

Package ‘odbr’

November 20, 2023

Title Download Data from Brazil's Origin Destination Surveys

Version 0.1.0

Description Download data from Brazil's Origin Destination Surveys. The package covers both data from household travel surveys, dictionaries of variables, and the spatial geometries of surveys conducted in different years and across various urban areas in Brazil. For some cities, the package will include enhanced versions of the data sets with variables “harmonized” across different years.

License GPL (>= 3)

Depends R (>= 2.10)

Imports data.table, fs, haven, piggyback, R.utils, sf, usethis

Suggests knitr, rmarkdown, spelling, testthat (>= 3.2.0)

VignetteBuilder knitr

Config/testthat/edition 3

Encoding UTF-8

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Language en-US

NeedsCompilation no

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R topics documented:

dictSP	2
metadata	3

read_dictionary	4
read_map	5
read_od	6
Index	8

dictSP	<i>Sao Paulo OD Survey Dictionary</i>
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Description

These datasets contain the dictionary for the OD surveys in Sao Paulo. Each row describes one column of the survey data frame.

Usage

```

od_sao_paulo_1977_not_harmonized_dictionary_en
od_sao_paulo_1977_not_harmonized_dictionary_es
od_sao_paulo_1977_not_harmonized_dictionary_pt
od_sao_paulo_1987_not_harmonized_dictionary_en
od_sao_paulo_1987_not_harmonized_dictionary_es
od_sao_paulo_1987_not_harmonized_dictionary_pt
od_sao_paulo_1997_not_harmonized_dictionary_en
od_sao_paulo_1997_not_harmonized_dictionary_es
od_sao_paulo_1997_not_harmonized_dictionary_pt
od_sao_paulo_2007_not_harmonized_dictionary_en
od_sao_paulo_2007_not_harmonized_dictionary_es
od_sao_paulo_2007_not_harmonized_dictionary_pt
od_sao_paulo_2017_not_harmonized_dictionary_en
od_sao_paulo_2017_not_harmonized_dictionary_es
od_sao_paulo_2017_not_harmonized_dictionary_pt

```

Format

A data frame with 4 columns:

variable_name Name of the variable

description Description of the variable

categories Examples of the categories in the variable

class Class of the variable

An object of class `data.table` (inherits from `data.frame`) with 76 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 76 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 93 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 93 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 93 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 110 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 76 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 110 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 124 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 76 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 124 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 128 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 76 rows and 4 columns.

An object of class `data.table` (inherits from `data.frame`) with 128 rows and 4 columns.

Source

<https://transparencia.metrosp.com.br/dataset/pesquisa-origem-e-destino>

metadata

Metadata for the package

Description

This dataset has the list of OD surveys available in the package.

Usage

metadata

Format

metadata:

A data frame with 4 columns:

city City name

year Year of the survey

harmonized A logical value showing whether the dataset was harmonized

language Language of the dictionary

read_dictionary	<i>Download data dictionary from OD surveys databases</i>
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Description

Return the data dictionary of a specific Origin Destination Survey, if available. This dictionary is intended to be used to understand the data downloaded using the `odbr::read_od` function. It will contain the list of variables and, for each variable, a simple description, the available categories and its class (factor, numeric, etc).

Usage

```
read_dictionary(  
  city = "São Paulo",  
  year = 2017,  
  harmonize = FALSE,  
  language = "pt"  
)
```

Arguments

city	Character. City of reference. Defaults to "São Paulo".
year	Numeric. Year of reference in the format yyyy. Defaults to 1977.
harmonize	Logical. When FALSE (Default), the function returns the raw data. If TRUE, the function returns harmonized data to the same city, across all the years.
language	Character. The language of data dictionary to be opened. Options include <code>c("pt", "en", "es")</code> .

Value

A "data.frame" object.

Examples

```
library(odbr)

# return data dictionary from OD Surveys, as data.frame, at a given city and year
df <- read_dictionary(
  city = "Sao Paulo",
  year = 2017,
  harmonize = FALSE,
  language = "pt"
)
```

read_map

Download spatial data from OD Surveys databases

Description

`read_map()` download the geodetic data for a specific Origin Destination survey and return it as an `sf` dataframe. It uses the cached data file if it was previously downloaded to avoid extra networking consumption. To understand the returned dataframe format, please refer to the `read_dictionary()` function for the same survey cohort. It is also necessary to specify the geometry granularity wanted, be it "municipality", "district" or "zone" level of details. Of course, not all geometries are available for all surveys.

Usage

```
read_map(city = "São Paulo", year = 2017, harmonize = FALSE, geometry = "zone")
```

Arguments

<code>city</code>	Character. City of reference. Defaults to "São Paulo".
<code>year</code>	Numeric. Year of reference in the format yyyy. Defaults to 1977.
<code>harmonize</code>	Logical. When FALSE (Default), the function returns the raw data. If TRUE, the function returns harmonized data to the same city, across all the years.
<code>geometry</code>	Character. The type of spatial data to be opened. Options include <code>c("zone", "district", "municipality")</code> .

Value

An "sf" "data.frame" object

Examples

```
library(odbr)

# return zone data from OD Surveys database as sf object at a given city and year
df <- read_map(
  city = "Sao Paulo",
  year = 2017,
  harmonize = FALSE,
  geometry = "zone"
)

#' # return district data from OD Surveys database as sf object at a given city and year
df <- read_map(
  city = "Sao Paulo",
  year = 2017,
  harmonize = FALSE,
  geometry = "district"
)

# return municipality data from OD Surveys database as sf object at a given city and year
df <- read_map(
  city = "Sao Paulo",
  year = 2017,
  harmonize = FALSE,
  geometry = "municipality"
)
```

read_od

Download microdata from OD Surveys databases

Description

read_od() download the data for a specific Origin Destination survey and return it as a dataframe. It uses the cached data file if it was previously downloaded to avoid extra networking consumption. To understand the returned dataframe format, please refer to the read_dictionary() function for the same survey cohort.

Usage

```
read_od(city = "São Paulo", year = 2017, harmonize = FALSE)
```

Arguments

city	Character. City of reference. Defaults to "São Paulo".
year	Numeric. Year of reference in the format yyyy. Defaults to 1977.
harmonize	Logical. When FALSE (Default), the function returns the raw data. If TRUE, the function returns harmonized data to the same city, across all the years.

Value

A "data.frame" object.

Examples

```
library(odbr)

# return data from OD Surveys database as data.frame
df <- read_od(
  city = "Sao Paulo",
  year = 2017,
  harmonize = FALSE
)
```

Index

- * **Dictionary**
 - [dictSP](#), [2](#)
- * **Documentation**
 - [read_dictionary](#), [4](#)
- * **Geometry**
 - [read_map](#), [5](#)
- * **Microdata**
 - [read_od](#), [6](#)
- * **datasets**
 - [dictSP](#), [2](#)
 - [metadata](#), [3](#)

[dictSP](#), [2](#)

[metadata](#), [3](#)

[od_sao_paulo_1977_not_harmonized_dictionary_en](#)
([dictSP](#)), [2](#)

[od_sao_paulo_1977_not_harmonized_dictionary_es](#)
([dictSP](#)), [2](#)

[od_sao_paulo_1977_not_harmonized_dictionary_pt](#)
([dictSP](#)), [2](#)

[od_sao_paulo_1987_not_harmonized_dictionary_en](#)
([dictSP](#)), [2](#)

[od_sao_paulo_1987_not_harmonized_dictionary_es](#)
([dictSP](#)), [2](#)

[od_sao_paulo_1987_not_harmonized_dictionary_pt](#)
([dictSP](#)), [2](#)

[od_sao_paulo_1997_not_harmonized_dictionary_en](#)
([dictSP](#)), [2](#)

[od_sao_paulo_1997_not_harmonized_dictionary_es](#)
([dictSP](#)), [2](#)

[od_sao_paulo_1997_not_harmonized_dictionary_pt](#)
([dictSP](#)), [2](#)

[od_sao_paulo_2007_not_harmonized_dictionary_en](#)
([dictSP](#)), [2](#)

[od_sao_paulo_2007_not_harmonized_dictionary_es](#)
([dictSP](#)), [2](#)

[od_sao_paulo_2007_not_harmonized_dictionary_pt](#)
([dictSP](#)), [2](#)

[od_sao_paulo_2017_not_harmonized_dictionary_en](#)
([dictSP](#)), [2](#)

[od_sao_paulo_2017_not_harmonized_dictionary_es](#)
([dictSP](#)), [2](#)

[od_sao_paulo_2017_not_harmonized_dictionary_pt](#)
([dictSP](#)), [2](#)

[read_dictionary](#), [4](#)

[read_map](#), [5](#)

[read_od](#), [6](#)