

Package ‘MobilityDataPT’

September 12, 2026

Title Get Mobility Related Data for Portugal

Version 1.0

Description A collection of methods to get mobility related data for Portugal.

License GPL

URL <https://github.com/U-Shift/MobilityDataPT>,
<https://u-shift.github.io/MobilityDataPT/>

Depends R (>= 4.1.0)

Imports dplyr, tidyselect, httr, jsonlite, sf

Suggests curl, spelling, testthat, withr

Encoding UTF-8

Language en-US

Config/roxygen2/version 8.1.0

NeedsCompilation no

Author Gonalo F. Matos [aut, cre] (ORCID:
<<https://orcid.org/0009-0001-3489-1732>>)

Maintainer Gonalo F. Matos <goncaloafmatos@tecnico.pt>

Repository CRAN

Date/Publication 2026-09-12 13:20:02 UTC

Contents

census_od	2
census_od_regions	3
get_postal_code_coordinates	4
postal_code_database	5
tools_for_itinerary	6

Index	7
--------------	----------

census_od

*Fetch Census Origin-Destination Data***Description**

Retrieves Census Origin-Destination (Home/Work & Study) data from INE for a given home location.

Usage

```
census_od(id = "PT")
```

Arguments

id Region category filter ID (default "PT"). See `MobilityDataPT::census_od_regions()` for available IDs.

Details

Refer to [INE website](#) to access the indicator online.

Value

A `data.frame` containing the aggregated Census OD records with columns:

- `geocod`: Home location code
- `geodsg`: Home location designation
- `dim_3`: Sex category code
- `dim_3_t`: Sex category designation (H, M, HM)
- `dim_4`: Employment status code
- `dim_4_t`: Employment status designation (Empregada, Estudante, Total)
- `dim_5`: Working location code
- `dim_5_t`: Working location designation
- `ind_string`: Count / resident population value in string format
- `valor`: Count / resident population value in numeric format
- `Periodo`: Reference period (2011, 2021)

Note

Data source: Instituto Nacional de Estatística (INE) (https://www.ine.pt/xportal/xmain?xpgid=ine_main&xpid=INE).

See Also

`MobilityDataPT::census_od_regions()`

Examples

```
od_data <- MobilityDataPT::census_od(id = "PT")
od_data |> dplyr::sample_n(5)
```

census_od_regions	<i>Fetch Census Origin-Destination available regions</i>
-------------------	--

Description

Queries the INE metadata API for the available regional filtering options available for `MobilityDataPT::census_od()`.

Usage

```
census_od_regions()
```

Value

A data.frame with columns `id` and `name`.

Note

Data source: Instituto Nacional de Estatística (INE) (https://www.ine.pt/xportal/xmain?xpgid=ine_main&xpid=INE).

See Also

```
MobilityDataPT::census_od()
```

Examples

```
regions <- MobilityDataPT::census_od_regions()
head(regions)
```

get_postal_code_coordinates

Get Postal Code coordinates

Description

Retrieves spatial coordinates and geometry for specific postal code(s) from the Eurostat GISCO postal code database.

Usage

```
get_postal_code_coordinates(
  postal_codes = NULL,
  cntr_id = "PT",
  year = 2024,
  crs = 4326,
  download_dir = NULL
)
```

Arguments

postal_codes	Character vector of postal code identifiers (e.g., "1000-001" or c("1000-001", "2800-001")). If NULL, returns coordinates for all postal codes in the dataset.
cntr_id	Two-letter country code to filter by (default "PT"). Pass NA or NULL to return all countries.
year	Release year of the dataset. Allowed values are 2020 or 2024 (default 2024).
crs	Coordinate Reference System (EPSG code) of the dataset. Allowed values are 3857, 3035, or 4326 (default 4326).
download_dir	Directory where downloaded GeoPackage files are stored. Defaults to the MOBILITYDATAPT_DOWNLOAD_DIR environment variable or ~/.local/share/R/MobilityDataPT.

Value

An sf object containing matching postal code records and geometries.

Note

Data source: Eurostat GISCO Postal Codes (<https://ec.europa.eu/eurostat/web/gisco/geodata/administrative-units/postal-codes>).

See Also

MobilityDataPT::postal_code_database()

Examples

```
MobilityDataPT::get_postal_code_coordinates(c("1000-001", "2800-001"))
```

postal_code_database *Access Eurostat GISCO Postal Code database*

Description

Downloads and reads the GISCO Postal Codes dataset provided by **Eurostat**. Files are cached locally in the directory specified by the MOBILITYDATAPT_DOWNLOAD_DIRECTORY environment variable, defaulting to ~/.local/share/R/MobilityDataPT.

Usage

```
postal_code_database(
  cntr_id = "PT",
  year = 2024,
  crs = 4326,
  download_dir = NULL
)
```

Arguments

cntr_id	Two-letter country code to filter by (default "PT"). Pass NA or NULL to return all countries present in the dataset.
year	Release year of the dataset. Allowed values are 2020 or 2024 (default 2024).
crs	Coordinate Reference System (EPSG code) of the dataset. Allowed values are 3857, 3035, or 4326 (default 4326).
download_dir	Directory where downloaded GeoPackage files are stored. Defaults to the MOBILITYDATAPT_DOWNLOAD_DIRECTORY environment variable or ~/.local/share/R/MobilityDataPT.

Value

An sf object containing spatial postal code boundaries/points. Returned columns include:

- POSTCODE: Postal code identifier (e.g. "1000-001")
- CNTR_ID: Country identifier (e.g. "PT")
- LAU_NAME: Local Administrative Unit name ("freguesia" for Portugal)
- NUTS3_2024: NUTS level 3 region code
- Shape: Point of postal code location.

Note

Data source: Eurostat GISCO Postal Codes (<https://ec.europa.eu/eurostat/web/gisco/geodata/administrative-units/postal-codes>).

Examples

```
db <- MobilityDataPT::postal_code_database()

db |> dplyr::select(POSTCODE, LAU_NAME, Shape) |> dplyr::sample_n(5)
```

tools_for_itinerary	<i>Compute toll costs for an itinerary</i>
---------------------	--

Description

Encapsulates the calculation functionality of the web service provided by **Infraestruturas de Portugal**. Queries IP API to calculate expected toll costs across vehicle classes (C1, C2, C3, C4) for a given spatial itinerary.

Usage

```
tools_for_itinerary(sf_itinerary)
```

Arguments

`sf_itinerary` An sf object containing route geometry (LINESTRING coordinates).

Value

A named list containing toll costs in Euros for each vehicle class (C1, C2, C3, C4).

Note

Data source: Infraestruturas de Portugal (<https://portagens.infraestruturasdeportugal.pt/>). Terms of service apply.

Examples

```
sf_itinerary <- sf::st_read(system.file("extdata/samples",
  "tool_itinerary_25AbrilBridge.gpkg",
  package = "MobilityDataPT"
), quiet = TRUE)

MobilityDataPT::tools_for_itinerary(sf_itinerary)
```

Index

census_od, [2](#)

census_od_regions, [3](#)

get_postal_code_coordinates, [4](#)

postal_code_database, [5](#)

tools_for_itinerary, [6](#)