

# Mobilizing Justice: Montreal Fair Pass Pilot

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This report provides an overview of the first wave of the Montreal Fair Pass Survey.

## 1 Initial information

The raw dataset contained 4 observations.

## 2 Spatial distribution

Below, we can plot the spatial distribution of the sample against the spatial distribution of the population over 50 years old, according to the 2021 Census.

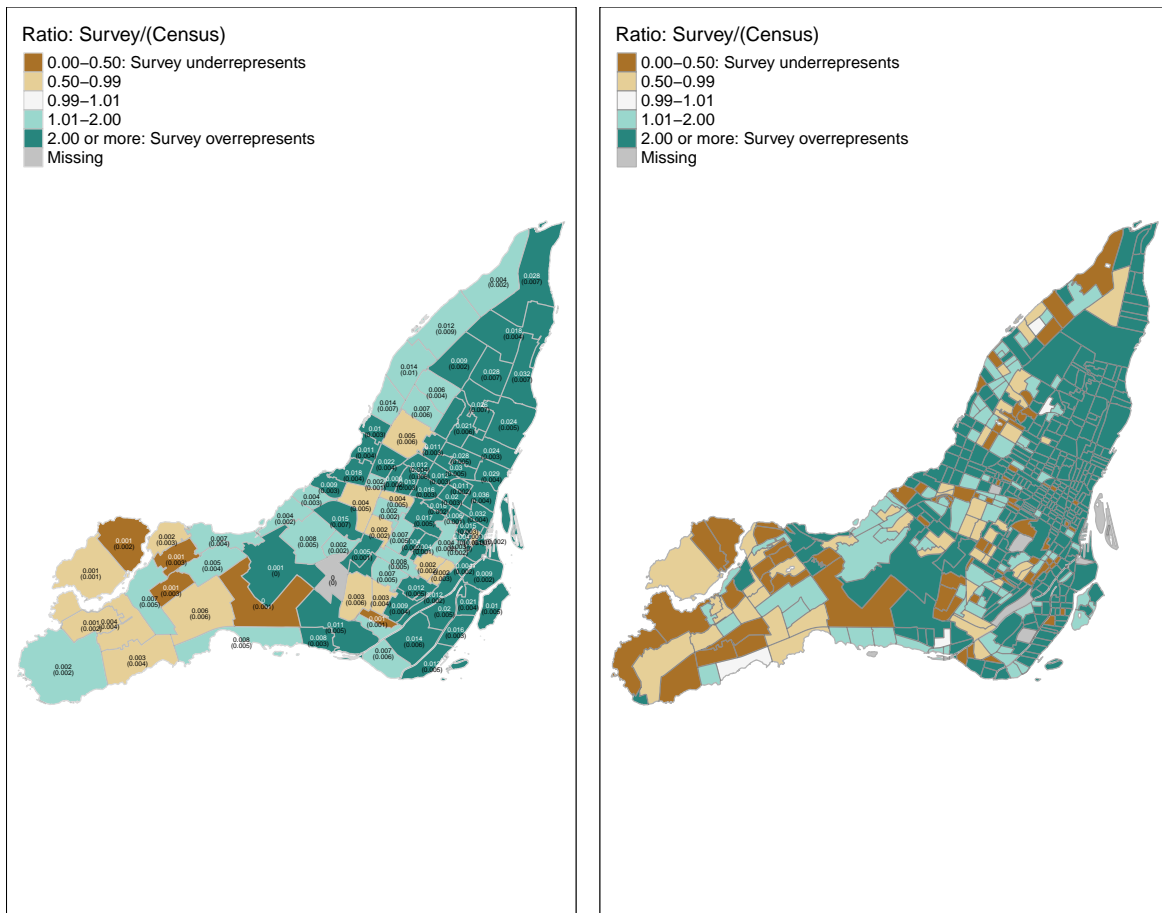


Figure 1: Under/over-representation: Ratio of the proportions of survey respondents vs. the population over 50 in each FSA (left) and CT (right)

## References

## Online appendix

### Attach R session info in appendix

R session version and package information.

R version 4.3.1 (2023-06-16)

Platform: aarch64-apple-darwin20 (64-bit)

Running under: macOS Ventura 13.5.2

Matrix products: default

BLAS: /Library/Frameworks/R.framework/Versions/4.3-arm64/Resources/lib/libRblas.0.dylib

LAPACK: /Library/Frameworks/R.framework/Versions/4.3-arm64/Resources/lib/libRlapack.dylib;

attached base packages:

[1] stats graphics grDevices utils datasets methods base

other attached packages:

[1] mapview\_2.11.0 patchwork\_1.1.3 DataExplorer\_0.8.2 tmap\_3.3-4  
[5] cancensus\_0.5.5 fs\_1.6.3 janitor\_2.2.0 data.table\_1.14.8  
[9] sf\_1.0-14 lubridate\_1.9.3 forcats\_1.0.0 stringr\_1.5.0  
[13] dplyr\_1.1.3 purrr\_1.0.2 readr\_2.1.4 tidyr\_1.3.0  
[17] tibble\_3.2.1 ggplot2\_3.4.3 tidyverse\_2.0.0

loaded via a namespace (and not attached):

[1] tidyselect\_1.2.0 viridisLite\_0.4.2 fastmap\_1.1.1 leaflet\_2.2.0  
[5] XML\_3.99-0.14 digest\_0.6.33 timechange\_0.2.0 lifecycle\_1.0.3  
[9] terra\_1.7-46 magrittr\_2.0.3 compiler\_4.3.1 rlang\_1.1.1  
[13] tools\_4.3.1 igraph\_1.5.1 utf8\_1.2.3 yaml\_2.3.7  
[17] knitr\_1.44 htmlwidgets\_1.6.2 sp\_2.0-0 classInt\_0.4-10  
[21] RColorBrewer\_1.1-3 abind\_1.4-5 KernSmooth\_2.23-22 withr\_2.5.1  
[25] leafsync\_0.1.0 stats4\_4.3.1 grid\_4.3.1 fansi\_1.0.4  
[29] e1071\_1.7-13 leafem\_0.2.3 colorspace\_2.1-0 scales\_1.2.1  
[33] dichromat\_2.0-0.1 cli\_3.6.1 rmarkdown\_2.25 generics\_0.1.3  
[37] rstudioapi\_0.15.0 tzdb\_0.4.0 tmaptools\_3.1-1 DBI\_1.1.3  
[41] proxy\_0.4-27 stars\_0.6-4 parallel\_4.3.1 base64enc\_0.1-3  
[45] vctr\_0.6.3 webshot\_0.5.5 jsonlite\_1.8.7 hms\_1.1.3  
[49] crosstalk\_1.2.0 units\_0.8-4 glue\_1.6.2 lwgeom\_0.2-13  
[53] codetools\_0.2-19 stringi\_1.7.12 gtable\_0.3.4 raster\_3.6-23  
[57] munsell\_0.5.0 pillar\_1.9.0 htmltools\_0.5.6 satellite\_1.0.4  
[61] R6\_2.5.1 networkD3\_0.4 evaluate\_0.21 lattice\_0.21-8  
[65] png\_0.1-8 snakecase\_0.11.1 class\_7.3-22 Rcpp\_1.0.11

## All the code in the paper

Below, all the code used in the file:

```
knitr::opts_chunk$set(cache = FALSE)
# Use cache = TRUE if you want to speed up compilation

knitr::opts_knit$set(output.format = "html") # Set to "html" for HTML output

# A function to allow for showing some of the inline code
rinline <- function(code){
  html <- '<code class="r">`r CODE`</code>'
  sub("CODE", code, html)
}
library(tidyverse)
library(sf)
library(data.table)
library(janitor)
library(fs)
library(cancensus)
library(tmap)
library(DataExplorer)
library(patchwork)
library(mapview)
# montreal fsa
montreal_fsa <- sf::st_read("data/report/montreal_fsa_count.gpkg")
# montreal cd (ct)
montreal_cd_ct <- sf::st_read("data/report/montreal_cd_ct_count.gpkg")
# survey raw data
survey_raw <- data.table::fread("data/utscfiletransfer/Montreal_Corrected_Geocoding_2023_0
survey_raw <- janitor::clean_names(survey_raw)
# survey filtered data
survey_filter_cd <- sf::st_read("data/report/survey_filter_inside_cd.gpkg")
tm_under_over_fsa <- tm_shape(montreal_fsa) +
  tm_polygons(
    col = "under_over"
    , breaks = c(0,0.5, 0.99, 1.01, 2, Inf)
    , palette = "BrBG"
    , border.alpha = 0.25
```

```

    , alpha = 0.95
    , labels = c("0.00-0.50: Survey underrepresents", "0.50-0.99", '0.99-1.01', '1.01-2.00')
    , title = "Ratio: Survey/(Census)"
  ) +
  tm_text(
    text = "label_survey"
    , size = 0.3
    # , col = "white"
  ) +
  tm_shape(montreal_fsa) +
  tm_text(
    text = "label_census"
    , size = 0.3
    , ymod = -0.25
    # , col = "black"
  ) +
  tm_add_legend(
    type = "text"
  ) +
  tm_layout(
    legend.width = 2
    # , main.title = "Ratio of the proportions of survey respondents vs. the population ov
    # , main.title.position = "center"
    # , main.title.size = 1.05
    , legend.title.size = 1.2
    , legend.text.size = 0.8
  )

tm_under_over_ct <- tm_shape(montreal_cd_ct) +
  tm_polygons(
    col = "under_over"
    , breaks = c(0, 0.5, 0.99, 1.01, 2, Inf)
    , palette = "BrBG"
    , border.alpha = 0.5
    , alpha = 0.95
    , labels = c("0.00-0.50: Survey underrepresents", "0.50-0.99", '0.99-1.01', '1.01-2.00')
    , title = "Ratio: Survey/(Census)"
  ) +
  tm_add_legend(
    type = "text"
  ) +

```

```
tm_layout(  
  legend.width = 2  
  # , main.title = "Ratio of the proportions of survey respondents vs. the population ov  
  # , main.title.position = "center"  
  # , main.title.size = 1.05  
  , legend.title.size = 1.2  
  , legend.text.size = 0.8  
)  
  
tmap_arrange(tm_under_over_fsa, tm_under_over_ct)  
print(sessionInfo(), local = FALSE)
```