The package osmdata

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The osmdata package
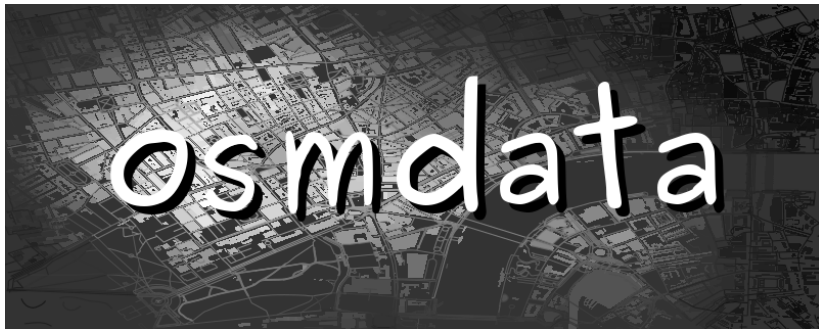

Figure 1:

The osmdata package

```r
install.packages("osmdata")
```

```r
library(osmdata)
```

```
## Data (c) OpenStreetMap contributors, ODbL 1.0. http://ww
```

```r
citation("osmdata")
```

```
##
## To cite osmdata in publications use:
##
##   Mark Padgham, Bob Rudis, Robin Lovelace, Maëlle Salmon
##   osmdata Journal of Open Source Software, 2(14). URL
##   https://doi.org/10.21105/joss.00305
##
## A BibTeX entry for LaTeX users is
##
##   @Article{,
```

Getting data within a bounding box

```
q <- opq(bbox = c(51.1, 0.1, 51.2, 0.2))
```

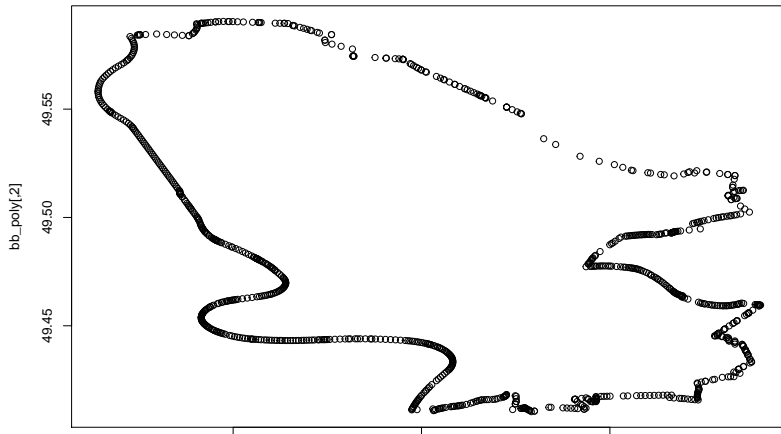# Getting data for place of interest

```
bb <- getbb('Greater London, U.K.')
q <- opq(bbox = bb)
```

The boundary for Mannheim

```
bb_poly <- getbb(place_name = "Mannheim",
                 format_out = "polygon")
plot(bb_poly)
```

Amenity points in Mannheim Seckenheim

- any named objects
- you can find most of them here:

https://wiki.openstreetmap.org/wiki/Map_Features

```
q <- opq (bbox = 'Mannheim, Seckenheim')
q <- add_osm_feature (q, key = 'amenity')
osmdata_xml (q, 'data/Mannheim_se.osm')
```

See what's behind

```r
dat <- sf::st_read ('data/Mannheim_se.osm',
                    layer = 'points',
                    quiet = TRUE)


nrow(dat)
names(dat)
```

Bar's in Mannheim

```
?add_osm_feature
```

```r
q <- opq (bbox = 'Mannheim')
q <- add_osm_feature (q, key ="amenity",value = 'bar')
osmdata_xml (q, 'data/Mannheim_bar.osm')
```

```r
dat_bar <- sf::st_read ('../data/Mannheim_bar.osm',
                        layer = 'points', quiet = TRUE)
```

Bus stations in Amsterdam

```r
q <- opq (bbox = 'Amsterdam')
q <- add_osm_feature (q, key ="amenity",
                      value = 'bus_station')
osmdata_xml (q, 'data/Amsterdam_bus_station.osm')
```

```r
dat_bus <- sf::st_read ('../data/Amsterdam_bus_station.osm
                        layer = 'points', quiet = TRUE)
nrow(dat_bus)
```

```
## [1] 7
```

```r
?sf::st_read
```

An alternative

- Main vignette osmdata
- OpenStreetMap Data Structure

```
q <- opq (bbox = 'Amsterdam')
q <- add_osm_feature (q, key ="public_transport",
                         value = 'station')
osmdata_xml (q, '../data/Amsterdam_bus_pubtrans.osm')
```

```
dat_bus <- sf::st_read ('../data/Amsterdam_bus_pubtrans.osm
                           layer = 'points', quiet = TRUE)
nrow(dat_bus)
```

```
## [1] 38
```

Further information about public transport

Stop area

```
dat3 <- opq(bbox = 'Amsterdam') %>%
    add_osm_feature(key = 'railway', value = 'tram_stop') %
    osmdata_sf ()
```

Changing the API

```r
api_list <- c('http://overpass-api.de/api/interpreter',
              'https://lz4.overpass-api.de/api/interpreter
              'https://z.overpass-api.de/api/interpreter',
              'https://overpass.kumi.systems/api/interprete

api_to_use <- sample(1:length(api_list), 1)

set_overpass_url(api_list[api_to_use])
```