



Public Health Advisory Committee

December 1*, 2015, 6:00 – 8:00 pm
 Minneapolis City Hall, Room 132

AGENDA

Agenda Item	Presenter	Time	Committee Action
Welcome and Introductions	Karen Soderberg	6:00	Approve agenda
PHAC Logistics and Updates Approve meeting minutes 2016 Meeting Schedule Reports from Sub-committees: Communications/Operations: <i>Update on member terms and progress on annual report</i> Policy & Planning: <i>Recommendations / suggested courses of action from summer's presentations</i> Collaboration & Engagement:	Karen Soderberg Dan Brady Margaret Schuster	6:05 – 6:20	Approve Minutes Approve 2016 schedule
Presentation from MHD staff <i>Air Quality Report</i>	Patrick Hanlon, Supervisor, Environmental Services; Jennie Lansing, Air study Coordinator	6:25 – 7:05 7:05 – 7:20	Informational report + Q & A / discussion
Commissioner Updates <i>MN Student Survey & the shape of the SHAPE survey</i> <i>Other updates</i>	Gretchen Musicant	7:25– 7:55	Informational / Discussion
Information Sharing Announcements, news to share, upcoming events	All	7:55 – 8:00	Informational

This is the last meeting of the year. Next meeting of the Full Committee is
January 26, 2016 Minneapolis City Hall, Room 132

*PHAC members voted to combine November & December meetings to avoid conflicts with national holidays.

For more information, visit our webpage: [Public Health Advisory Committee - City of Minneapolis](#)

We extend **heartly thanks** to the following members for their years of service: Dan Brady (At Large), Julie Ring (Ward 1), Abdullahi Sheikh (Ward 8), and Jennifer Pelletier (U of MN rep)

If there are any problems/changes the night of the meeting, please call 612-919-3855.

**Public Health Advisory Committee (PHAC)
Minutes**



December 01, 2015

Members Present: Julie Ring, Sahra Noor, Harrison Kelner, Akisha Everett, Karen Soderberg, Sarah Jane Keaveny, Margaret (Peggy) Reinhardt, Birdie Cunningham, Silvia Perez, Cindy Hillyer, Jennifer Pelletier, Yolonda Adams-Lee, Daniel Brady

Members Excused: Autumn Chmielewski, Jane Auger, Joseph Colianni

Members Unexcused: Jahana Berry, Dr. Happy Reynolds-Cook, Abdullahi Sheikh, Dr. Rebecca Thoman

MHD Staff Present: Gretchen Musicant, Margaret Schuster, Don Moody

Guests: Patrick Hanlon, Jenni Lansing, Stepheny Ross, Kathy Tuzinski, Joseph Desenclos

Karen Soderberg called the meeting to order 6:00 p.m. at City Hall.

Item	Discussion	Outcome
Introduction	Members and guests introduced themselves.	
Agenda/Min Approval	September minutes were reviewed Members had no additions to the December agenda.	motion to approve minutes carried by unanimous consent
2016 Meeting Schedule	2016 meeting schedule was reviewed	2016 schedule approved
Reports from Sub-committees: <i>Operations / Communication</i>	Orientation of all new members has been completed. Karen and Peggy are working on the 2015 Annual Report. Recognition for retiring members: Julie Ring, Abdullahi Sheikh, Jennifer Pelletier, Dan Brady, and Dr. Rebecca Thoman. New appointments for these seats will be submitted to Council for approval in January.	
<i>Policy & Planning</i>	In October, CM Lisa Bender’s aide Ben Somogyi reported to sub-committee on Council action around Paid Sick & Safe Time; he suggested a letter of support for publicly supporting this concept. A letter was drafted. When finalized and reviewed by Health Department staff, a vote will be taken via email - preferably before the end of the year – in order to submit the letter to the working group established by Council. In 2016, the working group will outline components to any future ordinance in a report to the council. PHAC will review these details and consider a response to their report. For future discussion yet: Develop actionable items from 2015 presentations on Homelessness, Healthy Sleep, ACES, and the Breastfeeding Report for possible 2016 committee action / learning. Jennie Meinz will present her final report and recommendations to Health Department staff and interested individuals on December 14.	
<i>Collaboration & Engagement</i>	Sub-committee members and Health Department staff attended the <i>Raising of America</i> showings and discussions, including the November 9 Mayor Hodges event at Children’s Hospital and the November 10 event at UROC. C&E members attended, in part, to learn about hosting community event(s) like these.	

**Public Health Advisory Committee (PHAC)
Minutes**

Item	Discussion	Outcome
<p>Presentation: Air Quality Report <i>Patrick Hanlon, MHD Environmental Initiatives Manager and Project Manager; Jenni Lansing, Air study Coordinator</i></p>	<p>Patrick and Jenni presented on the Minneapolis air quality study. Their presentation is included in the PHAC December 01, 2015 Meeting Materials packet. Key Points included:</p> <ul style="list-style-type: none"> • Overall, the air quality in Minneapolis is good, especially for an urban area of our size. However, even low levels of air pollution and VOCs continue to contribute to emergency room visits, serious illness and hospitalizations, and even early death. • Although the state does continuous air quality monitoring, the number of monitors is low. This two-year study was specifically designed to do city-wide testing to monitor volatile organic compounds (VOCs) at the neighborhood level. • The study consisted of eight 72-hour collection events, once every three months for the study’s duration. The city was divided into 34 zones, 120 collection sites, with at least sites two per zone. Volunteers who picked up and returned a sampling device at collection events accounted for 60% of the samples. Each sample was tested for 61 VOCs, generating over 58 thousand data points. <i>Note: sample testing and data compilation from the August 2015 final collection event had not been completed as of this presentation.</i> • While not directly tested in the study (though monitored regionally), ground level ozone is created by the chemical reactions between VOCs and nitrous oxides in the presence of sunlight and heat. Ground level ozone can reduce lung function and inflame the linings, with possible long term effects from repeated exposure. Knowing the sources of VOCs, and taking action to mitigate them, can help reduce ground level ozone. • The study used conservative Health Risk Value (HRV), which is the level of a chemical that is likely to cause little or no risk to human health. Of the 61 VOCs tested for, four had occurrences above the HRV: <ul style="list-style-type: none"> Tetrachloroethylene (PERC) – 96 occurrences above HRC; common sources are metal degreasing and older drying cleaning operations Benzene – 90 occurrences above HRC; common sources are gasoline fumes (from pumping gas), vehicle exhaust, some factory emissions, cigarette smoke Trichloroethylene (TCE) – 14 occurrences above HRC; common sources are industrial solvents (degreasers), various consumer products (like correction fluids, paint removers/strippers, rug cleaning fluids) Naphthalene – 11 occurrences above HRC; common sources are vehicle exhaust, mothballs, cigarette smoke • Minneapolis leads the way for cleaner air statewide by supporting greener business efforts; reducing the number of dry cleaners using PERC; increasing use of water based paints; increasing public transportation, bicycle and walking availability and accessibility; working towards zero waste by reducing generated waste and increasing recycling and composting; implementing anti-idling 	<p>Report to committee</p>

**Public Health Advisory Committee (PHAC)
Minutes**



Item	Discussion	Outcome
	<p>ordinances; and, tree planting and replacement.</p> <ul style="list-style-type: none"> • Next steps to help improve air quality include air sampling around specific businesses, pollutant evaluations, develop a land use regression, shift resources from sampling to solution implementation, and continue to leverage available resources for monitoring and improving air quality in Minneapolis. 	
<p>Department Updates- Gretchen Musicant</p>	<p>Minnesota Student Survey: After choosing to not participate in 2015, the Minneapolis Public Schools will participate in 2016.</p> <p>Metro SHAPE survey – Response rates for this survey, especially in 2014, were very low (22%), which means there is a high likelihood that results are based on a biased sample. Even with a different survey initiation system (including oversampling distribution in areas with higher proportions of low-income and minority residents), responses were not representative of the general population of the metro region. There were no non-English speakers, and male, minority, adults under 45, and non-college educated adults were underrepresented. The result is an overestimating of the health status of the actual adult population.</p>	
<p>Information Sharing –</p>	<p>After almost 25 years, Teenwise Minnesota (“The source on adolescent sexual health”) closed, effective November 30, 2015. Several public and private entities are stepping in to continue some of Teenwise's key features; how many and how much of a gap will remain is unknown. The Teenwise Minnesota website will remain active, including links to documents and other sexual health websites, through the end of February 2016.</p>	

Meeting adjourned at 8:00 p.m.

Minutes submitted by Minutes submitted by Don Moody and Margaret Schuster

Next Full Committee Meeting: January 26, 2016, Minneapolis City Hall, Room 132, 6:00-8:00 p.m.

Next Sub-Committee Meeting: February 23, 2016, Minneapolis City Hall, Room 132, 6:00-8:00 p.m.



Public Health Advisory Committee
2016 Meeting Dates

PHAC meetings are the 4th Tuesday of each month and run from 6:00-8:00 PM in City Hall, exact room locations are indicated on the monthly agenda; a light supper is served at 5:45 PM. The full Committee meets *every other month* beginning **January 2016**; sub-committees meet every other month independent of the full committee beginning **February 2016**. If unable to attend, please email Don Moody at Don.Moody@minneapolismn.gov or call (612) 673-2907.

KEY: Full Committee meeting dates are **GREEN**; **Sub Committee meeting dates** are **ORANGE**.

January 26, 2016

February 23, 2016

March 22, 2016

April 26, 2016

May 24, 2016

June 28, 2016

July 26, 2016

August 23, 2016

September 27, 2016

October 25, 2016

November 29, 2016 (NOTE: This is the 5th Tuesday of the month)

December 2013 (NOTE: No meeting unless determined by sub-committee)

If you have any questions about this schedule, please contact Margaret Schuster at 612.673.2643 or by email at: Margaret.Schuster@minneapolismn.gov

PHAC records including agendas, meeting materials, and membership information can be found on the Health Department website at: <http://www.ci.minneapolis.mn.us/health/phac/index.htm>

Minneapolis Health Department

Air Quality in Minneapolis: A Neighborhood Approach

*A presentation to the Public Health Advisory Committee
December 1, 2015*

Patrick Hanlon, Environmental Initiatives Manager, Project Manager
Jenni Lansing, Air Study Coordinator

Air Quality in Minneapolis

Thank you!

Air Quality: Regional vs. Local

Study design

Volatile Organic Compounds
Why are they a concern?

VOCs over Health Risk Values

What Minneapolis is doing



Minneapolis air quality

The balance:

Minnesota Pollution Control Agency and Minnesota Department of Health: Life and Breath Report

“While air quality in Minnesota is currently good and meets federal standards, even low and moderate levels of air pollution can contribute to serious illnesses and early death. Air pollution contributed to about 2,000 deaths, 400 hospitalizations, and 600 emergency-room visits in the Twin Cities in 2008.”

A Neighborhood approach

The questions:

What can we learn about air quality in Minneapolis by screening over a wide area?

How do levels compare to Health Risk Values?

How can we respond to improve our air quality?

The mission:

Conduct a City wide air quality study at the neighborhood level.

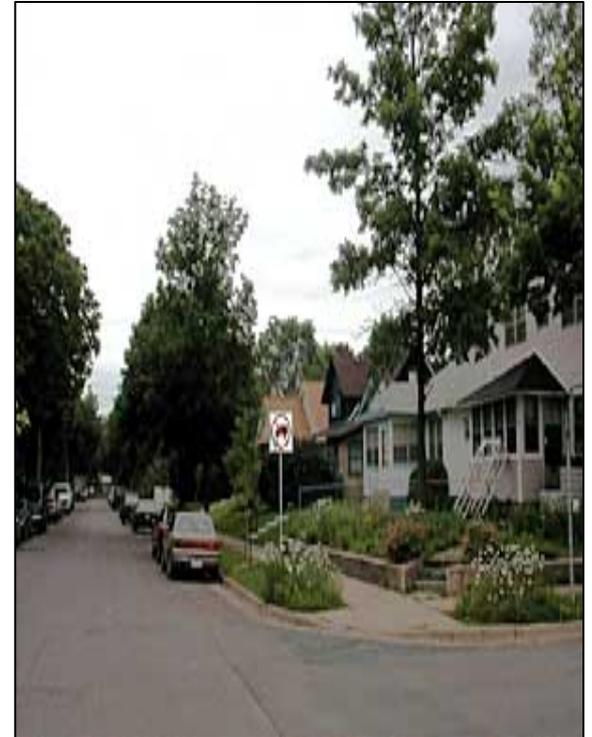
The goal:

Study 61 Volatile Organic Compounds (VOCs) over two years at 120 different locations across the City (58.4 square miles).

Study influences:

Awareness of historical environmental injustice.

Knowledge of businesses using legal VOC emitting processes.



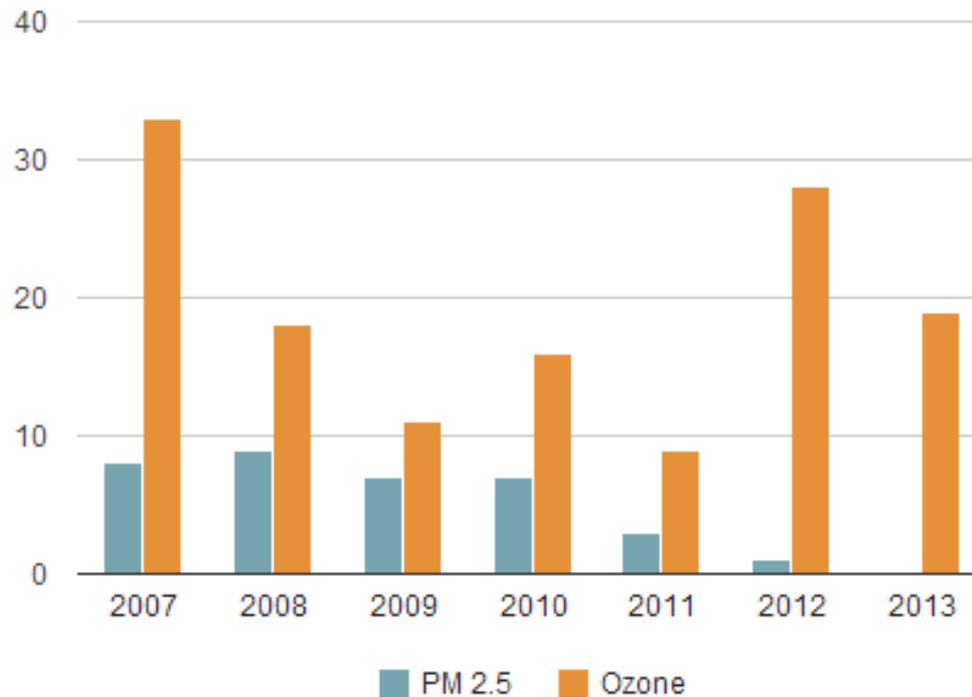
Air Quality Health Concerns

- 1. Regional Air Quality**
 - 2. Local Air Quality**
 - 3. Worker Exposure**
-

Regional Air Quality

Ambient Air Quality

Days with air pollutant concentrations exceeding sustainability target, 2007-2013

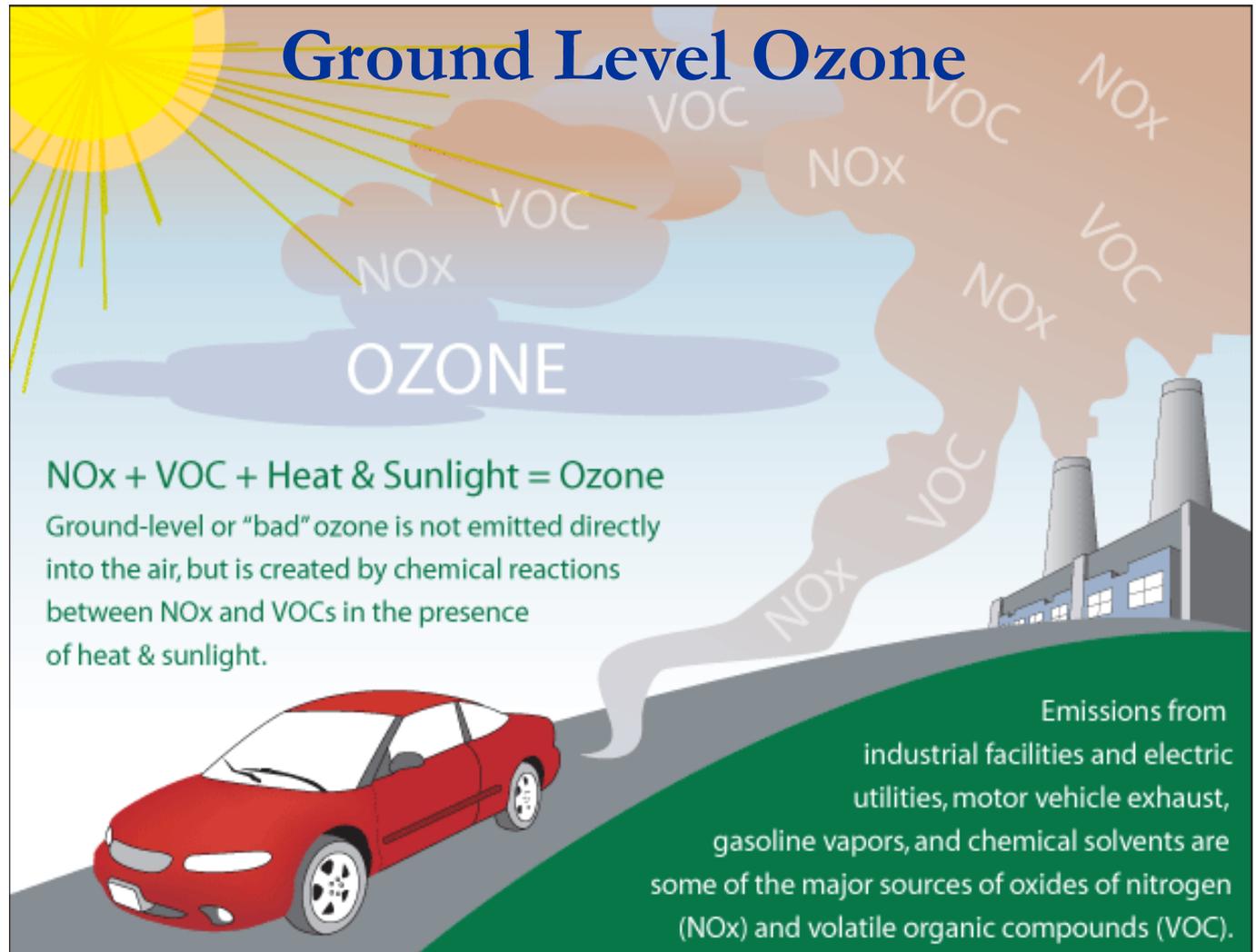


Regional Air Quality

Breathing it can:

- Reduce lung function
- Inflammation of the linings of the lungs

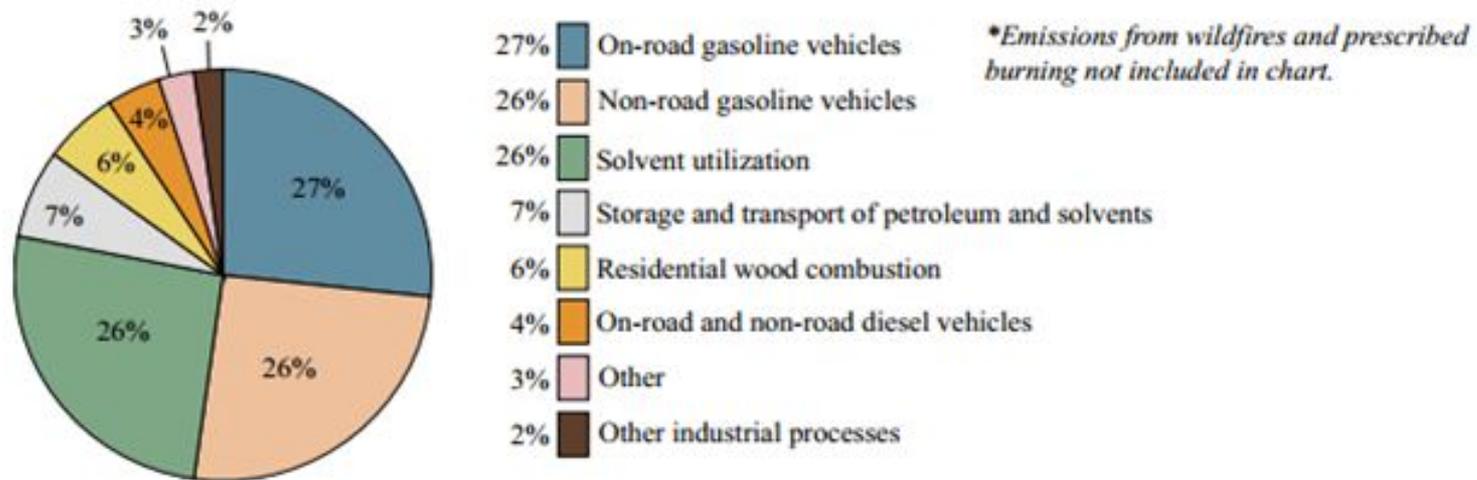
Repeated exposure may permanently scar lung tissue. -EPA



Regional Air Quality

Volatile Organic Compound Sources

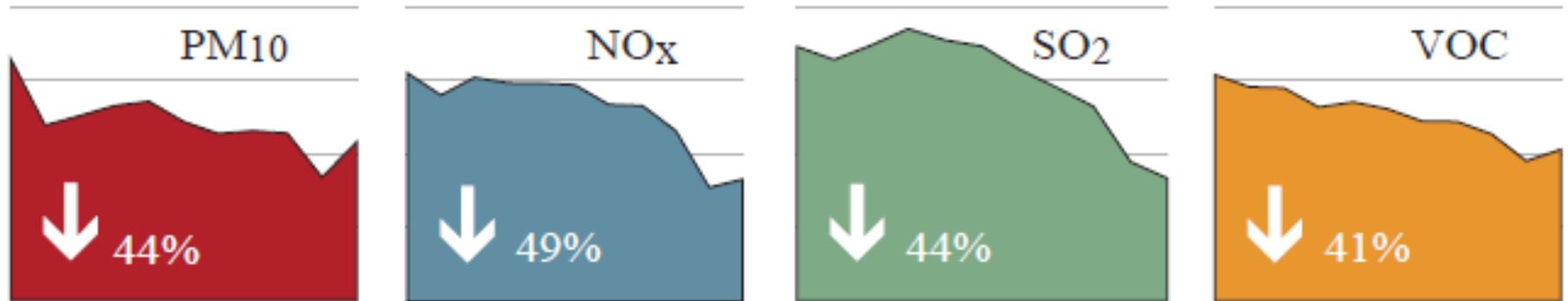
Chart 3: Sources of 2008 VOC Emissions²⁵



Source: 2008 Minnesota Criteria Pollutant Emission Inventory, version 1. Data provided by the Air Data Analysis Unit on March 1, 2013

Regional Air Quality

Chart 5: Point Source Pollutants Declines (2000-2010)²⁸



For the period 2000-2010, percent decrease in total emissions for specific pollutants *Minnesota PointSource Criteria Pollutant Inventory*

PM₁₀ – Particulate matter less than 10 micrometers in diameter

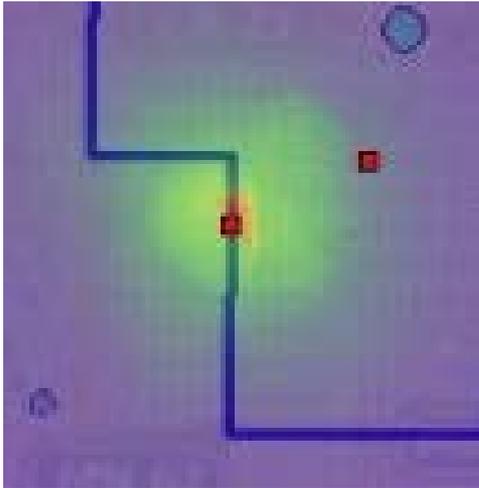
NO_x – Nitric oxide and nitrogen dioxide

SO₂ – Sulfur dioxide

VOC – Volatile Organic Compound

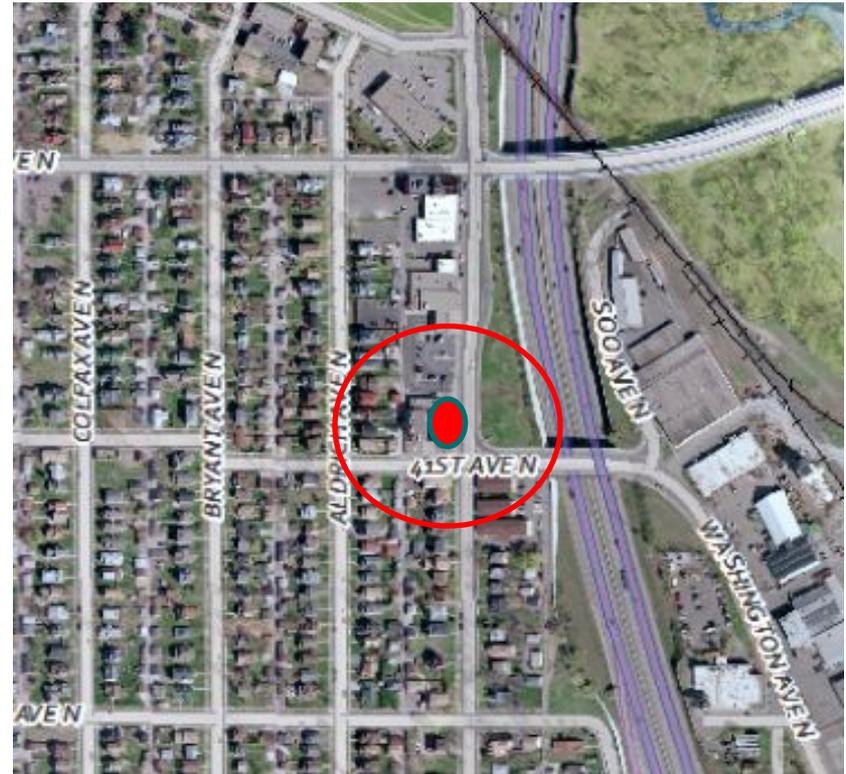
Local Air Quality

Small sources



- Modeled increased cancer risk
- Do emissions get out into the neighborhood?

Avestopolis Cleaners



4115 Lyndale Ave N

Worker Exposure

Workers in businesses that create VOCs have the highest level of VOC contact

Workers' VOC exposure is often 100 times greater than in the surrounding neighborhood.

Example case study:

In 2014, US Cleaners' employees were being exposed to $87,000 \text{ ug/m}^3$ of perchloroethylene.

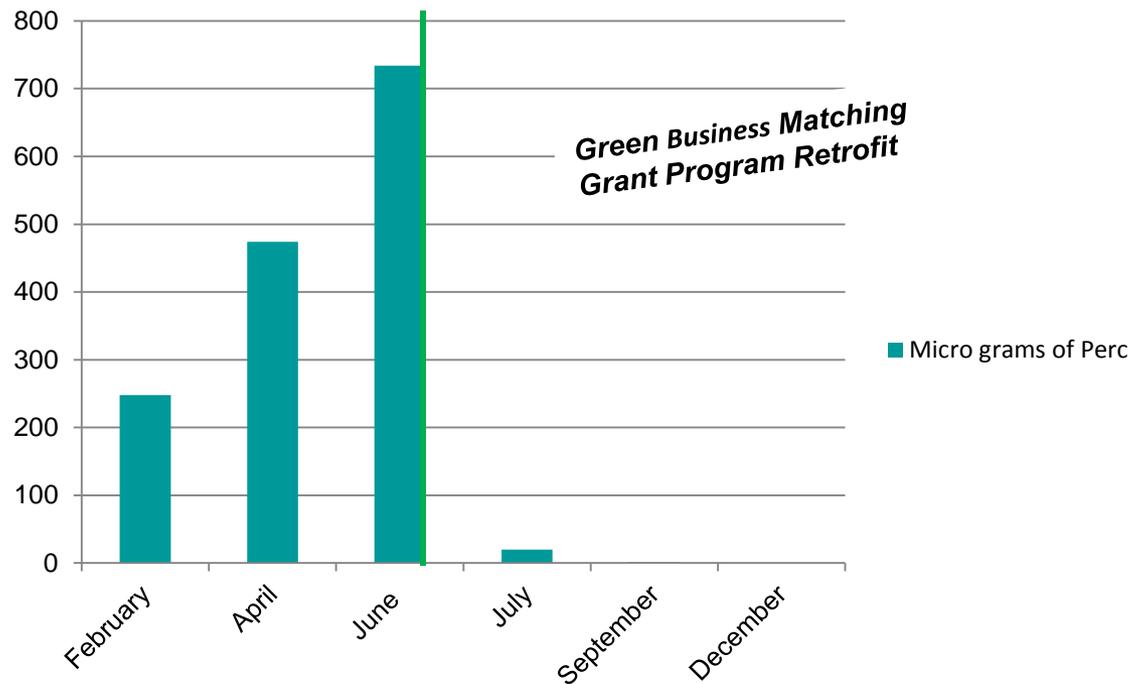
The actionable level was 60 ug/m^3 for remediation activities.



Worker Exposure

Next door to US Cleaners, children in the day care were being exposed to significant amounts of perc as well.

**Rise and Shine Day Care
Perchloroethylene Levels**

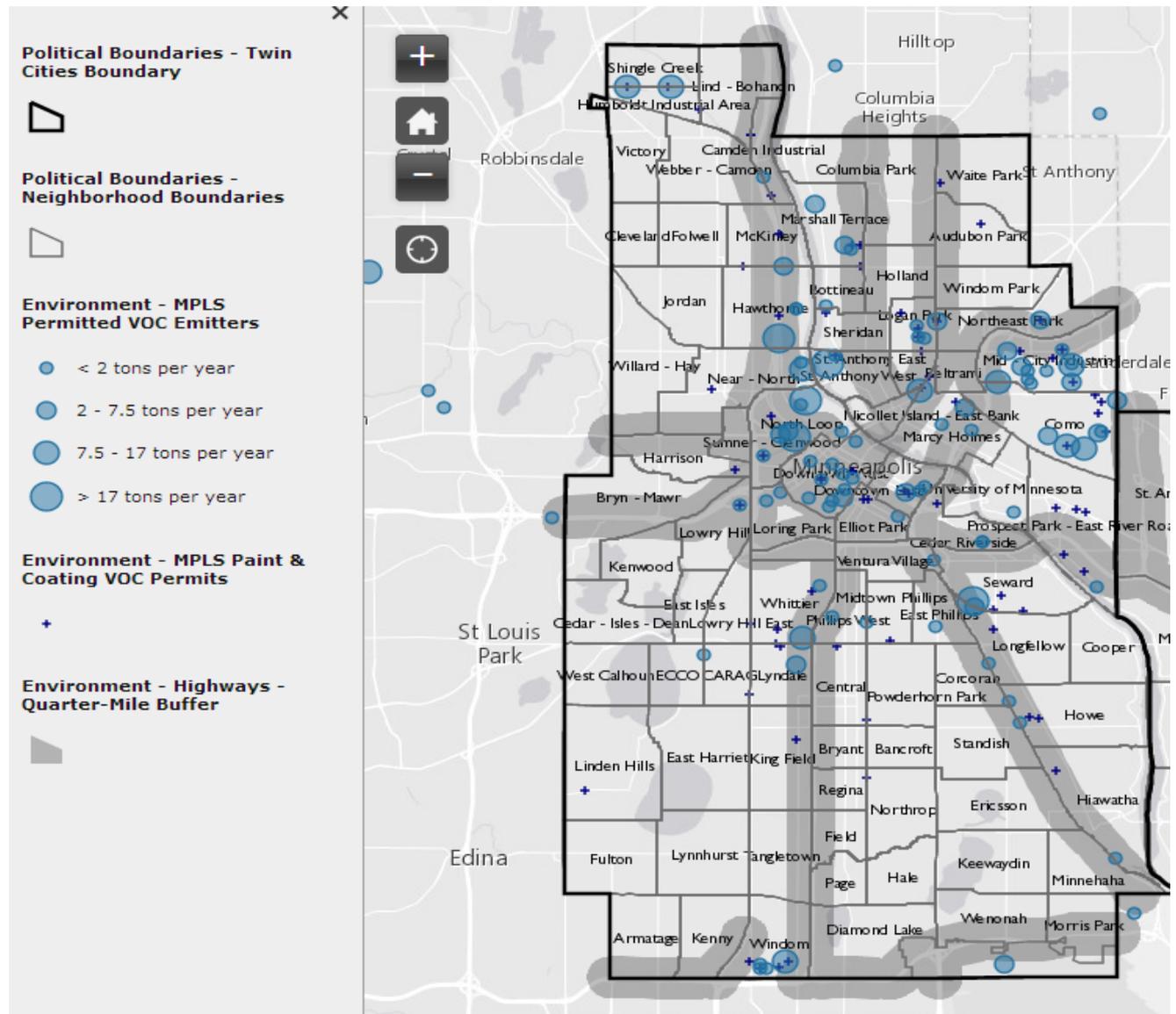


Inequity

In our neighborhoods

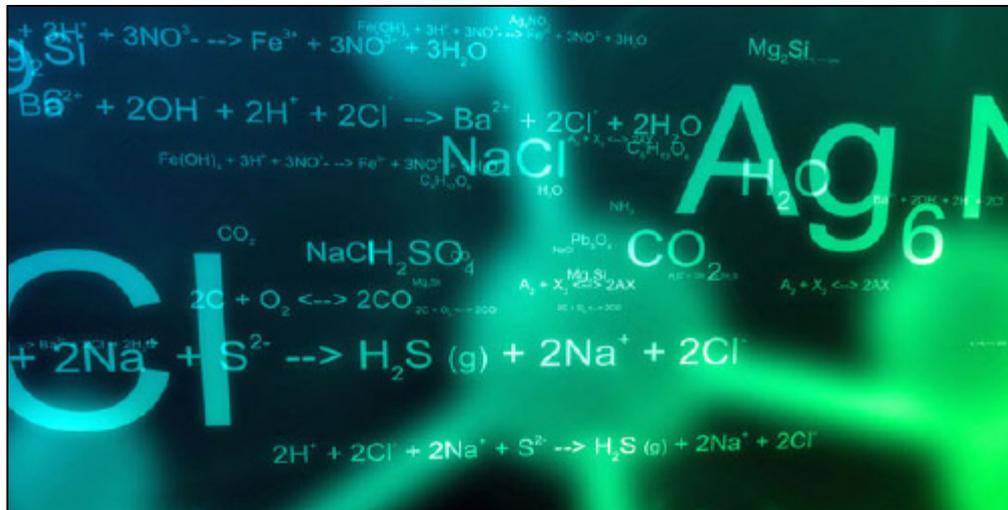
In the work places

Clean Air Is Not Equally Available



What We Don't Know

Are there sources we haven't considered?



Study design

Two year study

November 2013 February 2014 May 2014 August 2014

November 2014 February 2015 May 2015 August 2015

- 120 air samples per collection
- Collection event is 3 days (72 hours)
- Each sample tested for 61 VOCs
- City divided into 34 zones
- Goal is to collect two air samples in each zone

The math:

8 collection events x 120 samples = 960 samples

960 samples x 61 VOCs = 58,560 data points

Key Ingredient: Volunteers

We Can't Do This Without Volunteers

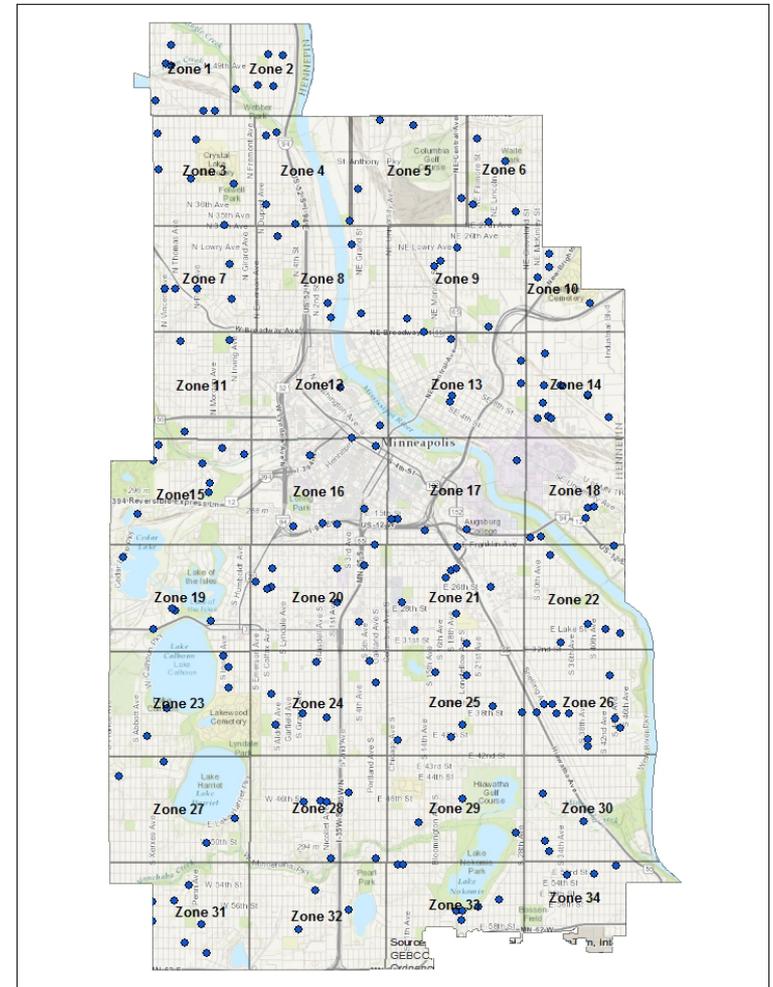
Key Ingredient: Volunteers

Essential to the study's success

120 air samples at each collection

70-75 are resident volunteers (60%)

45-50 are commercial businesses, Minneapolis Park and Rec Board property, and City property (40%)



Summa Canister - Sampling Device

- Stainless steel canister
- Passive sample
- Collects sample for 72 hours
 - Flow controller



Canister in Action!



Health Risk Value

- Health Risk Value (HRV): The concentration of a chemical that is likely to pose little or no risk to human health
 - Most HRVs are expressed as concentrations of micrograms of chemical per cubic meter of air ($\mu\text{g}/\text{m}^3$)
 - Study uses conservative HRV values
 - Chronic long term exposure vs. acute exposure
 - Four VOCs with occurrences above HRV:
 - Tetrachloroethylene (PERC)
 - Benzene
 - Trichloroethylene (TCE)
 - Naphthalene
-

Tetrachloroethylene

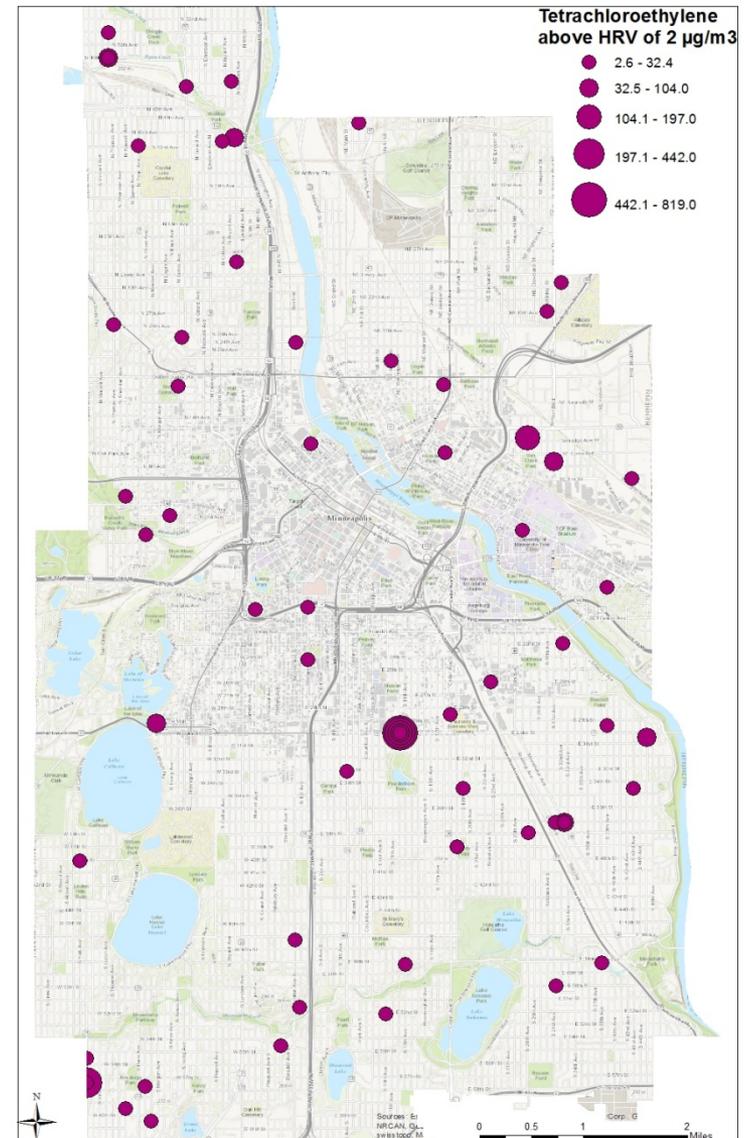
96 Occurrences above HRV

Sources:

- PERC
- Dry-cleaning fabrics
- Metal degreasing operations

Cancer - Likely to be carcinogenic to humans (EPA, 2012)

HRV: $2 \mu\text{g}/\text{m}^3$ - recently lowered from $20 \mu\text{g}/\text{m}^3$



Benzene

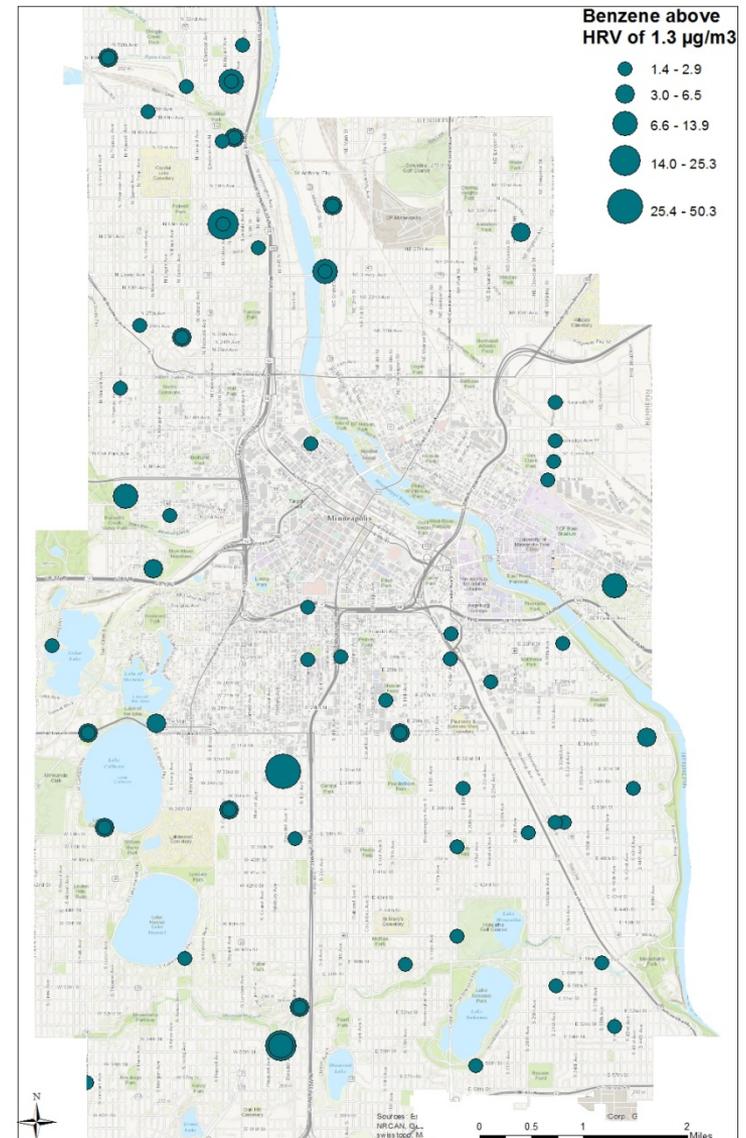
90 Occurrences above HRV

Sources:

- Gasoline fumes
- Automobile exhaust
- Emissions from some factories
- Cigarette smoke

Cancer - known human carcinogen (EPA, 2009)

HRV: $1.3 \mu\text{g}/\text{m}^3$



Trichloroethylene

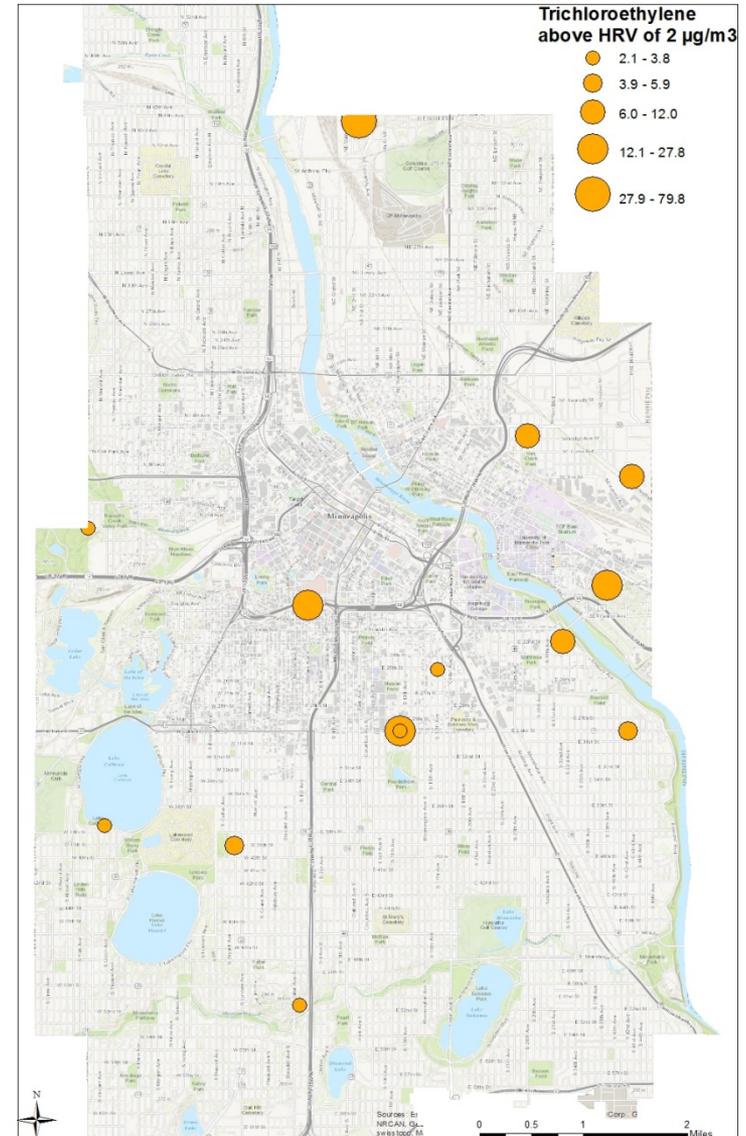
14 Occurrences above HRV

Sources:

- Industrial solvent - Degreaser
- Consumer products such as
 - Correction fluids
 - Paint removers/strippers
 - Adhesives
 - spot removers
 - rug-cleaning fluids

Cancer - carcinogenic
to humans (EPA, 1999b)

HRV: $3 \mu\text{g}/\text{m}^3$



Naphthalene

11 Occurrences above HRV

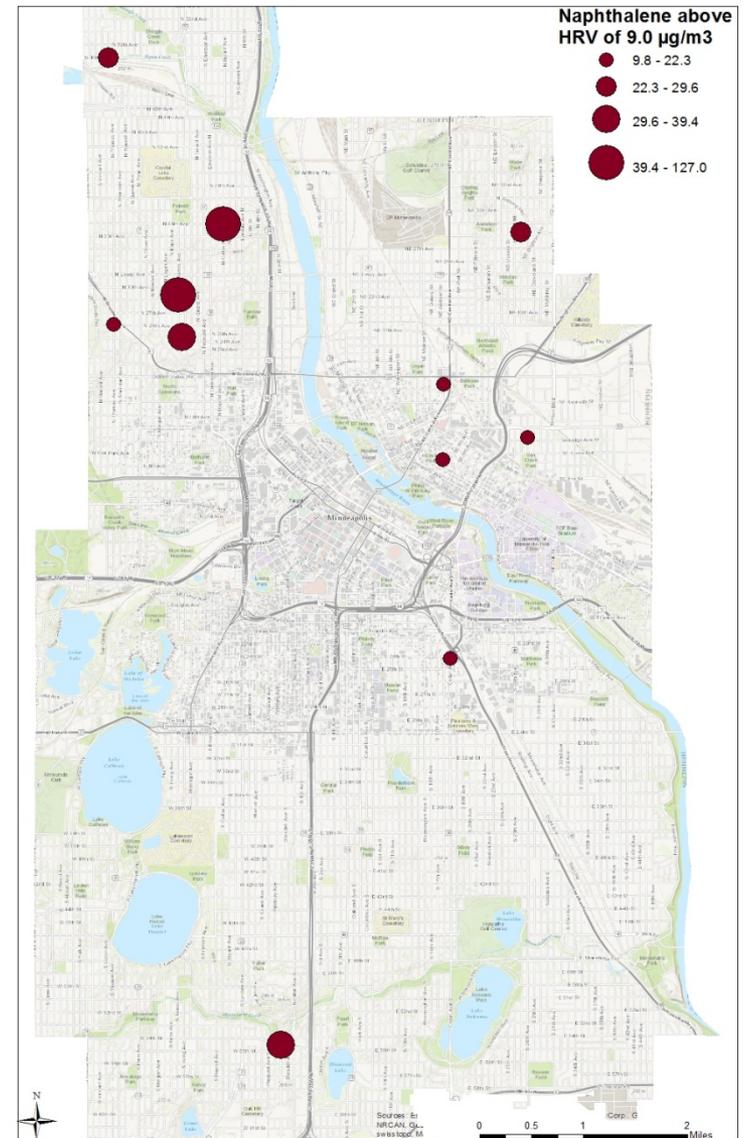
Sources:

- Automobile exhaust
- Mothballs
- Cigarette smoke

Possible human carcinogen
(EPA, 1999c)

- Marked respiratory and nasal impacts
- Cataracts and damage to the retina

HRV: $9 \mu\text{g}/\text{m}^3$

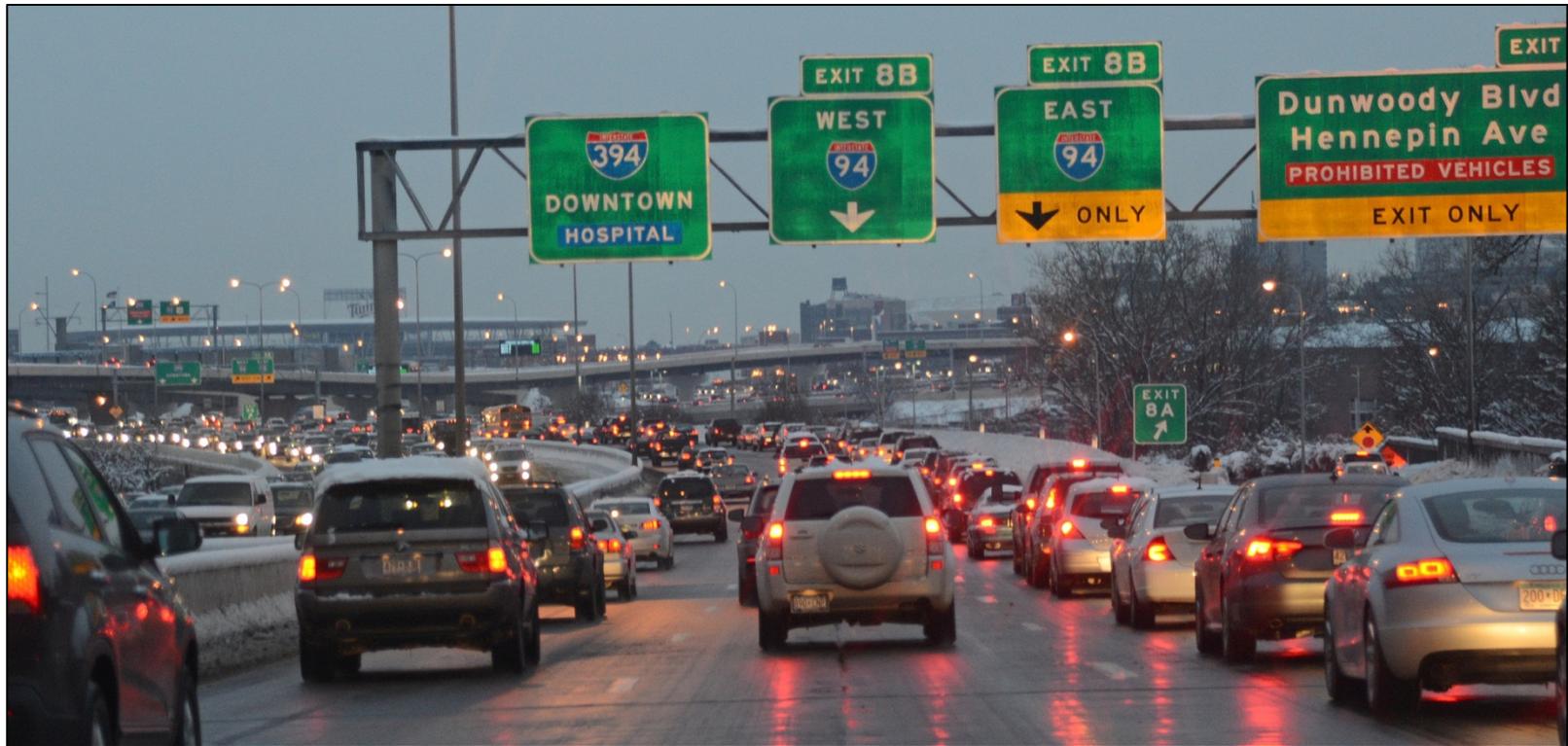


VOCs above Health Risk Values

- Link to MapIT Minneapolis:

<http://tinyurl.com/MinneapolisAirQuality>

What can we do in Minneapolis?





IDLING IS ILLEGAL

THIS IS NOT A TICKET

In Minneapolis, it is against the law for any vehicle to idle more than three minutes* except in traffic.

Warning drivers: \$200 fine for violation

* Five minute limit for diesel trucks and buses



MINNEAPOLIS
green.
business




Why no trash bins?

We are sorting all the waste behind the scenes.

Enjoy Commencement knowing it's Zero Waste.



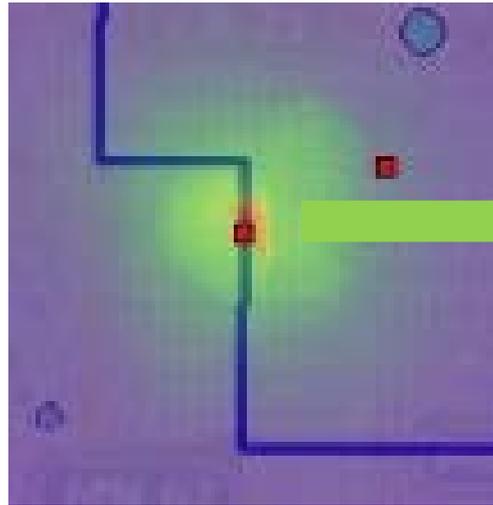
ZERO WASTE

sustainability@BU



Solutions Based

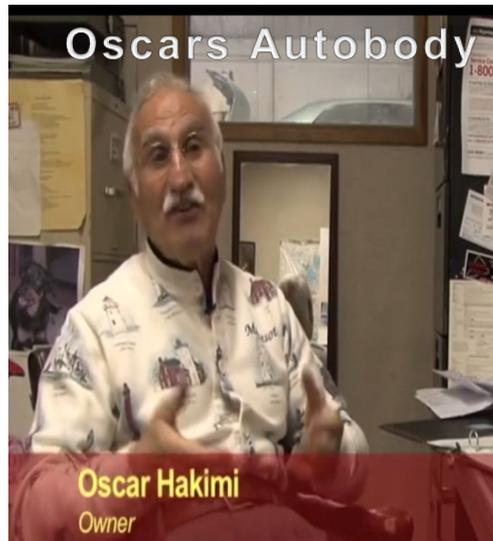
green
business



Martinizing
Dry Cleaning



Dunwoody Institute



Oscars Autobody

Oscar Hakimi
Owner



Air sampling
around specific
businesses

Evaluate
pollutants

Shift resources
from sampling to
solutions

Next Steps

Develop a Land Use
Regression

Minneapolis is
leading the charge for
cleaner air statewide

Continue to leverage
resources for
air quality in
Minneapolis

Thank You – Air Study Partners

- City of Minneapolis Residents and Businesses
- Neighborhood and Business Organizations
- Pace Analytical® Services, Inc.
- Minneapolis Parks and Recreation Board
- Metro Transit
- University of Minnesota
- Minnesota Pollution Control Agency
- Environmental Initiative



For More Information

Link to MapIT Minneapolis:

<http://tinyurl.com/MinneapolisAirQuality>

Environmental Services

environmentalservicesinfo@minneapolis.gov

<http://www.minneapolismn.gov/environment>

Minneapolis Health Department

612-673-2301

<http://www.minneapolismn.gov/health>



References

- U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Benzene*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 2009.
 - U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Tetrachloroethylene*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 2012.
 - U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Trichloroethylene*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999b.
 - U.S. Environmental Protection Agency. *Integrated Risk Information System (IRIS) on Naphthalene*. National Center for Environmental Assessment, Office of Research and Development, Washington, DC. 1999c.
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