Package: moveability (via r-universe)

June 2, 2026

Title Moveability statistics for any specified city

Version 0.0.0.013

Description Moveability statistics for any specified city.

License GPL-3

URL https://github.com/moveability/moveability

BugReports https://github.com/moveability/moveability/issues

Depends R (>= 2.10)

Imports dodgr, dplyr, magrittr, methods, osmdata, pbapply, Rcpp (>= 0.12.6), RcppParallel, sf

Suggests geodist, knitr, testthat

LinkingTo Rcpp, RcppParallel

VignetteBuilder knitr

Remotes atfutures/dodgr

Encoding UTF-8

LazyData true

NeedsCompilation yes

Roxygen list(markdown = TRUE)

RoxygenNote 6.1.1

SystemRequirements C++11, GNU make

Config/pak/sysreqs libabsl-dev cmake libgdal-dev gdal-bin libgeos-dev make libicu-dev libuv1-dev libxml2-dev libssl-dev libproj-dev libsqlite3-dev libudunits2-dev

Repository https://mpadge.r-universe.dev

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RemoteUrl https://github.com/moveability/moveability

RemoteRef HEAD

RemoteSha ac1336e0100a853f4bd36a754c42a5627c7bf974

Contents

`castlemaine` *castlemaine*

Description

'Silicate' ('SC') format street network data for Castlemaine, Australia.

Format

List of `data.frame` objects representing different components of the street network

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`castlemaine_attr` *castlemaine_attr*

Description

Centres of activity attraction in Castlemaing, Australia.

Format

A `data.frame` of point locations of activity attractors

`castlemaine_green` *castlemaine_green*

Description

Polygons of all green spaces in Castlemaine, Australia

Format

sf-format `data.frame` of green space polygons

get_attractors *get_attractors*

Description

Get points of trip attraction

Usage

```
get_attractors(bbox, quiet = FALSE)
```

Arguments

bbox	Bounding box for which green space polygons are to be extracted.
quiet	If TRUE, dump progress information to screen.

get_green_space *get_green_space*

Description

Get polygons of all green areas for a given location

Usage

```
get_green_space(bbox, quiet = FALSE)
```

Arguments

bbox	Bounding box for which green space polygons are to be extracted.
quiet	If TRUE, dump progress information to screen.

Value

An **sf**-format data.frame of polygons representing all green areas.

move_statistics *move_statistics*

Description

Alias for move_stats

Usage

```
move_statistics(graph, from, green_polys, d_threshold = 1,
  quiet = TRUE)
```

Arguments

graph	Street network in **dodgr** format obtained through applying dodgr::weight_streetnet to an osmdata_sc object.
from	Vector of points from which moveability statistics are to be be calculated.
green_polys	Polygons of green space obtained from get_green_space
d_threshold	Distance threshold below which distances are to be aggreagted (in kilometres).
quiet	If TRUE, dump progress information to screen.

Value

Vector of moveability values for each point in from, with moveability quantified as $m.

Examples

```
graph <- dodgr::weight_streetnet (castlemaine)
green_polys <- castlemaine_green # green polygon data included with package
activity_points <- castlemaine_attr # activity attractors included with package
from <- sample (graph$.vx0, size = 100)
d <- move_stats (graph, green_polys = green_polys,
                 activity_points = activity_points, from = from)
# d is a `data.frame` of the coordinates of all `from` points and
# correponding moveability statisics
```

move_stats *move_stats*

Description

Calculate vector of moveability statistics for a given input street network.

Usage

```
move_stats(graph, from, green_polys, activity_points, d_threshold = 1,
  quiet = FALSE)
```

Arguments

graph	Street network in **dodgr** format obtained through applying dodgr::weight_streetnet to an osmdata_sc object.
from	Vector of points from which moveability statistics are to be be calculated.
green_polys	Polygons of green space obtained from get_green_space
activity_points	Points of activity obtained from get_attractors.
d_threshold	Distance threshold below which distances are to be aggreagted (in kilometres).
quiet	If TRUE, dump progress information to screen.

Value

Vector of moveability values for each point in from, with moveability quantified as $m.

Examples

```
graph <- dodgr::weight_streetnet (castlemaine)
green_polys <- castlemaine_green # green polygon data included with package
activity_points <- castlemaine_attr # activity attractors included with package
from <- sample (graph$.vx0, size = 100)
d <- move_stats (graph, green_polys = green_polys,
                 activity_points = activity_points, from = from)
# d is a `data.frame` of the coordinates of all `from` points and
# correponding moveability statisics
```

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moveability *moveability.*

Description

Moveability statistics for any specified city.

Calculate moveability statistics for a specified city

Usage

```
moveability(streetnet = NULL, from = NULL, green_polys = NULL,
  activity_points, d_threshold = 1, mode = "foot", quiet = FALSE)
```

Arguments

`streetnet`	Pre-downloaded or prepared street network in either `osmdata_sc` or `dodgr_sc` format.
`from`	If provided, calculate moveability statistics only at these points (given as a vector of OSM IDs).
`green_polys`	Polygons of green space obtained from get_green_space
`activity_points`	Points of activity obtained from get_attractors.
`d_threshold`	Distance threshold below which distances are to be aggreagted (in kilometres).
`mode`	Mode of transport: either "foot" or "bicycle"
`quiet`	If `TRUE`, dump progress information to screen.

Value

Nothing (open interactive map)

Examples

```
m <- moveability (streetnet = castlemaine, green_polys = castlemaine_green,
                  activity_points = castlemaine_attr)
```

`moveability_to_lines` *moveability_to_lines*

Description

Project moveability statistics from moveability on to lines of street network.

Usage

```
moveability_to_lines(m, streetnet)
```

Arguments

`m`	Result of moveability function
`streetnet`	Street network in either **sf**, **osmdata** or **dodgr** format.

Value

sf collection of `LINE` objects of the street network, with moveability statistics averaged between the two end points of each line segment.

Examples

```
m <- moveability (streetnet = castlemaine, green_polys = castlemaine_green,
                  activity_points = castlemaine_attr)
l <- moveability_to_lines (m = m, streetnet = castlemaine)
```

`moveability_to_polygons` *moveability_to_polygons*

Description

Project moveability statistics from moveability on to polygonal blocks of street network, in order to plot polygons rather than points.

Usage

```
moveability_to_polygons(m, streetnet)
```

Arguments

`m`	Result of moveability function
`streetnet`	Street network in either **sf**, **osmdata** or **dodgr** format.

Value

sf collection of `POLYGON` objects corresponding to street blocks, with average moveability statistics from all points defining that block.

Note

This function may take a long time to execute, because of the calculation of fundamental cycles in the street network graph used to identify street blocks.

Examples

```
m <- moveability (streetnet = castlemaine, green_polys = castlemaine_green,
                  activity_points = castlemaine_attr)
p <- moveability_to_polygons (m = m, streetnet = castlemaine)
```

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