# Food Deserts or Food Oases? Predicting Grocery Store Locations in Hamilton, Ontario

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**Abstract**

This is the abstract.

It consists of two paragraphs.

*Keywords:* Grocery Store, Hamilton

```
# no code chunk echo
knitr::opts_chunk$set(
  echo = F
)
```

```
## Linking to GEOS 3.12.1, GDAL 3.8.4, PROJ 9.3.1; sf_use_s2() is TRUE
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.5.1     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.1
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become erro
## Classes and Methods for R originally developed in the
## Political Science Computational Laboratory
## Department of Political Science
## Stanford University (2002-2015),
## by and under the direction of Simon Jackman.
## hurdle and zeroinfl functions by Achim Zeileis.
##
## udunits database from C:/Users/zehui/AppData/Local/R/cache/R/renv/cache/v5/windows/R-4.4/x86_64-w64
```

```
##
## Call:
## zeroinfl(formula = Freq ~ Freq_count_lag_per | Freq_count_lag_per, data = grocery_CT,
##     dist = "negbin")
##
```

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```
## Pearson residuals:
##     Min      1Q  Median      3Q     Max
## -0.7228 -0.6386 -0.5971  0.4651  3.3975
##
## Count model coefficients (negbin with log link):
##                     Estimate Std. Error z value Pr(>|z|)
## (Intercept)          -0.7049     0.7423  -0.950    0.342
## Freq_count_lag_per    0.6980     0.6744   1.035    0.301
## Log(theta)            0.5717     1.7306   0.330    0.741
##
## Zero-inflation model coefficients (binomial with logit link):
##                     Estimate Std. Error z value Pr(>|z|)
## (Intercept)          -1.8345     5.3191  -0.345    0.730
## Freq_count_lag_per   -0.8158     2.6442  -0.309    0.758
##
## Theta = 1.7713
## Number of iterations in BFGS optimization: 29
## Log-likelihood: -155.7 on 5 Df
```

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For detailed instructions regarding the elsevier article class, see `https://www.elsevier.com/authors/policies-and-guidelines/latex-instructions`

## 1. Bibliography styles

Here are two sample references: Feynman and Vernon Jr. (1963; Dirac, 1953).

By default, natbib will be used with the `authoryear` style, set in `classoption` variable in YAML and with `elsearticle-harv.bst` which is among provided style by `elsarticle` documentclass. Other available style are `elsarticle-num.bst` and `elsarticle-num-names.bst` — the first one can be used for the numbered scheme, second one for numbered with new options of natbib.sty.

You can sets extra options with `natbiboptions` variable in YAML header. Example

```
natbiboptions: longnamesfirst,angle,semicolon
```

There are various more specific bibliography styles available at `https://support.stmdocs.in/wiki/index.php?title=Model-wise_bibliographic_style_files`. To use one of these, add it in the header using, for example, `biblio-style: model1-num-names`.

### *1.1. Using CSL*

If `citation_package` is set to `default` in `elsevier_article()`, then pandoc is used for citations instead of `natbib`. In this case, the `csl` option is used to format the references. Alternative `csl` files are available from `https://www.zotero.org/styles?q=elsevier`. These can be downloaded and stored locally, or the url can be used as in the example header.

## 2. Equations

Here is an equation:

$$f_X(x) = \left(\frac{\alpha}{\beta}\right)\left(\frac{x}{\beta}\right)^{\alpha-1} e^{-\left(\frac{x}{\beta}\right)^{\alpha}}; \alpha, \beta, x > 0.$$

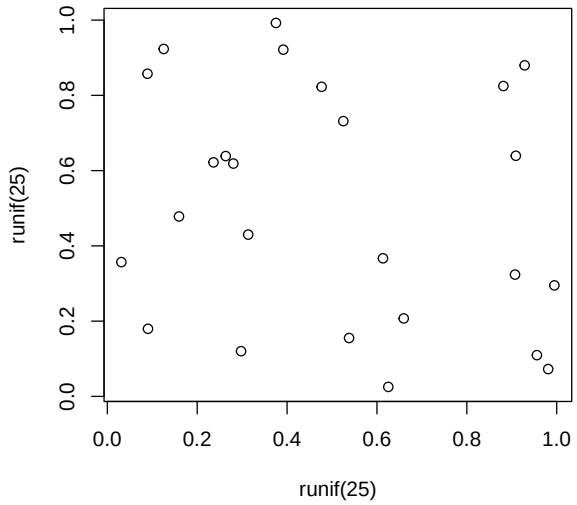


Figure 1: A meaningless scatterplot.

Here is another:

$$a^2 + b^2 = c^2. \tag{1}$$

Inline equations: $\sum_{i=2}^{\infty}\{\alpha_i^{\beta}\}$

## 3. Figures and tables

Figure 1 is generated using an R chunk.

## 4. Tables coming from R

Tables can also be generated using R chunks, as shown in Table 1 for example.

```
knitr::kable(head(mtcars)[,1:4],
    caption = "\\label{tab1}Caption centered above table"
)
```

Table 1: Caption centered above table

| | mpg | cyl | disp | hp |
|---|---|---|---|---|
| Mazda RX4 | 21.0 | 6 | 160 | 110 |
| Mazda RX4 Wag | 21.0 | 6 | 160 | 110 |
| Datsun 710 | 22.8 | 4 | 108 | 93 |
| Hornet 4 Drive | 21.4 | 6 | 258 | 110 |
| Hornet Sportabout | 18.7 | 8 | 360 | 175 |
| Valiant | 18.1 | 6 | 225 | 105 |

## References

Dirac, P.A.M., 1953. The Lorentz transformation and absolute time. Physica 19, 888–896. doi:10.1016/S0031-8914(53)80099-6.

Feynman, R.P., Vernon Jr., F.L., 1963. The theory of a general quantum system interacting with a linear dissipative system. Annals of Physics 24, 118–173. doi:10.1016/0003-4916(63)90068-X.