

Cascadia Action has been working with Beatrice Dias, PhD at with the Community Robotics, Education and Technology Empowerment Lab (CREATE Lab), at Carnegie Mellon University's Robotics Institute to collaborate on the Smell MyCity app. This app crowdsources community reports of pollution odors, and visualizes their air quality landscape.

In November 2019, we worked to launch the Smell MyCity app in Portland, OR. During the month of December, Cascadia Action has been able to reach over 17,000 community members through help from cooperating groups. Cathedral Park, Concordia, Pearl, Goose Hollow, Hayhurst, Humboldt, Kenton, Kerns, and Linnton Neighborhood Associations confirmed they had made Facebook posts, newsletter articles, and emails to their lists to promote the app. Also Portland Neighborhood Association coalitions Neighbors West Northwest and North East Coalition of Neighborhoods broadcast to their lists.

Nick Sievers used ARCGIS to plot each smell report on a Portland map and he drew boxes around each cluster of reports. Nick provided 21 clusters of data to Alexandra Ruhf for analysis. These 21 clusters contained 639 smell unique reports, all in different locations. An additional 290 smell reports were not located in clusters. Those stand alone smell reports have not been analyzed in time for this report.

For each group, Alexandra turned each "smell description" into a number, for example, when she saw woodsmoke being listed a lot, so it was coded at 1. I coded smells that we are not tracking, such as a rain smell or marijuana smell and will take no action on, as 10 – Misc. Organic smell. She listed the day and the general time of day in other columns. She listed a general time category, such as morning time to see if there was a pattern to when the smells were reported. She counted each coded category, smell, day, time and ranked each code from highest to lowest then obtained a percentage based on the total number that group. She copied and pasted the formulas from Group one, to all other groups.

Smell My City App Descriptive Analysis

Group 1

Data collection: December 2019 - July 2020

Smell category :

1. Industrial: 57%
2. Sulfur/rotten eggs: 14%
3. Indeterminate: 14%
4. Combo smell of Industrial and sulfur/sewer : 14%

Typical day smell is reported: - Early work week (Tuesdays, Fridays)

Typical Time of day for this smell: business hours

Most typical month(s) reported: December

From December 2019 to July 2020

Most common smell complaint:

From New Area Group 1 is Industrial (57%). The next most common was a sulfur or rotten egg smell at 14%, followed by an indeterminate smell (14%) and a combo smell of Industrial smells with sulfur or sewage smells (14%). These smells were typically reported in the month of December on Tuesdays and Fridays more than other days mostly during the afternoon and evening business hours.

Group 2

Data collection: November 2019 - August 2020

Smell category:

1. Combo smell of diesel and woodsmoke: 30%
2. Indeterminate: 19%
3. A burning (non-woodsmoke): 15%

Typical day smell is reported: - Early work week (Tuesday, Monday)

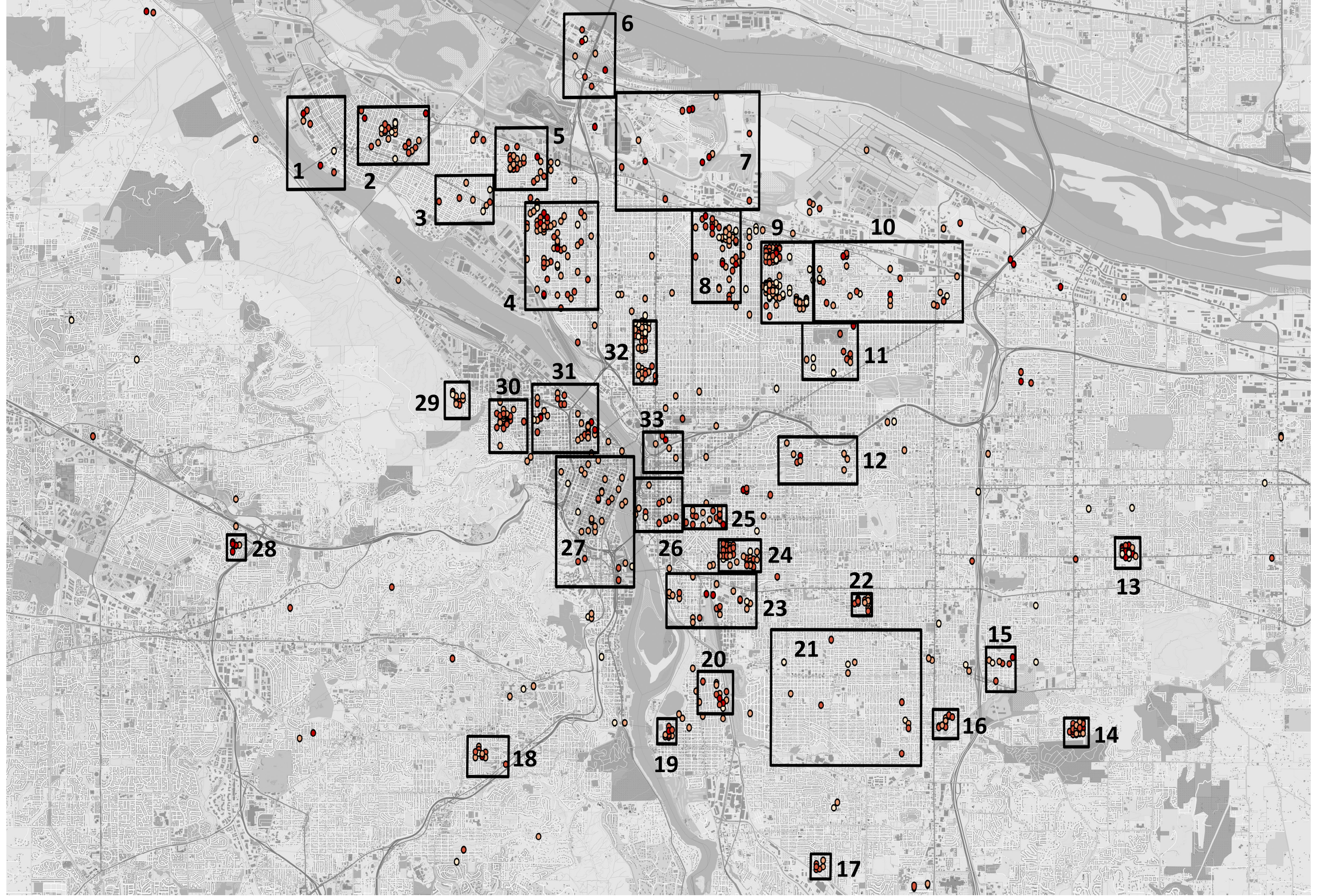
Typical Time of day for this smell: Evening to late evening

Most typical month(s) reported: December

From November 2019 to August 2020

Most common smell complaint::

From Group 2 is a combo smell of diesel and woodsmoke (30%). The next most common was indeterminate (19%), followed by a burning smell not related to woodsmoke (15%). These smells were typically reported in the month of December on



Mondays and Tuesdays during the evening to late evening hours.

Group 3

Data collection: December 2019 - August 2020

Smell category:

1. Diesel/gas/petroleum: 50%
2. Burning (non-woodsmoke): 25%
3. Chemical/Industrial: 13%

Typical day smell is reported: - Thursday more than other days

Typical Time of day for this smell: No particular time of day

Most typical month(s) reported: February

From December 2019 to August 2020

Most common smell complaint::

from New Area Group 2 is a Diesel/gas/petroleum (50%). The next most common was A burning smell (non from woodsmoke (25%), followed by Chemical/Industrial (13%). These smells were typically reported in the month of February on Thursday more than other days during no particular time of day.

Group 4

Data collection: August 2019 - July 2020

Smell category :

1. Industrial: 26%
2. Woodsmoke: 19%
3. Combo smell (Industrial smell with a gas, sulfur or burning smell) 18%
4. Diesel/gas/petroleum 13%
5. Burning (tire, plastic, unspecified burning smell) (9%)

Typical day smell is reported: - no day stands out

Typical Time of day for this smell: all hours

Most typical month(s) reported: mostly December, sometimes March

From August 2019 to July 2020 Group 7 reported a wide variety of smell complaints. The most report smell was industrial (26%), followed by woodsmoke (19%), a combo of an industrial with gas, or sulfur, or burning smell (18%), a fuel smell: diesel or gas exhaust or a natural gas smell (13%), and burning smell either of rubber, plastic or and unspecified burning smell (9%). These smells were typically reported in the months of December and

sometimes March on most days evenly and all hours.

Group 5

Data collection: November 2019 - August 2020

Smell category:

1. Tar/roofing smell: 88%
2. Woodsmoke: 4%
3. Burning (non-woodsmoke): 4%
4. Industrial: 4%

Typical day smell is reported: - Mid work week (Thursday, Wednesday)

Typical Time of day for this smell: Late evening and evening hours

Time of year most frequently reported: March

From November 2019 to August 2020

Most common smell complaint::

From Group 5 is predominantly a tar or roofing smell (88%). The next most common smells are: woodsmoke (4%), burning non-woodsmoke (4%), and industrial (4%). These smells were typically reported in the month of March on Thursday and Wednesday during the evening to late evening hours.

Group 6

Data collection: November 2019 - May 2020

Smell category :

1. Diesel/gas/petroleum: 25%
2. Industrial: 25%
3. Misc. Organic Non-Industrial smell: 25% indeterminate
4. indeterminate: 13%

Typical day smell is reported: - Sundays and Saturdays

Typical Time of day for this smell: early morning (midnight to 5am)

Most typical month(s) reported: November

From November 2019 - May 2020

Most common smell complaint::

from New Area Group 3 is Diesel/gas/petroleum (25%). The next most common complaint was industrial and sulfur or industrial (25%), followed by Misc. Organic (25%), and indeterminate (13%). These smells were typically reported in the months of November on weekend during early morning hours.

Group 7

Data collection: November 2019 - June 2020

Smell category :

1. sulfur smell: 31%
2. Diesel/gas/petroleum: 23%
3. Combo smell (Industrial smell with a gas, or burning smell) 23%
4. indeterminate 8%
5. Burning plastic (8%)

Typical day smell is reported: - no day stands out

Typical Time of day for this smell: all hours

Most typical month(s) reported: January & February

From November 2019 - June 2020 New Area Group 7 reported a wide variety of smell complaints. The most report smell was sulfur (31%), followed by Diesel/gas/petroleum (23%), a combo of an industrial with gas, or burning smell (23%), an indeterminate smell (8%), and burning plastic or and smell (8%). These smells were typically reported in the months of January & February on no particular day and at all hours.

Group 8

Data collection: February 2019 - August 2020

Smell category :

1. Woodsmoke: 27%
2. Plastic or rubber burning: 24%
3. Combo: woodsmoke & burning plastic; Industrial & sulfur: 10%
4. Diesel smell 10% /Industrial 10% / Sulfur smell 10%
5. Tar/roofing smell (2%)

Typical day smell is reported: - Monday, Wednesday, Sunday

Typical Time of day for this smell: afternoon, evening, early morning

Most typical month(s) reported: March

From February 2019 to August 2020

Most common smell complaint::

From Group 13 is woodsmoke (27%). The next most common smell is plastic or rubber burning (24%), followed by a combo smell of woodsmoke & burning of plastic, or an industrial smell with sulfur (10%), Diesel (10%), Industrial (10%), and sulfur (10%), and Two percent report a tar or roofing smell. These smells were typically reported

in the month of March on Mondays, Wednesdays, and Sundays during business, then evening and early morning hours.

Group 9

Data collection: May 2019 - July 2020

Smell category :

1. Woodsmoke: 49%
2. Combo smell of a woodsmoke & industrial; or industrial & diesel: 19%
3. indeterminate: 8%
4. Diesel/gas/petroleum 8%

Typical day smell is reported: - no particular day stands out

Typical Time of day for this smell: early morning

Most typical month(s) reported: February

From May 2019 to July 2020

Most common smell complaint::

From Group 15 is woodsmoke (49%). The next most common smell is a combo of woodsmoke & industrial smells; or industrial & diesel smells (19%). The next most common smell was indeterminate (8%), and as a Diesel/fuel/combustion smell (8%), and a paint or solvent smell (3%). These smells were typically reported in the month of February on no particular day during business, and no particular time.

Group 10

Data collection: November 2019 - July 2020

Smell category :

1. Burning asphalt or burning plastic or rubber: 31%
2. Sulfur: 19%
3. Exhaust (diesel, jet engine, etc): 12%
4. Woodsmoke (8%)

Typical day smell is reported: - Wednesday

Typical Time of day for this smell: evening, early morning, and afternoons

Most typical month(s) reported: December

From November 2019 - July 2020

Most common smell complaint::

from New Area Group 10 is a non wood burning smell (burning asphalt or plastic or rubber) (31%), followed by sulfur (19%), diesel or jet engine exhaust (12%), and woodsmoke (8%). These smells were typically reported in the month of December

on no particular day and mostly during evening, early morning, and afternoons hours.

Group 11

Data collection: November 2019 - August 2020

Smell category :

1. Burning trash, including plastics : 55%
2. Jet or diesel fuel: 18%
3. Woodsmoke: 9%

Typical day smell is reported: - mostly early work week

Typical Time of day for this smell: early morning

Most typical month(s) reported: July

From November 2019 - August 2020

Most common smell complaint::

from New Area Group 11 is Burning trash, including plastics (55%). The next most common smell is jet or diesel fuel (18%), followed by woodsmoke (9%). These smells were typically reported in the month of July on the early part of the work week during early morning hours.

Group 12

Data collection: December 2019 - August 2020

Smell category :

1. Woodsmoke: 50%
2. Paint or solvent: 25%
3. Industry: 13%

Typical day smell is reported: - no particular day

Typical Time of day for this smell: Early morning

Most typical month(s) reported: December

From December 2019 - August 2020

Most common smell complaint::

from New Area Group 9 is woodsmoke at 50%. The next most common smell is a Paint or solvent (25%), followed by Indeterminate (13%), and industrial smell (13%). These smells were typically reported in the month of December on no particular day during early morning and business hours.

Group 13

Data collection: December 2019 - July 2020

Smell category :

1. Industrial/ fuel/ heavy perfume laundry ; chemical & woodsmoke: 42%
2. Heavy perfume laundry 23%

Typical day smell is reported: - no particular day

Typical Time of day for this smell: morning

Most typical month(s) reported: December

From December 2019 to July 2020 Group 21 mostly reported a combo smell of heavy perfume laundry with fuel or industrial smells (42%), followed by just a heavy perfume laundry (23%) and woodsmoke (8%). These smells were typically reported more in December on Mondays during no particular hours.

Group 14

Data collection: November 2019 - August 2020

Smell category :

1. Woodsmoke: 79%
2. Burning paper or plastic: 10%
3. Perfume Laundry 6%

Typical day smell is reported: - no particular day

Typical Time of day for this smell: early morning, morning

Most typical month(s) reported: January

From November 2019 to August 2020

Most common smell complaint::

From Group 20 is woodsmoke (79%). The next most common smell is burning of paper or plastic (10%), followed by a Perfume Laundry smell (6%). These smells were typically reported mostly in January on no particular day during early morning and morning hours.

Group 15

Data collection: November 2019 - April 2020

Smell category :

1. Woodsmoke: 43%
2. Combo of chemical with paint or solvent: 29%
3. Paint/solvent 14%; and indeterminate smell 14%

Typical day smell is reported: - Friday, Monday, Tuesday, Thursday

Typical Time of day for this smell: no particular hour

Most typical month(s) reported: April

From November 2019 to April 2020

Most common smell complaint::

From Group 19 is woodsmoke (43%). The other smell complaint is a Combo smell of a chemical with a paint or solvent (29%), followed by Paint/solvent alone (14%), and indeterminate smell

(14%). These smells were typically reported in the month of April during the early and late work week during no particular hours.

Group 16

Data collection: November 2019 - March 2020

Smell category :

1. Diesel/exhaust: 42%
2. Combo: burning plastic/rubber & diesel exhaust 33%
3. Burning – plastic or rubber: 17%
4. Woodsmoke 8%

Typical day smell is reported: - Tuesday, Monday, Thursday,

Typical Time of day for this smell: afternoon and evening, early morning

Most typical month(s) reported: December

From November 2019 to March 2020

Most common smell complaint::

From Group 18 is Diesel or exhaust smell (42%). The next most common smell is combo smell of burning plastic or rubber with diesel (33), followed by a smell of just burning plastic or rubber (17%), and woodsmoke (8%). These smells were typically reported in the month of December on Tuesdays, Mondays, and Thursdays during early to late business hours.

Group 17

Data collection: November 2019 - February 2020

Smell category :

1. Woodsmoke: 100%

Typical day smell is reported: - Tuesday, Friday, Saturday, Sunday

Typical Time of day for this smell: early morning, morning

Most typical month(s) reported: January

From November 2019 to February 2020 the only smell complaint From Group 16 is woodsmoke (100%). Most commonly reported in the month of January on Tuesdays, Fridays and the weekends during the early morning, morning and evening hours.

Group 18

Data collection: December 2019 - June 2020

Smell category :

1. Indeterminate: 100%

Typical day smell is reported: - Early work week (mostly Monday, sometimes Tuesday)
Typical Time of day for this smell: evening to early morning (5pm – 5am)

Most typical month(s) reported: December

From December 2019 to June 2020

Most common smell complaint::

From Group 4 is a indeterminate (100%). These smells were typically reported in the month of December on mostly on Mondays and sometimes Tuesdays during the evening to early morning hours.

Group 19

Data collection: November 2019 - April 2020

Smell category :

1. Woodsmoke: 63%
2. Industrial or toxic smell: 13%
3. Plastic burning: 13%
4. Carbon monoxide smell (13%)

Typical day smell is reported: -Wednesday

Typical Time of day for this smell: morning - afternoon

Most typical month(s) reported: December

From November 2019 to April 2020

Most common smell complaint::

From Group 10 is woodsmoke (63%), Industrial/ Chemical (25%), non fireplace burning (13%). These smells were typically reported in the month of December on no particular day and mostly during business hours.

Group 20

Data collection: December 2019 - July 2020

Smell category :

1. Exhaust 42%
2. Combo smell of woodsmoke & paper, or refinery & exhaust: 33%
3. Woodsmoke: 25%

Typical day smell is reported: - No particular day

Typical Time of day for this smell: most hours

Most typical month(s) reported: July

From December 2019 to July 2020

Most common smell complaint::

From Group 12 is exhaust (42%). The next most common is a combo smell of woodsmoke and paper, or refinery and exhaust (33%), followed by

woodsmoke (25%). These smells were typically reported in the month of July on Thursday during most hours of the day.

Group 21

Data collection: November 2019 - April 2020

Smell category :

1. Woodsmoke 42%
2. Indeterminate: 29%
3. Combo (Diesel, woodsmoke, perfume smoke, plastic): 21%

Typical day smell is reported: - No particular day

Typical Time of day for this smell: most hours

Most typical month(s) reported: December

From November 2019 - April 2020

Most common smell complaint::

from New Area Group 12 is woodsmoke (42%). Twenty-nine percent of smells were indeterminate (29%), followed by a combo smell of some combination of diesel, woodsmoke, perfume smoke, and plastic (21%). These smells were typically reported in the month of December on no particular day during the morning and evening hours.

Group 22

Data collection: November 2019 - April 2020

Smell category :

1. Woodsmoke: 64%
2. Burning trash/smoke: 29%
3. Chemical 7%

Typical day smell is reported: - no particular day

Typical Time of day for this smell: early morning and evening

Most typical month(s) reported: November

From November 2019 to April 2020

Most common smell complaint::

From Group 17 is woodsmoke and smoke in general, in some cases from burning trash (93%). These smells were typically reported in the month of November on no particular day during the early mornings, evening, and business hours.

Group 23

Data collection: November 2019 - March 2020

Smell category :

1. Diesel exhaust: 29%
2. Chemical or Industrial: 19%

3. Misc. Organic Non-Industrial smell: 14%
4. Combo smell (Exhaust with glue or smoke) 10%
5. Tar/roofing smell: 10%

Typical day smell is reported: - mid work week

Typical Time of day for this smell: evening, early morning, afternoons

Most typical month(s) reported: Mostly December, less so March

From November 2019 - March 2020

Most common smell complaint::

from New Area Group 8 is Diesel exhaust (29%). The next most common is a Chemical or Industrial (19%), followed by miscellaneous organic smell (14%), combo smell (Exhaust with glue or smoke) (10%), and Tar/roofing smell (10%). These smells were typically reported in the months of mostly December, and less so March in the evening, early morning, afternoons hours.

Group 24

Data collection: November 2019 - June 2020

Smell category :

1. Woodsmoke: 46%
2. Oil refinery & burning rubber: 19%

Typical day smell is reported: -No particular day

Typical Time of day for this smell: early morning, evening

Most typical month(s) reported: November, December

From November 2019 to June 2020

Most common smell complaint::

From Group 14 is woodsmoke (46%). Followed by smells of Oil refinery & burning rubber (19%), and an indeterminate smell at (14%). These smells were typically reported in the months of November and December on no particular day during the early mornings and evening hours.

Group 25

Data collection: November 2019 - February 2020

Smell category :

1. Woodsmoke: 53%
2. Oil/Diesel exhaust: 24%
3. Combo smell of industry & oil; or a chemical and woodsmoke smell: 12%

Typical day smell is reported: - no particular day

Typical Time of day for this smell: early morning and business hours

Most typical month(s) reported: December

From November 2019 to February 2020

Most common smell complaint::

From Group 11 is woodsmoke (53%). The next most common smell is oil and diesel exhaust (24%), followed by a combo smell of industry & oil, or chemical & woodsmoke. These smells were typically reported in the month of December on no particular days during early morning and business hours.

Group 26

Data collection: November 2019 - July 2020

Smell category :

1. Diesel/gas/petroleum: 29%
2. Paint / Solvent: 29%
3. Chlorine / Bleach: 29%

Typical day smell is reported: - No particular day

Typical Time of day for this smell: early morning (Midnight - 5am)

Time of year most frequently reported: November & December

From November 2019 - July 2020

Most common smell complaint::

From Group 5 is Diesel/gas/petroleum (29%). The next most common smells are: Paint / Solvent (29%), Chlorine / Bleach (29%). These smells were typically reported in the month of November & December on no particular day during the early morning hours.

Group 27

Data collection: November 2019 - August 2020

Smell category :

1. Diesel/gas/petroleum: 35%
2. Industrial: 16%
3. Woodsmoke: 13%
4. indeterminate: 10%

Typical day smell is reported: - No particular day

Typical Time of day for this smell: evening to early morning (5pm – 5am)

Most typical month(s) reported: November

From November 2019 - August 2020

Most common smell complaint::

from New Area Group 4 is Diesel/gas/petroleum (35%). The next most common complaint was

industrial (16%), followed by woodsmoke (13%), and indeterminate (10%). These smells were typically reported in the month of November on No particular day during the evening to early morning hours.

Group 28

Data collection: November 2019 - February 2020

Smell category :

1. Woodsmoke: 40%
2. Sulfur/rotten eggs: 20%
3. Indeterminate: 20%
4. Nature/Organic smell: 20%

Typical day smell is reported: - Early work week (Sunday, Monday, Tuesday)

Typical Time of day for this smell: afternoons and Early morning (0am – 5am)

Most typical month(s) reported: December

From November 2019 to February 2020

Most common smell complaint::

From Group 1 is woodsmoke (40%). The next most common was a sulfur or rotten egg smell at 20%, followed by an indeterminate smell (20%). These smells were typically reported in the month of December on Sundays, Mondays, and Tuesdays mostly during the afternoon and early morning hours.

Group 29

Data collection: April 2020 - July 2020

Smell category :

1. Industrial smell: 69%
2. Combo smell: industrial & sulfur or industrial & woodsmoke: 15%
3. Woodsmoke alone: 8%

Typical day smell is reported: - mostly Monday, sometimes Thursday)

Typical Time of day for this smell: Business hours to late evening

Most typical month(s) reported: May and June

From April 2020 to July 2020

Most common smell complaint::

From Group 3 is an industrial smell (69%). The next most common complaint was a combo smell of industrial and sulfur or industrial and woodsmoke (15%), followed by woodsmoke (8%). These smells

were typically reported in the months of May and June on Mondays and sometimes Thursdays during business or late evening hours.

Group 30

Data collection: November 2019 - August 2020

Smell category :

1. Diesel/gas/petroleum/oil : 40%
2. Burned plastic: 20%
3. Industrial: 20%

Typical day smell is reported: - Tuesday, Thursday, Friday

Typical Time of day for this smell: afternoon and evening (noon – 9pm);

Most typical month(s) reported: November, February

From November 2019 to August 2020

Most common smell complaint::

From Group 6 is a Diesel/gas/petroleum/oil smell (40%). The next most common smell is a burned plastic smell (20%), followed by an industrial (20%) and indeterminate (20%). These smells were typically reported in the months of November and February on Tuesday, Thursday and Friday during business and evening hours.

Group 31

Data collection: April 2019 - August 2020

Smell category :

1. Metallic (alone & with chemicals, sometimes burning): 23%
2. Diesel: 19%
3. Woodsmoke: 10%
4. burning cables/plastic: 10%
5. Industrial: 10%

Typical day smell is reported: - early and late work week

Typical Time of day for this smell: business hours

Most typical month(s) reported: November, July
From April 2019 to August 2020

Most common smell complaint::

From Group 8 is a metallic smell (sometimes with other chemicals and sometimes burning) 23%. The next most common is a Diesel from exhaust or fumes (19%), followed by woodsmoke (10%), and a burning smell of plastic or cables (10%), followed by an general industrial smell (10%). These smells

were typically reported in the months of November and July in the early or latter part of the work week during business hours.

Group 32

Data collection: November 2019 - July 2020

Smell category :

1. Industrial: 34%
2. Diesel/gas/petroleum: 17%
3. Woodsmoke: 14%
4. Combo smell of Industry with woodsmoke or diesel 12%

Typical day smell is reported: - no particular day

Typical Time of day for this smell: Early morning and business hours

Most typical month(s) reported: December

From November 2019 to July 2020

Most common smell complaint::

From Group 9 is Industrial at 34%. The next most common smell is a Diesel/gas/petroleum smell (17%), followed by woodsmoke (14%), and an industrial smell in combination with either woodsmoke or diesel (12%). These smells were typically reported in the month of December on no particular day during early morning and business hours.

Group 33

Data collection: November 2019 - January 2020

Smell category :

1. burning (not wood) : 40%
2. Misc. Organic Non-Industrial smell: 40%
3. woodsmoke: 20%

Typical day smell is reported: - No particular day

Typical Time of day for this smell: early morning (Midnight – 5am) and evening (noon – 9pm);

Most typical month(s) reported: November & December

From November 2019 - January 2020

Most common smell complaint::

from New Area Group 6 is a burning (not wood) smell (40%). The next most common smell is a Misc. Organic Non-Industrial smell (40%), followed by an woodsmoke (20%). These smells were typically reported in the months of November & December on No particular day during early morning and evening hours.