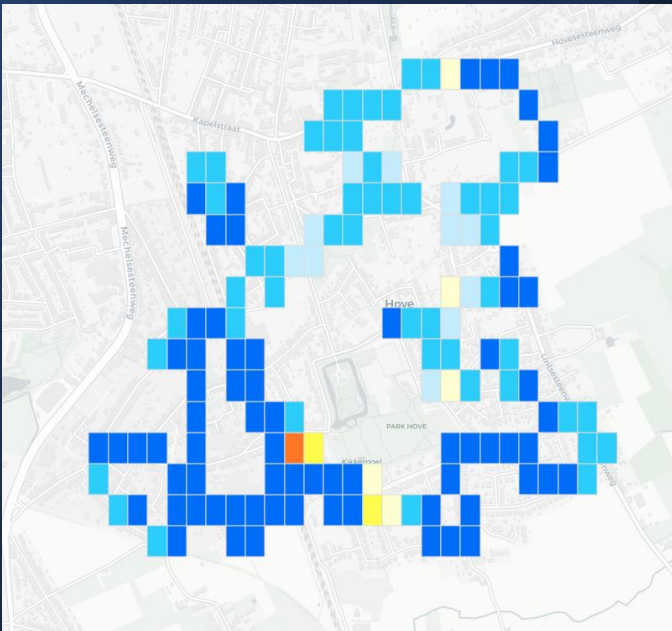


Fijnstofmetingen

Pilot Hove

- **Wandelen, Lopen, Fietsen met SODAQ fijnstofsensor**
- Deelnemers relatief vrij gelaten (op einde vraag om op één wijk te focussen)
- 8 deelnemers
 - (Gerda, Kathleen, Hugo, Roger, Jo, Jurgen, Jef, Jordy)
- Ca. **9000 “sector resultaten”** (in zone Hove)
 - 1 Sector= ca. 100x70m
 - 1 resultaat = min. 1 meting per uur
- Zachte, natte wintermaanden...geen energiecrisis
- Geen volledig beeld, wel duidelijk tal van lokale bijdrages en **hotspots in beeld** gebracht

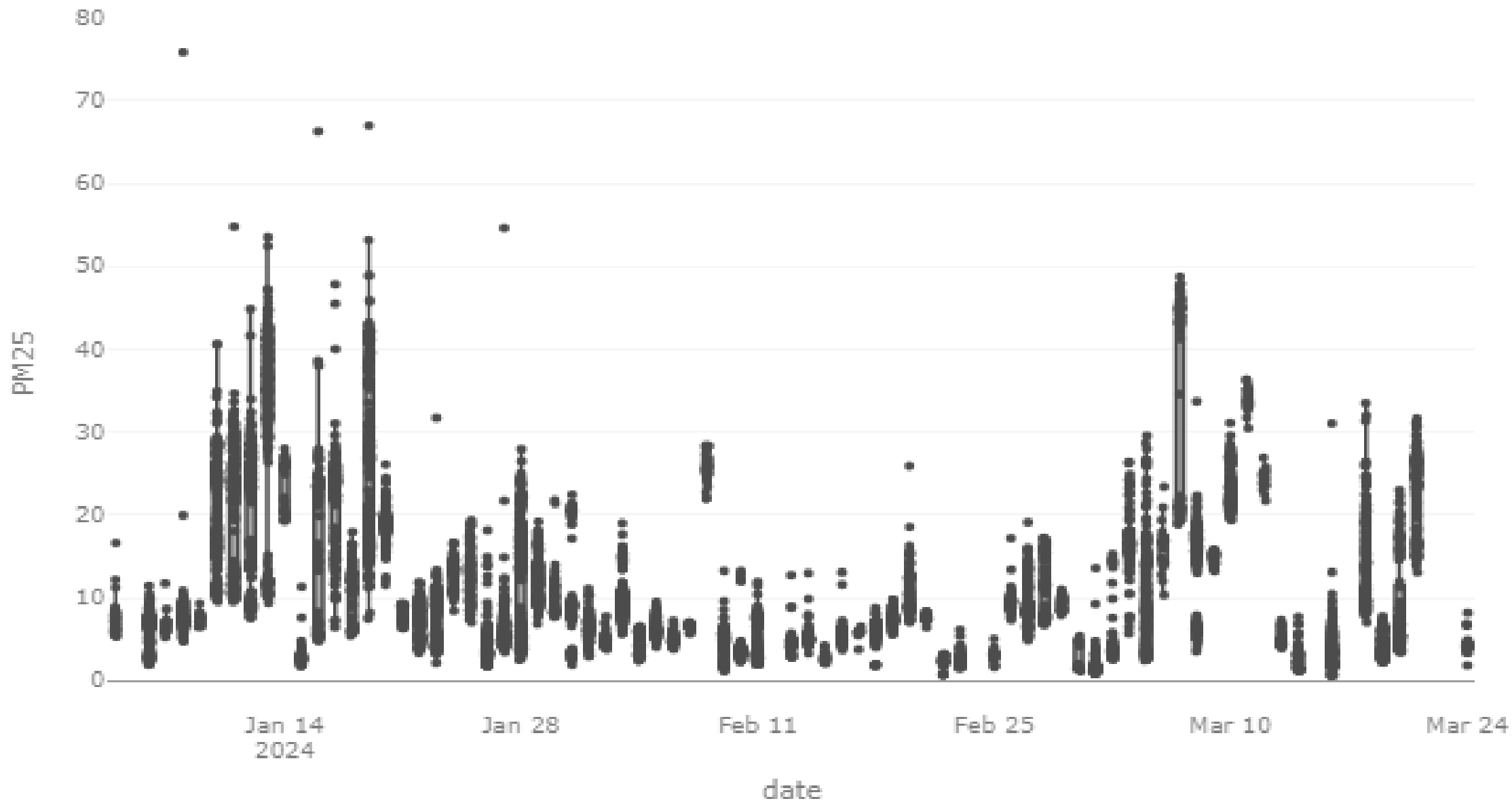




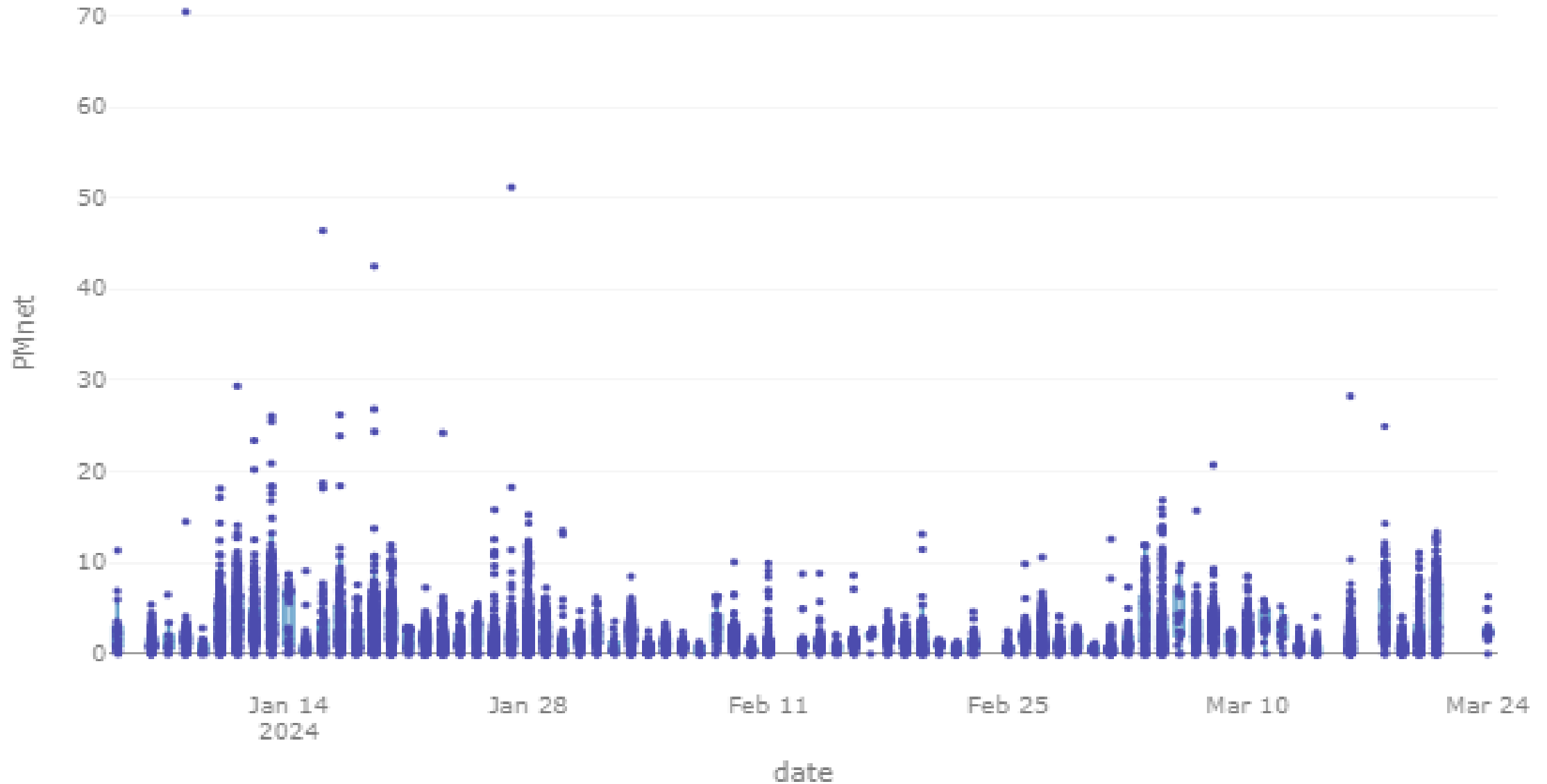
info

- 870 sectoren bezocht (4 jan-24 maa 2024)
- Hoogste aantal passages: Kapelstraat (>80)
- Enkel PM_{2.5} (max. en gemiddelde)
- Automatische correctie voor achtergrond (=laagste waarde per uur) = **PMnet**
- Manuele correctie voor binnenmetingen
 - (bv. tijdens opladen sensor)
- Focus op locale pieken (>adhv 'max' per sector)
- Data publiek op [knowyourair.net](https://www.knowyourair.net)

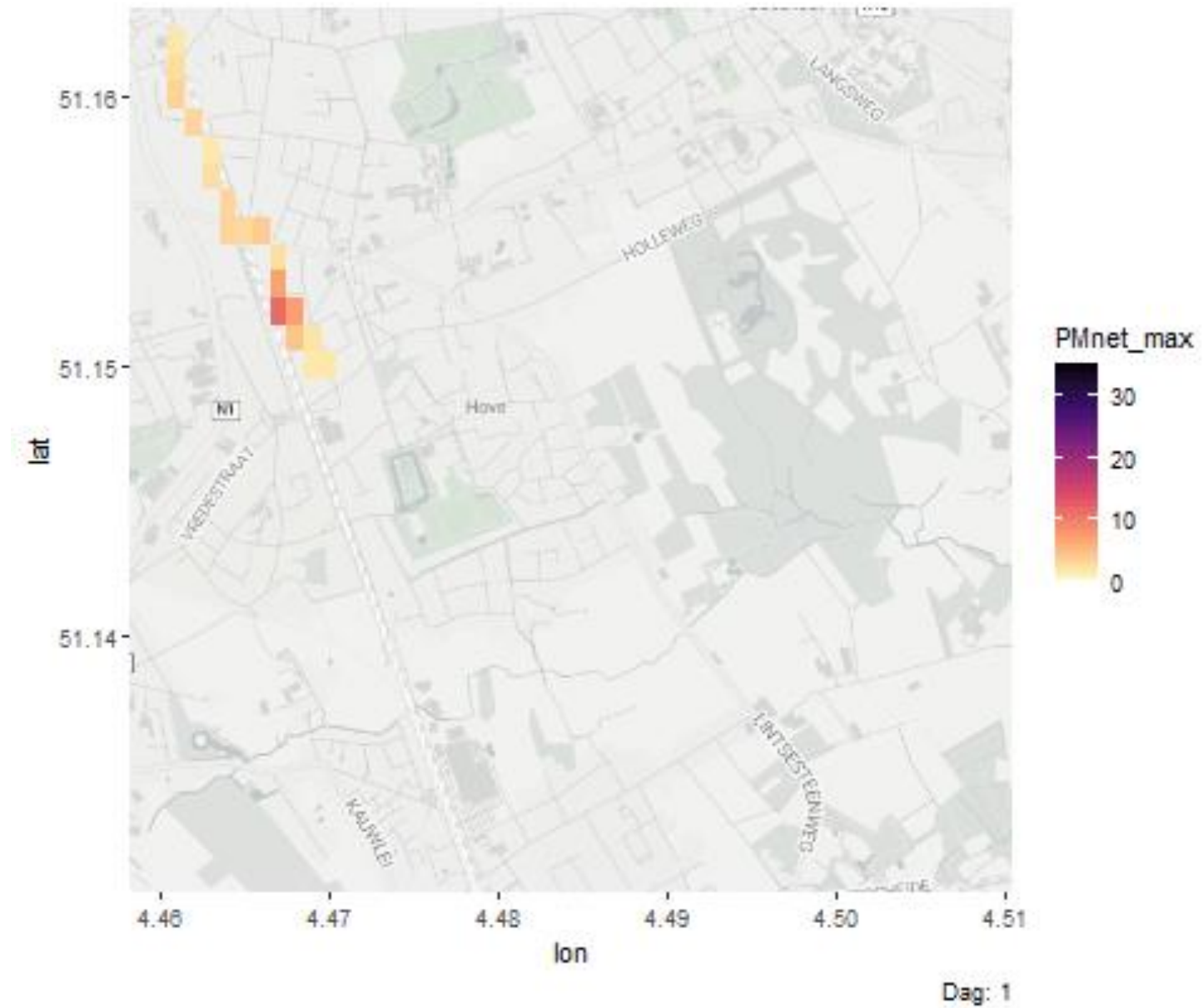
- Brede range in **Totaal (bruto) PM2.5** (weereffecten+regionale vervuiling)



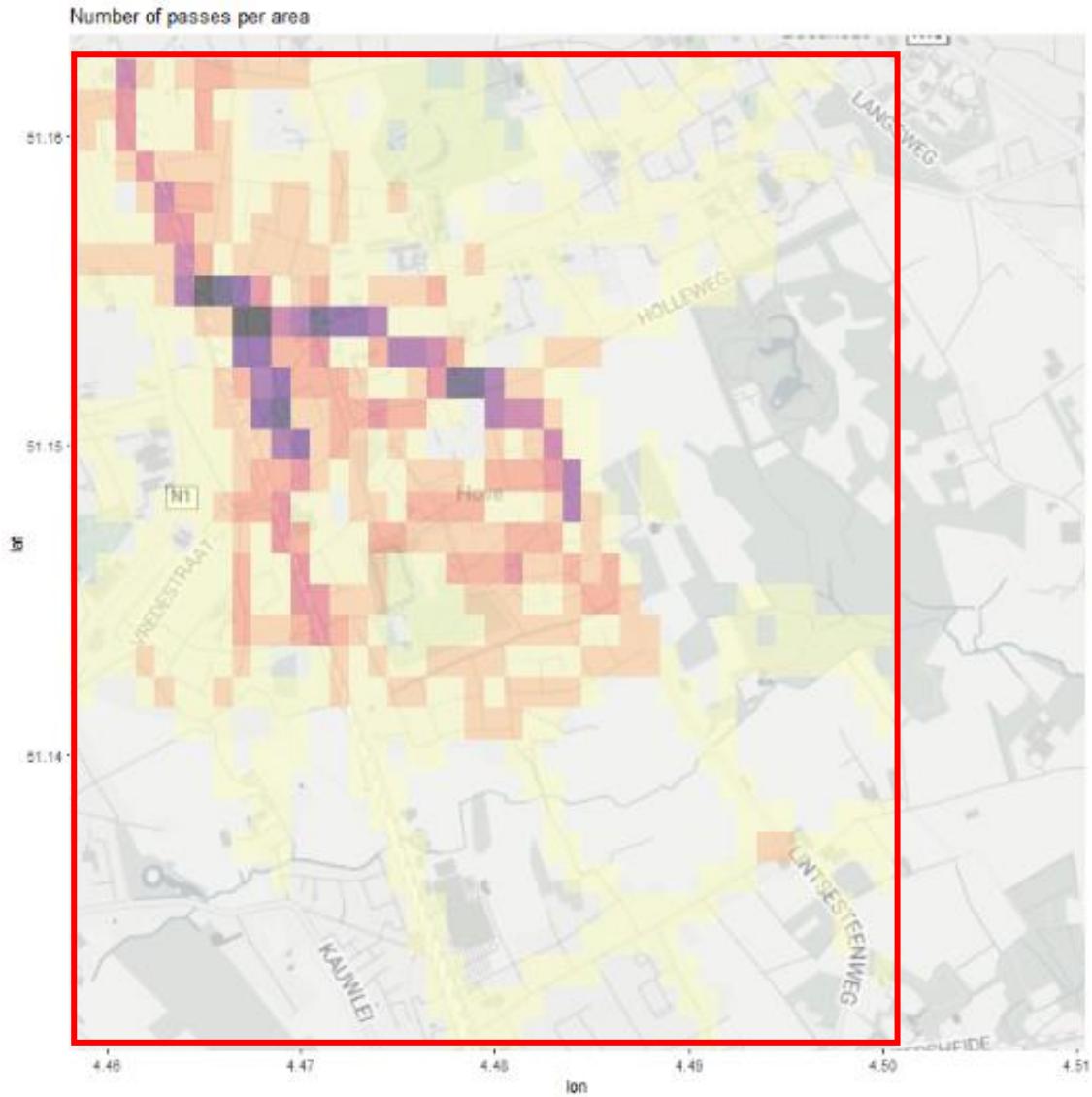
- Toch ook veel variatie in **netto PM2.5** (=lokale bijdrage zonder achtergrond)



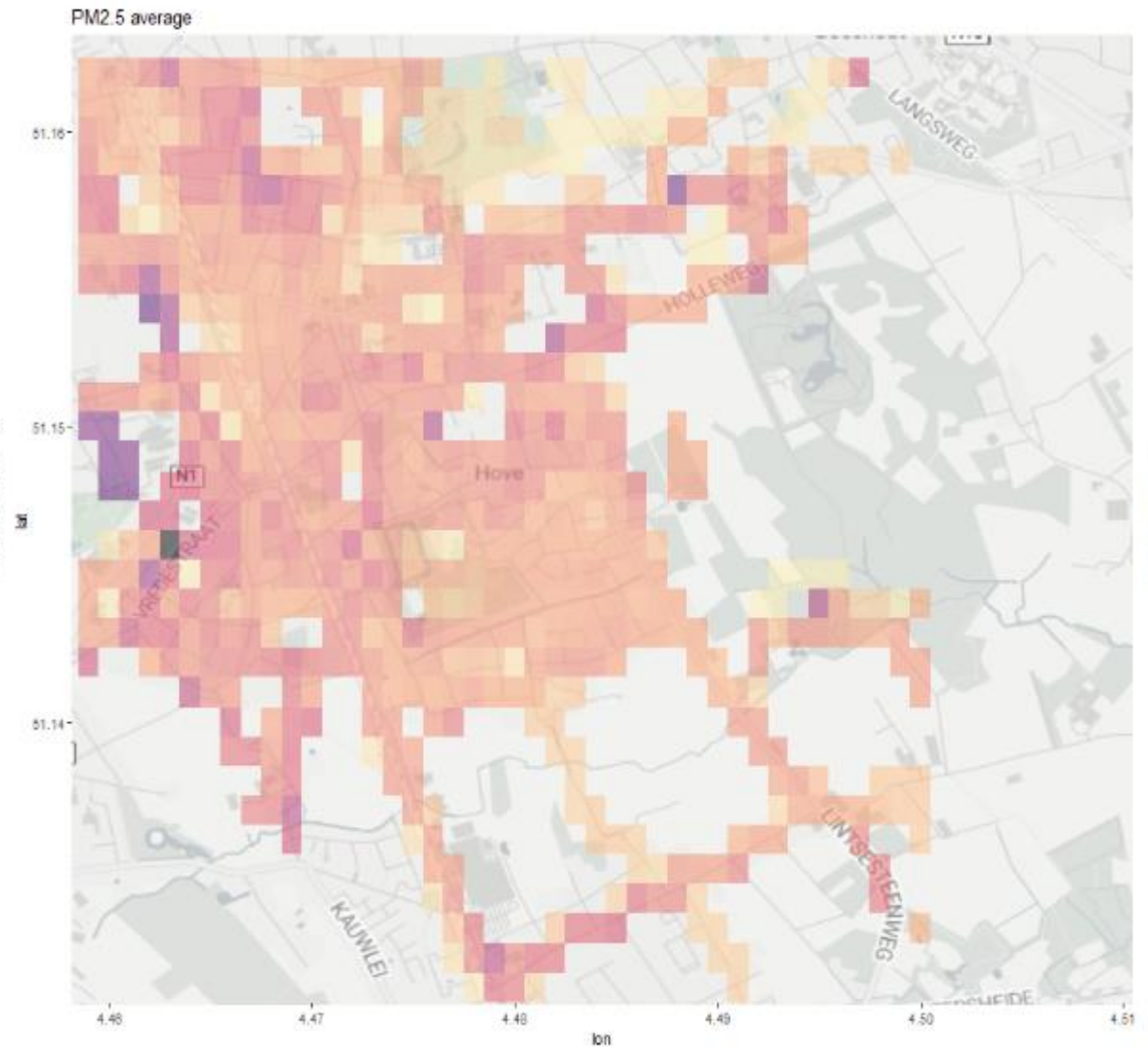
Hoogste nettowaarden per dag



Aantal passages



Gemiddelde (bruto) $PM_{2.5}$ (=regionaal+lokaal)

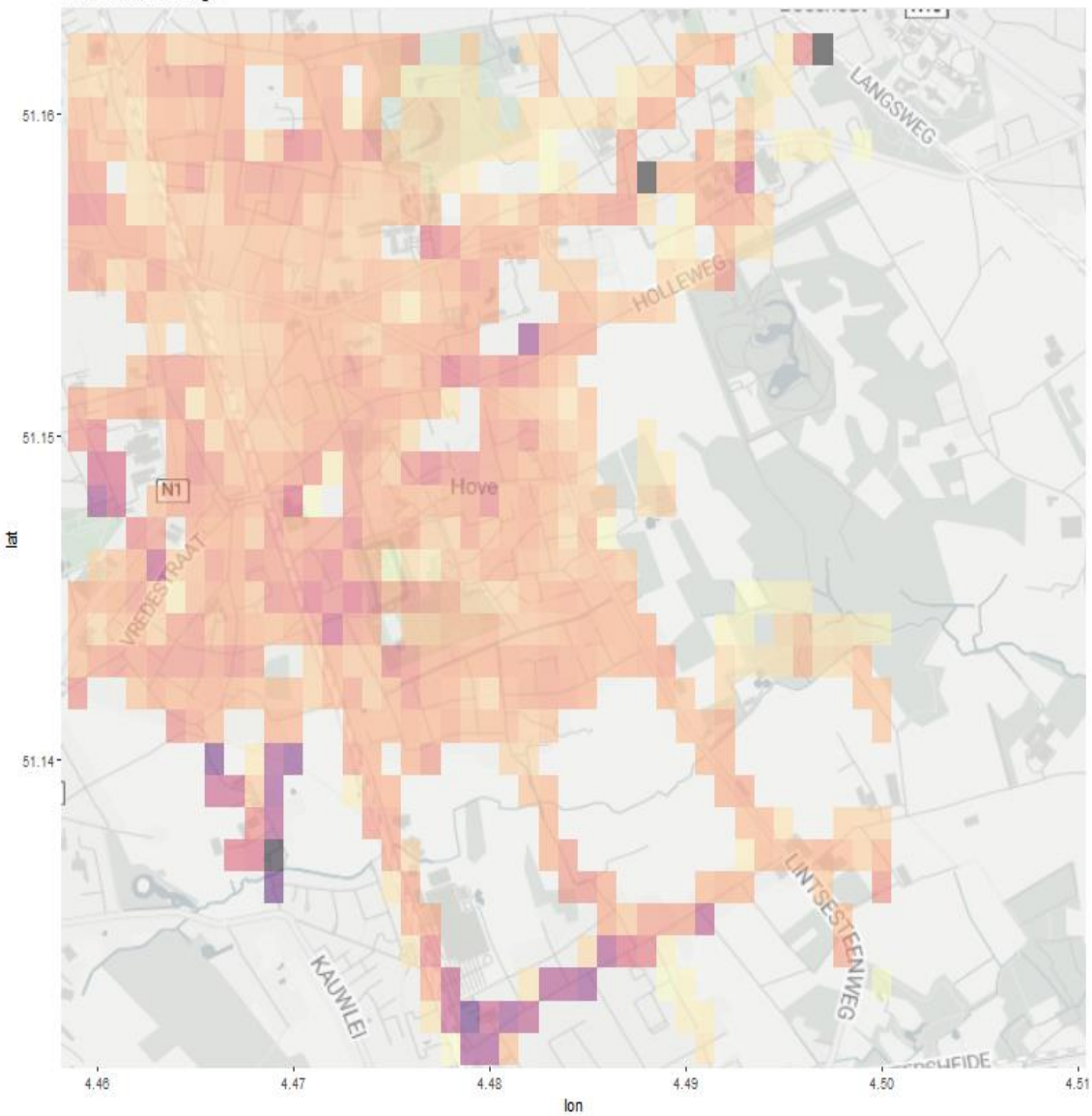


Vooraf opletten met zones met weinig passages !!!

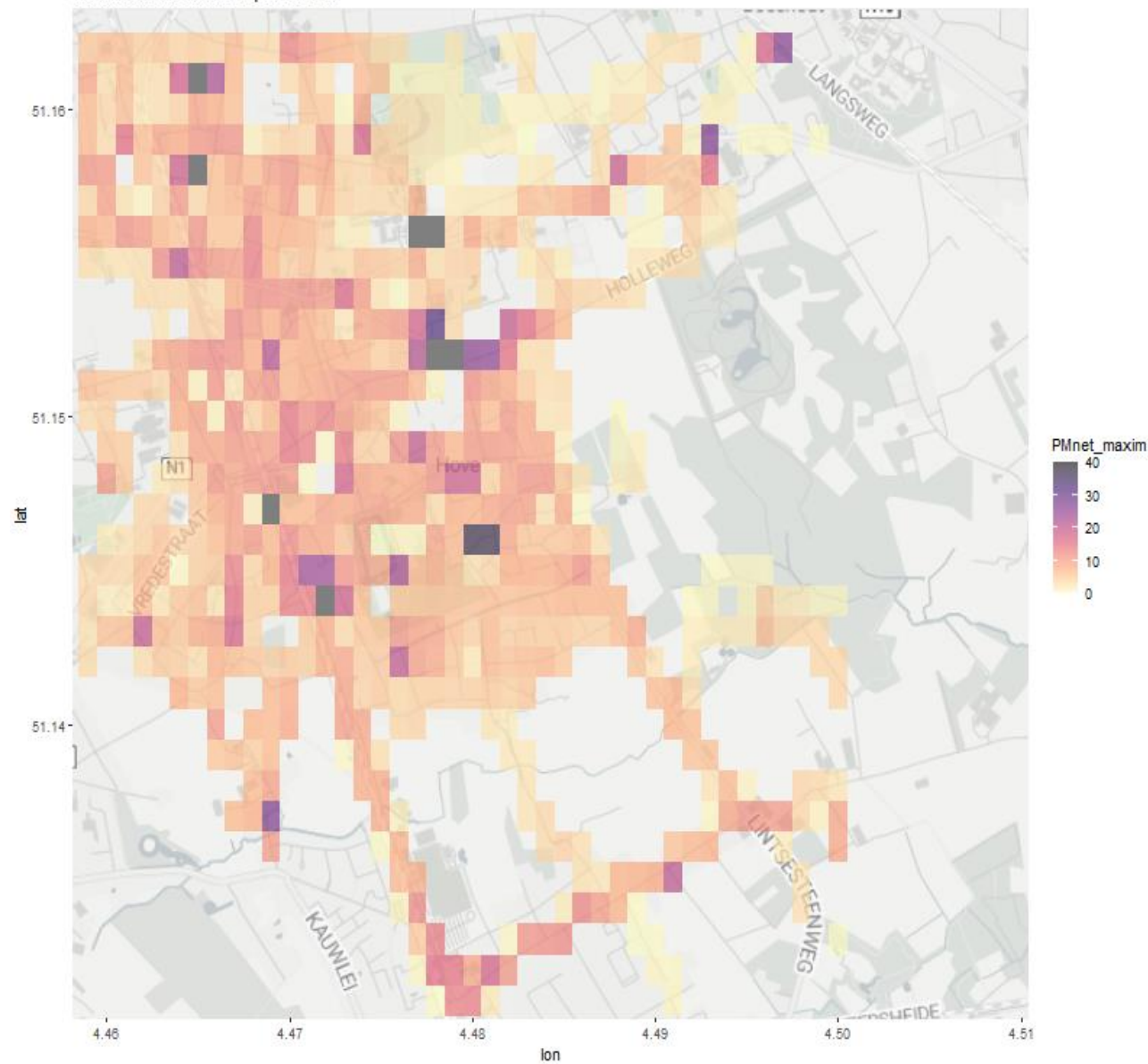
Gemiddelde PM_{2.5}net (=lokaal)

Hoogste netto waarden

PM2.5 NET average



Maximum net PM2.5 per sector

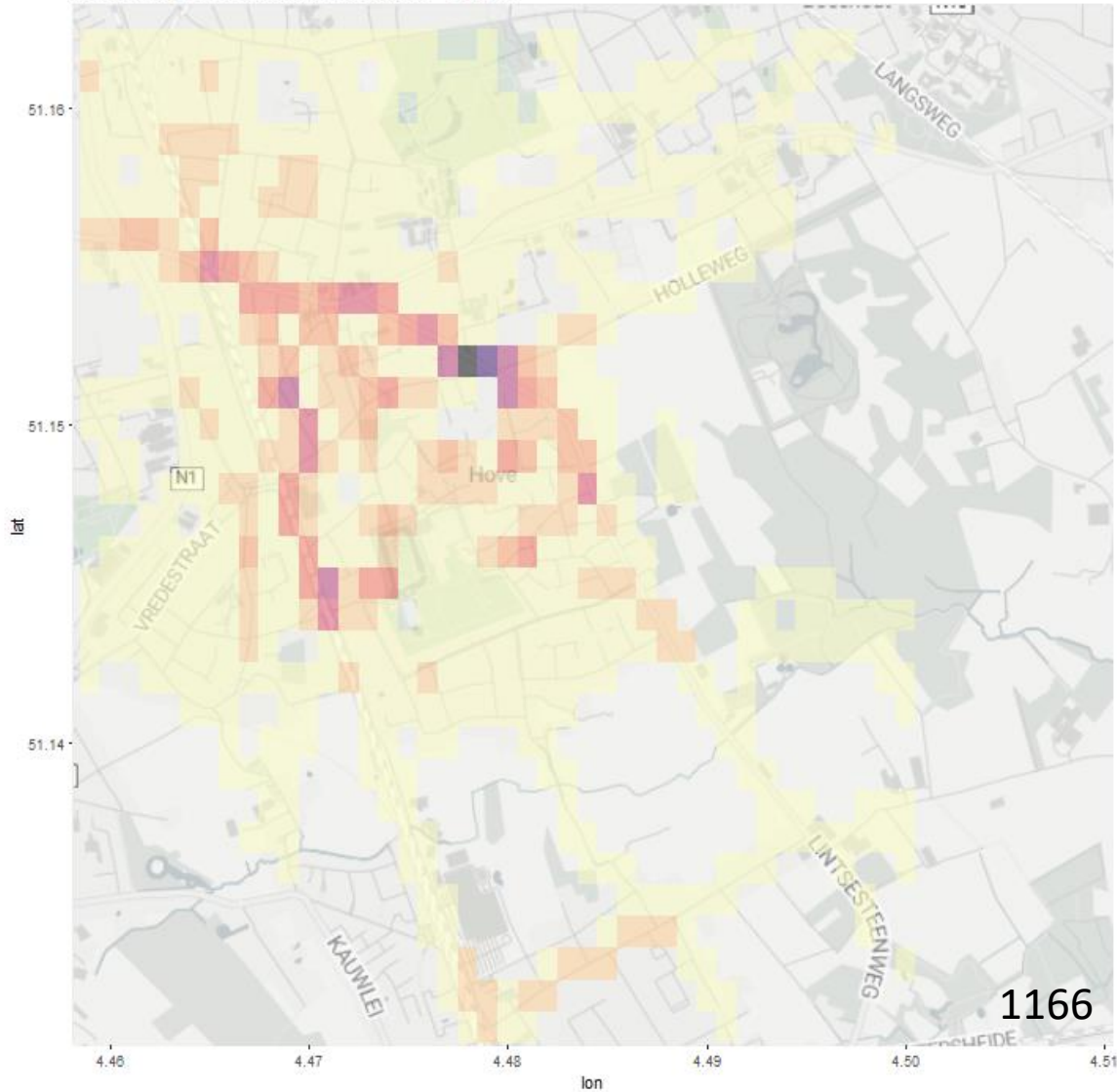


Aantal passages met lokale verhoging (PM2,5net)

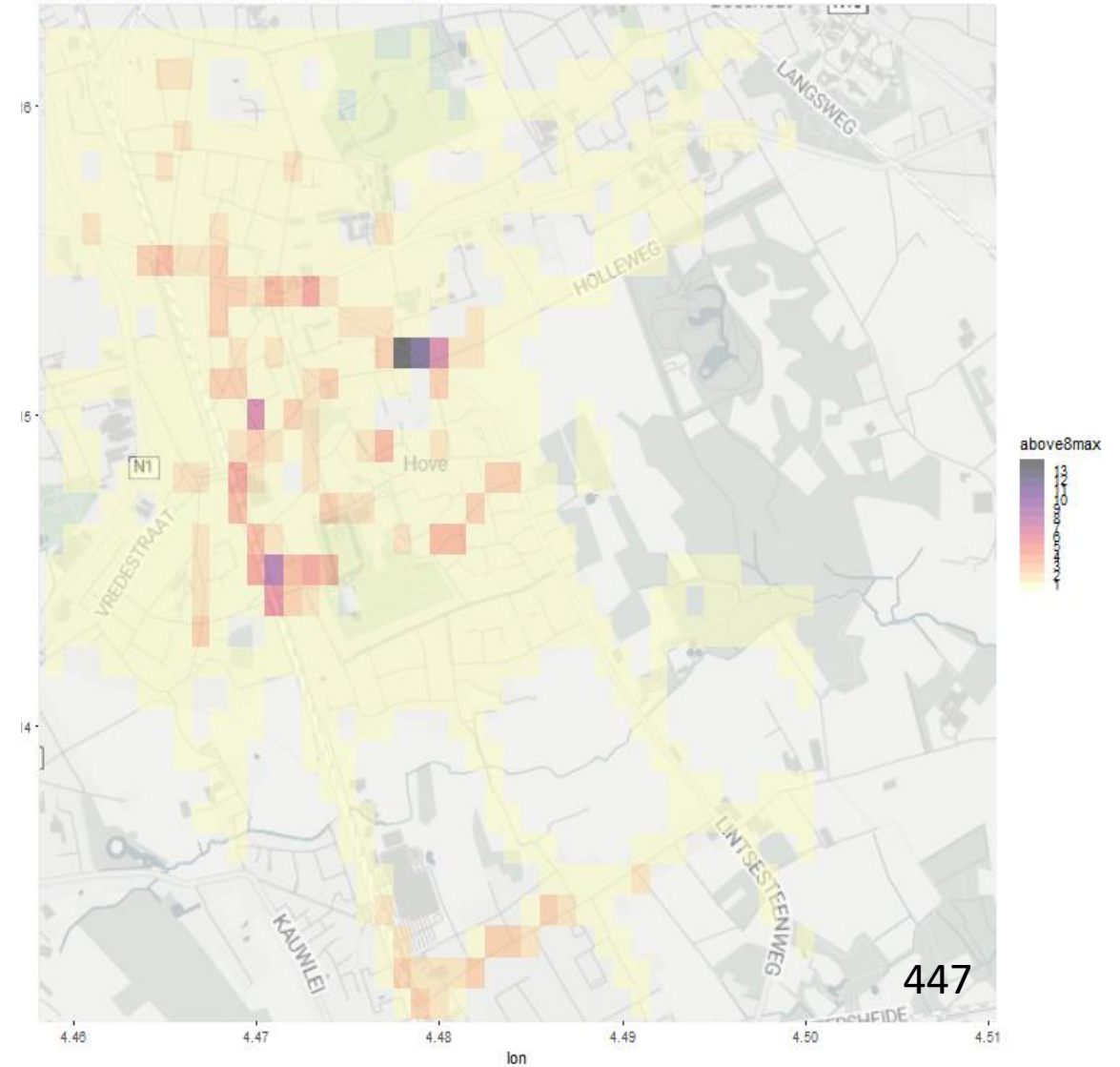
$> 5 \mu\text{g}/\text{m}^3$

$> 8 \mu\text{g}/\text{m}^3$

Number of passes with PM2.5net_max > 5 $\mu\text{g}/\text{m}^3$



Number of passes with PM2.5net_max > 8 $\mu\text{g}/\text{m}^3$



$> 10 \mu\text{g}/\text{m}^3$



***Zeker al 2 duidelijke
(problematische) hotspots***

***Lintsesteenweg
+
buurt donderbrug***

Mogelijk nog andere...

Bevindingen...

Algemeen

- Impact "weer" heel groot, zelfs binnen één dag
- Impact Mechelse steenweg/verkeer kleiner dan verwacht
- *De impact van een enkele tweetakt brommer op de luchtkwaliteit >> reeks stilstaande wagens voor het rode licht*
- Impact houtverbranding duidelijk / erg lokaal
- *Veel blauwe metingen* ((Jordy: zachte/natte winter))
- *Sigarettenrook >> stinkende uitlaat*
- Soms (erg) hoge binnenmetingen (oorzaak: koken, luchtbevochtiger, wierook stokjes...)
- Wereldprimeur !!!

- **Houtrook (>95%)**

- **ANDERE: (telkens 1 melding)**

- Rokende wandelaar
- Brommer
- Wegenwerken
- Optrekkende pick-up
- Werfwagens in park
- Wierook
- Afval stoken

Gemelde
bronnen

(uit logboeken)



VERVOLG ?

A graphic with the text "TO BE CONTINUED..." in a stylized, glowing red and orange font, with a small arrow pointing to the right at the end of the text.

- **Hove:**

- Interesse in grotere meetcampagne in toekomst?
- Wat met deze resultaten (Info Hove?,...)
- Beleidsmaatregelen
 - (politiereglement, hinderaanpak, verbod bij nieuwe verkavelingen,...)

- **VMM:**

- Afhankelijk van lot SODAQ (zoektocht alternatief)
- Inzetbaarheid bij andere lokale besturen
- Gebruik bij communicatie?
- Internationale interesse via CompAir (“**Winter Woodburn Walks**”)

EINDE
(ALGEMEEN DEEL)

En nogmaals dank aan de *citizen scientists*...

Bevindingen...

Technisch

- *Led geeft niet altijd (korte) piek weer*
((Jordy: max op de kaart wel))
((Jordy: led op toestel \neq kleur op kaart))
- *Aan/uit knop zou handig zijn (magneet niet ideaal)*
- *Batterij indicator (% + 'aan het laden') zou handig zijn*
- *Online bekijken eigen resultaten niet zo duidelijk*
- ...
- Enkele keren uitval (interferentie spoorcabines?), één sensor kapot
- Binnenmetingen verstoren de analyses...(veel manueel werk)
- **Vraagt toch veel inspanning van deelnemers**
 - >> specifieke doelgroepen zoeken?
 - Lopers? Mensen met honden?

Databank
individuele
trajecten
(ruwe data)

- Werk van VMM-collega Bram
- ‘Shiny app’ (R-software)
- **Voorlopig enkel maand januari 2024**
 - (hopelijk feb/maa later)
- Enkele voorbeelden in volgende slides
- Niet publiek beschikbaar

Dataframe Visualizer

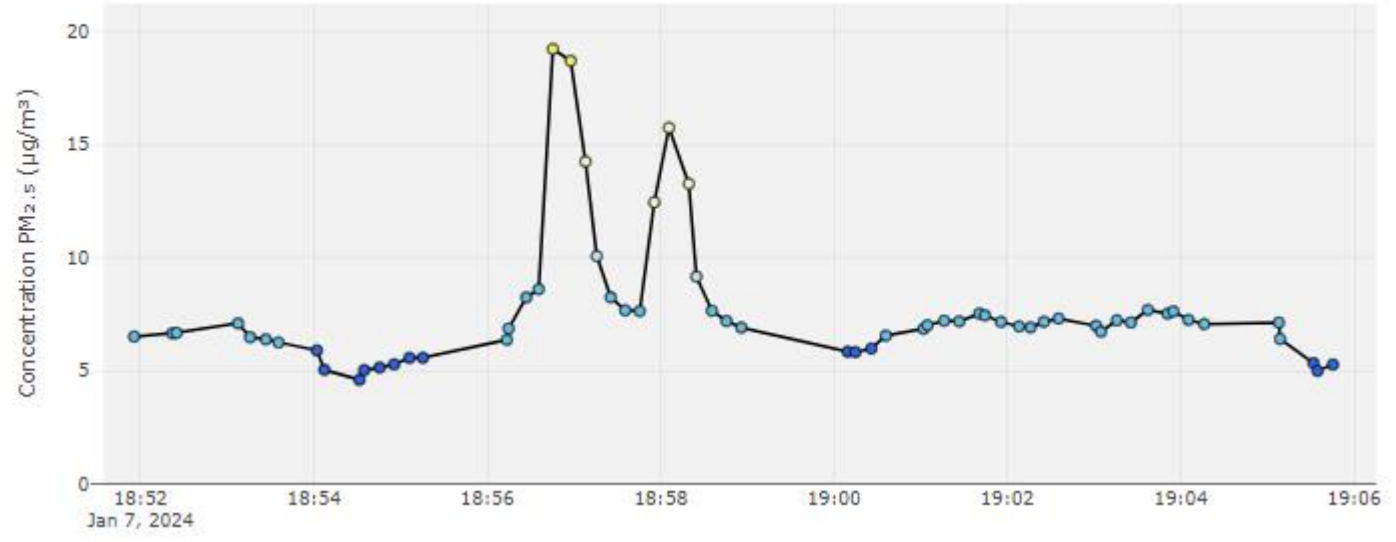
Choose an IMEI:
350457790907990

Choose a trajectory:
07-01-2024 18:51

Number of observations shown on map:
1 / 62

| | |
|----------|---------------------|
| Start | 2024-01-07 18:51:55 |
| End | 2024-01-07 19:05:45 |
| Duration | 13.83164 mins |
| Average | 7.65 |
| Median | 7.05 |
| Maximum | 19.21 |

Rozenlei



Dataframe Visualizer

Choose an IMEI:
350457790907990

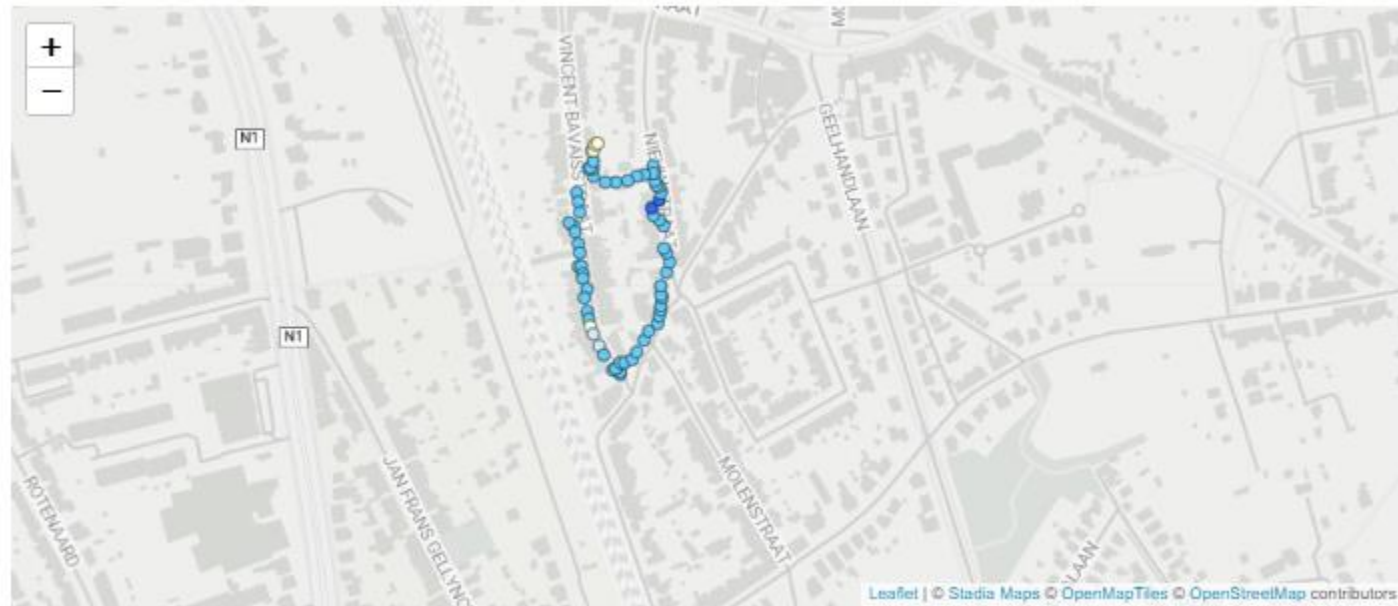
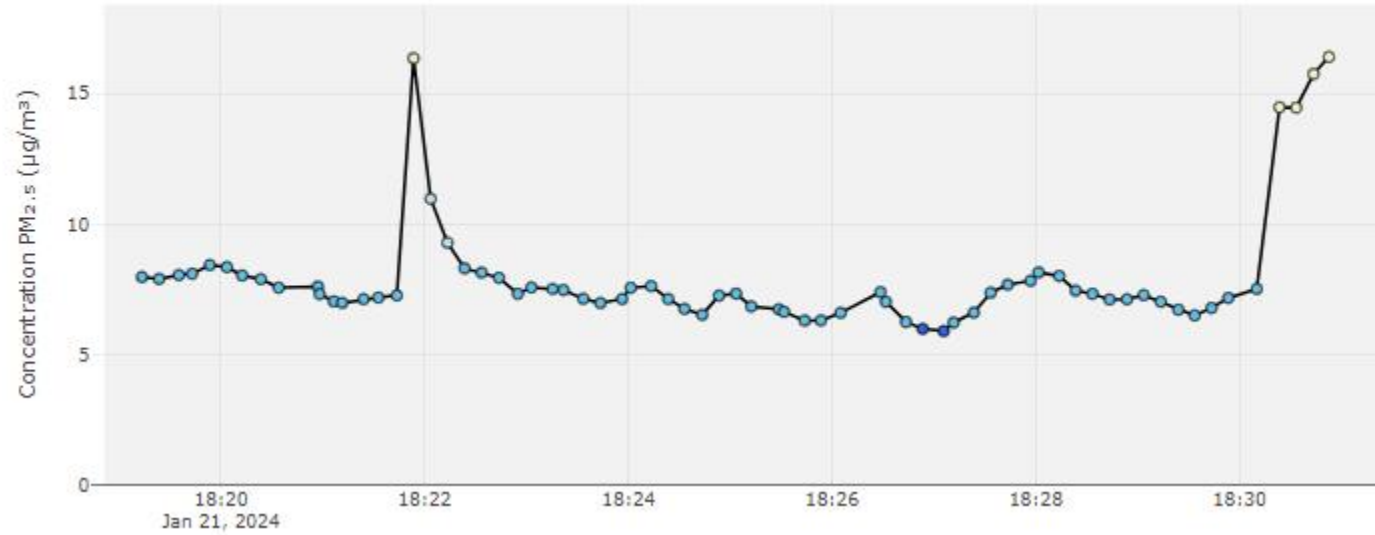
Choose a trajectory:
21-01-2024 18:19

Number of observations shown on map:
1 / 69

| | |
|----------|---------------------|
| Start | 2024-01-21 18:19:13 |
| End | 2024-01-21 18:30:52 |
| Duration | 11.65416 mins |
| Average | 7.95 |
| Median | 7.34 |
| Maximum | 16.41 |

Vincent B straat

Binnen?



Hove Data Visualizer

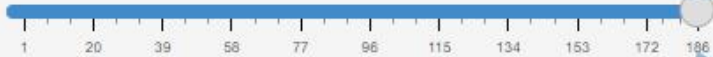
Start of trajectory:

19-01-2024 19:01

Number of observations shown on map:

1

186



IMEI 350457790908287

Start 2024-01-19 19:01:42

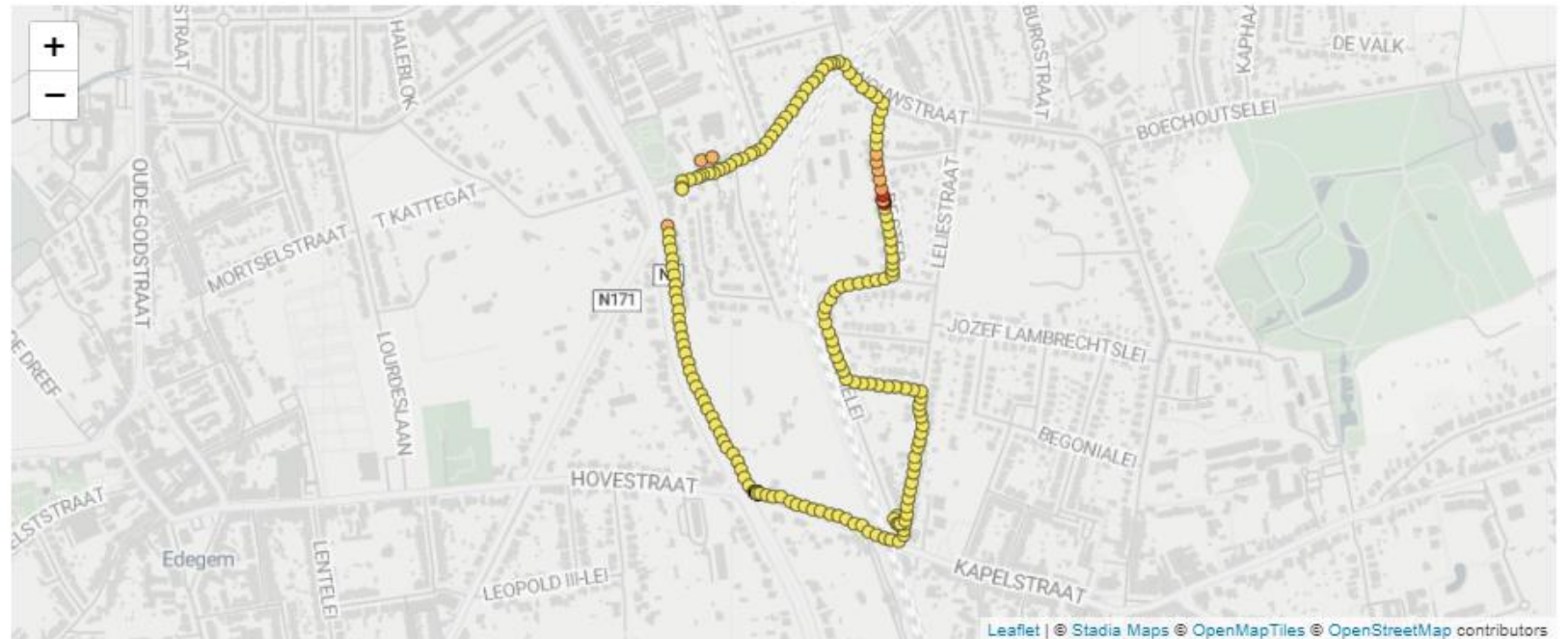
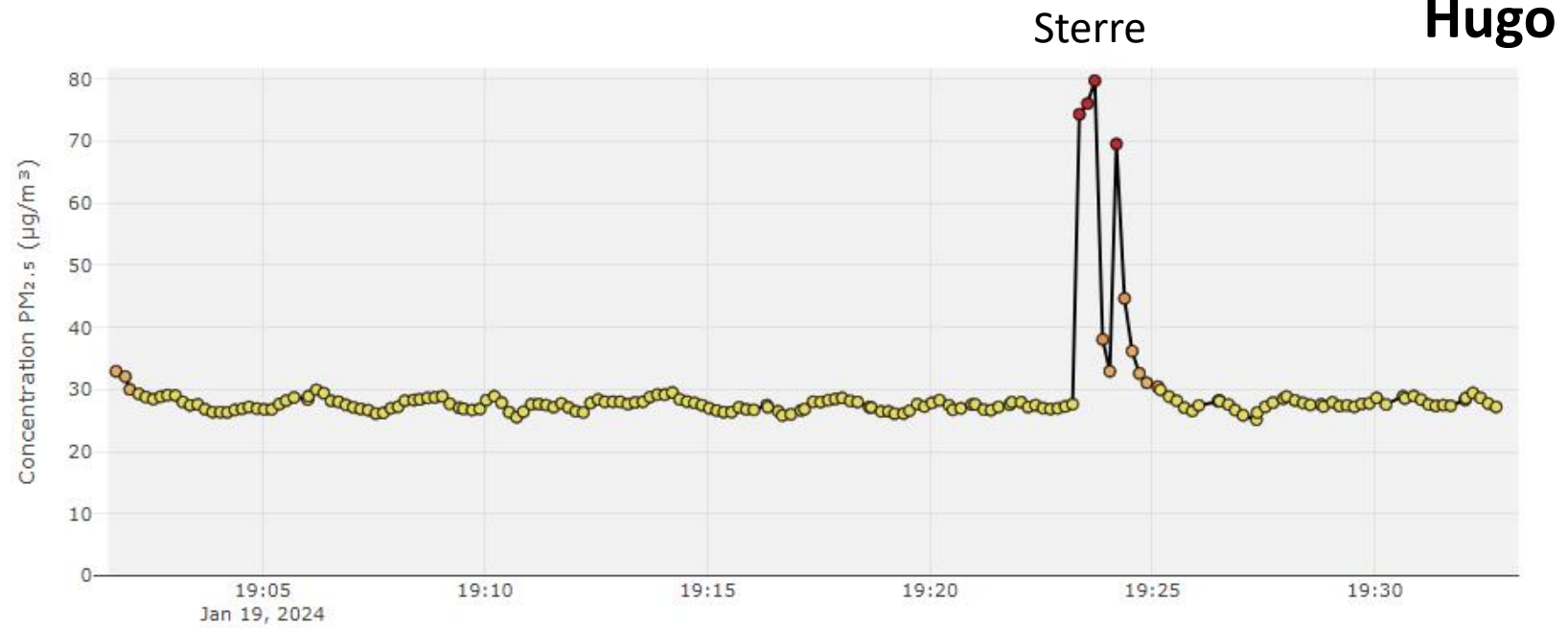
End 2024-01-19 19:32:43

Duration 31.02069 mins

Average 28.95

Median 27.63

Maximum 79.74



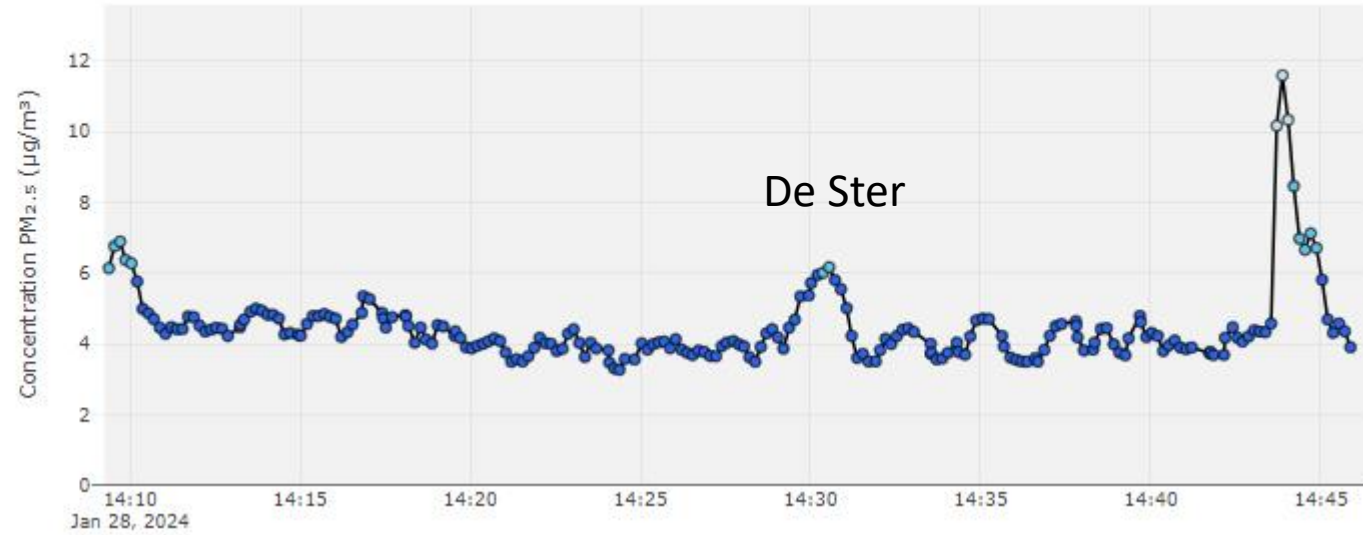
Dataframe Visualizer

Choose an IMEI:
350457790908287

Choose a trajectory:
28-01-2024 14:09

Number of observations shown on map:
1 218

| | |
|----------|---------------------|
| Start | 2024-01-28 14:09:22 |
| End | 2024-01-28 14:45:52 |
| Duration | 36.49866 mins |
| Average | 4.45 |
| Median | 4.23 |
| Maximum | 11.59 |



Dataframe Visualizer

Choose an IMEI:
350457790908287

Choose a trajectory:
31-01-2024 13:44

Number of observations shown on map:
1

Start: 2024-01-31 13:44:35

End: 2024-01-31 13:56:05

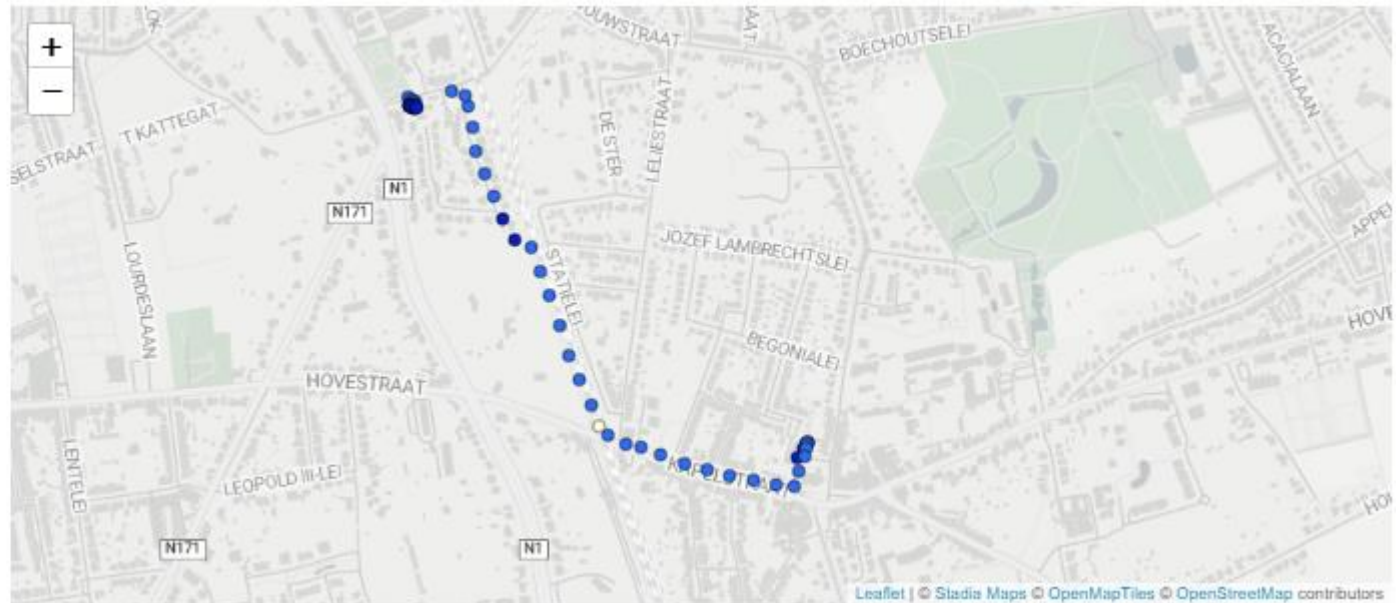
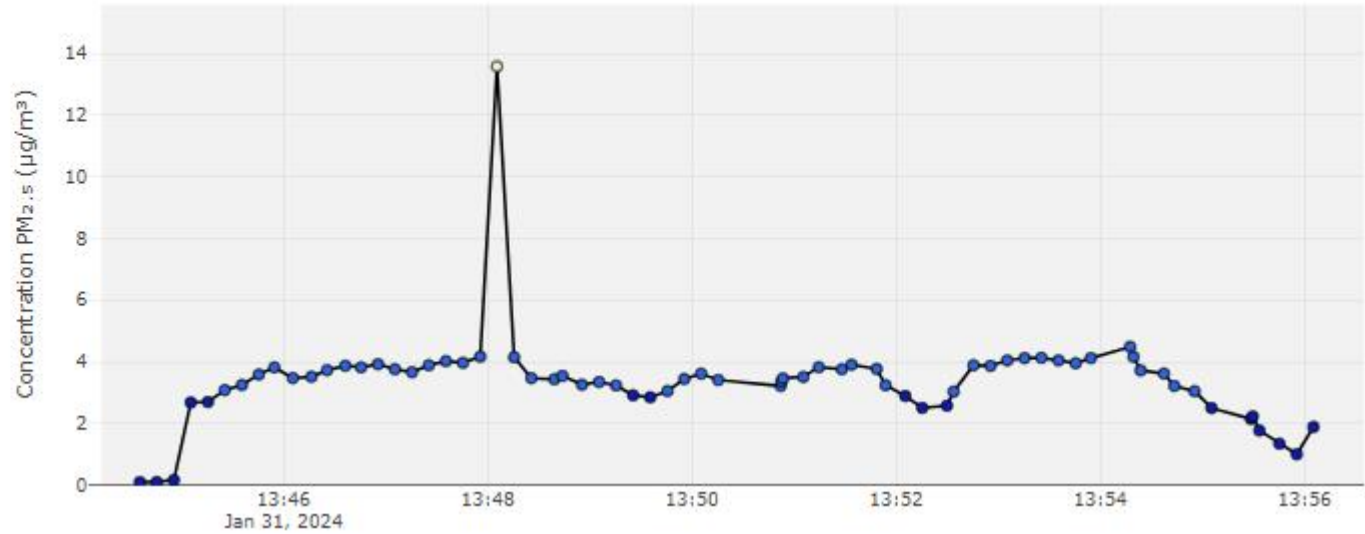
Duration: 11.49734 mins

Average: 3.38

Median: 3.48

Maximum: 13.58

Fietsostrade/kapelstraat



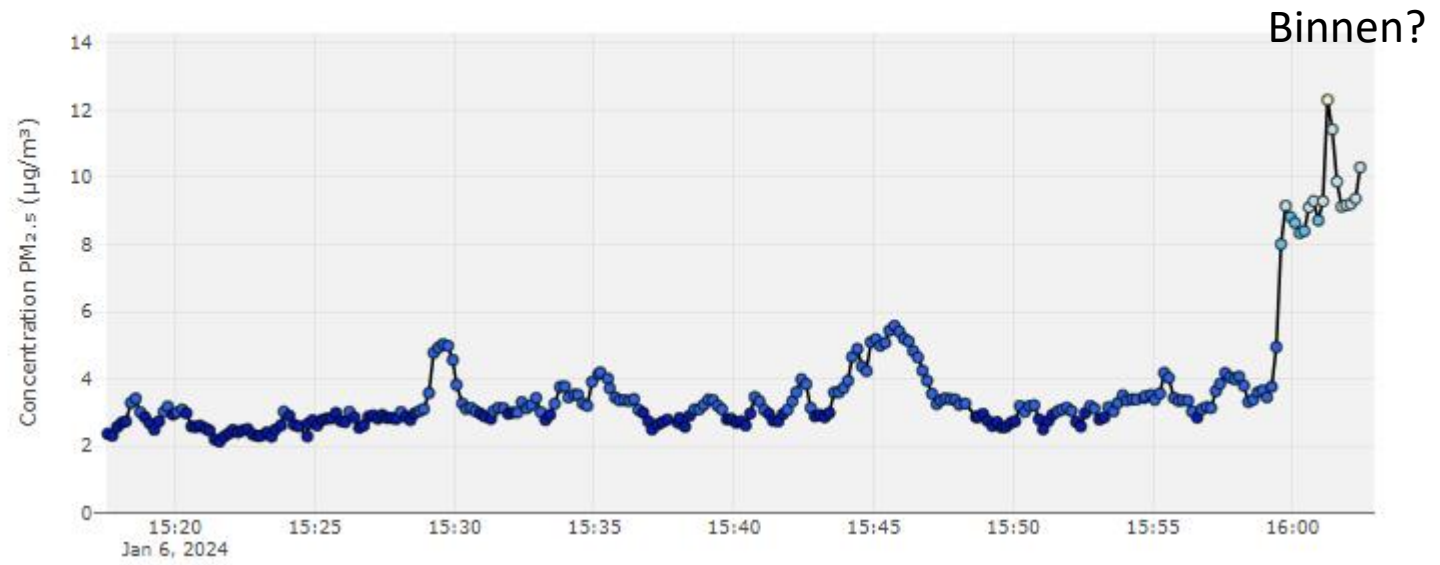
Dataframe Visualizer

Choose an IMEI:
350457790905754

Choose a trajectory:
06-01-2024 15:17

Number of observations shown on map:
1 / 268

| | |
|----------|---------------------|
| Start | 2024-01-06 15:17:35 |
| End | 2024-01-06 16:02:25 |
| Duration | 44.83334 mins |
| Average | 3.64 |
| Median | 3.11 |
| Maximum | 12.3 |



Hove Data Visualizer

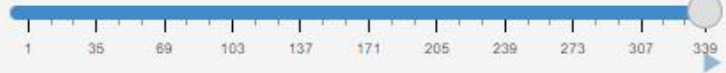
Start of trajectory:

10-01-2024 15:32

Number of observations shown on map:

1

339



IMEI 350457790905754

Start 2024-01-10 15:32:16

End 2024-01-10 16:37:02

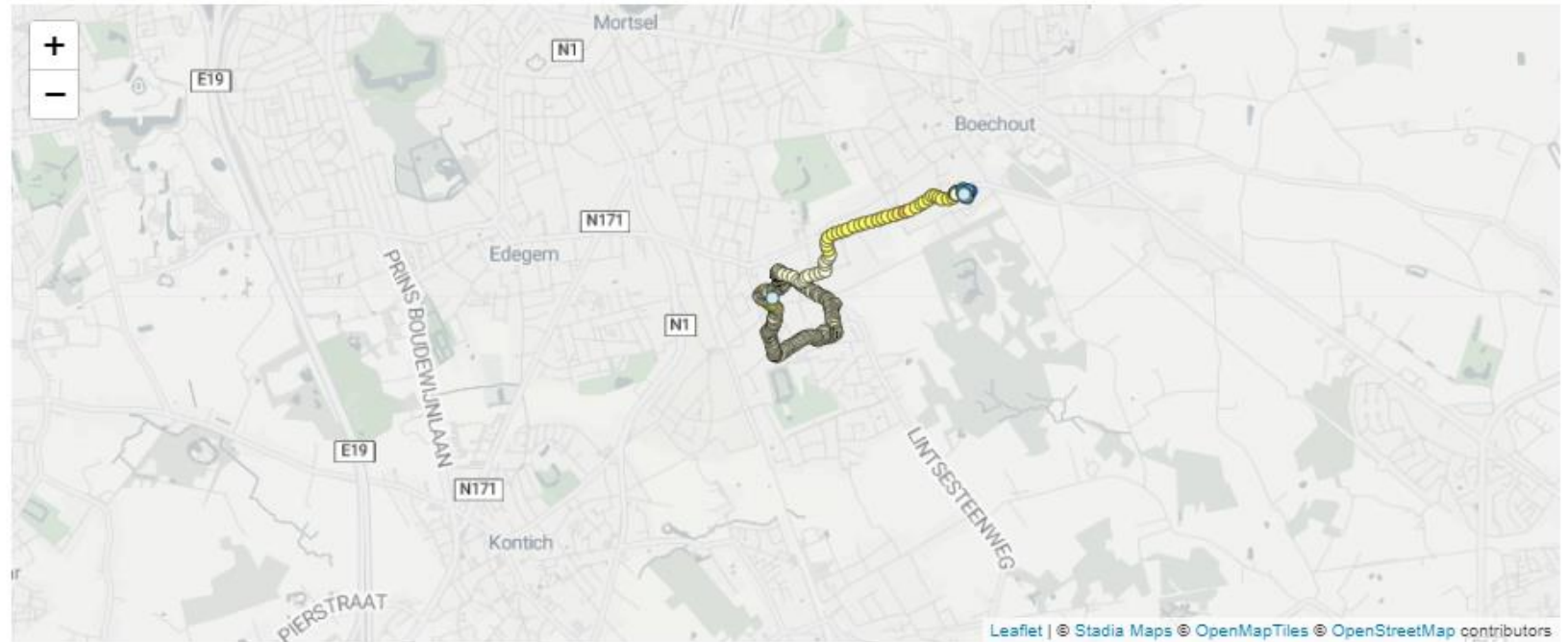
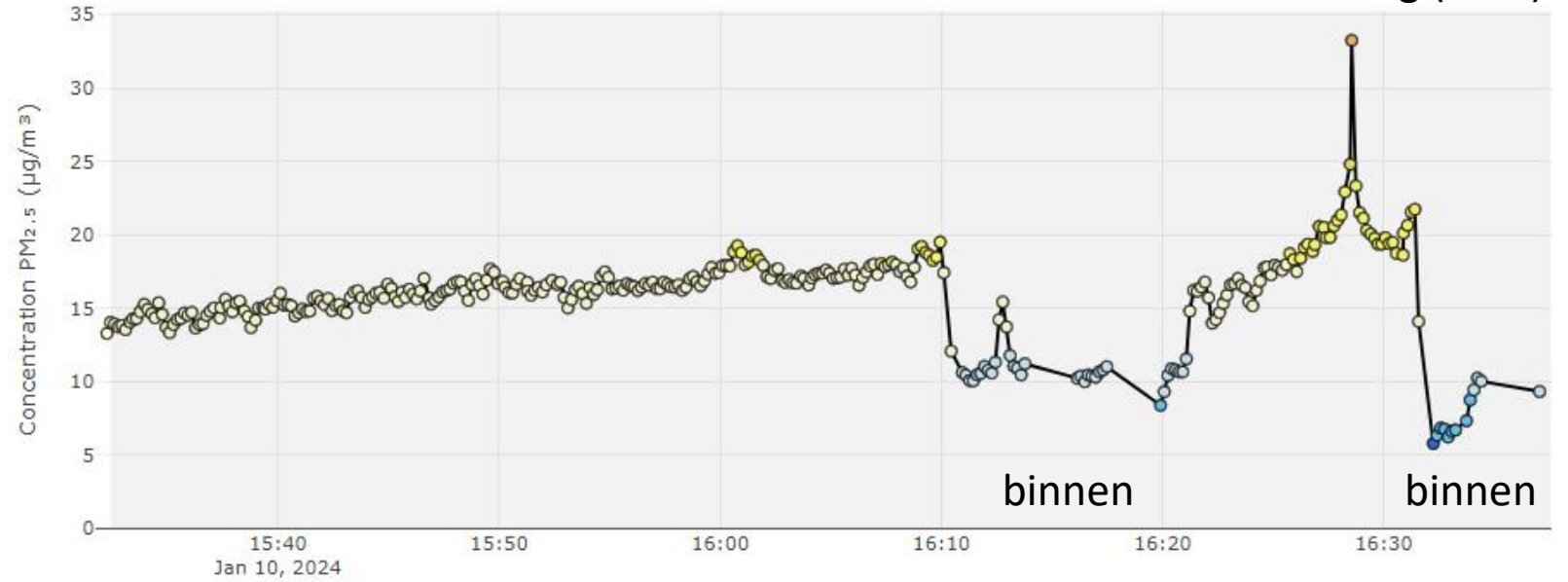
Duration 1.079506 hours

Average 15.8

Median 16.26

Maximum 33.24

Hovesteenweg (Boe.)



Hove Data Visualizer

Start of trajectory:

16-01-2024 20:49

Number of observations shown on map:

1

102

IMEI 350457790908329

Start 2024-01-16 20:49:31

End 2024-01-16 21:06:30

Duration 16.98363 mins

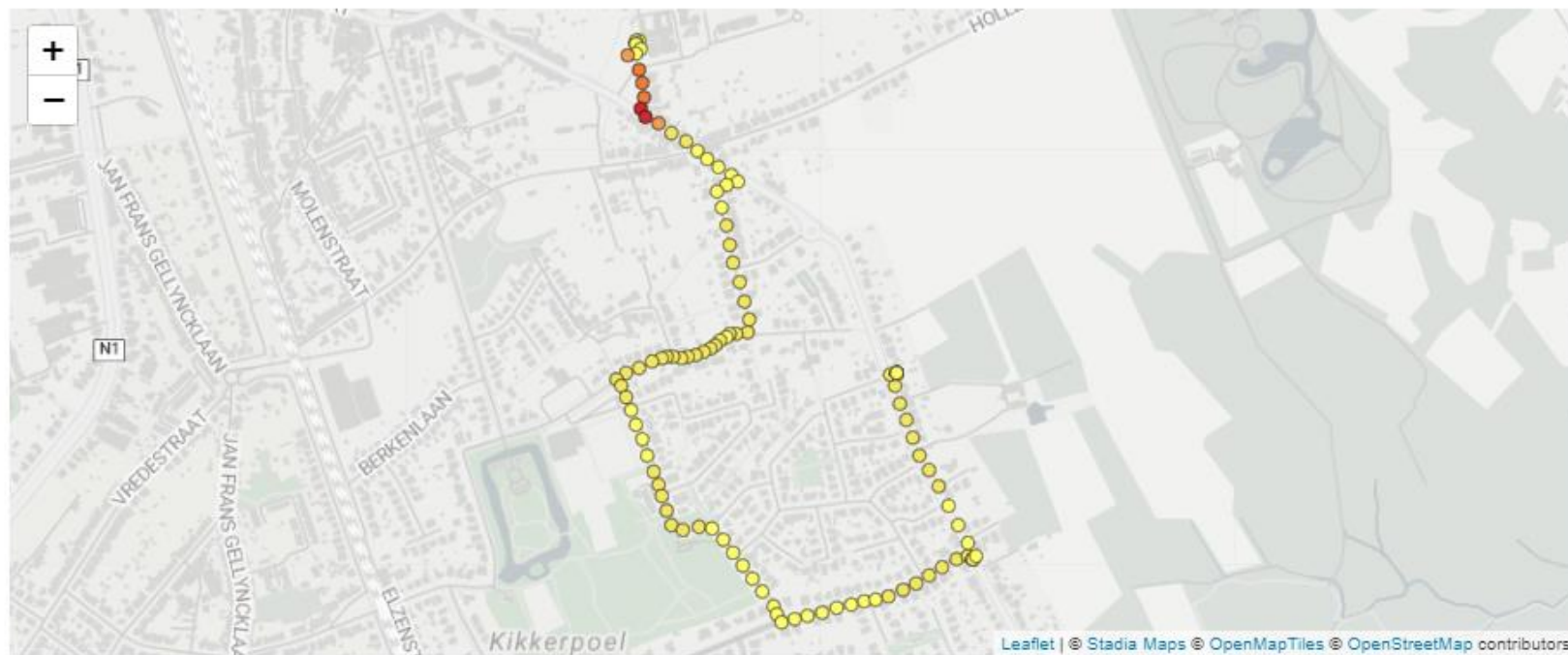
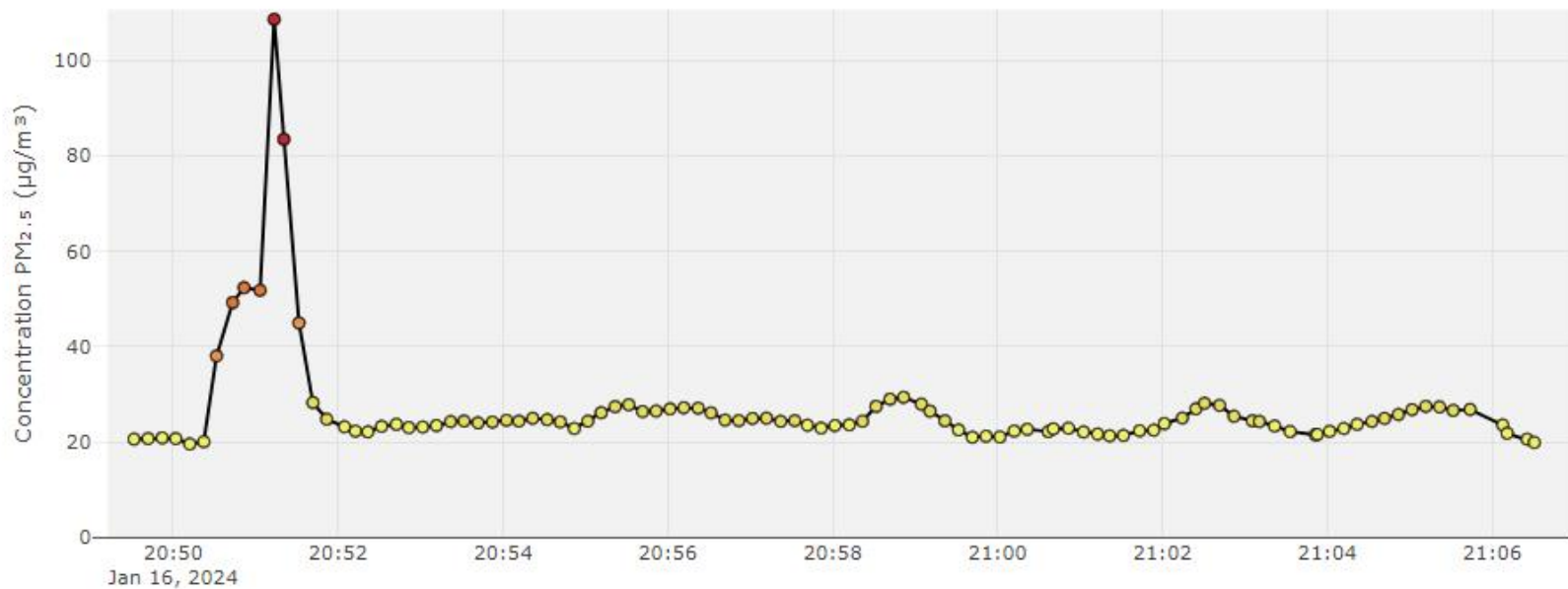
Average 26.65

Median 24.33

Maximum 108.54

Lintsesteenweg

Gerda

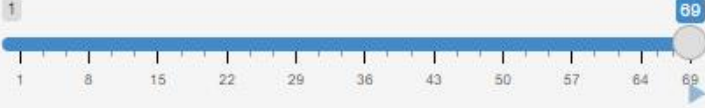


Hove Data Visualizer

Start of trajectory:

19-01-2024 16:43

Number of observations shown on map:



IMEI 350457790908329

Start 2024-01-19 16:43:59

End 2024-01-19 16:55:59

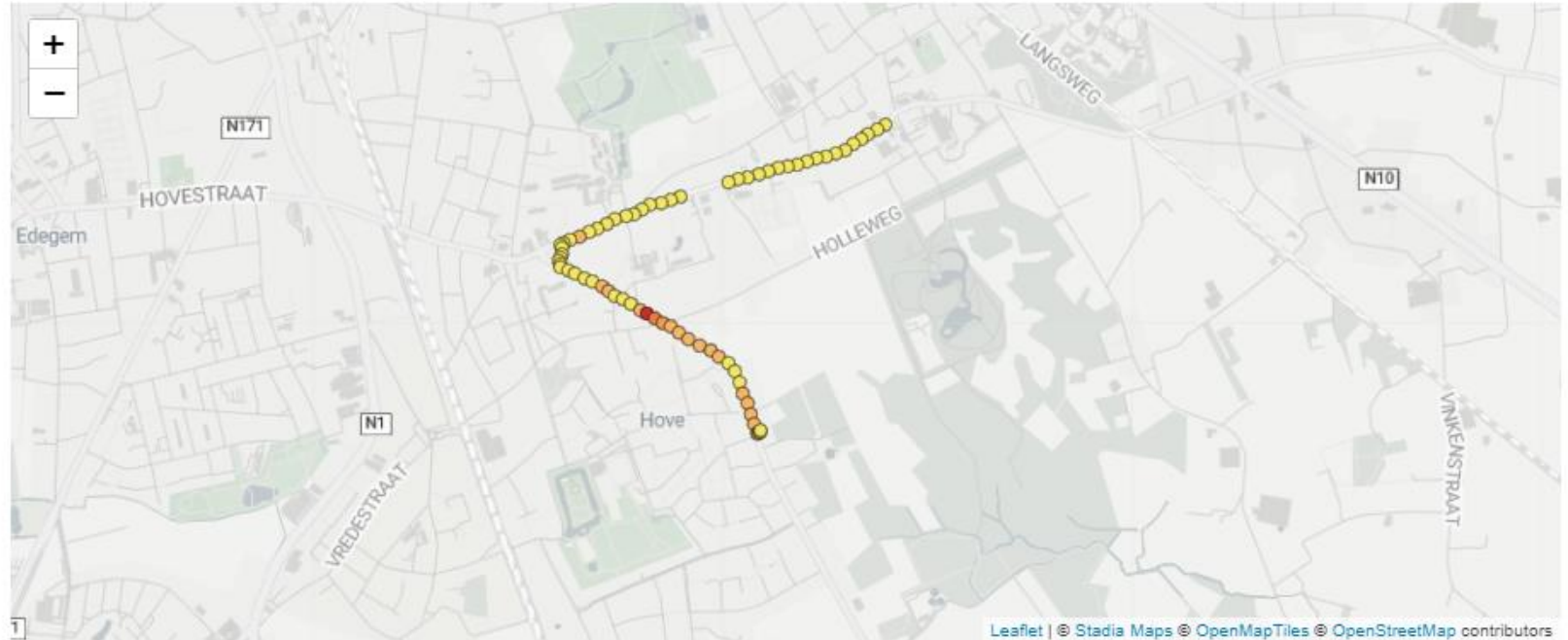
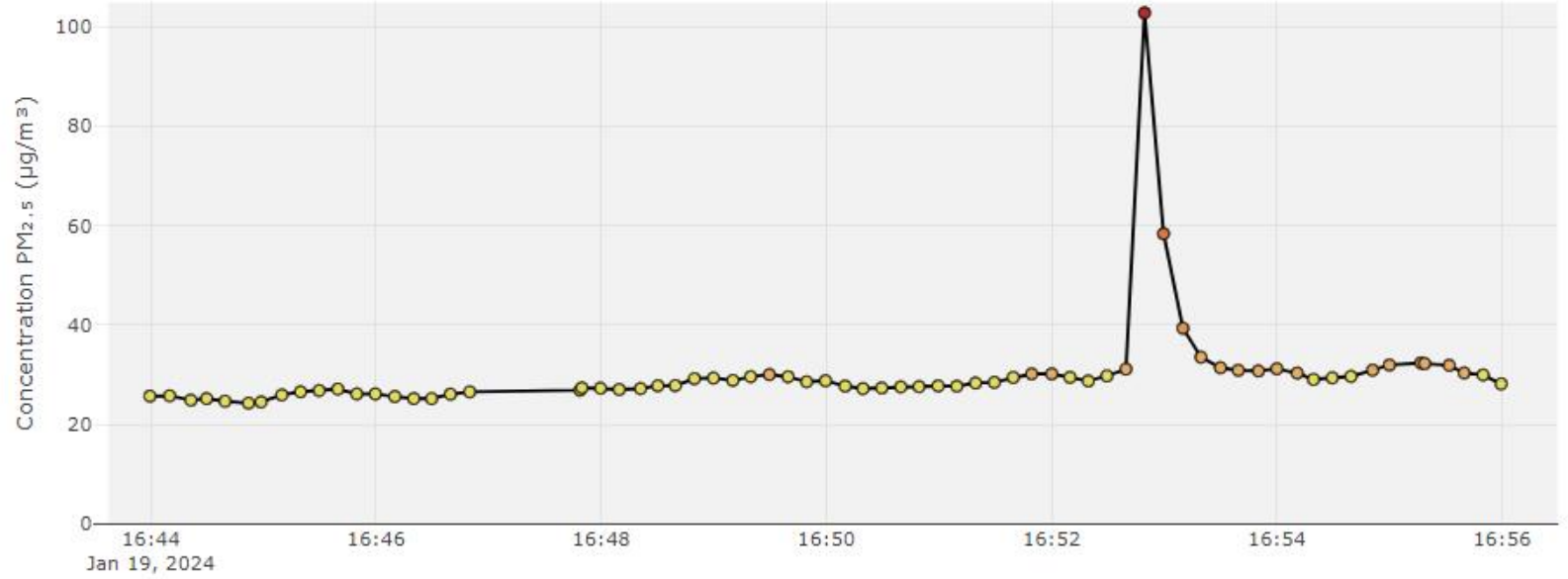
Duration 11.99999 mins

Average 30.04

Median 28.49

Maximum 102.81

Lintsesteenweg



Dataframe Visualizer

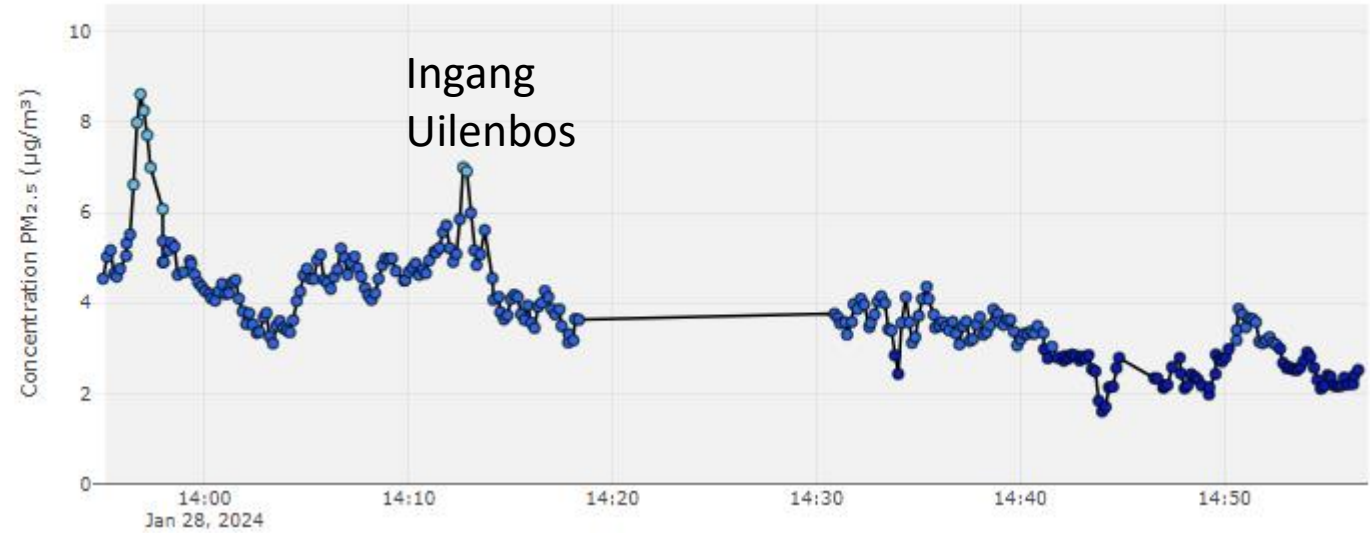
Choose an IMEI:
350457790908329

Choose a trajectory:
28-01-2024 13:55

Number of observations shown on map:
1 / 282

| | |
|----------|---------------------|
| Start | 2024-01-28 13:55:01 |
| End | 2024-01-28 14:56:34 |
| Duration | 1.025868 hours |
| Average | 3.81 |
| Median | 3.64 |
| Maximum | 8.61 |

Spreeuwenlaan



Dataframe Visualizer

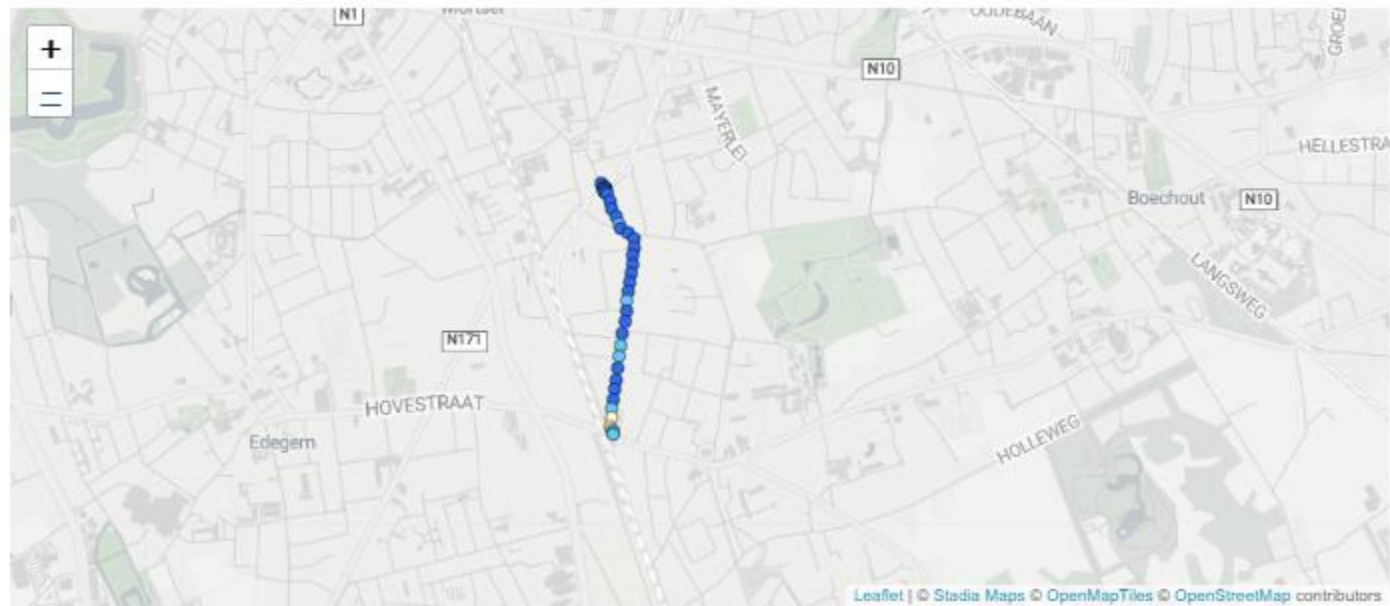
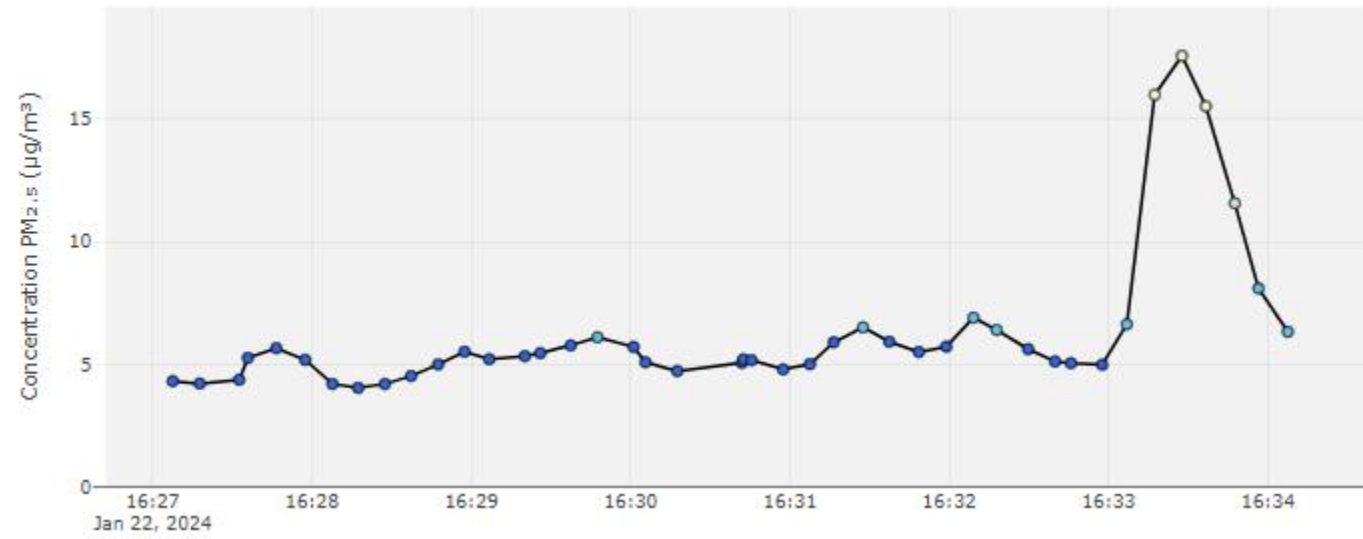
Choose an IMEI:
350457790908329

Choose a trajectory:
22-01-2024 16:27

Number of observations shown on map:
1 43

| | |
|----------|---------------------|
| Start | 2024-01-22 16:27:07 |
| End | 2024-01-22 16:34:07 |
| Duration | 6.999693 mins |
| Average | 6.3 |
| Median | 5.34 |
| Maximum | 17.57 |

Fietsostrade/Kapelstraat



Hove Data Visualizer

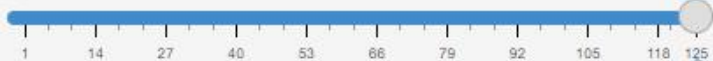
Start of trajectory:

23-01-2024 11:43

Number of observations shown on map:

1

125



IMEI 350457790908329

Start 2024-01-23 11:43:37

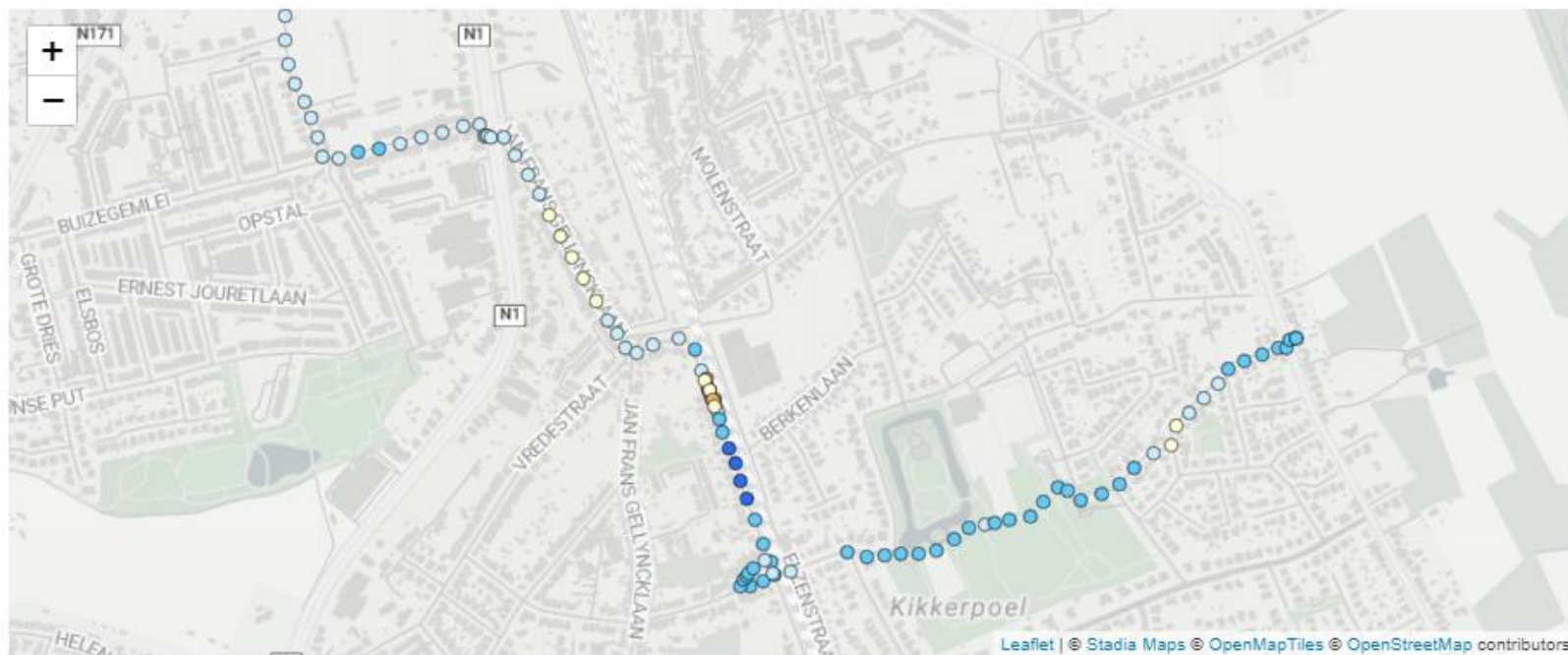
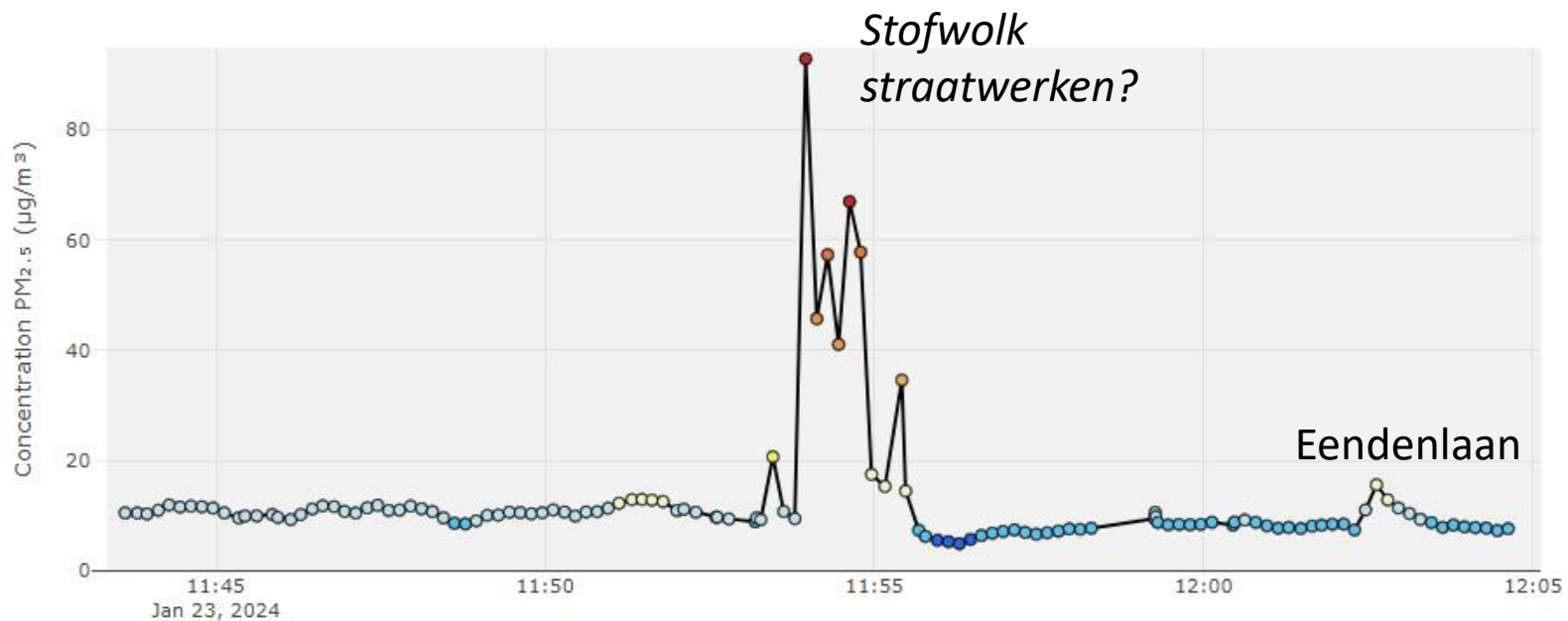
End 2024-01-23 12:04:37

Duration 20.99839 mins

Average 12.42

Median 9.95

Maximum 92.82

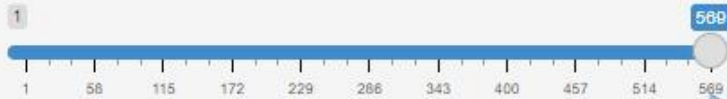


Hove Data Visualizer

Start of trajectory:

26-01-2024 14:42

Number of observations shown on map:



IMEI 350457790908329

Start 2024-01-26 14:42:35

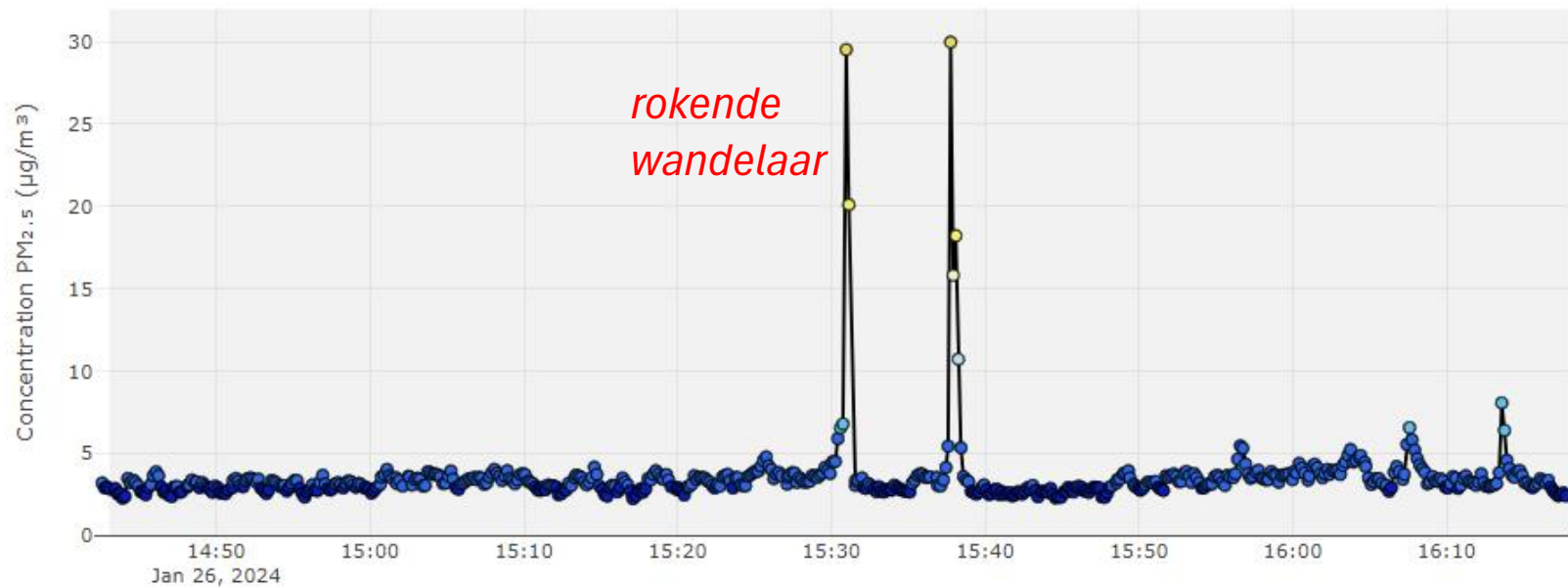
End 2024-01-26 16:17:45

Duration 1.586134 hours

Average 3.52

Median 3.25

Maximum 29.98



Hove Data Visualizer

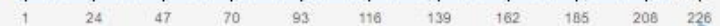
Start of trajectory:

17-01-2024 12:46

Number of observations shown on map:

1

226



IMEI 350457790908329

Start 2024-01-17 12:46:57

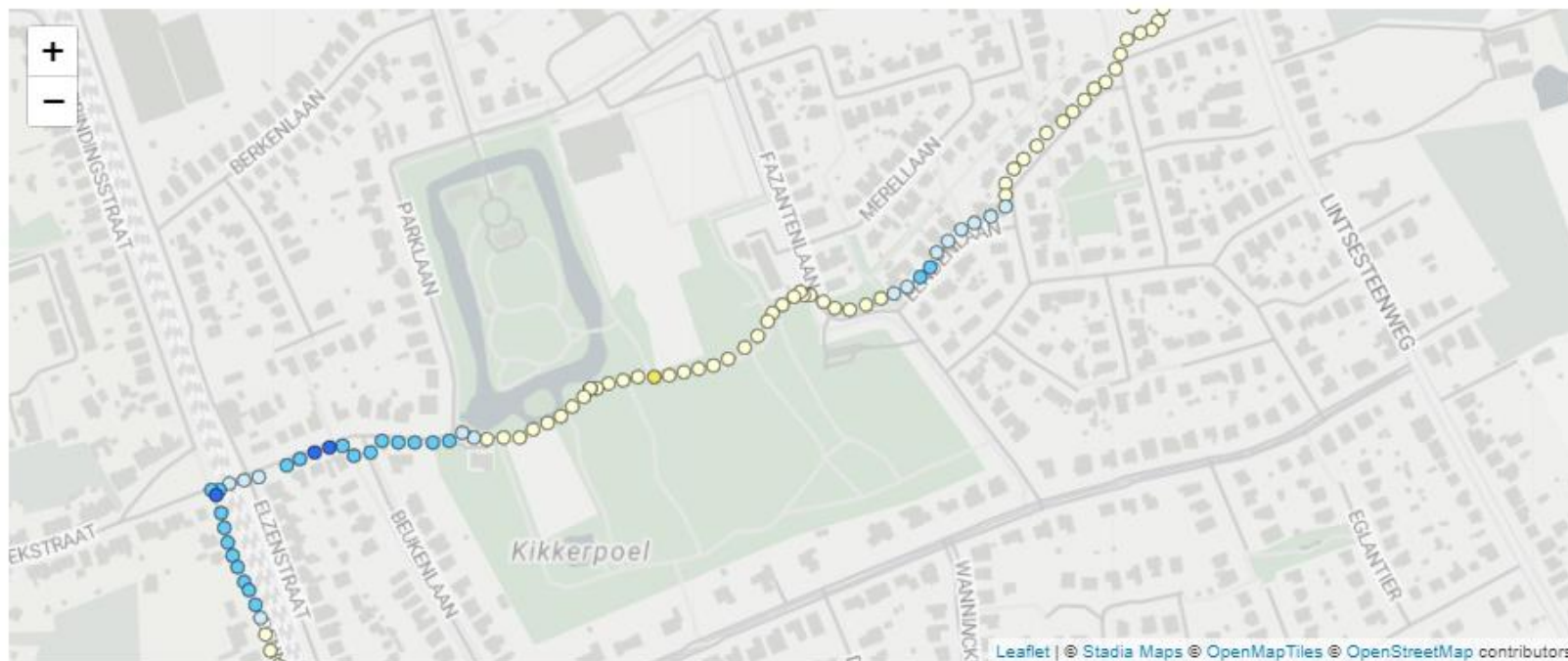
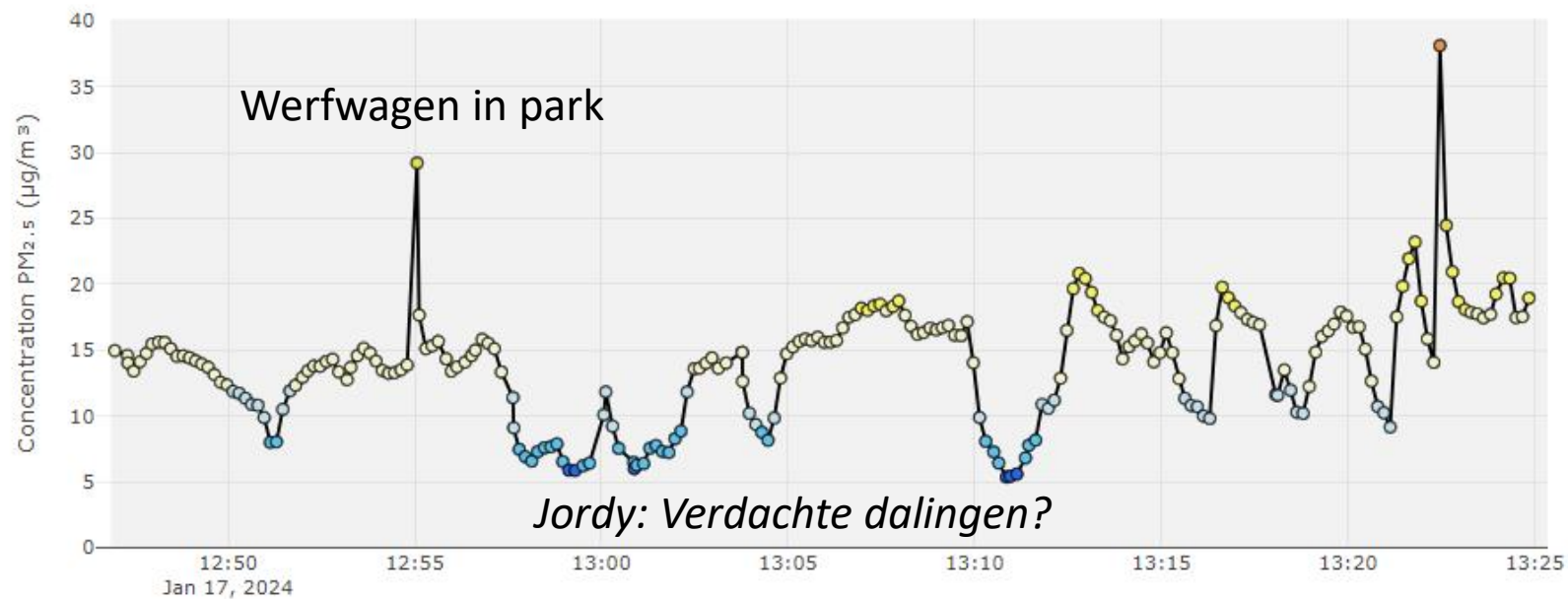
End 2024-01-17 13:24:50

Duration 37.87997 mins

Average 13.88

Median 14.24

Maximum 38.12



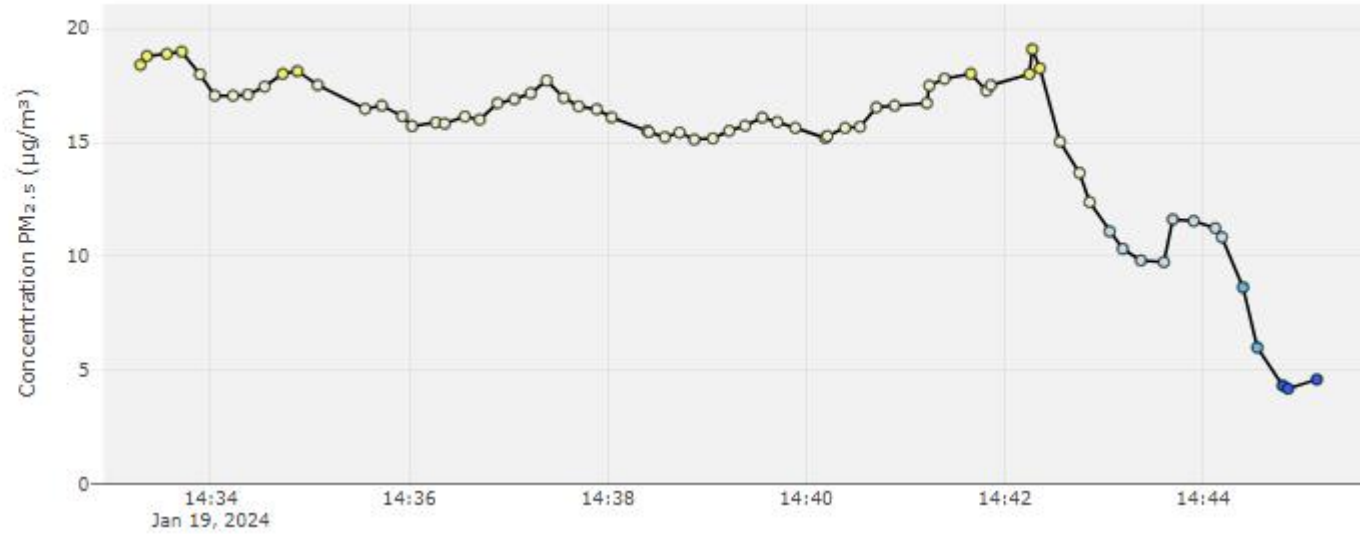
Dataframe Visualizer

Choose an IMEI:

Choose a trajectory:

Number of observations shown on map:

| | |
|----------|---------------------|
| Start | 2024-01-19 14:33:17 |
| End | 2024-01-19 14:45:08 |
| Duration | 11.85595 mins |
| Average | 15.14 |
| Median | 16.1 |
| Maximum | 19.09 |



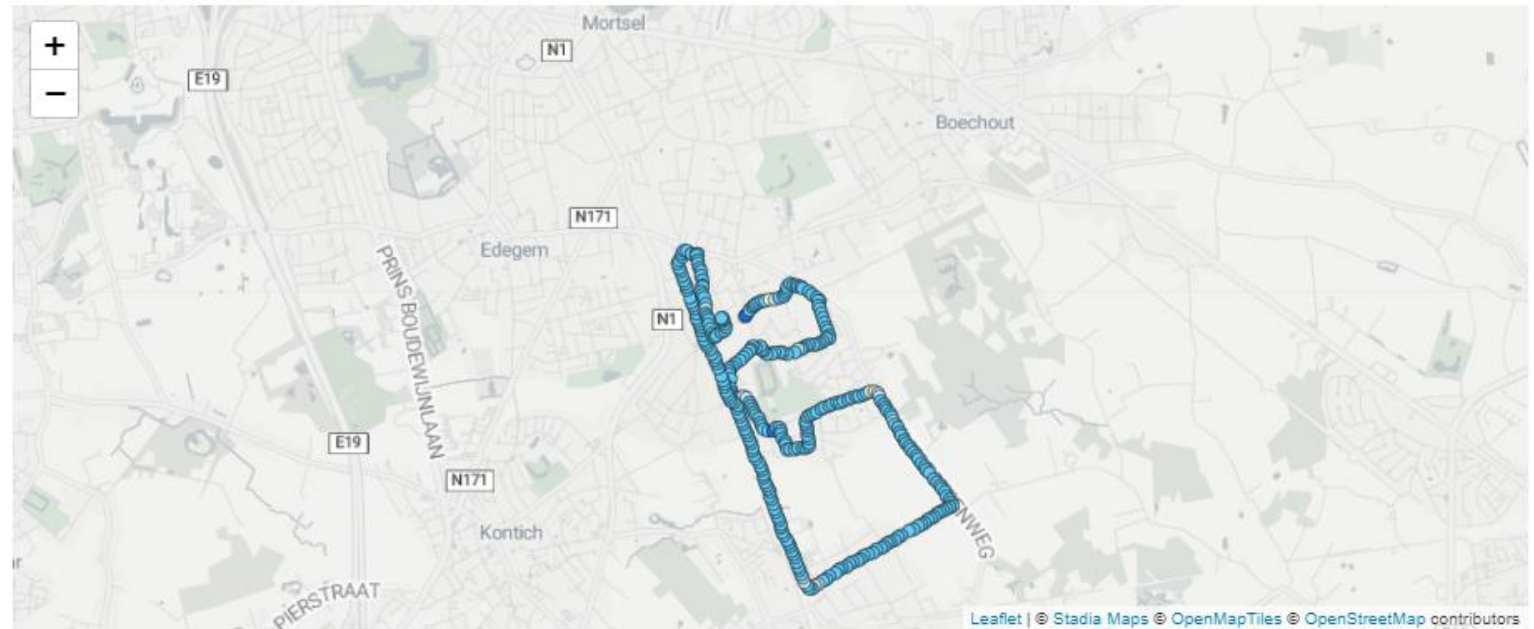
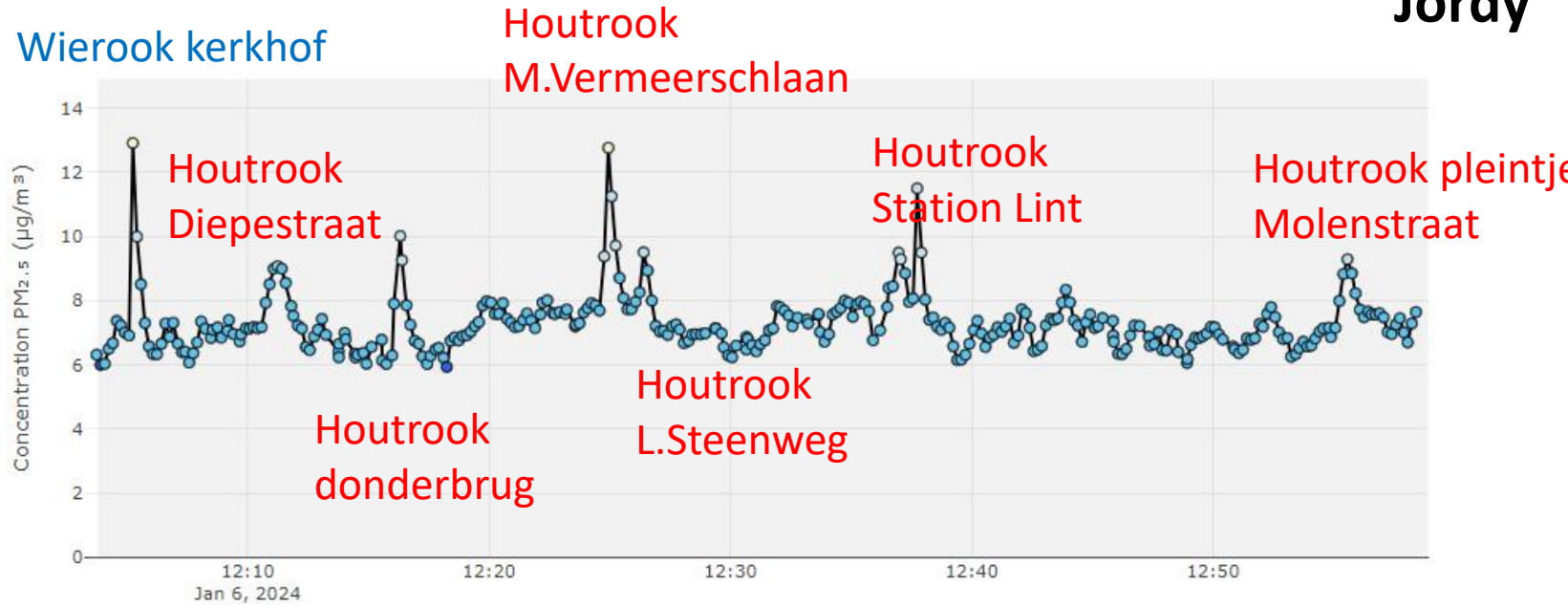
Hove Data Visualizer

Jordy

Start of trajectory:
06-01-2024 12:03

Number of observations shown on map:
1 / 323

| | |
|----------|---------------------|
| IMEI | 350457790905648 |
| Start | 2024-01-06 12:03:44 |
| End | 2024-01-06 12:58:24 |
| Duration | 54.67344 mins |
| Average | 7.28 |
| Median | 7.14 |
| Maximum | 12.9 |



Hove Data Visualizer

Start of trajectory:

10-01-2024 17:27

Number of observations shown on map:

1

122

1 14 27 40 53 66 79 92 105 118 122

IMEI 350457790905648

Start 2024-01-10 17:27:58

End 2024-01-10 17:48:28

Duration 20.50135 mins

Average 25.89

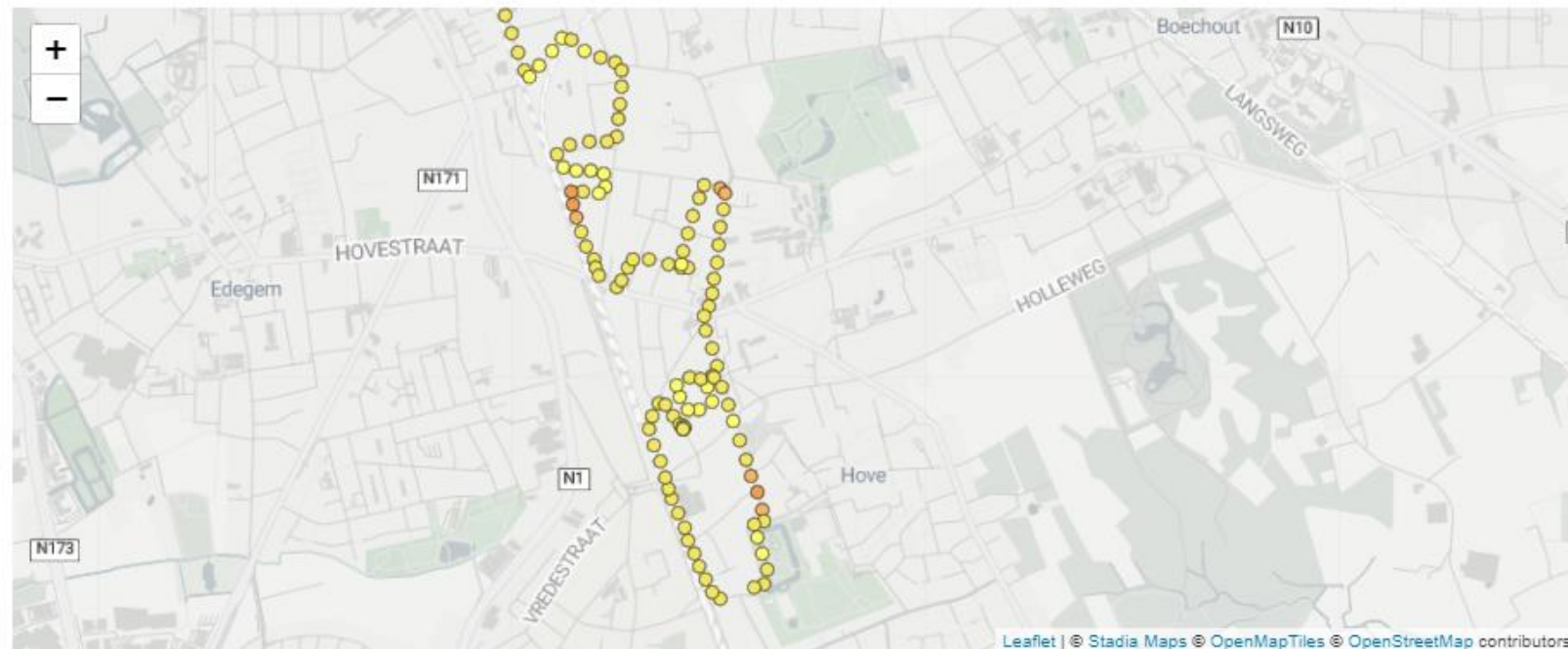
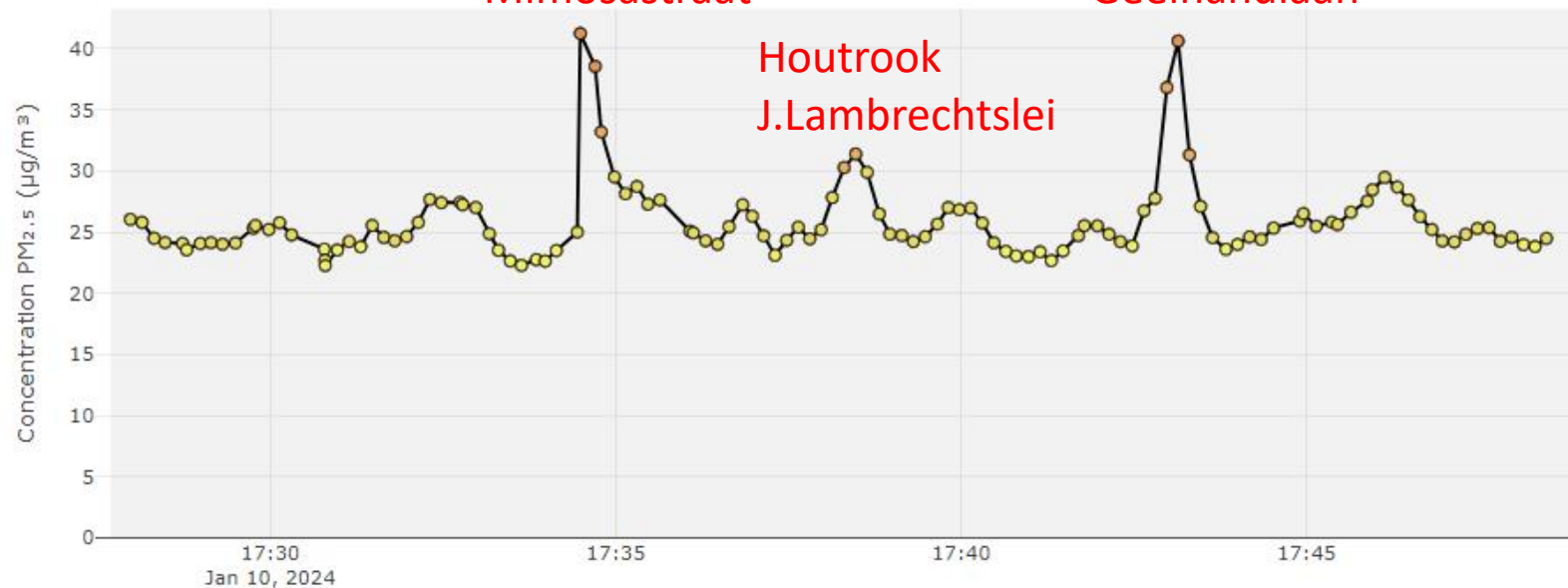
Median 25.03

Maximum 41.25

Houtrook
Mimosastraat

Houtrook
Geelhandlaan

Houtrook
J.Lambrechtslei



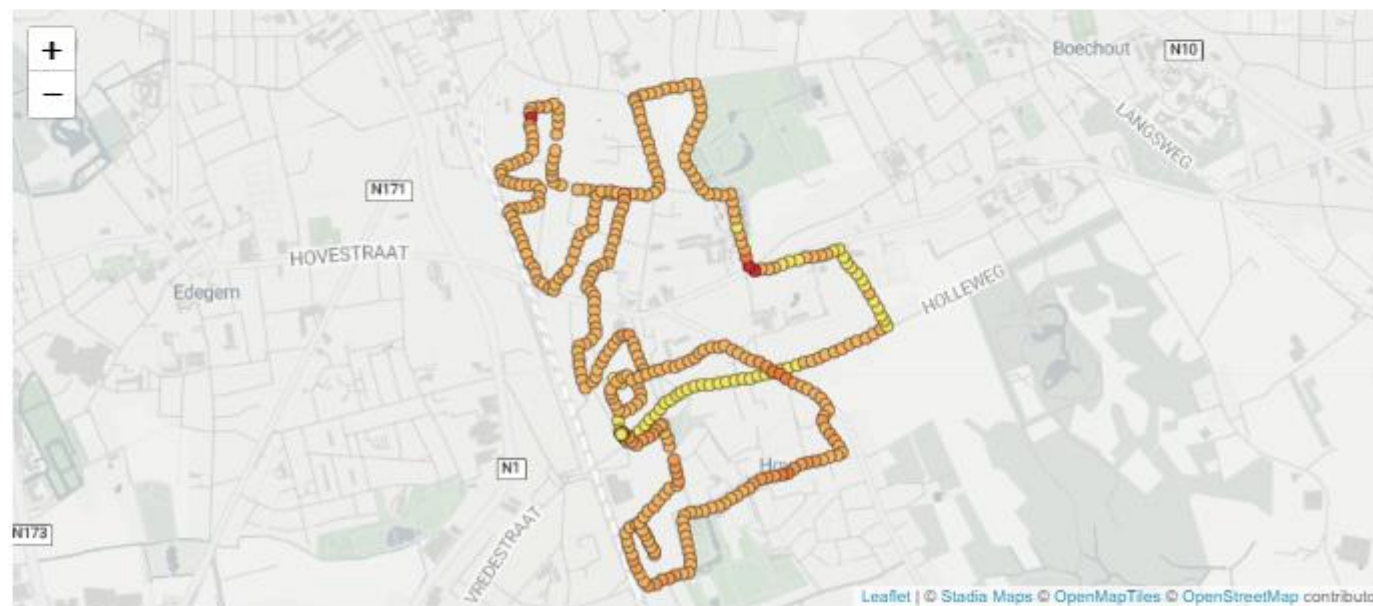
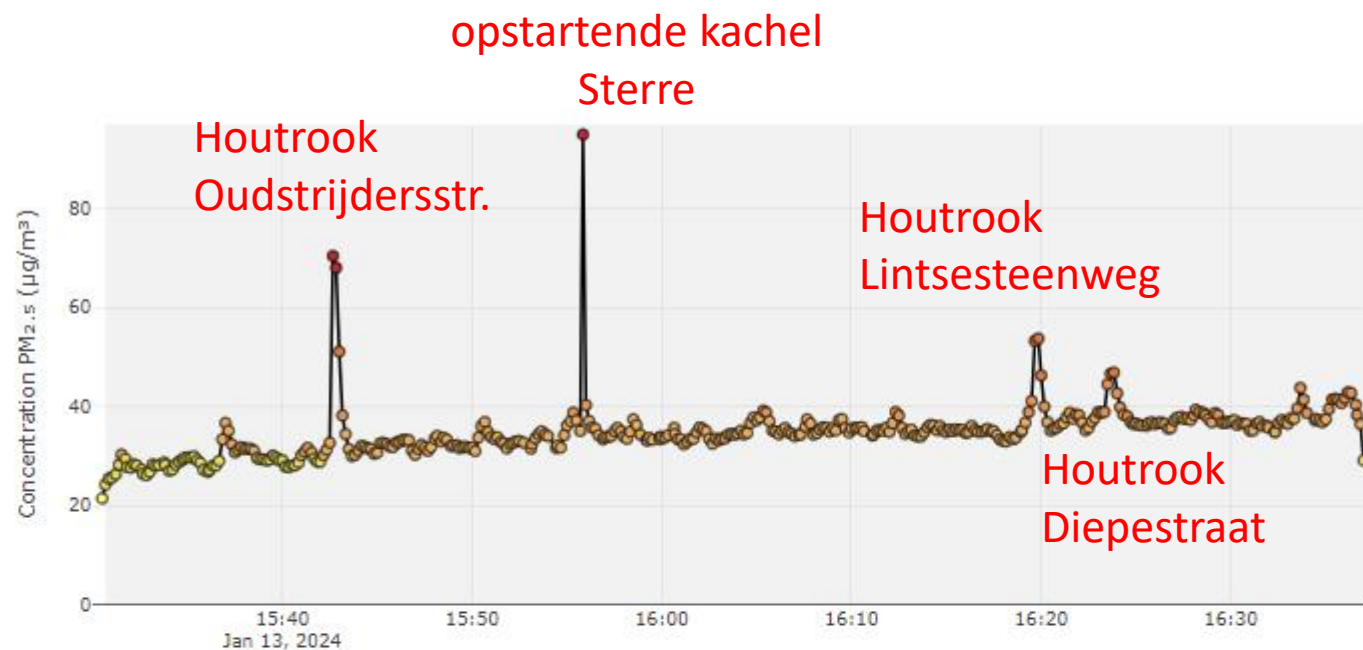
Dataframe Visualizer

Choose an IMEI:
350457790905648

Choose a trajectory:
13-01-2024 15:30

Number of observations shown on map:
1 / 396

| | |
|----------|---------------------|
| Start | 2024-01-13 15:30:30 |
| End | 2024-01-13 16:37:00 |
| Duration | 1.108288 hours |
| Average | 34.8 |
| Median | 34.86 |
| Maximum | 94.92 |



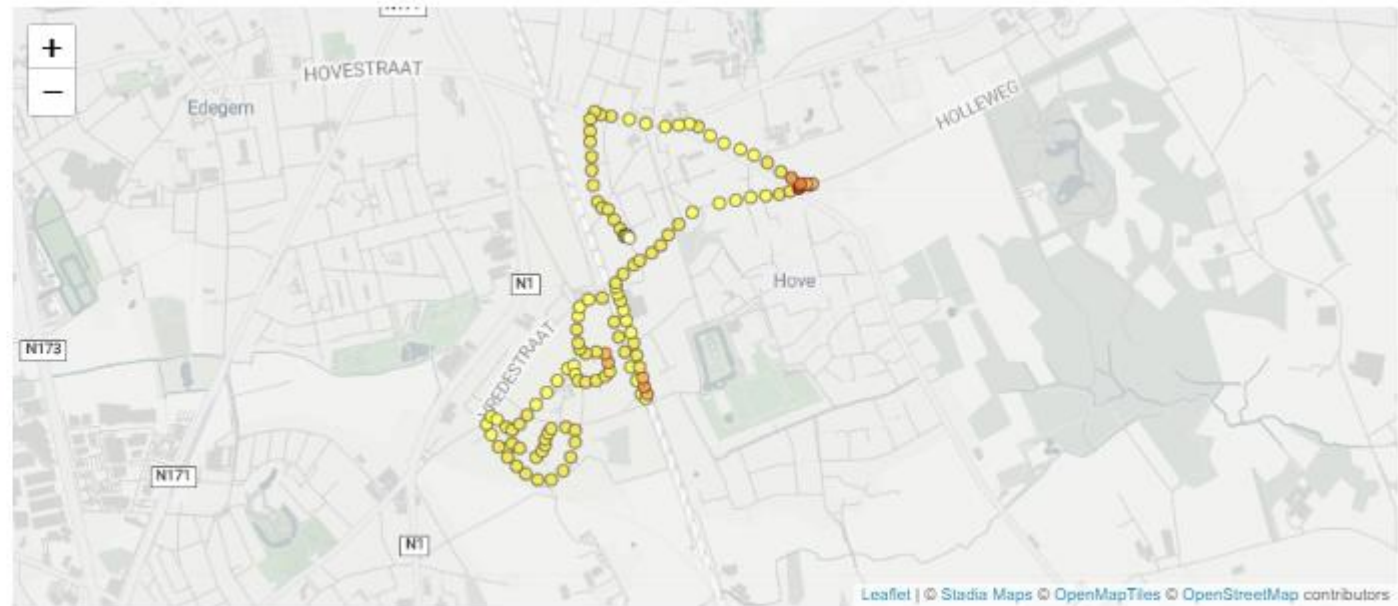
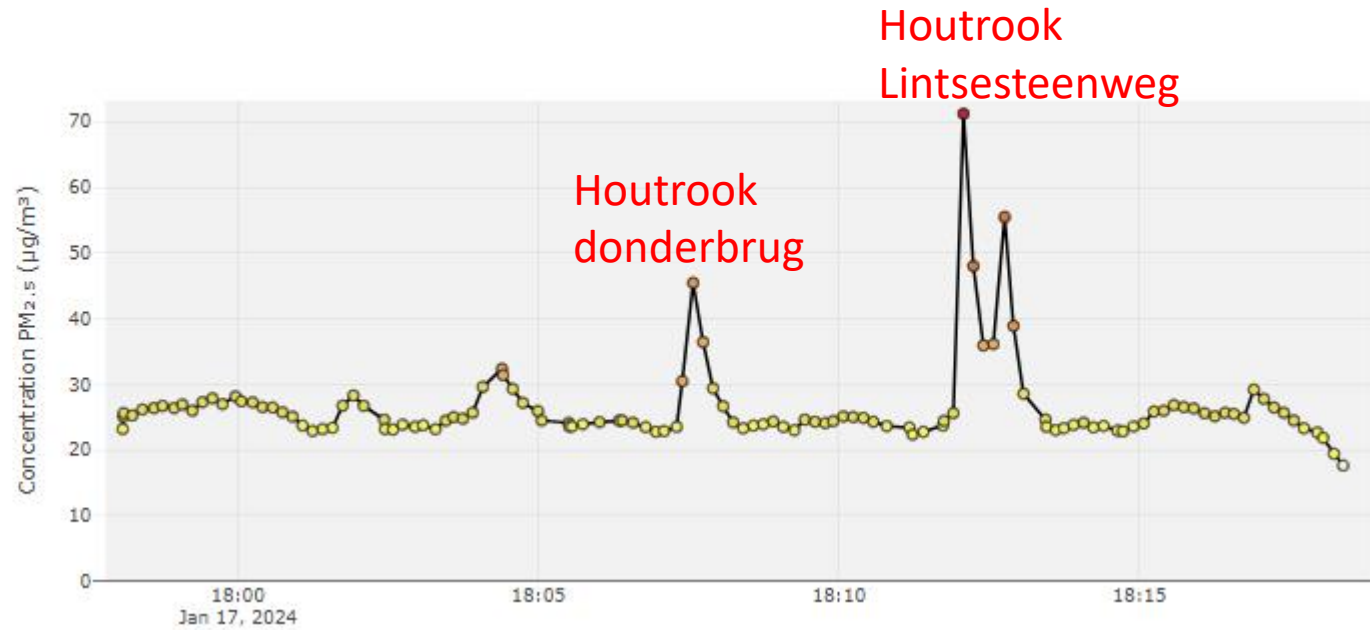
Dataframe Visualizer

Choose an IMEI:
350457790905648

Choose a trajectory:
17-01-2024 17:58

Number of observations shown on map:
123

| | |
|----------|---------------------|
| Start | 2024-01-17 17:58:04 |
| End | 2024-01-17 18:18:23 |
| Duration | 20.3104 mins |
| Average | 26.38 |
| Median | 24.65 |
| Maximum | 71.22 |



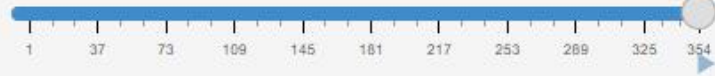
Hove Data Visualizer

Start of trajectory:

27-01-2024 15:27

Number of observations shown on map:

1



IMEI 350457790918468

Start 2024-01-27 15:27:57

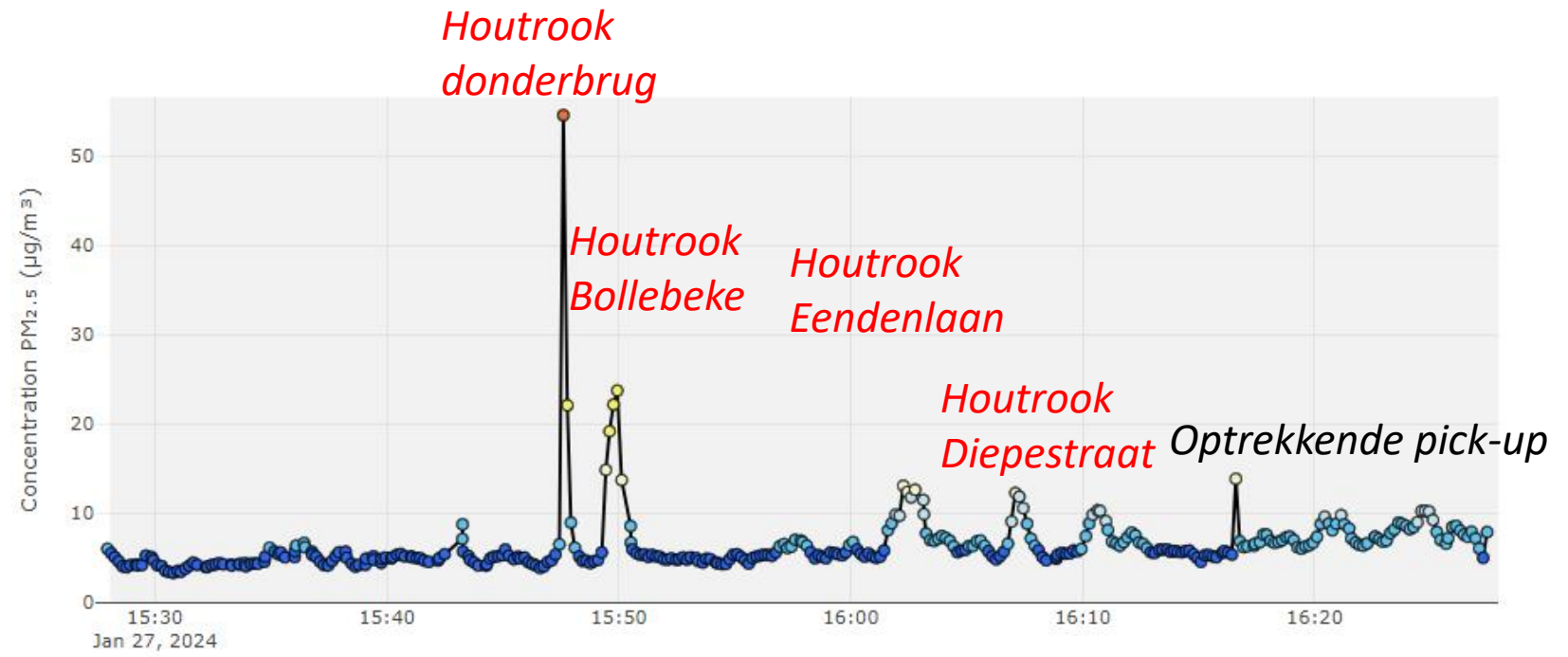
End 2024-01-27 16:27:25

Duration 59.48263 mins

Average 6.45

Median 5.63

Maximum 54.63



Houtrook bij: J.Lambrecht+Leliestraat, Fruithout, Lintsestw kruispunt, verder in J Coverlierstraat, Veldkantvoetweg, A.Rodenbachstr, Kasteelstr naast fietsostrade, boven op de brug bij tennis

Dataframe Visualizer

Choose an IMEI:
350457790918468

Choose a trajectory:
28-01-2024 18:28

Number of observations shown on map:
1 348

Start: 2024-01-28 18:28:57

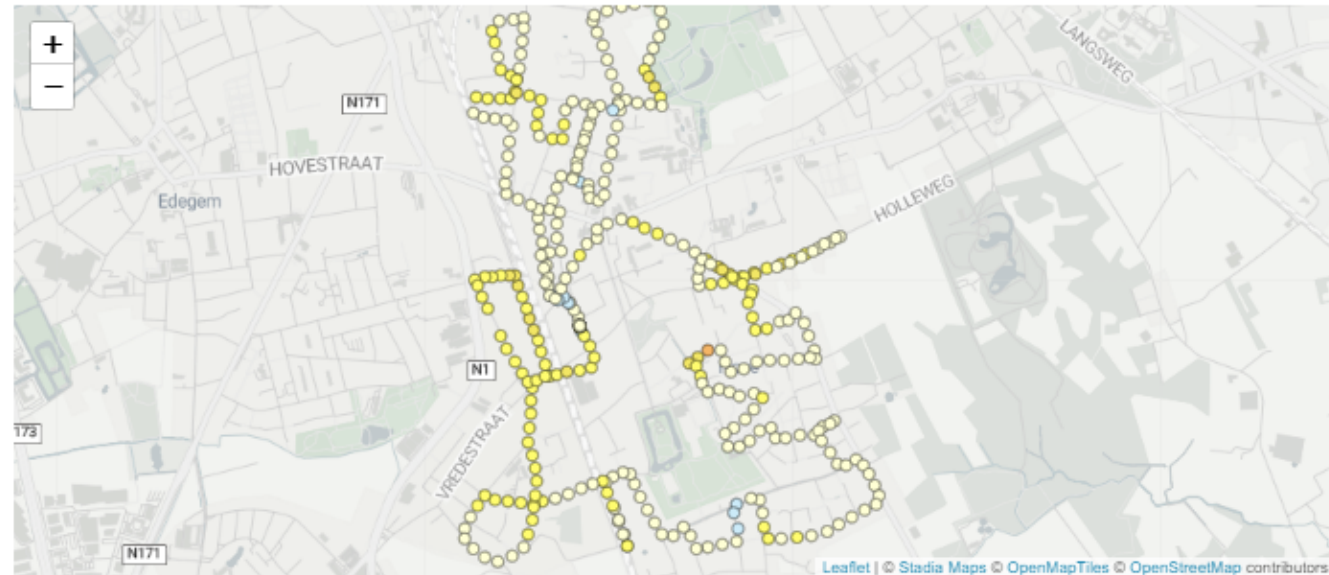
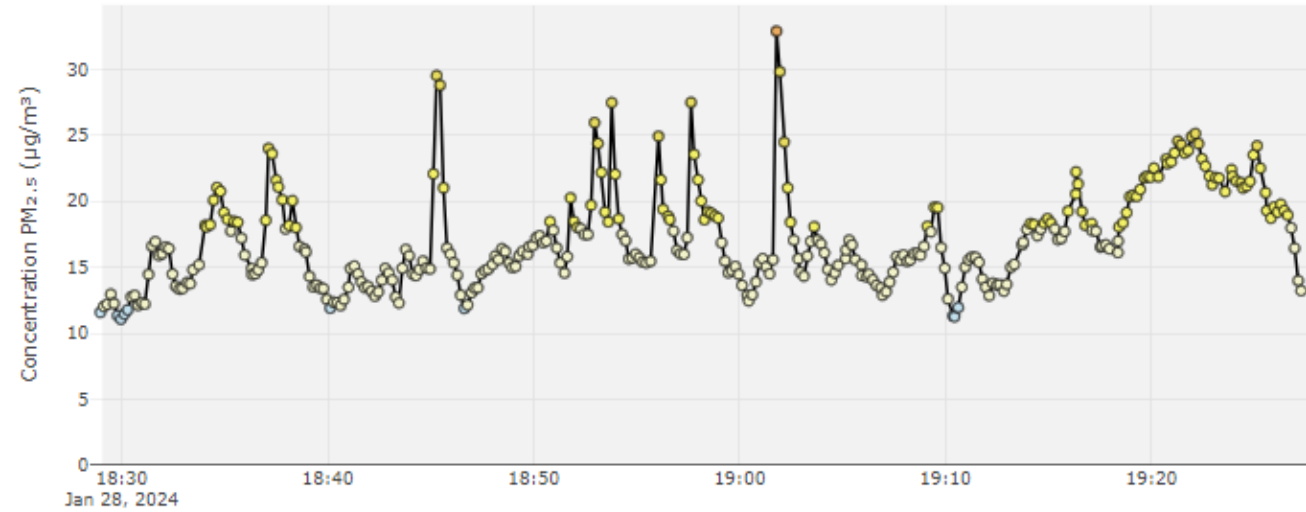
End: 2024-01-28 19:27:16

Duration: 58.31345 mins

Average: 17.09

Median: 16.37

Maximum: 32.91



Dataframe Visualizer

Choose an IMEI:
350457790918468

Choose a trajectory:
30-01-2024 18:16

Number of observations shown on map:
1 34

| | |
|----------|---------------------|
| Start | 2024-01-30 18:16:56 |
| End | 2024-01-30 18:22:35 |
| Duration | 5.643065 mins |
| Average | 9.09 |
| Median | 8.62 |
| Maximum | 14.35 |

Houtrook vanaf
pleintje Molenstraat

