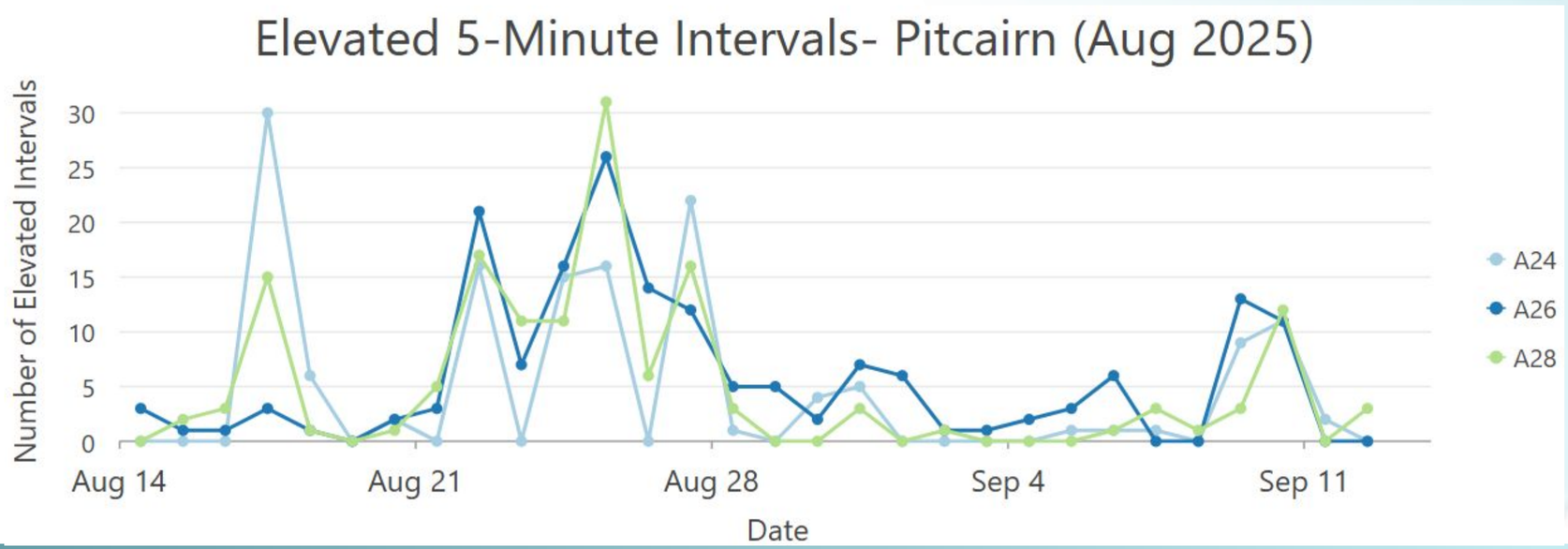
A24 = Wood St. A26 = Agatha St. A28 = Kenney Ave

Some coordinated periods with more peaks

Peakier activity in Summer

A24 often has the most peaks (and higher)



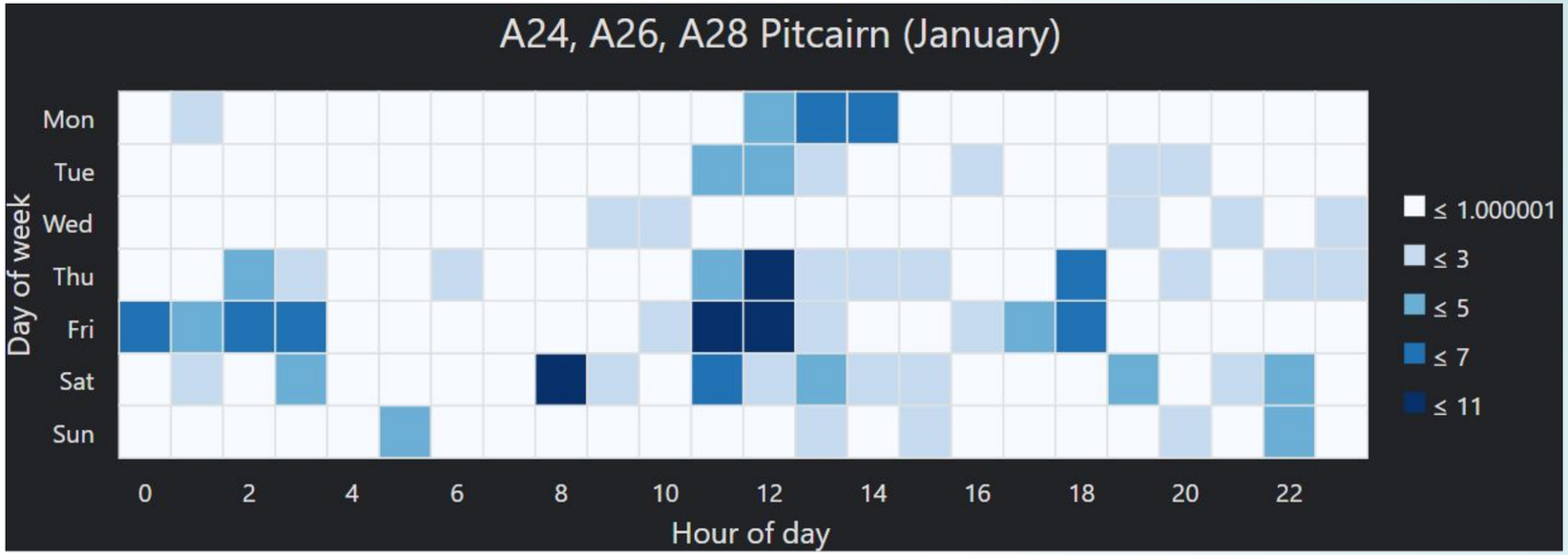


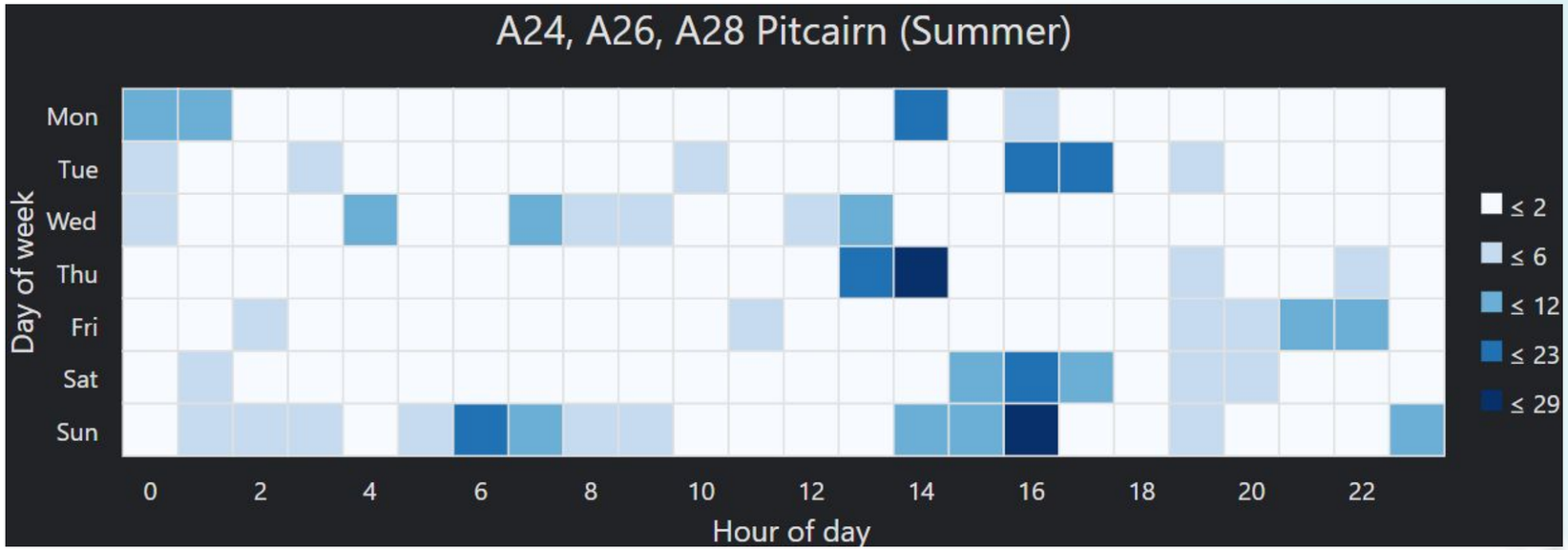
High VOC level timing

Note different scales

Higher levels expected: periods of high traffic, lawncare season, inversions, construction (gas engines)

Less impacted by human activity in late night and early morning





PPT ENVIRONMENTAL REPORTING APP

Protect PT

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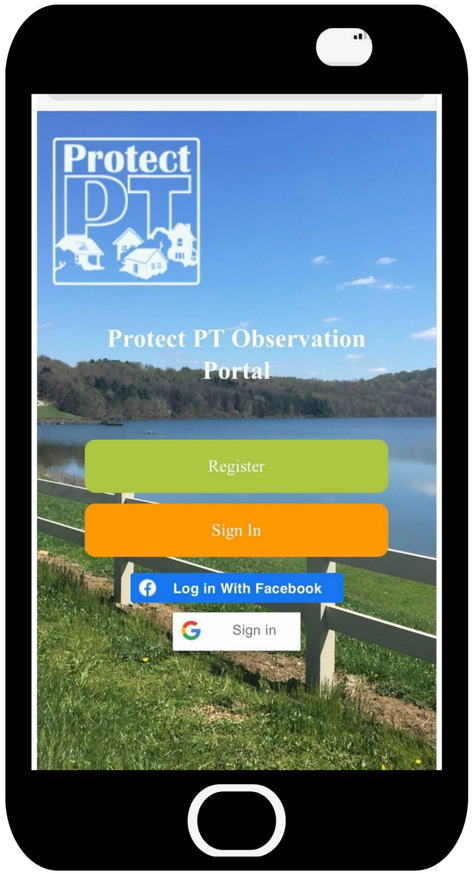
PROTECT PT'S MOBILE REPORTING APP

What does it do?

- Guide users through the process of creating a report that connects the dots from real-life impacts to environmental harms and next steps on reporting to agencies and medical professionals
- Give residents a resources they can use anywhere, anytime

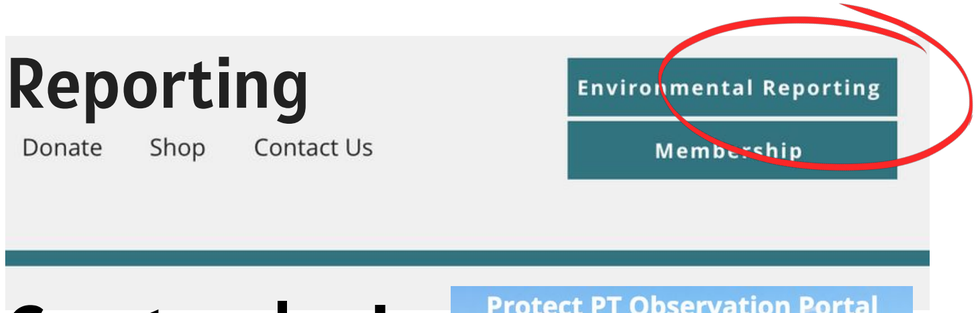


How can it help?

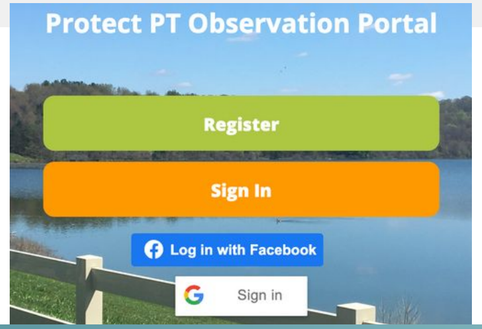
- Some apps already exist to try to solve reporting problems, but gov agencies ignore this reporting — this fills in the gaps
- Provide a comprehensive resource where residents can record their observation, find step-by-step guidance on exactly how and where to report, and print/share observations all from one place

Protect PT's Environmental Reporting App

- Visit report.protectpt.org or protectpt.org and click on Environmental



- Create a login



- Fill out the report with as many details as possible

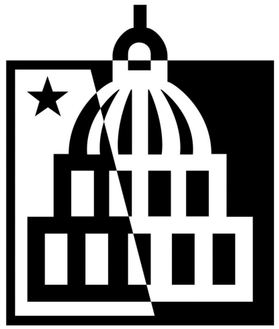
- Follow up with gov agencies if need be

CALL TO ACTION & TAKEAWAYS

Take Action

Sign up for free Air Monitoring

protectpt.info/air-quality

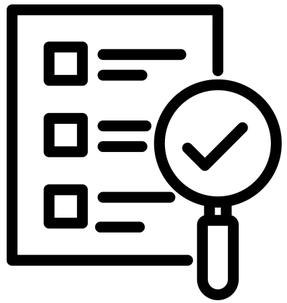


Reach out to elected officials to encourage action

Takeaways

During a smell event...

CALL 911, tell them there is a smell event, and ask for the Pitcairn Fire Dept. to be deployed and use our PPT Mobile Reporting App to document



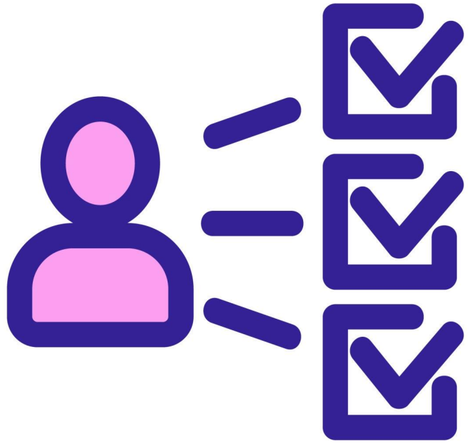
After a smell event...

Report symptoms to your healthcare providers and look into resources provided by Environmental Health Project

Event Survey

protectpt.info/survey

Provide Feedback on our event survey



Would anyone like to share their experiences?

Thank you

Any Questions?

What else can we do to support you?