Zurich parking garages
Data and variable description

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Zurich parking garages: Data and variable description

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December 2022

Abstract

The Zurich open data catalogue provides information about all parking garages within the city of Zurich that offer publicly accessible parking spaces to customers and/or visitors. The data are collected manually every two years and updated in the database, with the most recently published dataset reflecting the status at the end of 2021.

The dataset contains the locations of the parking garages and the number of publicly available parking spaces in each garage, including the number of reserved for people with disabilities, for women, for electric vehicles, for small vehicles or for carsharing vehicles. A total of 136 parking garages are included in the dataset.

However, the Open Data Zurich portal does not include any information regarding the operating times or pricing schemes of the different parking garages. Hence, this information needs to be extracted from additional sources.

Keywords

Codebook, list of variables

Suggested Citation

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Contents

Study description

Title

Zurich parking garages (2022)

Creator

C. Tchervenkov

Subject

Codebook, list of variables

Description

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Publisher

Institute for Transport Planning and Systems (IVT), ETH Zurich

Contributor

K. W. Axhausen

Date

2022-12-29

Type

Codebook, scraped data

Format

Portable document format (pdf), R data (.Rda), comma-separated (.csv)

Source

`https://www.ivt.ethz.ch/`

Language

English

Relation

`https://www.ivt.ethz.ch/`

Coverage

Parking garages within the city limits of Zurich.

Rights

Other identifications, funding and acknowledgements

Unit of analysis

Parking garages within the city limits of Zurich.

Document responsibility

C. Tchervenkov

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PLS raw data: File description

Title: Zurich_garage_data_2022_pls.Rda, Zurich_garage_data_2022_pls.csv

Contents: Scraped data

Data collection: Data scraped from PLS database for 34 parking garages in Zurich.

Unit of analysis: Parking garage

File Structure: Flat

Number of cases: 34. Variables per record: 19.

Details: The parking guidance system (PLS), in operation in the city of Zurich since 2001, informs car drivers by means of signal boards as to where and how many free garage parking spaces are currently available and how these can be reached in the most direct way. The Open Data Zurich provides a link to the PLS webpage for 34 of the 136 listed parking garages, which in turn provide information on opening hours and prices. This dataset contains all the raw scraped data from PLS for possible further parsing and cleaning.

File format: R data format (.Rda), comma-separated (.csv)

PLS raw data: Variables

`zod_id`:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1	21.25	44	218.5	58.75	1533

`zod_name:`

Format = character.

Length	Class	Mode
34	character	character

`zod_adresse:`

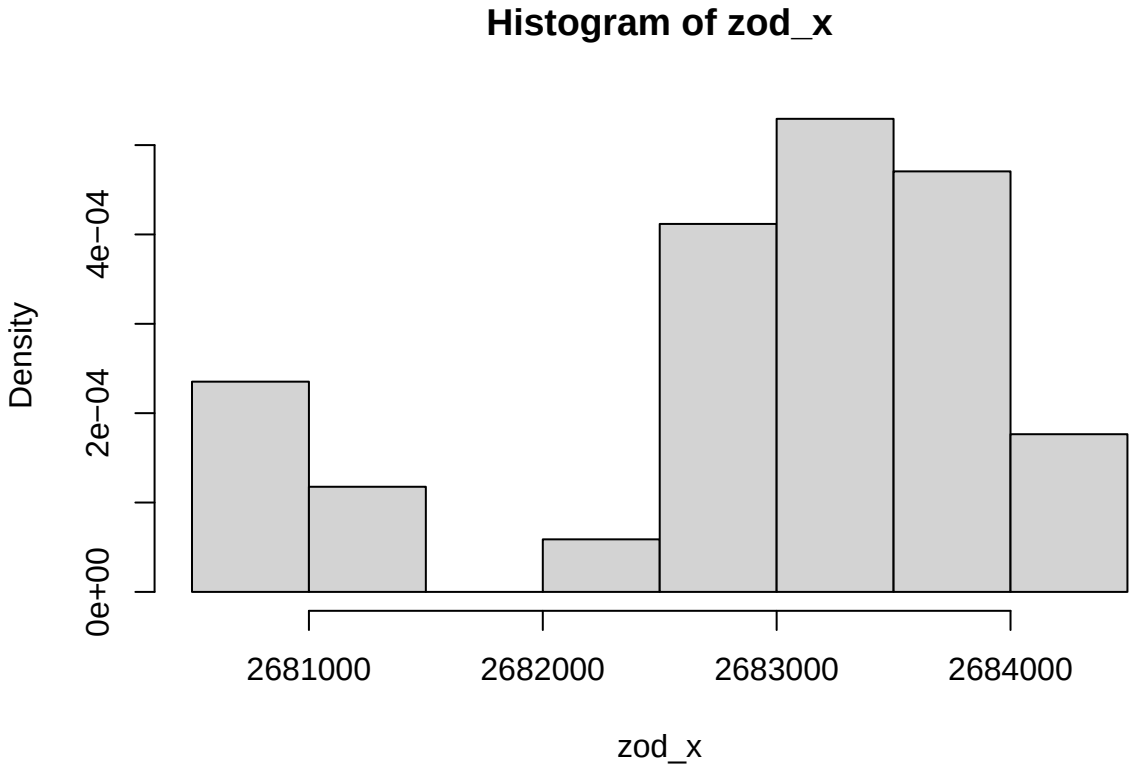
Format = character.

Length	Class	Mode
34	character	character

`zod_x`:

Format = numeric.

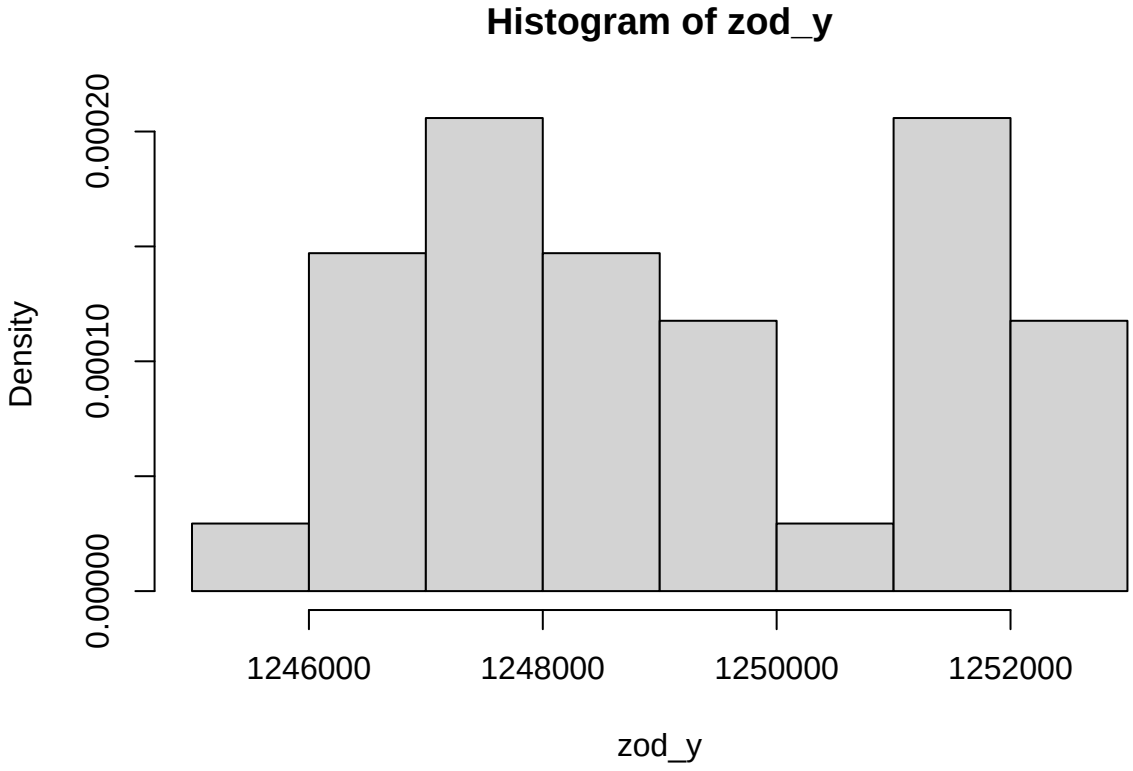
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
2680667	2682856	2683086	2682924	2683673	2684223



zod_y:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1245548	1247596	1248431	1249140	1251701	1252144



name:

Format = character.

Length	Class	Mode
34	character	character

adresse:

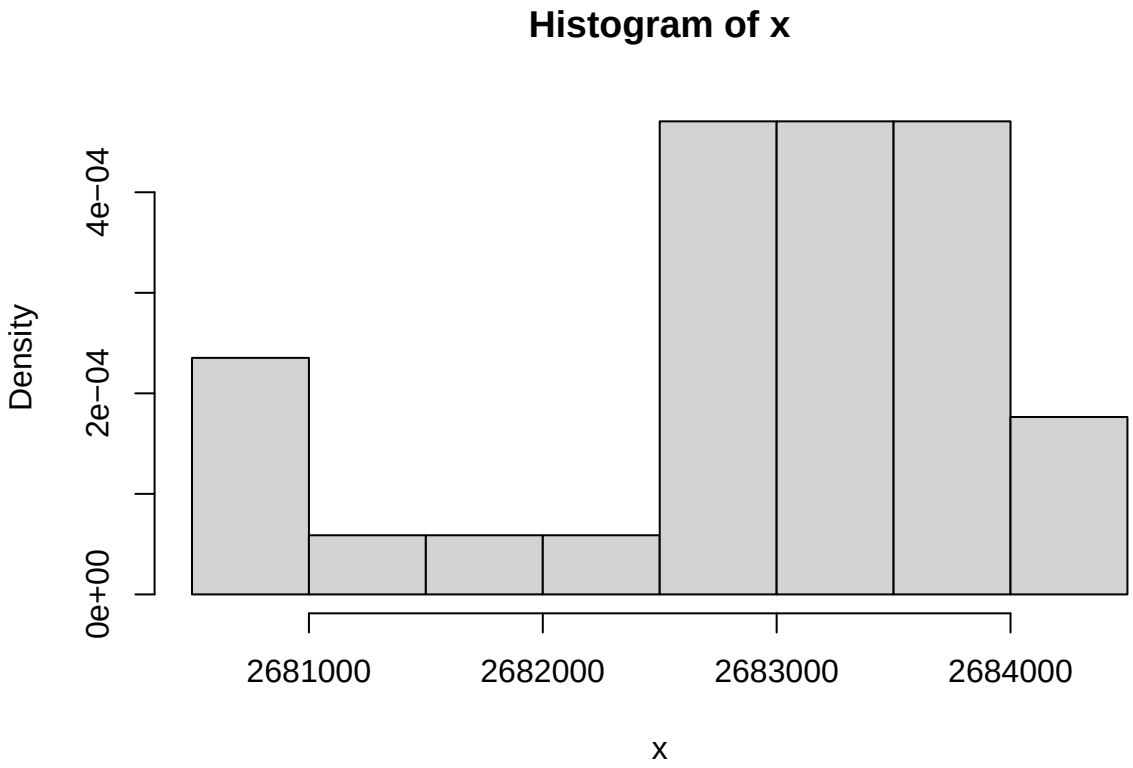
Format = character.

Length	Class	Mode
34	character	character

x:

Format = numeric.

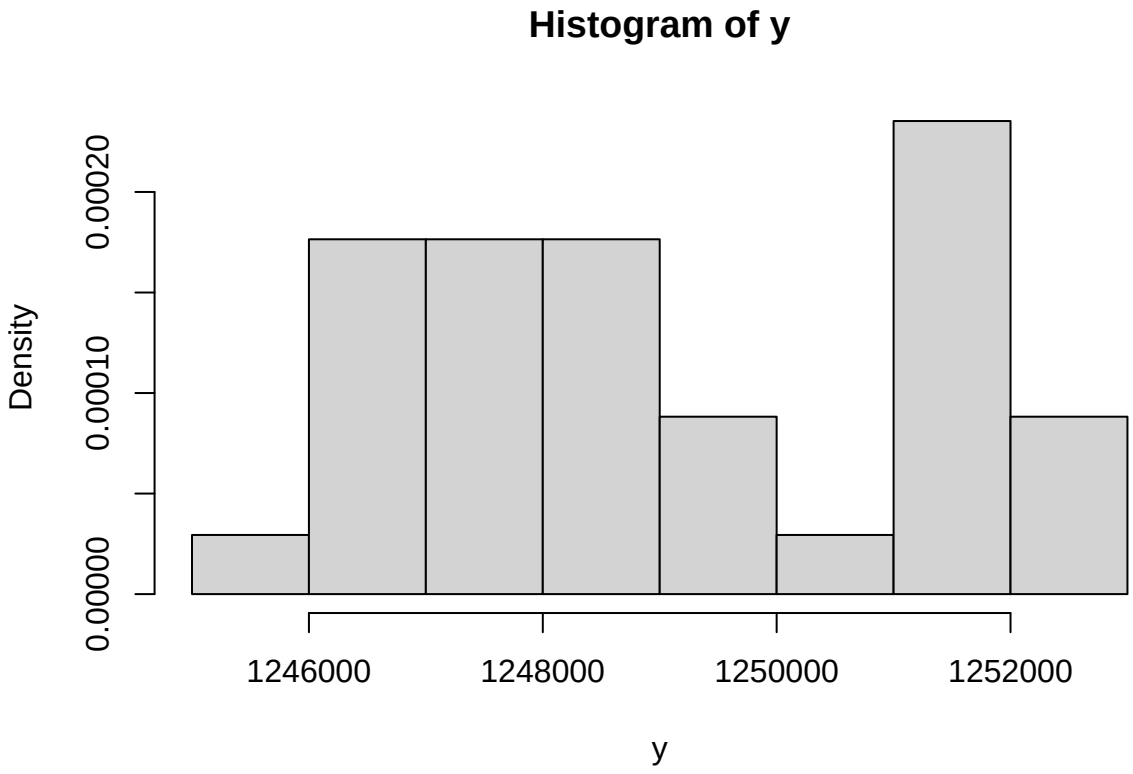
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
2680633	2682848	2683066	2682918	2683658	2684257



y:

Format = numeric.

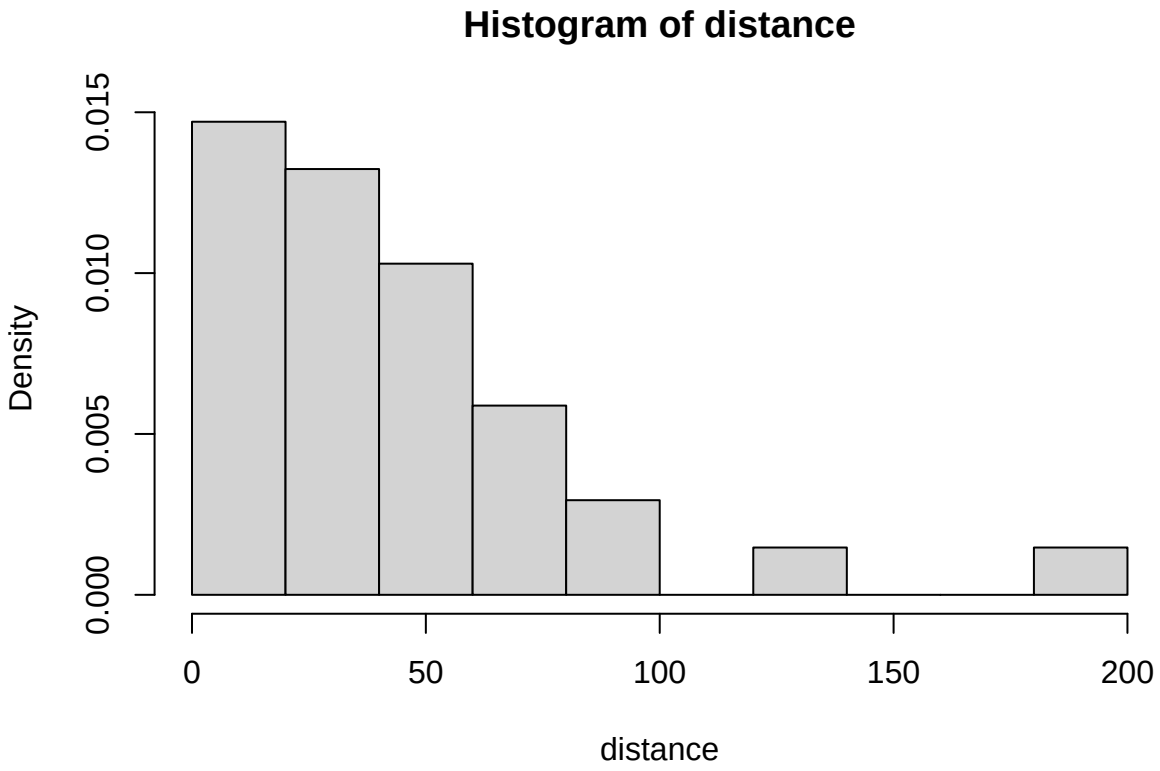
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1245616	1247571	1248409	1249136	1251694	1252161



`distance:`

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
3.719	19.67	34.82	45.44	57.36	191



`offer:`

Format = character.

Length	Class	Mode
34	character	character

info:

Format = character.

Length	Class	Mode
34	character	character

owner:

Format = character.

Length	Class	Mode
34	character	character

normal_tariff:

Format = character.

Length	Class	Mode
34	character	character

night_tariff:

Format = character.

Length	Class	Mode
34	character	character

sunday_tariff:

Format = character.

Length	Class	Mode
34	character	character

`hotel_guests_tariff:`

Format = character.

Length	Class	Mode
34	character	character

`major_events_letzigrund_tariff:`

Format = character.

Length	Class	Mode
34	character	character

`subscription:`

Format = character.

Length	Class	Mode
34	character	character

Parkopedia raw data: File description

Title: Zurich_garage_data_2022_parkopedia.Rda, Zurich_garage_data_2022_parkopedia.csv

Contents: Scraped data

Data collection: Data scraped from Parkopedia database for 36 parking garages in Zurich.

Unit of analysis: Parking garage

File Structure: Flat

Number of cases: 36. Variables per record: 17.

Details: Parking garage data not contained in the PLS database were collected from the Parkopedia webpage. A web scraping routine was written for this purpose. For each parking garage address not contained in the PLS, the address is queried on the Parkopedia webpage, returning a list of parking garages ordered by distance to the queried address. The names of the first 10 garages in the list are matched against the name provided in the Open Data Zurich data, and the data is stored if the names match at least partially. If no matching name is found, then the data from the nearest parking garage in the list is stored.

The scraped data is kept only if the retrieved name at least partially matches the parking garage name in the Zurich Open Data databse. The scraped addresses are then geocoded, and the scraped data closest to the Zurich Open Data entry are finally stored. This dataset contains all the raw scraped data from Parkopedia for possible further parsing and cleaning.

File format: R data format (.Rda), comma-separated (.csv)

Parkopedia raw data: Variables

`zod_id`:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1e+07	1e+07	1e+07	1e+07	1e+07	1e+07

`zod_name`:

Format = character.

Length	Class	Mode
36	character	character

`zod_address`:

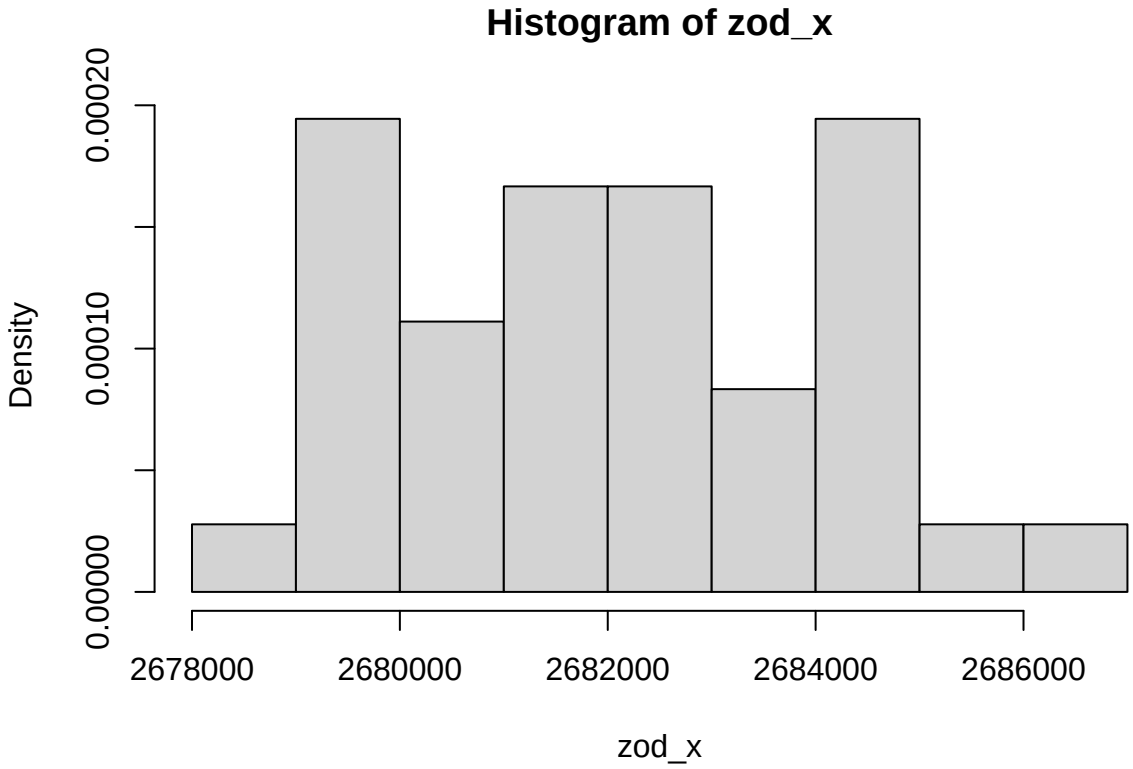
Format = character.

Length	Class	Mode
36	character	character

`zod_x`:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
2678896	2680675	2681981	2682086	2683796	2686685



zod_y:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1245083	1247436	1248552	1248493	1249378	1252705

name:

Format = character.

Length	Class	Mode
36	character	character

address:

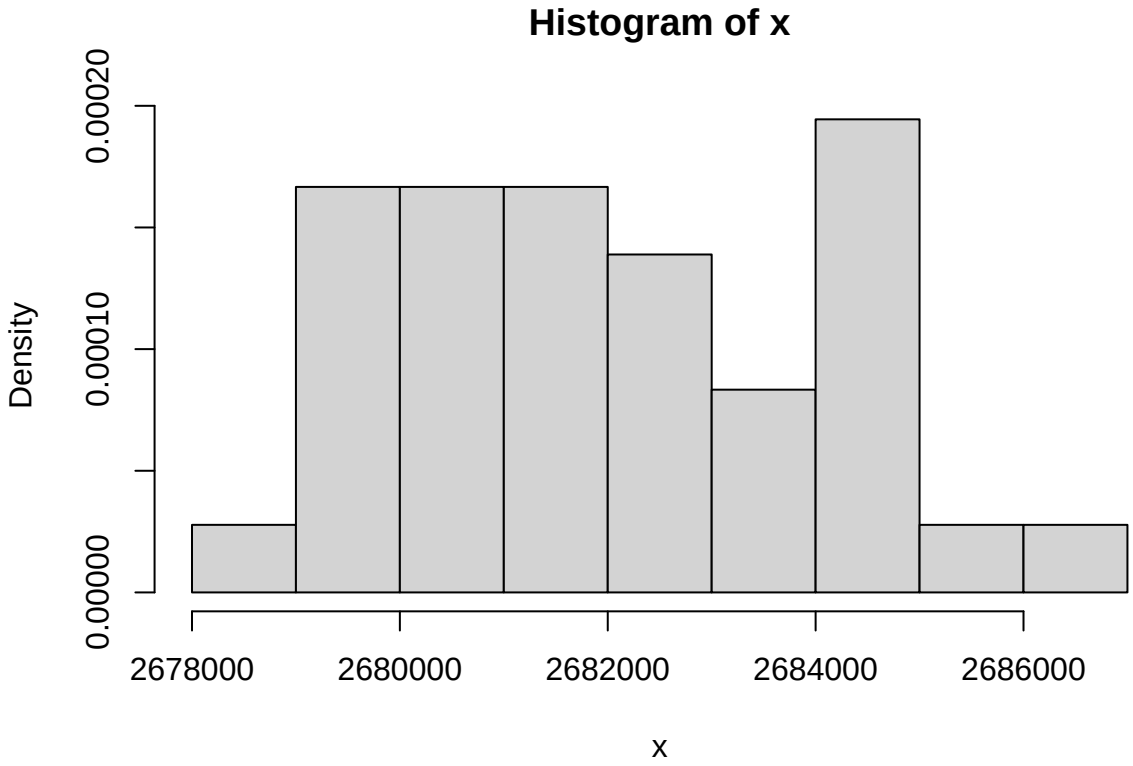
Format = character.

Length	Class	Mode
36	character	character

x:

Format = numeric.

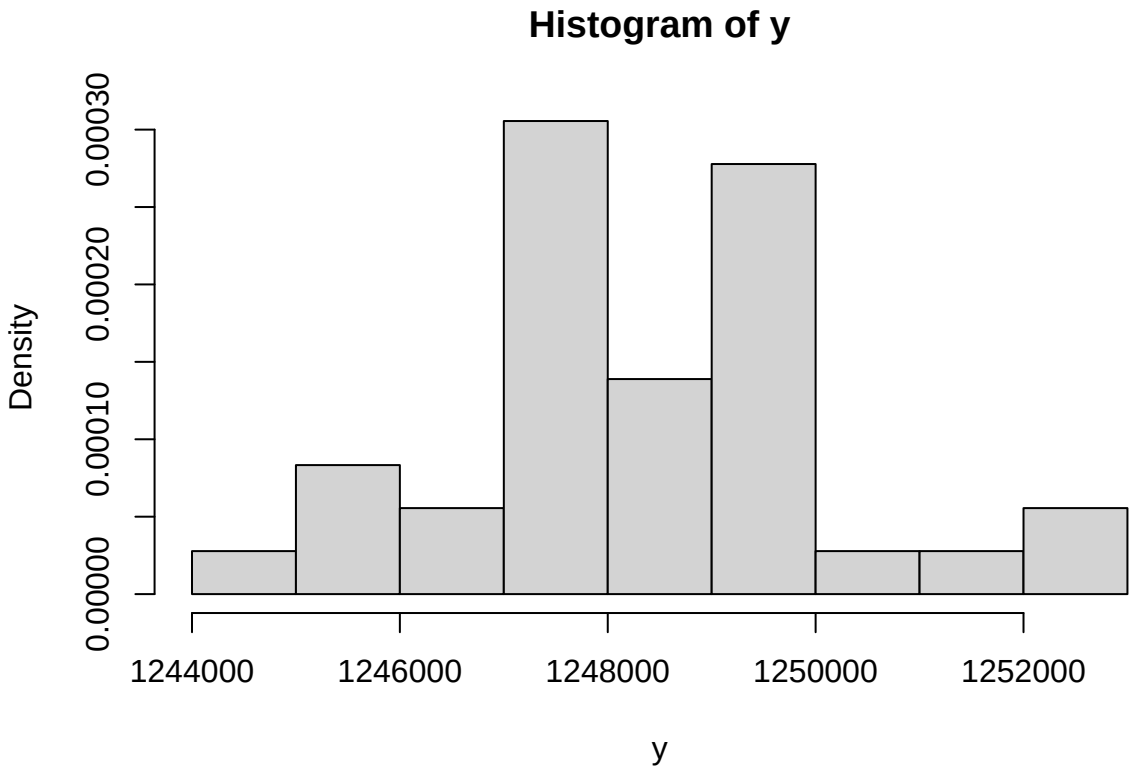
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
2678865	2680700	2681921	2682055	2683773	2686647



y:

Format = numeric.

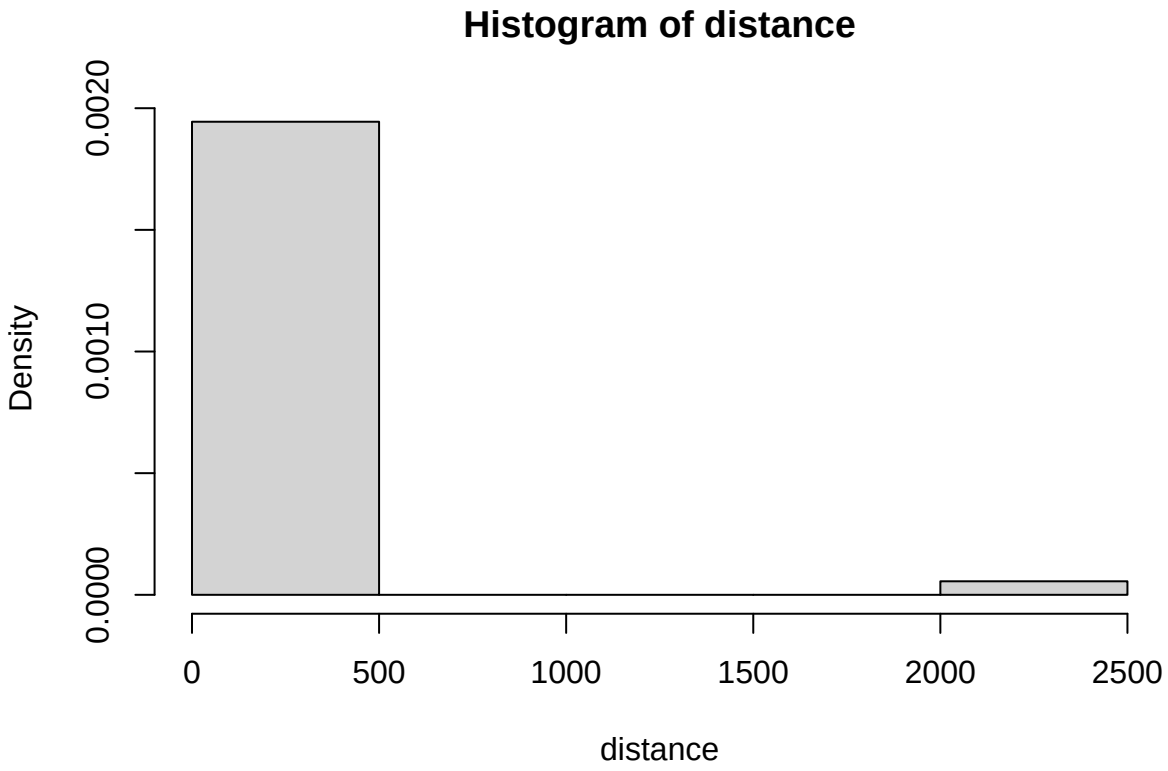
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1244938	1247461	1248580	1248447	1249384	1252672



`distance:`

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
2.812	24.47	49.34	124.8	85.6	2183



`ContactDetails:`

Format = character.

Length	Class	Mode
36	character	character

`Features:`

Format = character.

Length	Class	Mode
36	character	character

`Info:`

Format = character.

Length	Class	Mode
36	character	character

`OpeningTimes:`

Format = character.

Length	Class	Mode
36	character	character

`PaymentOptions:`

Format = character.

Length	Class	Mode
36	character	character

`Prices:`

Format = character.

Length	Class	Mode
36	character	character

`TitleBar:`

Format = character.

Length	Class	Mode
36	character	character

Parking garage cost data: File description

Title: Zurich_garage_data_2022.Rda, Zurich_garage_data_2022.csv

Contents: Scraped data

Data collection: Merged data scraped from PLS and Parkopedia databases for 68 parking garages in Zurich.

Unit of analysis: Parking garage

File Structure: Flat

Number of cases: 68. Variables per record: 33.

Details: This dataset contains the locations and cost information for 68 parking garages within the city limits of Zurich. The data provides the cost of parking in hourly intervals, from 1 hour to 24 hours, for each garage, as well as its distance to Zurich HB (main station).

File format: R data format (.Rda), comma-separated (.csv)

Parkopedia raw data: Variables

`zod_id`:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1	47.25	1e+07	5147406	1e+07	1e+07

`zod_name:`

Format = character.

Length	Class	Mode
68	character	character

`zod_address:`

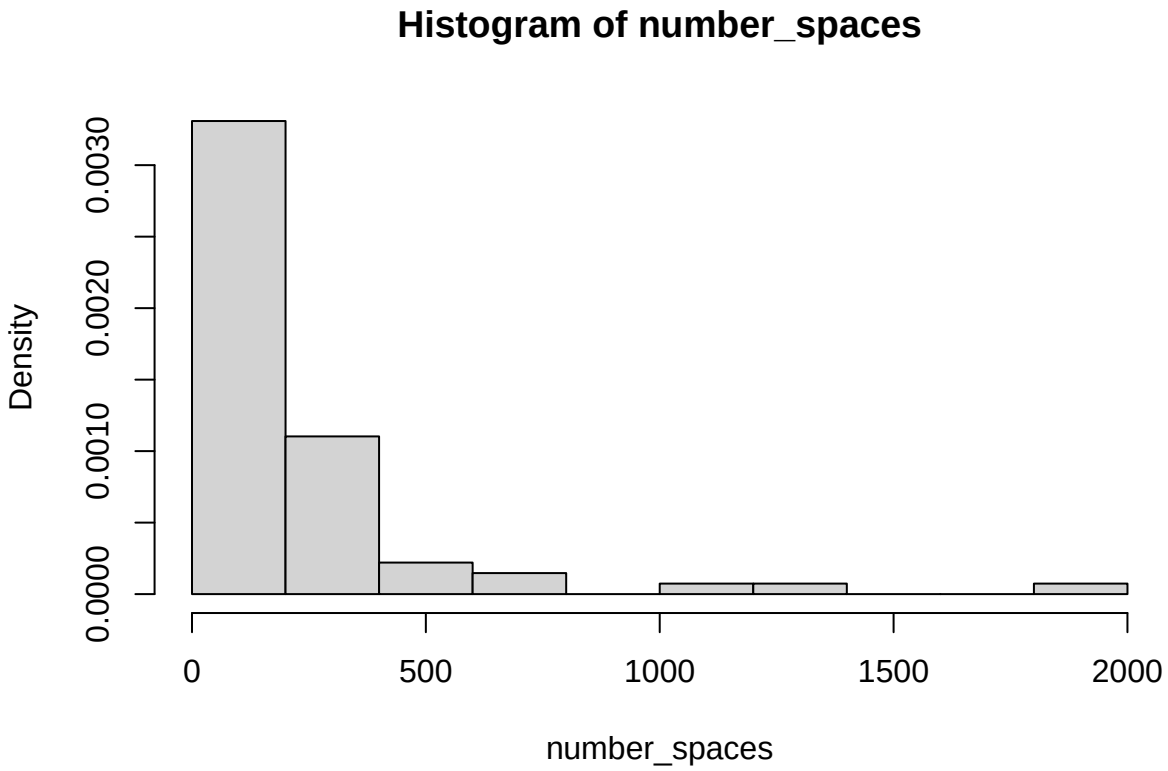
Format = character.

Length	Class	Mode
68	character	character

number_spaces:

Format = numeric.

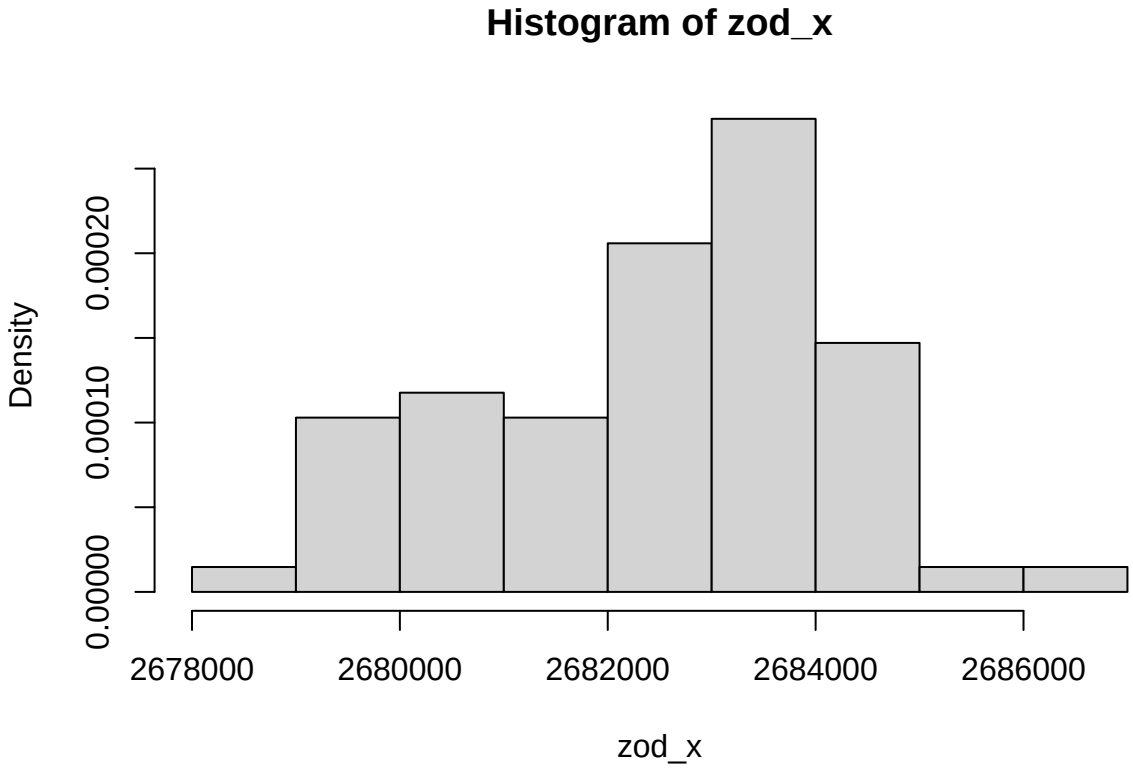
Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
20	60	121.5	220.9	258.5	1839



`zod_x`:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
2678896	2681216	2682897	2682492	2683707	2686685



zod_y:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1245083	1247444	1248393	1248783	1249712	1252705

HB_x:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
2683266	2683266	2683266	2683266	2683266	2683266

HB_y:

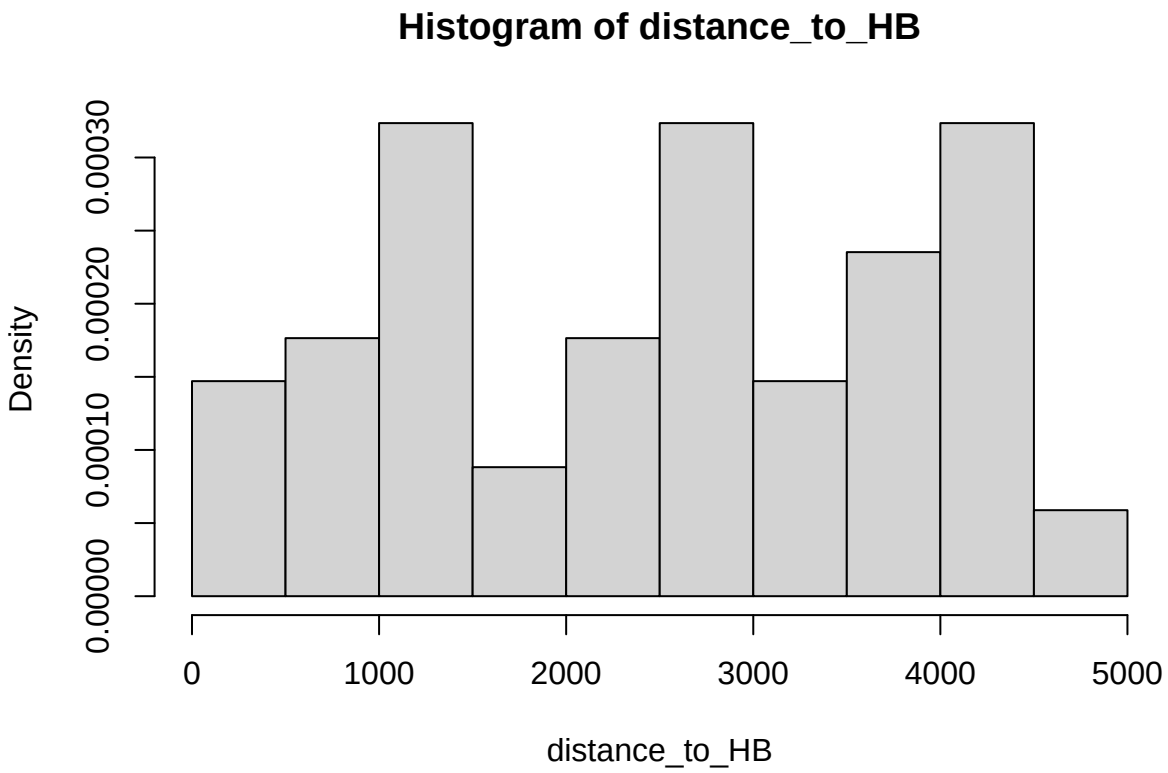
Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
1247930	1247930	1247930	1247930	1247930	1247930

distance_to_HB:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
280.9	1275	2585	2530	3912	4898



cost_1h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
0	1.5	2	2.376	3	12	1

cost_2h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
1	3.5	4.5	5.404	7	18	16

cost_3h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
0	5.5	7	8.976	12	24	26

cost_4h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
4	8	11.5	13.5	18.25	31	36

cost_5h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
9	12.25	16	18.59	24	38	46

cost_6h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
11	16	19	22.45	29	45	48

cost_7h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
14	20	22	25.26	32.5	40	49

cost_8h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
20	24	30	30.11	38	45	50

cost_9h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
23	27	33	33.73	42	44	53

cost_10h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
28	30	30	31.4	31	38	63

cost_11h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
34	34.5	35	34.67	35	35	65

cost_12h:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
37	37	37	37	37	37	67

cost_13h:

Format = logical.

Mode	NA's
logical	68

cost_14h:

Format = logical.

Mode	NA's
logical	68

cost_15h:

Format = logical.

Mode	NA's
logical	68

cost_16h:

Format = logical.

Mode	NA's
logical	68

cost_17h:

Format = logical.

Mode	NA's
logical	68

cost_18h:

Format = logical.

Mode	NA's
logical	68

cost_19h:

Format = logical.

Mode	NA's
logical	68

cost_20h:

Format = logical.

Mode	NA's
logical	68

`cost_21h`:

Format = logical.

Mode	NA's
logical	68

`cost_22h`:

Format = logical.

Mode	NA's
logical	68

`cost_23h`:

Format = logical.

Mode	NA's
logical	68

`cost_24h`:

Format = numeric.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
14	25	36	35.12	46	65	51