

# CODECHECK certificate 2024-020

<https://doi.org/10.5281/zenodo.14278912>










Item	Value
Title	Describing the scale and composition of calls for police service: a replication and extension using open data
Authors	Samuel Langton  , Stijn Ruiter  , Tim Verlaan 
Reference	<a href="https://doi.org/10.1080/15614263.2022.2102494">https://doi.org/10.1080/15614263.2022.2102494</a>
Codechecker	Joey Tang  , Max Reichert  , Flora Zhou  , Eduard Klapwijk 
Date of check	2024-11-28 14:00:00
Summary	Downloaded the data and ran the necessary R scripts to generate the figures.
Repository	<a href="https://github.com/codecheckers/codecheck_LangtonRuiterVerlaan2022/">https://github.com/codecheckers/codecheck_LangtonRuiterVerlaan2022/</a>

Table 1: CODECHECK summary

Output	Comment	Size (b)
results/table1_des_stats_tos.csv	table 1	232
results/table2_des_stats_tos.csv	table 2	230
visuals/fig2_lorenz_demands.png	figure 2	200771
visuals/fig3_time_heat_tos_revised.png	figure 3	413835
visuals/fig4_maps_tos.png	figure 4	1459683
visuals/fig5_maps_counts.png	figure 5	1442966
visuals/fig6_histogram_mins_tos.png	figure 6	950612

Table 2: Summary of output files generated

## Summary

This codecheck was completed at the November 2024 CODECHECK workshop in Rotterdam. The lead author of the paper was present to help answer any questions about the project.

## CODECHECKER notes

- instruct people to create the data folder
- renv doesn't install all packages successfully, but those can be fixed by running `install.packages("x")` manually on the ones that do not work.
  - nlme package did not install with renv
  - ggspatial failed
  - Error installing package 'KernSmooth' on Mac OS
  - sf also failed. At that point, nothing afterwards is installed.
  - installing manually means that those will be the most recent versions, and maybe not those in the lockfile.
- `fig3_time_heat_tos.png` is not created by the scripts, but this is actually Figure 3 in the paper. It seems to be that the first column of `fig3_time_heat_tos.png` ended up at the last column in `fig3_time_heat_tos_revised.png`. Apart from that, figure `fig3_time_heat_tos_revised.png` (which we reproduced) is identical to Figure 3 in the table
  - could be related to this (`round_date` function changing behaviour) But not sure.
- `table1` revisions and `table2` revisions are not created by the scripts
- are the above actually used in the paper? This needs checking.
- `cs1` and `bib` docs are referred to in the markdown, but they do not exist on the repository. `cs1` has to be deleted for the markdown to knit.
- the `rmarkdown` knits to pdf but there are no instructions on how to make pdf knit, so it should probably knit it to html.
- the lorenz plot is too big the pdf, it goes off the end of the page. This would be fixed with using html format too.

This took 30 minutes to complete on my laptop.

## Recommendations

## Manifest files

table1\_des\_stats\_tos.csv

Summary statistics of tabular data:

```
-- Data Summary -----
Name                Values
Number of rows      read.csv(path)
Number of columns    7
                    4
-----
Column type frequency:
character            1
numeric              3
-----
Group variables      None

-- Variable type: character -----
skim_variable n_missing complete_rate min max empty
1 Demand.type      0              1  5 15  0
n_unique whitespace
1              7              0

-- Variable type: numeric -----
skim_variable  n_missing complete_rate  mean    sd
1 Count          0              1 36969. 37723.
2 Count...        0              1  14.3  14.6
3 Time.on.scene... 0              1  14.3  17.2
p0    p25    p50    p75    p100 hist
1 7135 15064. 19873 43424. 114800
2  2.76  5.82  7.68  16.8  44.4
3  2.25  4.47  7.1  15.1  51.4
```

table2\_des\_stats\_tos.csv

Summary statistics of tabular data:

```
-- Data Summary -----
Name                Values
Number of rows      read.csv(path)
Number of columns    6

-----
Column type frequency:
character            1
numeric              5

-----
Group variables      None

-- Variable type: character -----
skim_variable n_missing complete_rate min max empty
1 Demand.type    0             1  5 15  0
n_unique whitespace
1              6             0

-- Variable type: numeric -----
skim_variable n_missing complete_rate mean sd p0
1 Mean         0             1 41.0 10.6 28.4
2 Median       0             1 25.0 5.86 16.5
3 Min.         0             1  0.1  0   0.1
4 Max.         0             1 904. 45.7 848.
5 SD           0             1 51.8 10.2 41.1
  p25  p50  p75  p100 hist
1 32.9 40.4 48.5 55
2 20.9 26.8 29.8 30.4
3  0.1  0.1  0.1  0.1
4 889. 899. 906. 987
5 45.8 47.7 60.1 65
```

fig2\_lorenz\_demands.png

Comment: figure 2

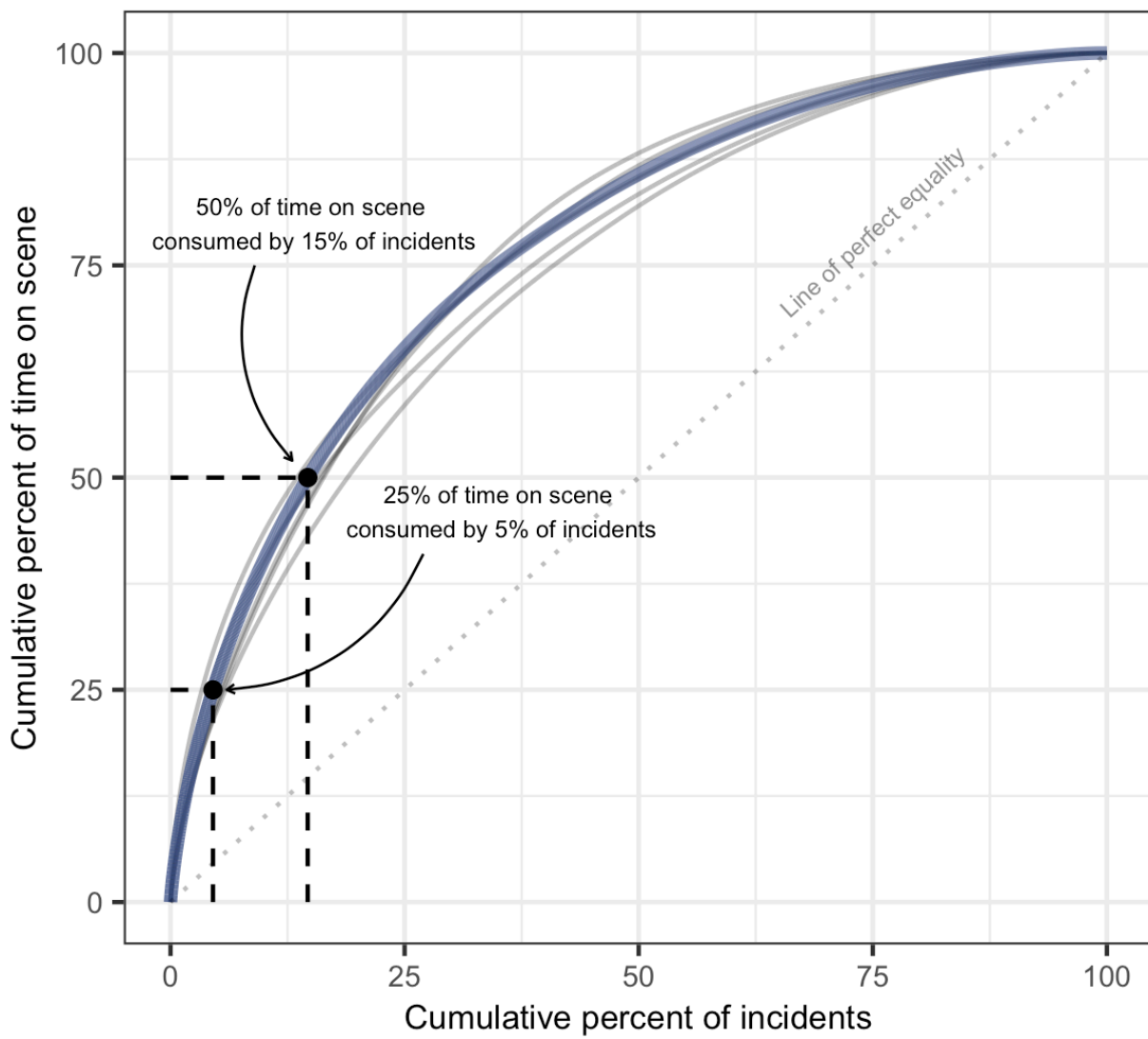
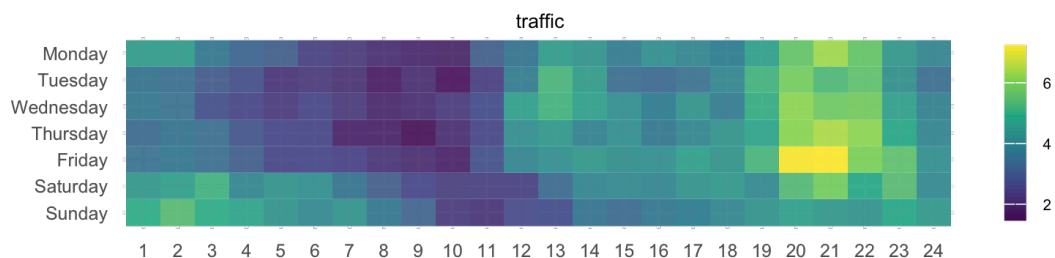
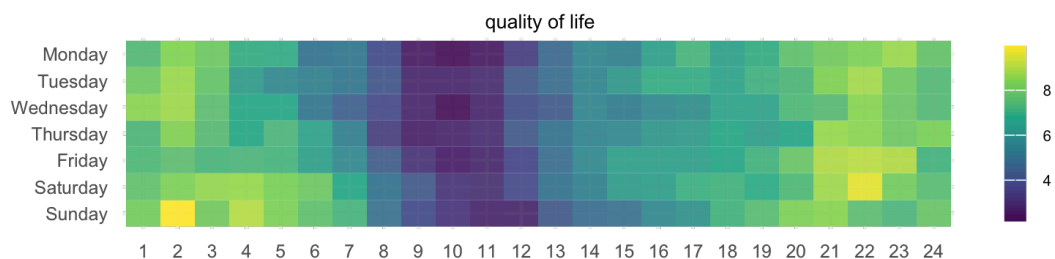
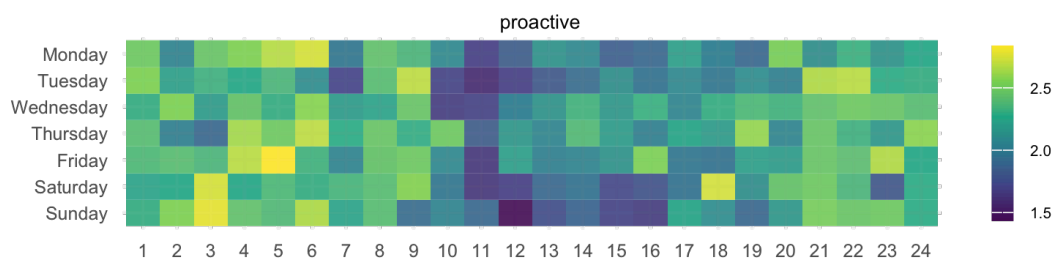
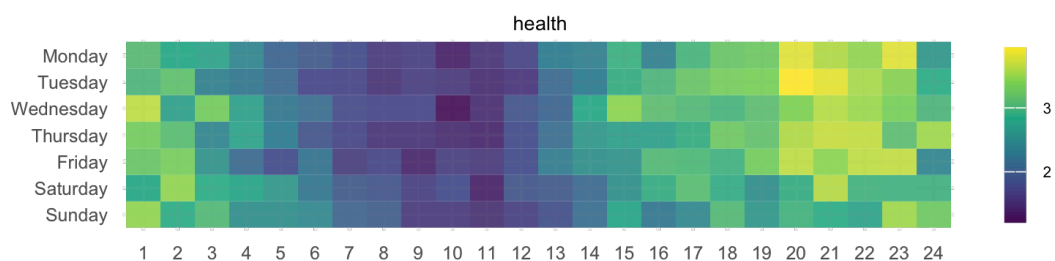
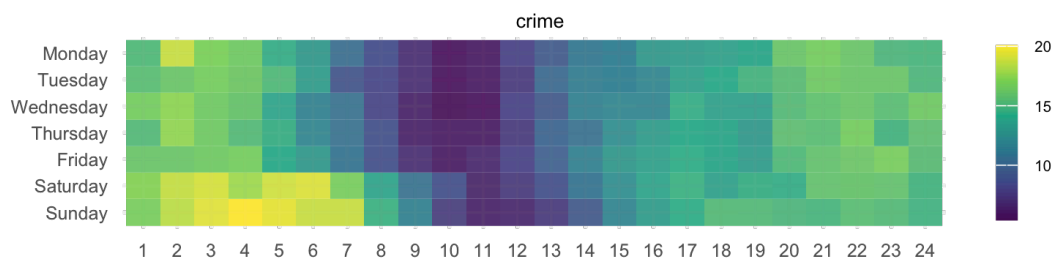
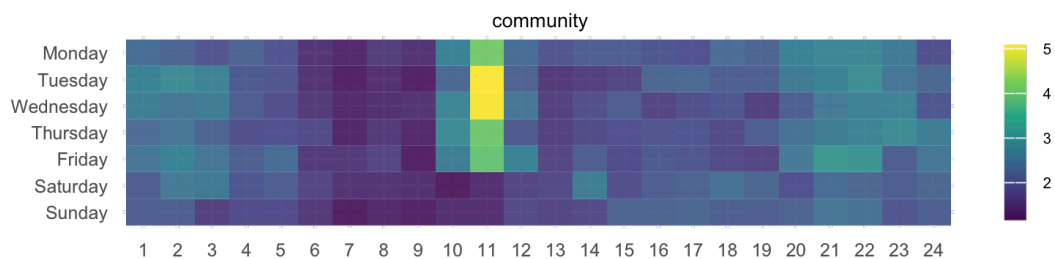


fig3\_time\_heat\_tos\_revised.png

Comment: figure 3



hours of the day

fig4\_maps\_tos.png

Comment: figure 4

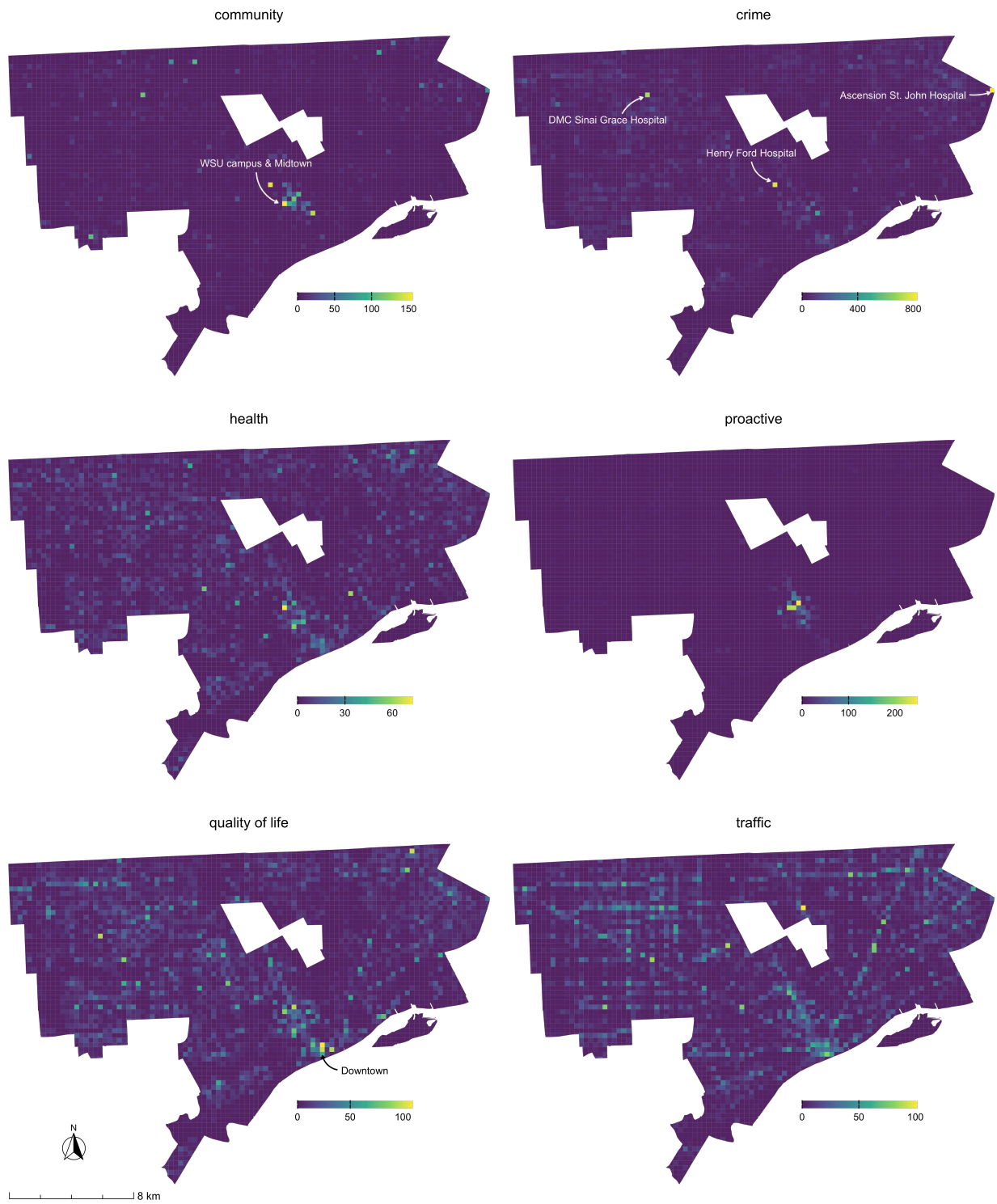




fig5\_maps\_counts.png

Comment: figure 5

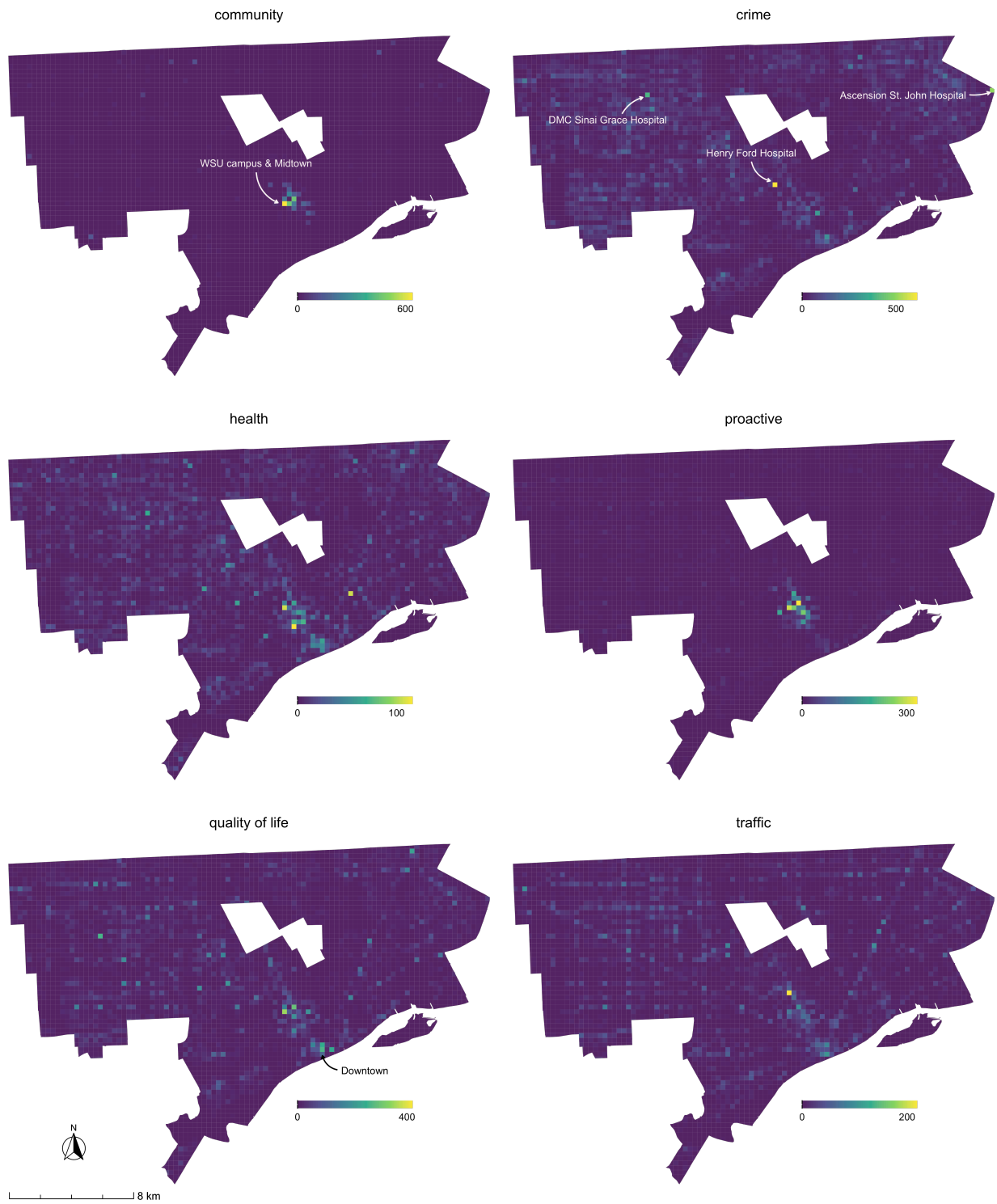
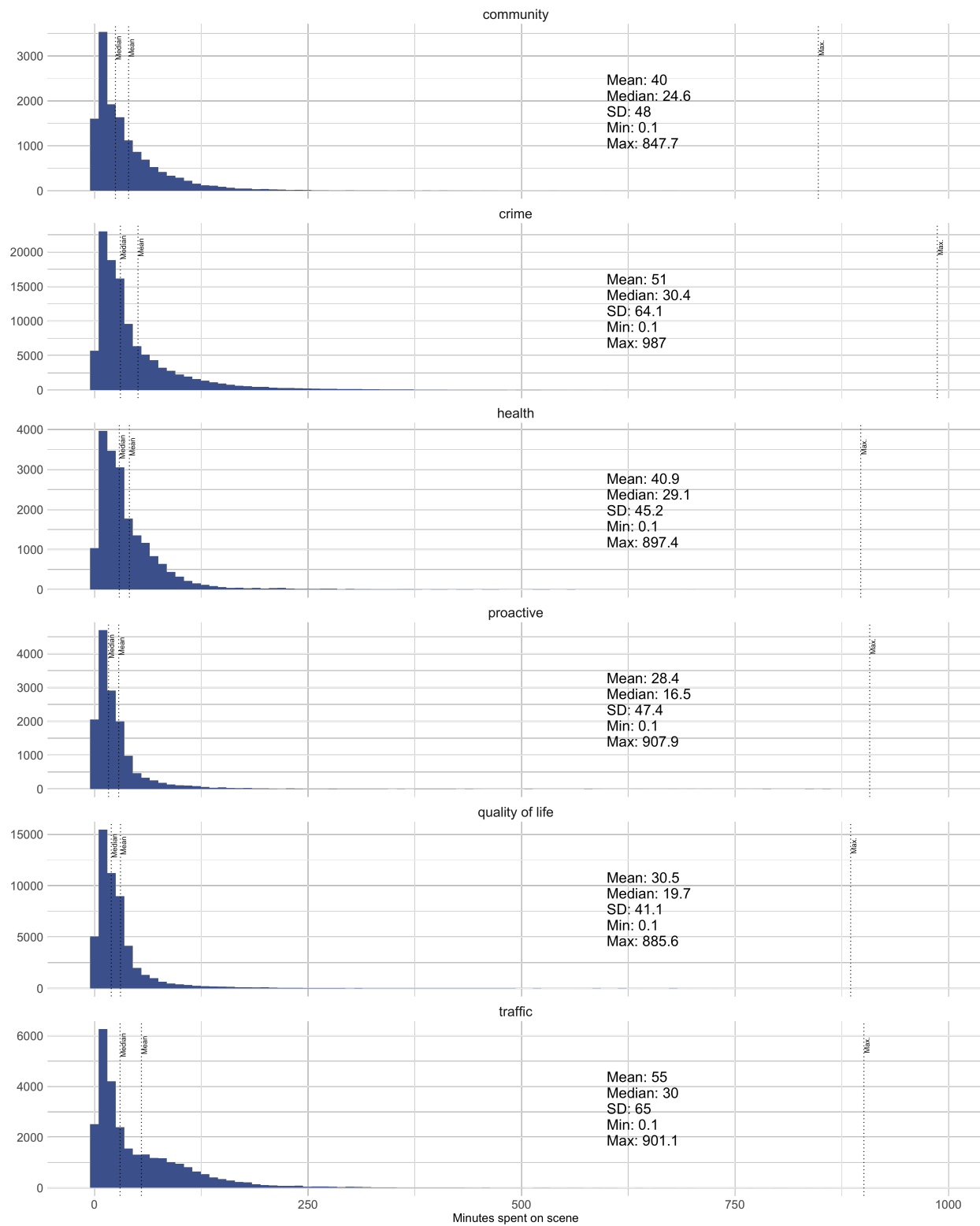


fig6\_histogram\_mins\_tos.png

Comment: figure 6



## Acknowledgements

We would like to acknowledge NWO for funding the CHECK-NL project, and enabling the workshop at Rotterdam.

## Citing this document

Joey Tang, Max Reichert, Flora Zhou, Eduard Klapwijk (2024). CODECHECK Certificate 2024-020. Zenodo. <https://doi.org/10.5281/zenodo.14278912>

## About CODECHECK

This certificate confirms that the codechecker could independently reproduce the results of a computational analysis given the data and code from a third party. A CODECHECK does not check whether the original computation analysis is correct. However, as all materials required for the reproduction are freely available by following the links in this document, the reader can then study for themselves the code and data.

## About this document

This document was created using R Markdown using the `codecheck` R package. `make codecheck.pdf` will regenerate the report file.

```
sessionInfo()
```

```
## R version 4.4.2 (2024-10-31)
## Platform: aarch64-apple-darwin24.1.0
## Running under: macOS Sequoia 15.1.1
##
## Matrix products: default
## BLAS: /opt/homebrew/Cellar/openblas/0.3.28/lib/libopenblas-r0.3.28.dylib
## LAPACK: /opt/homebrew/Cellar/r/4.4.2_2/lib/R/lib/libRlapack.dylib; LAPACK version 3.12.0
##
## locale:
## [1] en_GB.UTF-8/en_GB.UTF-8/en_GB.UTF-8/C/en_GB.UTF-8/en_GB.UTF-8
##
## time zone: Europe/London
## tzcode source: internal
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets
## [6] methods    base
##
## other attached packages:
## [1] readr_2.1.5      tibble_3.2.1      xtable_1.8-4
## [4] yaml_2.3.10      rprojroot_2.0.4   knitr_1.49
## [7] codecheck_0.11.4 parsedate_1.3.1   R.cache_0.16.0
## [10] gh_1.4.1
##
## loaded via a namespace (and not attached):
## [1] xfun_0.49      rdflib_0.2.9      tzdb_0.4.0
## [4] vctrs_0.6.5    tools_4.4.2       generics_0.1.3
## [7] curl_6.0.1     parallel_4.4.2    fansi_1.0.6
## [10] pkgconfig_2.0.3 pdftools_3.4.1    R.oo_1.27.0
## [13] skimr_2.1.5     redland_1.0.17-18 assertthat_0.2.1
```

```

## [16] lifecycle_1.0.4    compiler_4.4.2    atom4R_0.3-3
## [19] stringr_1.5.1      repr_1.1.7        keyring_1.3.2
## [22] htmltools_0.5.8.1  pillar_1.9.0      crayon_1.5.3
## [25] whisker_0.4.1      tidyr_1.3.1       R.utils_2.12.3
## [28] cachem_1.1.0       zen4R_0.10        tidyselect_1.2.1
## [31] zip_2.3.1          digest_0.6.37     stringi_1.8.4
## [34] dplyr_1.1.4        purrr_1.0.2       fastmap_1.2.0
## [37] cli_3.6.3          magrittr_2.0.3    base64enc_0.1-3
## [40] XML_3.99-0.17      crul_1.5.0        utf8_1.2.4
## [43] osfr_0.2.9         withr_3.0.2       bit64_4.5.2
## [46] roxygen2_7.3.2     rmarkdown_2.29    httr_1.4.7
## [49] bit_4.5.0.1        qpdf_1.3.4        askpass_1.2.1
## [52] R.methodsS3_1.8.2  hms_1.1.3         memoise_2.0.1
## [55] evaluate_1.0.1     rlang_1.1.4       Rcpp_1.0.13-1
## [58] glue_1.8.0         httpcode_0.3.0    xml2_1.3.6
## [61] fauxpas_0.5.2      rorcid_0.7.0      vroom_1.6.5
## [64] jsonlite_1.8.9     plyr_1.8.9        R6_2.5.1
## [67] fs_1.6.5

```