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	https://doi.org/10.1080/15614263.2022.2102494
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	https://github.com/codecheckers/codecheck_LangtonRuiterVerlaan2022/

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.
- csl and bib docs are referred to in the markdown, but they do not exist on the repository. csl has to be deleted for the markdown to knit.
- the rmarkdown knits to pdf but there are noinstructions 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 ------------------------
                           Values
Name                       read.csv(path)
Number of rows             7
Number of columns          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 ------------------------
                           Values
Name                       read.csv(path)
Number of rows             6
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

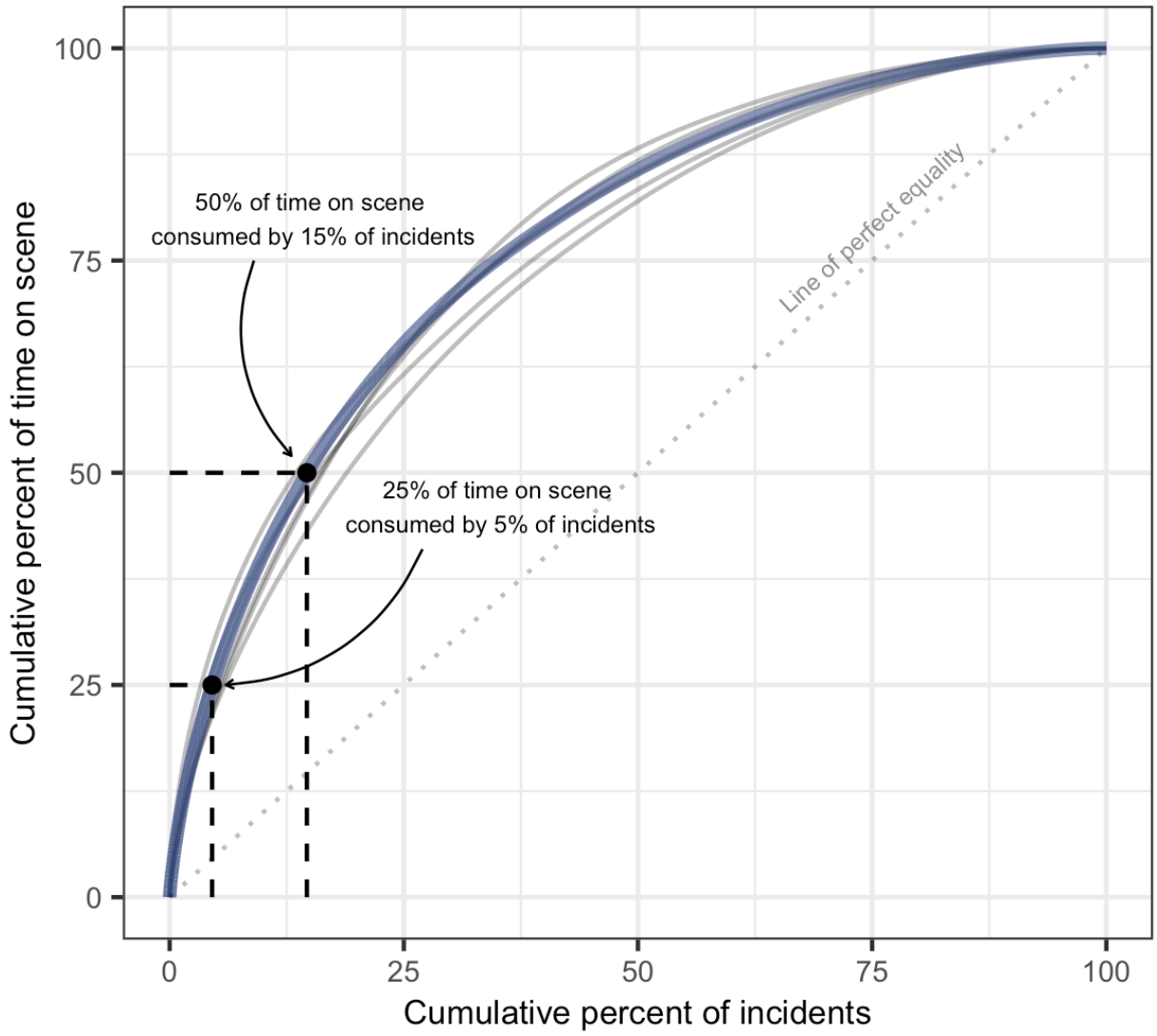


fig3_time_heat_tos_revised.png

Comment: figure 3

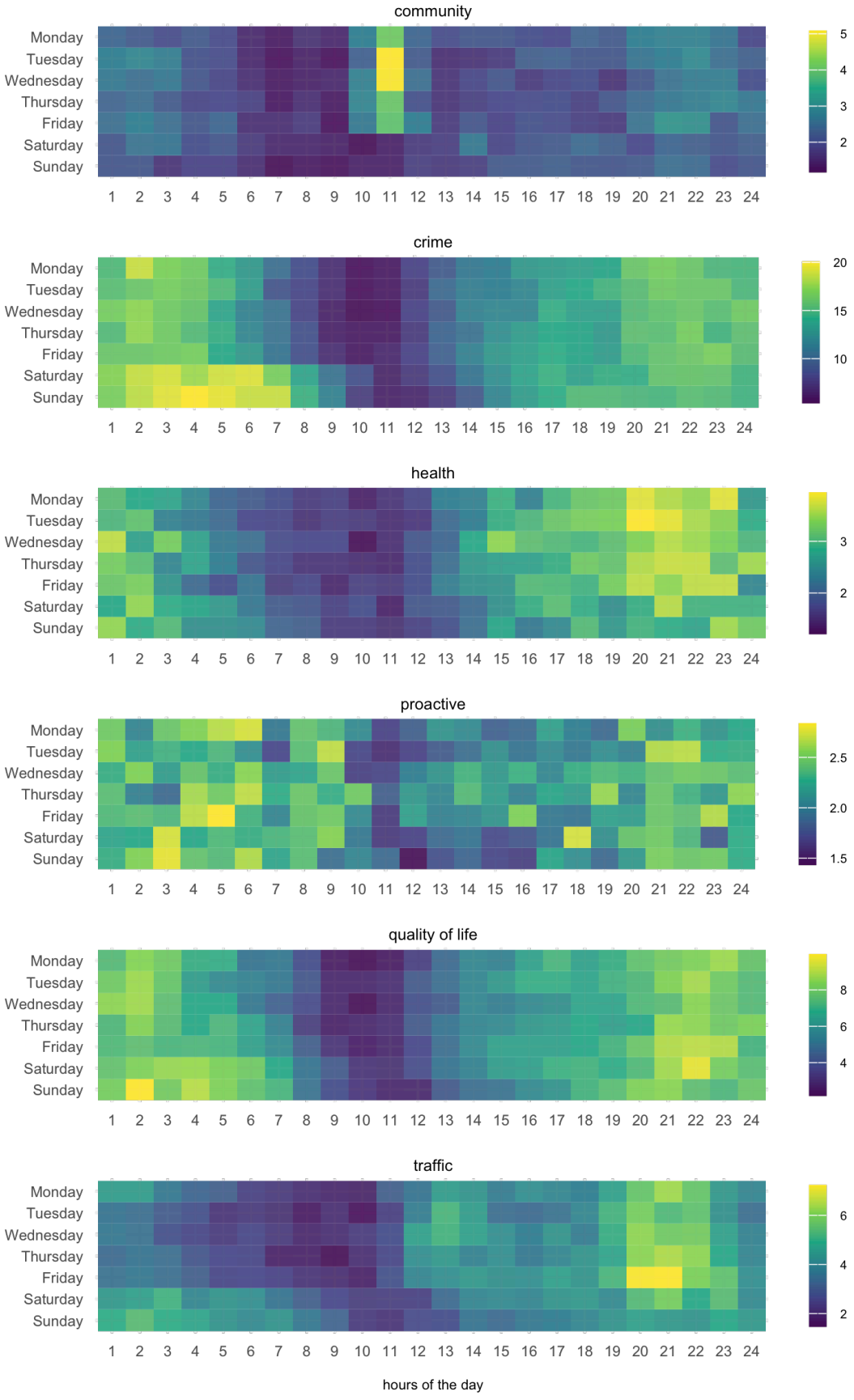

community
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
5
4
3
2
crime
20
15
10
health
3
2
proactive
2.5
2.0
1.5
quality of life
8
6
4
traffic
6
4
2
hours of the day

fig4_maps_tos.png

Comment: figure 4

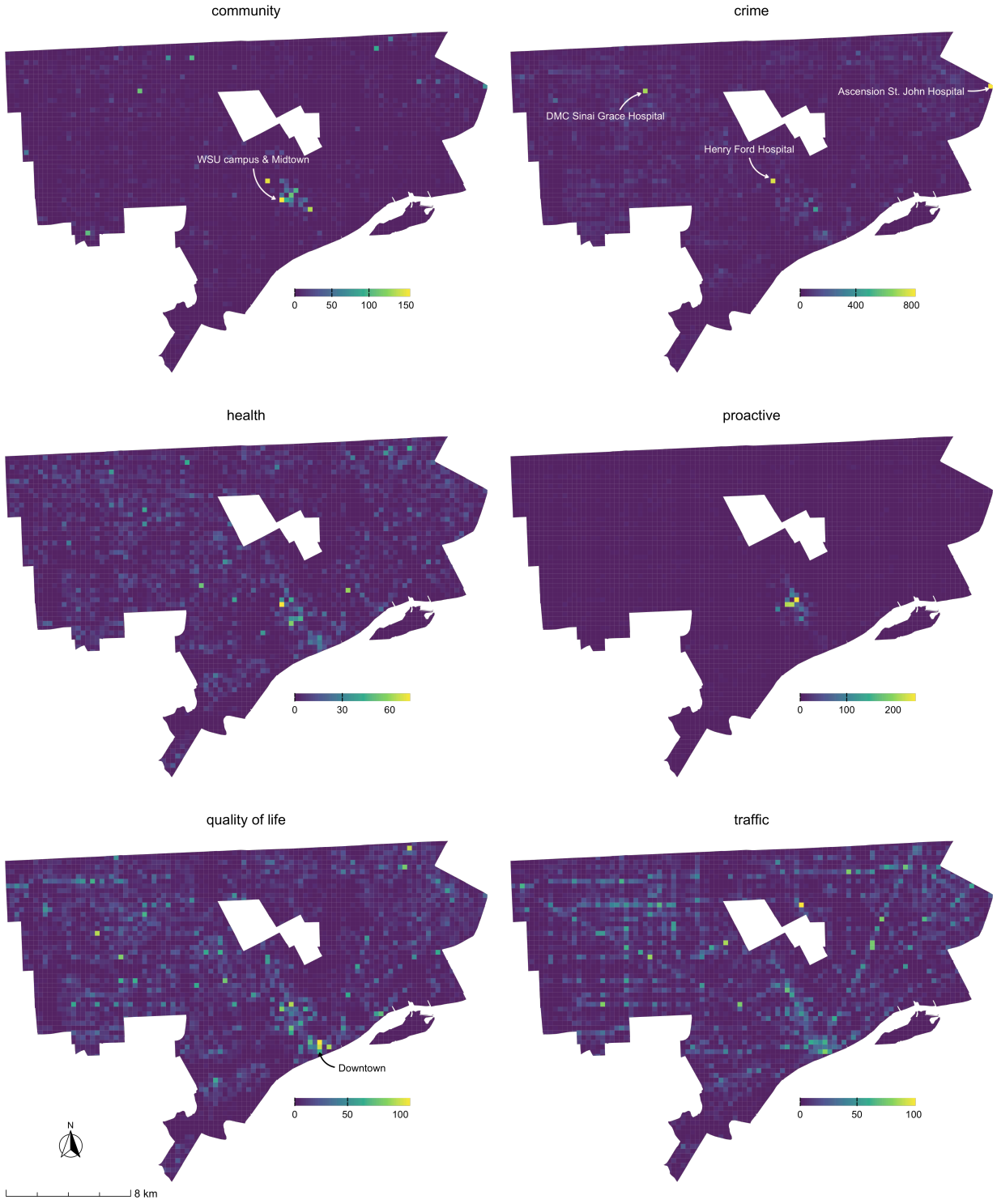


fig5_maps_counts.png

Comment: figure 5

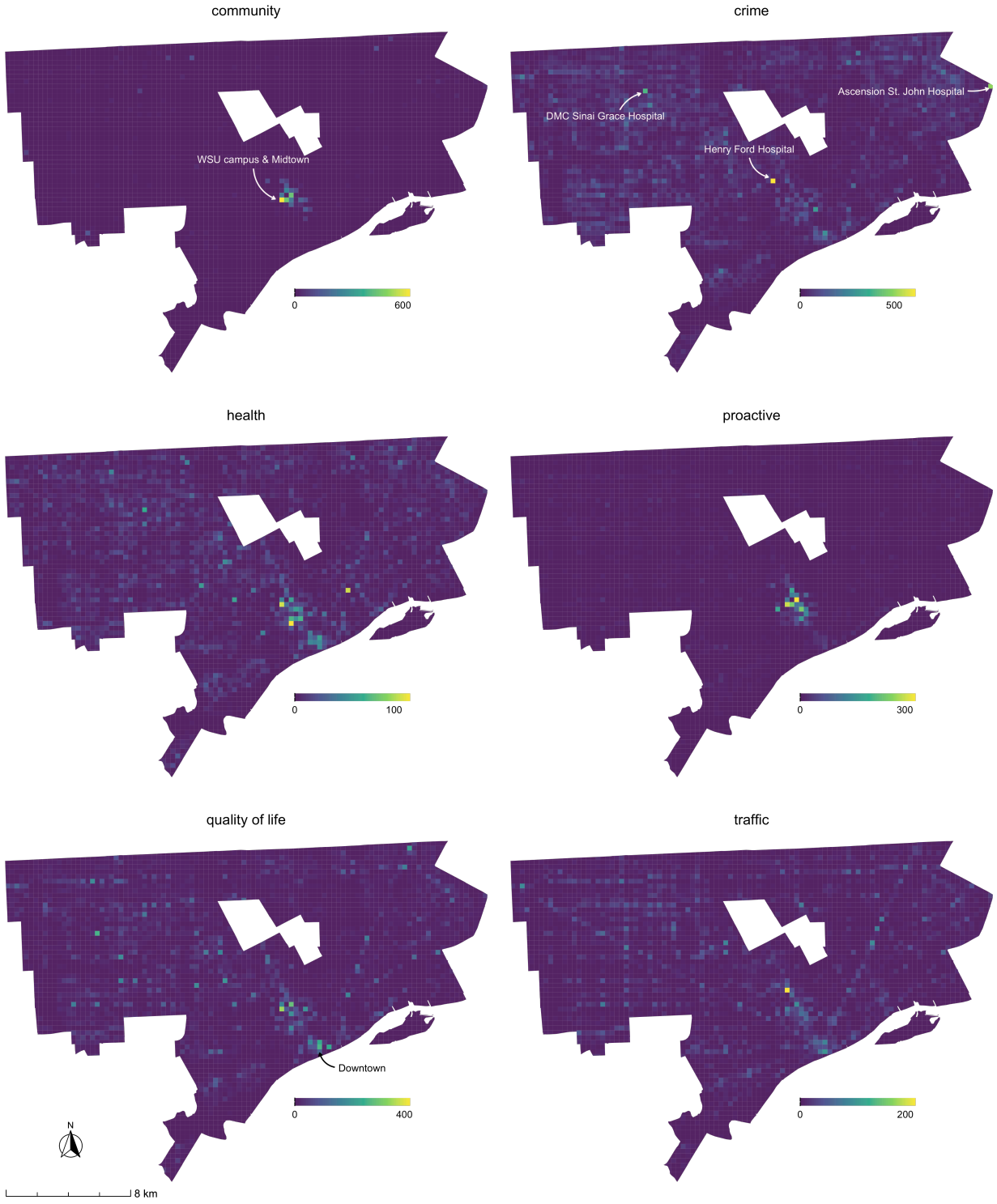
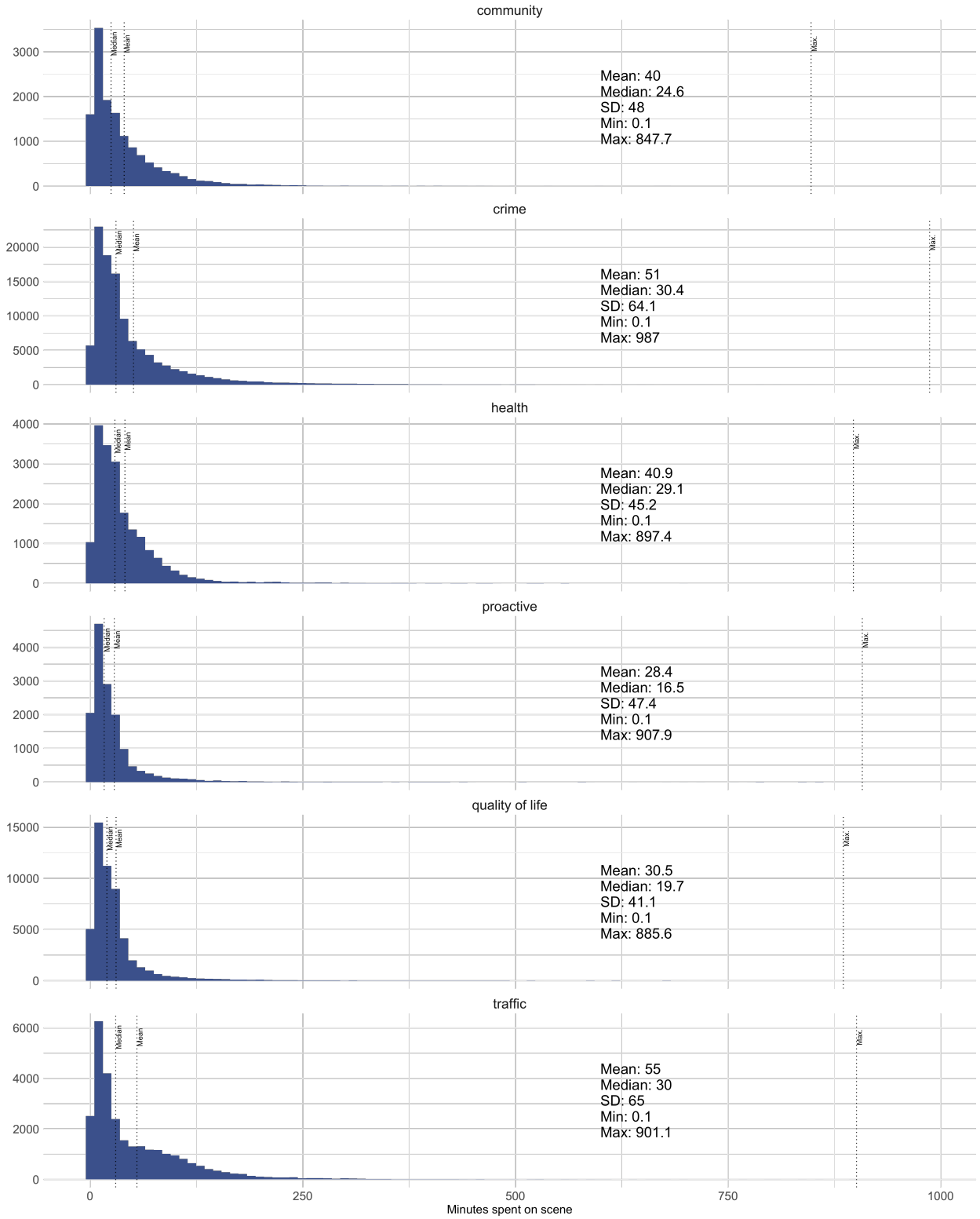


fig6_histogram_mins_tos.png

Comment: figure 6



Acknowledgements

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Citing this document

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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/libopenblasp-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
```