NOISE

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Noise in September

- Excel file of September (all sensors are included)

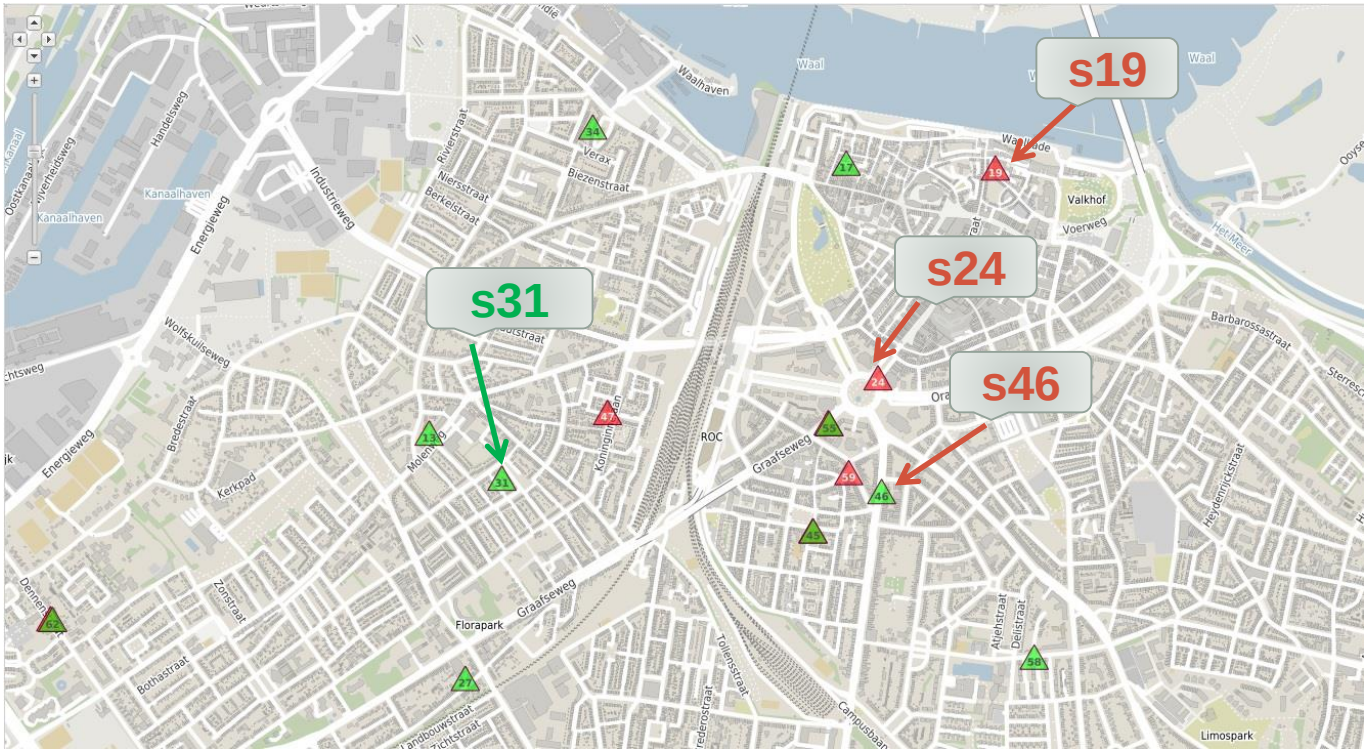
  except from 25, 14, 36, 63 and 47 that did not give data for this month

  - ‘Raw Values’ of the noise of each sensor during the day.
  - Overview of your own sensor
  - Notice Fluctuations/ Stability
  - Easy comparisons
    - Between the sensors
    - Between different areas
    - Between different periods of time

  - Aim: to identify what the data tells us.
    - Working procedure: 1st look at data, 2nd interpretation.

Most quiet – Most noisy

- Most quiet sensor: **S31**
- Most noisy sensor: **S46, S24, S19**



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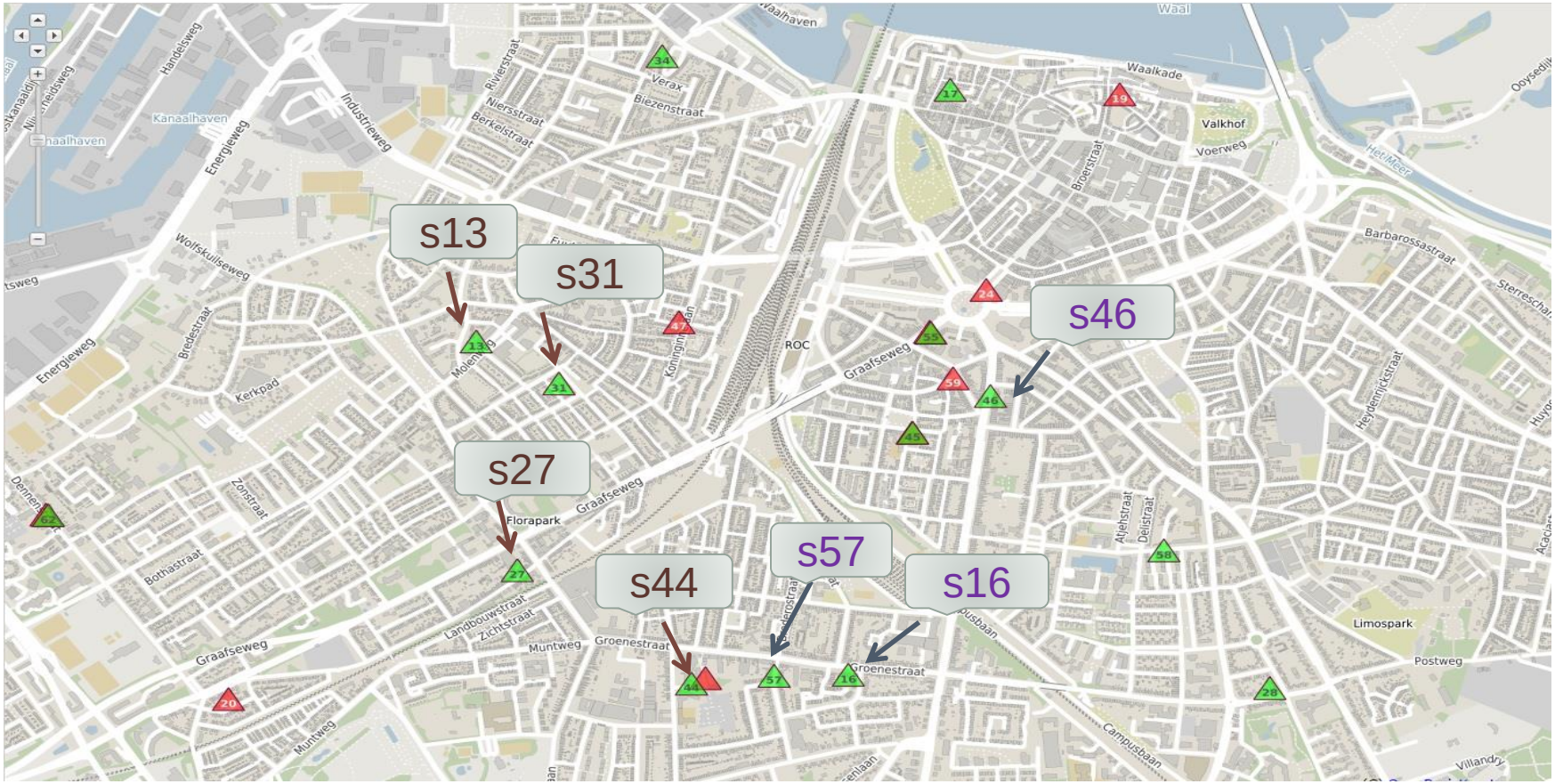
Note: is located at the backyard of the house

Stability – Fluctuations

- most stable level, with the smallest fluctuations: **s31, s27, s13, s44**
- Biggest fluctuations: **s46, s57, s16**



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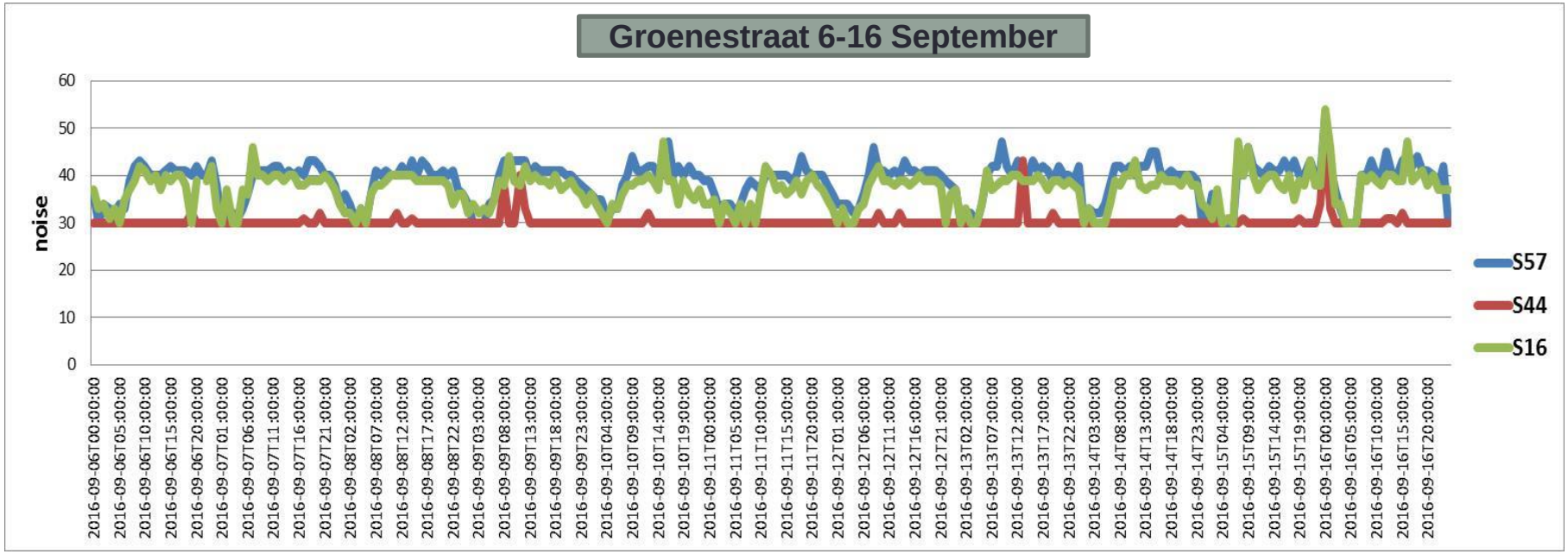
Patterns - Groenestraat

- S16 and S57 give almost same values and appears similar patterns
  - So we can see **similar traffic patterns**.
- S16 and S57 appears values that are above 40 for long periods of time during a day.



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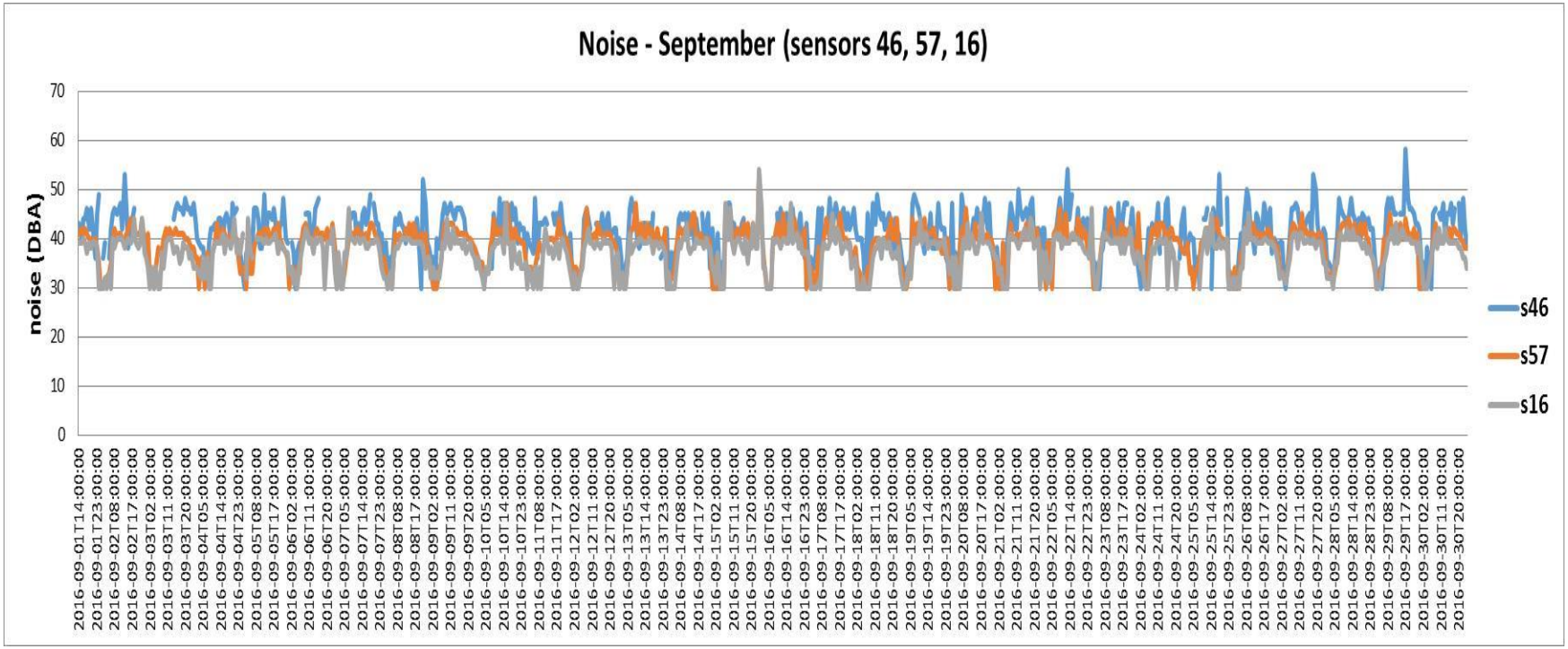
Patterns Groenestraat and Sint Annastraat

- Sint Annastraat (s46) has similar patterns with Groenestraat (s16 and s57), but gives higher values on average.



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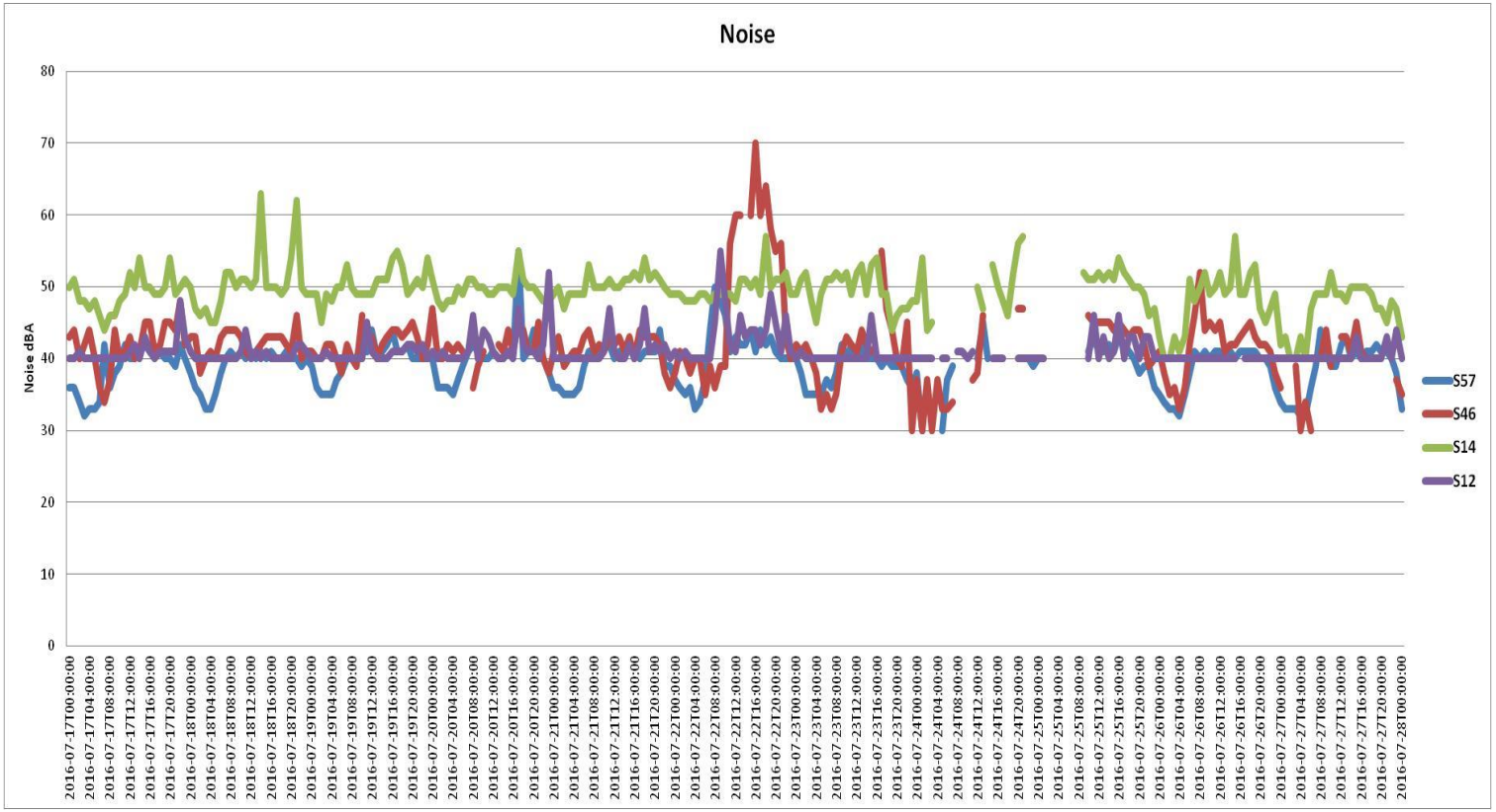
Noise in Vierdaagsefeesten



- S14 (Graafseweg): highest values
- S57 (Marterstraat) and S12 (Ruyterstraat): lowest values
- S46 (Sint Annastraat) : high peak point

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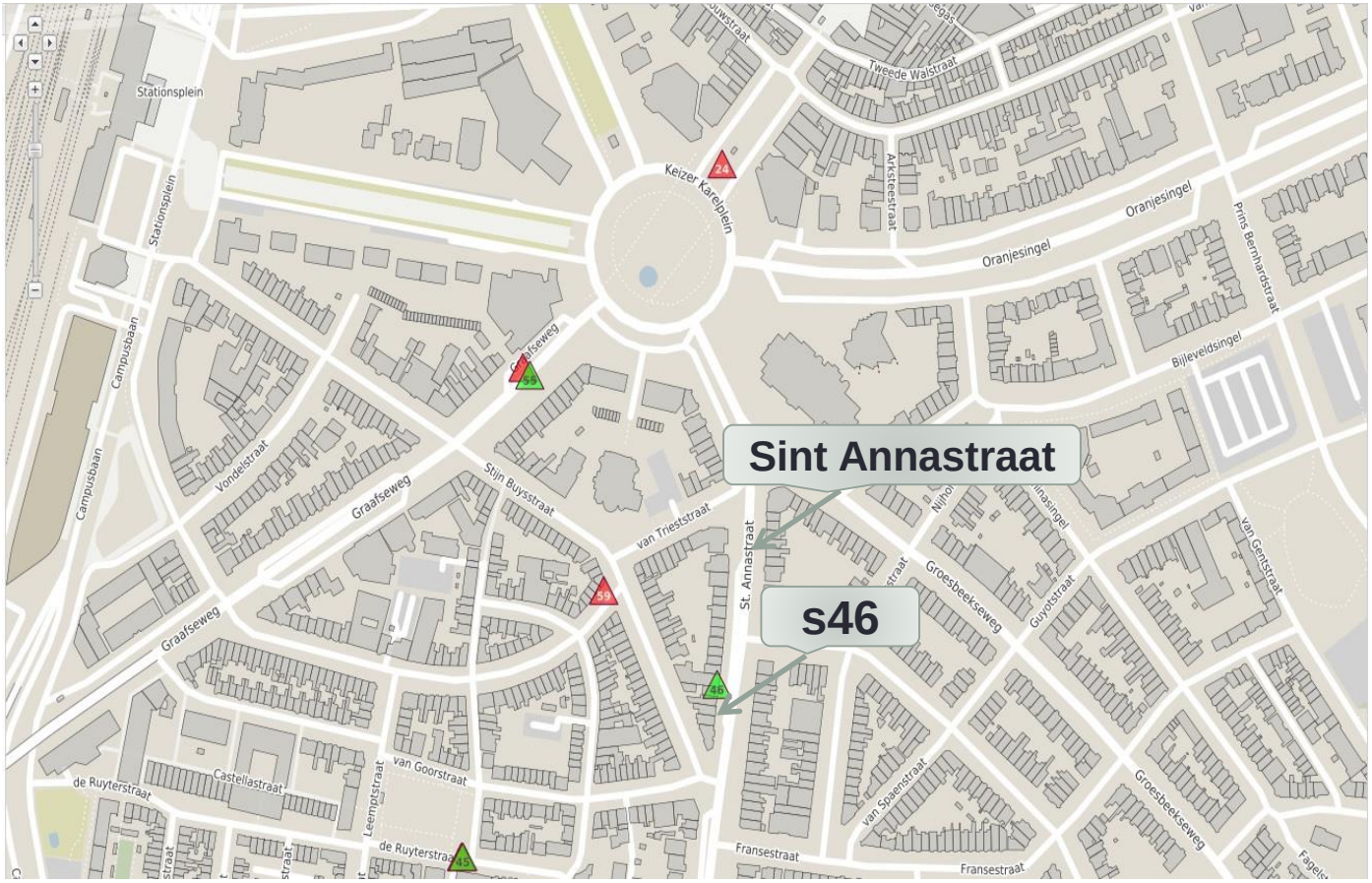
S46 in Vierdaagsefeesten

- Stage nearby Sint Annastraat 22nd July 10:00-18:00.



S46	
time (22-7-2016)	noise (dBA)
0:00:00	38
1:00:00	41
2:00:00	40
3:00:00	38
4:00:00	40
5:00:00	40
6:00:00	35
7:00:00	39
8:00:00	36
9:00:00	39
10:00:00	39
11:00:00	56
12:00:00	60
13:00:00	60
14:00:00	
15:00:00	60
16:00:00	70
17:00:00	60
18:00:00	64
19:00:00	58
20:00:00	55
21:00:00	56
22:00:00	43
23:00:00	40

The table shows clearly the dB(A) levels of sensor 46 during the day of 22nd July. The highest values of the day are marked with red colour and are apparently related with Vierdaagse festival.

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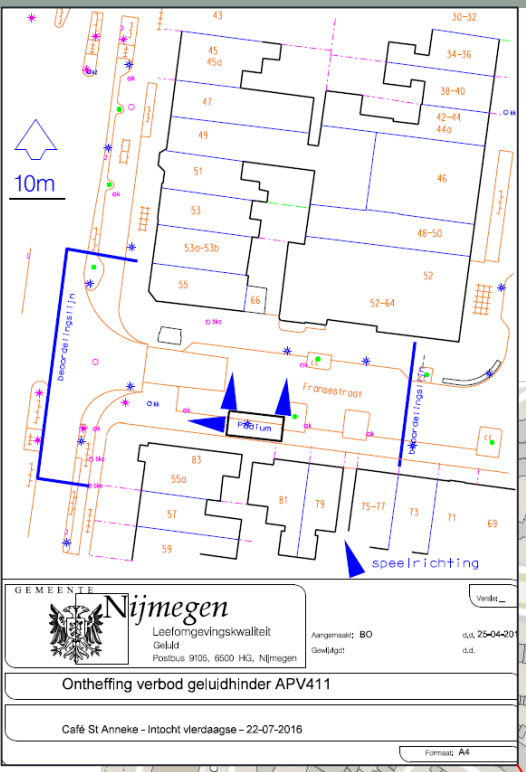
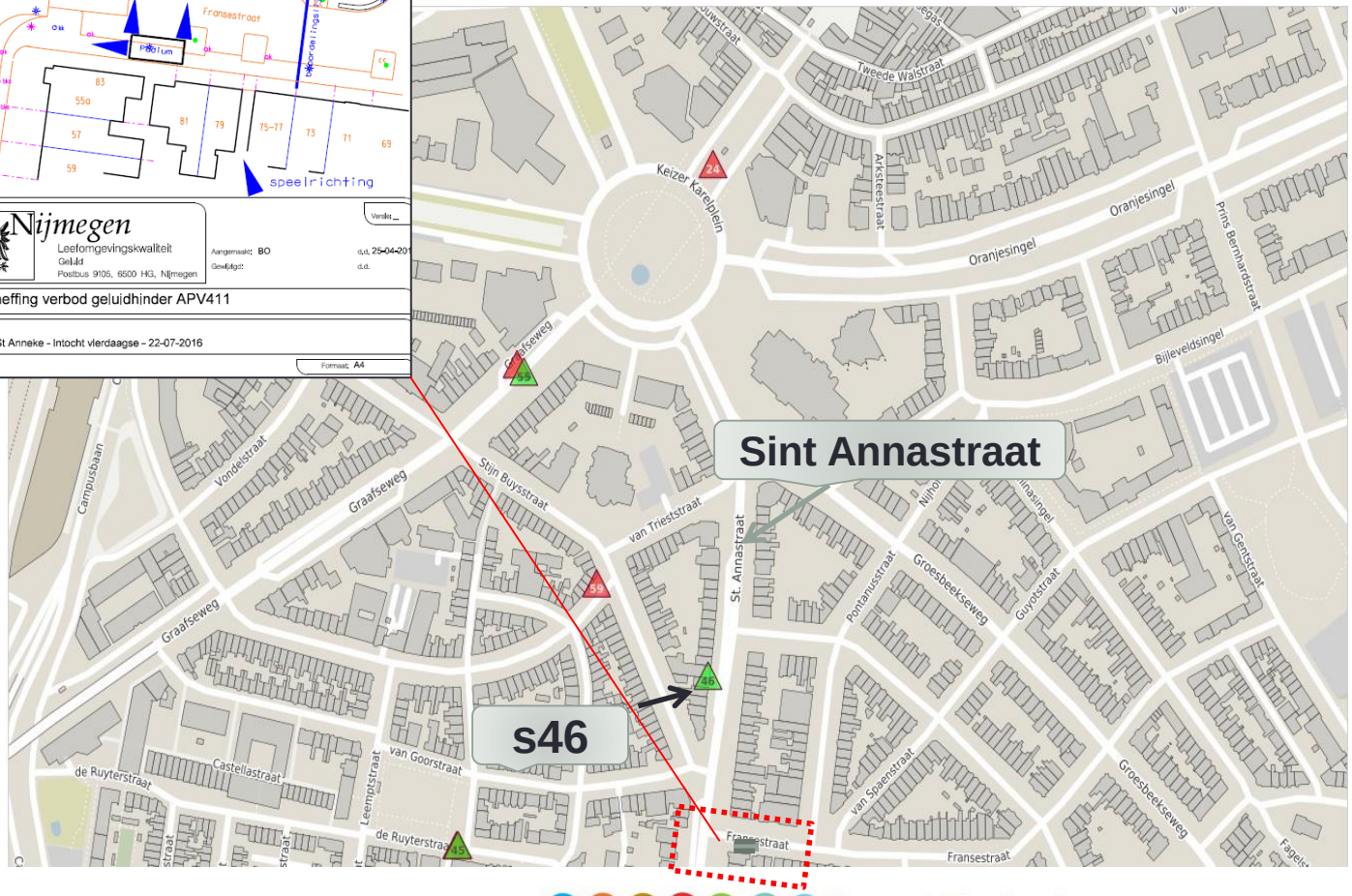
Vierdaagsefeesten

- **License rules, tekst volgens de vergunning:**
"Geluidsinstallaties ten behoeve van via elektronische weg versterkte muziek (geen live optredens; geen (bedrijfs-) reclame) mogen worden gebruikt op:
vrijdag 22 juli 2016 van 10:00 tot 18:00 uur."





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Conclusions

- Data: Similar noise patterns during the whole month of September at **Groenestraat.**
- Data interpretation: We interpret this as **similar traffic patterns**.

- Data interpretation: The most **noisy** areas (according to *raw sensor data*) of the month of September are all located in the **city center**.

- Data analysis: The smart emission sensor network seems to be able to track **differences in space and time** in terms noise load levels during '**events**' in the city center, in this case the Vierdaagse festival.

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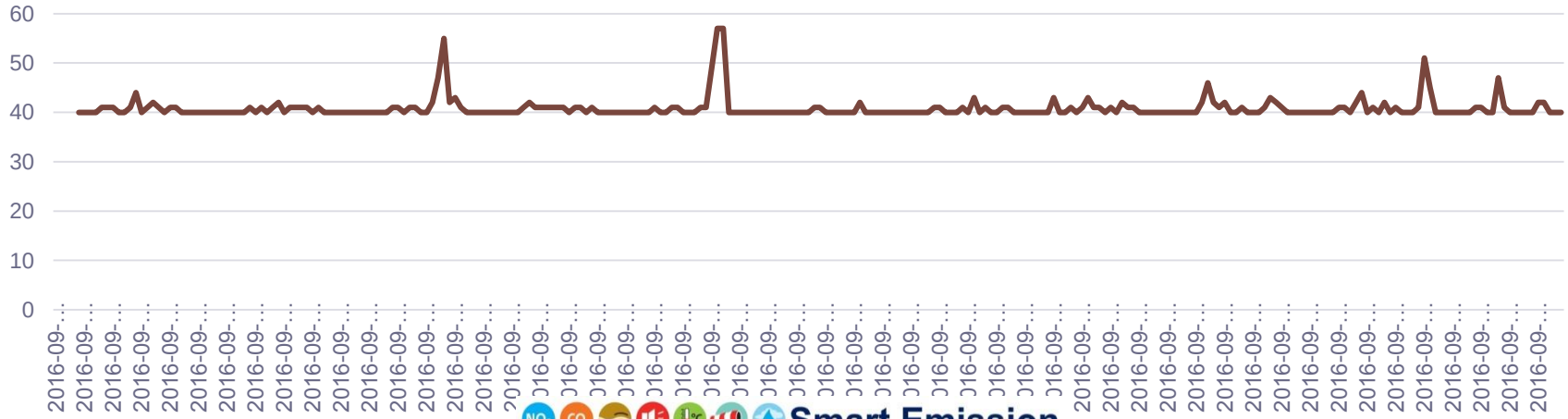
Conclusions

High peak points on:

- Thursday 8/9/2016 18:00-23:00
- Saturday 10/9/2016 19:00-22:00
- Friday 16/9/2016 23:00-02:00

S12



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Suggestion for further study

- Further study on calibrating sensors for noise. Suggestion: add noise measurement equipment at few sensor locations.

- The **Excelfile** could be analyzed in more **detail**. This data is provided to the citizens and projectteam members for purposes of more **analysis and interpretation.**

- Analyzing city dynamics: Comparison between other **Thursdays, Fridays and Saturdays** of the year

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Thank you