

Project documentation

Bike Sales Dataset

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From Chaos to Clarity

- Transforming raw data into valuable insights.

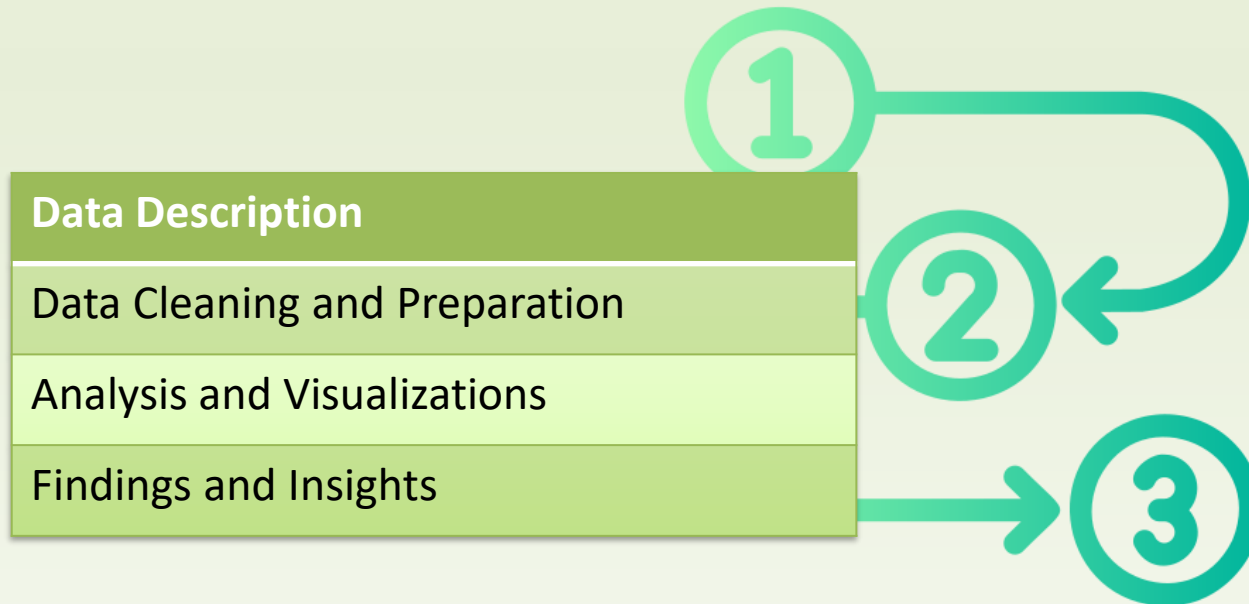
BEFORE

AFTER

ID	Marital	Statu	Gender	Income	Children	Education	Occupation	Home Owner	Cars	Commute Di	Region	Age	Purchased Bike
12496	M		F	\$40,000.00	1	Bachelors	Skilled Manu	Yes		0 0-1 Miles	Europe	42	No
24107	M		M	\$30,000.00	3	Partial Colleg	Clerical	Yes		1 0-1 Miles	Europe	43	No
14177	M		M	\$80,000.00	5	Partial Colleg	Professional	No		2 5-10 Miles	Europe	60	No
24383	S		M	\$70,000.00	0	Bachelors	Professional	Yes		1 5-10 Miles	North Ameri	41	Yes
25597	S		M	\$30,000.00	0	Bachelors	Clerical	No		0 0-1 Miles	Europe	36	Yes
13307	M		F	\$10,000.00	2	Partial Colleg	Manual	Yes		0 1-2 Miles	Europe	50	No
27974	S		M	\$160,000.00	2	High School	Management	Yes		4 6-1 Miles	North Ameri	33	Yes
19364	M		M	\$40,000.00	1	Bachelors	Skilled Manu	Yes		0 0-1 Miles	Europe	43	Yes
22155	M		M	\$20,000.00	2	Partial High S	Clerical	Yes		2 5-10 Miles	North Ameri	58	No
19280	M		M	\$120,000.00	2	Partial Colleg	Manual	Yes		1 0-1 Miles	Europe	40	Yes
22175	M		F	\$30,000.00	3	High School	Skilled Manu	No		2 1-2 Miles	North Ameri	54	Yes
12075	S		F	\$90,000.00	0	Bachelors	Professional	No		4 10+ Miles	North Ameri	36	No
11434	M		M	\$170,000.00	5	Partial Colleg	Professional	Yes		0 0-1 Miles	Europe	55	No
25323	M		M	\$40,000.00	2	Partial Colleg	Clerical	Yes		1 1-2 Miles	Europe	35	Yes
23542	S		M	\$60,000.00	1	Partial Colleg	Skilled Manu	No		1 0-1 Miles	North Ameri	45	Yes
20870	S		F	\$10,000.00	2	High School	Manual	Yes		1 0-1 Miles	Europe	38	Yes
23116	S		M	\$30,000.00	3	Partial Colleg	Clerical	No		2 1-2 Miles	North Ameri	59	Yes
19210	M		F	\$30,000.00	1	Bachelors	Clerical	Yes		0 0-1 Miles	Europe	47	No
27383	S		M	\$40,000.00	2	Partial Colleg	Clerical	Yes		1 1-2 Miles	Europe	35	Yes
25940	S		M	\$20,000.00	2	Partial High S	Clerical	Yes		2 5-10 Miles	North Ameri	55	Yes
25590	M		F	\$40,000.00	0	Graduate Deg	Clerical	Yes		0 0-1 Miles	Europe	36	Yes
23164	S		F	\$80,000.00	0	Bachelors	Professional	Yes		4 10+ Miles	North Ameri	35	No
19193	S		M	\$40,000.00	2	Partial Colleg	Clerical	Yes		0 1-2 Miles	Europe	35	Yes
26412	M		F	\$80,000.00	5	High School	Management	No		3 5-10 Miles	Europe	56	No
27184	S		M	\$40,000.00	2	Partial Colleg	Clerical	No		1 0-1 Miles	Europe	34	No
12590	S		M	\$30,000.00	1	Bachelors	Clerical	Yes		0 0-1 Miles	Europe	63	No
17841	S		M	\$30,000.00	0	Partial Colleg	Clerical	No		1 0-1 Miles	Europe	29	Yes
18283	S		F	\$100,000.00	0	Bachelors	Professional	No		1 5-10 Miles	North Ameri	40	No
16299	M		M	\$70,000.00	5	Partial Colleg	Skilled Manu	Yes		2 5-10 Miles	North Ameri	44	No
16466	S		F	\$20,000.00	0	Partial High S	Manual	No		2 0-1 Miles	Europe	52	Yes
19273	M		F	\$20,000.00	2	Partial Colleg	Manual	Yes		0 0-1 Miles	Europe	63	No
22400	M		M	\$10,000.00	0	Partial Colleg	Manual	No		1 0-1 Miles	North Ameri	26	Yes
20942	S		F	\$20,000.00	0	High School	Manual	No		1 5-10 Miles	Europe	31	No
18484	S		M	\$80,000.00	2	High School	Skilled Manu	No		2 1-2 Miles	North Ameri	50	Yes
12293	S		M	\$90,000.00	5	Partial Colleg	Professional	No		2 2-5 Miles	Europe	62	Yes



Agenda



Data Description

This dataset contains customer information, including demographic details (such as **marital status, gender, income, education, occupation, children, and age**), lifestyle factors (**homeownership, number of cars, commute distance, region**), and whether they **purchased a bike**.

- The aim of this survey is to analyze bicycle preferences so that we can target the optimal customer segments to improve sales opportunities in the bicycle market.



Data Cleaning and Preparation

steps in the data cleaning and preparation phase, which are essential for making the dataset ready for analysis and visualization:

- Remove Duplicates: Ensured each record is unique.
- Find and Replace Values: Corrected inconsistencies in data (e.g. "Male" vs "male").
- Categorize Data: Grouped values like income into categories (e.g. low, medium, high).

Other important cleaning tasks to focus on:

- Handling Missing Data.
- Converting Data Types.



Analysis and Visualizations

The process combines both **analysis** and **visualization** to not only explore the data but also present it in an engaging, interactive format.

Process :

- Pivot Tables: help summarize and analyze the data effectively.
- Charts: make trends and patterns easier to understand.
- Dashboards: gather key insights in one interactive place.
- Slicers: add interactivity, allowing easy filtering of data.



Findings and Insights

Income

People with higher incomes (over \$80,000) and those with a good salary (\$30,000 - \$80,000) have more interest in purchasing a bike than people with a low income.

Commute Distance

People with a daily commute distance between one to five miles are more likely to purchase a bike, and those with a distance greater than five miles show even higher interest in bikes.

Region

In Europe and North America, around 49% of people from Europe and 47% from North America have purchased a bike, showing a similar interest across these regions.



Gender

There's almost an equal interest in bike purchases between males (47%) and females (48%), with only a 1% difference.

Age

Adults between 25 and 39 years old, as well as people aged 40 to 60, show more interest in buying bikes compared to those over 61. Especially adults aged 40 to 60, with 55% of them already owning a bike.

These insights give you a clearer picture of the factors influencing bike purchases, which could be useful for targeting specific customer groups.

Attachment

Row Dataset

Automatisches Speichern

Bike Sales Dataset Full Project (1) • Auf "diesem PC" gespeichert

Suchen

Kommentare

Freigeben

DateiStartEinfügenSeitenlayoutFormelnDatenÜberprüfenAnsichtHilfe

Einfügen

Calibri11

F

K

U

Striktd

Textumbruch

Verbinden und zentrieren

Standard

Bedingte Formatierung

Als Tabelle formatieren

Zellenformatvorlagen

Einfügen

Löschen

Format

AutoSumme

Ausfüllen

Löschen

Sortieren und Filtern

Suchen und Auswählen

Add-Ins

Datenanalyse

Copilot

SchriftartAusrichtungZahlFormatvorlagenZellenBearbeiten

N14

fx

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	ID	Marital Statu	Gender	Income	Children	Education	Occupation	Home Owner	Cars	Commute Di	Region	Age	Purchased Bike									
2	12496	M	F	\$40,000.00		1 Bachelors	Skilled Manu	Yes		0 0-1 Miles	Europe	42	No									
3	24107	M	M	\$30,000.00		3 Partial Colleg	Clerical	Yes		1 0-1 Miles	Europe	43	No									
4	14177	M	M	\$80,000.00		5 Partial Colleg	Professional	No		2 2-5 Miles	Europe	60	No									
5	24381	S	M	\$70,000.00		0 Bachelors	Professional	Yes		1 5-10 Miles	North Americ	41	Yes									
6	25597	S	M	\$30,000.00		0 Bachelors	Clerical	No		0 0-1 Miles	Europe	36	Yes									
7	13507	M	F	\$10,000.00		2 Partial Colleg	Manual	Yes		0 1-2 Miles	Europe	50	No									
8	27974	S	M	\$160,000.00		2 High School	Management	Yes		4 0-1 Miles	North Americ	33	Yes									
9	19364	M	M	\$40,000.00		1 Bachelors	Skilled Manu	Yes		0 0-1 Miles	Europe	43	Yes									
10	22155	M	M	\$20,000.00		2 Partial High S	Clerical	Yes		2 5-10 Miles	North Americ	58	No									
11	19280	M	M	\$120,000.00		2 Partial Colleg	Manual	Yes		1 0-1 Miles	Europe	40	Yes									
12	22173	M	F	\$30,000.00		3 High School	Skilled Manu	No		2 1-2 Miles	North Americ	54	Yes									
13	12697	S	F	\$90,000.00		0 Bachelors	Professional	No		4 10+ Miles	North Americ	36	No									
14	11434	M	M	\$170,000.00		5 Partial Colleg	Professional	Yes		0 0-1 Miles	Europe	55	No									
15	25323	M	M	\$40,000.00		2 Partial Colleg	Clerical	Yes		1 1-2 Miles	Europe	35	Yes									
16	23542	S	M	\$60,000.00		1 Partial Colleg	Skilled Manu	No		1 0-1 Miles	North Americ	45	Yes									
17	20870	S	F	\$10,000.00		2 High School	Manual	Yes		1 0-1 Miles	Europe	38	Yes									
18	23316	S	M	\$30,000.00		3 Partial Colleg	Clerical	No		2 1-2 Miles	North Americ	59	Yes									
19	12610	M	F	\$30,000.00		1 Bachelors	Clerical	Yes		0 0-1 Miles	Europe	47	No									
20	27183	S	M	\$40,000.00		2 Partial Colleg	Clerical	Yes		1 1-2 Miles	Europe	35	Yes									
21	25940	S	M	\$20,000.00		2 Partial High S	Clerical	Yes		2 5-10 Miles	North Americ	55	Yes									
22	25598	M	F	\$40,000.00		0 Graduate Deg	Clerical	Yes		0 0-1 Miles	Europe	36	Yes									
23	21564	S	F	\$80,000.00		0 Bachelors	Professional	Yes		4 10+ Miles	North Americ	35	No									
24	19193	S	M	\$40,000.00		2 Partial Colleg	Clerical	Yes		0 1-2 Miles	Europe	35	Yes									
25	26412	M	F	\$80,000.00		5 High School	Management	No		3 5-10 Miles	Europe	56	No									
26	27184	S	M	\$40,000.00		2 Partial Colleg	Clerical	No		1 0-1 Miles	Europe	34	No									
27	12590	S	M	\$30,000.00		1 Bachelors	Clerical	Yes		0 0-1 Miles	Europe	63	No									
28	17841	S	M	\$30,000.00		0 Partial Colleg	Clerical	No		1 0-1 Miles	Europe	29	Yes									
29	18283	S	F	\$100,000.00		0 Bachelors	Professional	No		1 5-10 Miles	North Americ	40	No									
30	18299	M	M	\$70,000.00		5 Partial Colleg	Skilled Manu	Yes		2 5-10 Miles	North Americ	44	No									
31	16466	S	F	\$20,000.00		0 Partial High S	Manual	No		2 0-1 Miles	Europe	32	Yes									
32	19273	M	F	\$20,000.00		2 Partial Colleg	Manual	Yes		0 0-1 Miles	Europe	63	No									
33	22400	M	M	\$10,000.00		0 Partial Colleg	Manual	No		1 0-1 Miles	North Americ	26	Yes									
34	20942	S	F	\$20,000.00		0 High School	Manual	No		1 5-10 Miles	Europe	31	No									
35	18484	S	M	\$80,000.00		2 High School	Skilled Manu	No		2 1-2 Miles	North Americ	50	Yes									
36	12291	S	M	\$90,000.00		5 Partial Colleg	Professional	No		2 2-5 Miles	Europe	62	Yes									
37	28380	S	F	\$10,000.00		5 Partial High S	Manual	No		2 0-1 Miles	Europe	41	No									

bike_buyers

Data Cleaning

Pivot table

dashboard

+

Bereit

Barrierefreiheit: Untersuchen

100%

Attachment

Data Cleaning and Preparation

Automatisches Speichern Bike Sales Dataset Full Project (1) Suchen

Datei Start Einfügen Seitenlayout Formeln Daten Überprüfen Ansicht Hilfe Kommentare Freigeben

Daten abrufen Aus Text/CSV Aus dem Web Von Bild Zuletzt verwendete Quellen Aus Tabelle/Bereich Vorhandene Verbindungen Alle aktualisieren Eigenschaften Workbook Links Abfragen und Verbindungen Datentypen Sortieren und Filtern Text in Spalten Was-wäre-wenn-Analyse Prognose Gruppieren Gruppierung aufheben Teilergebnis

R12

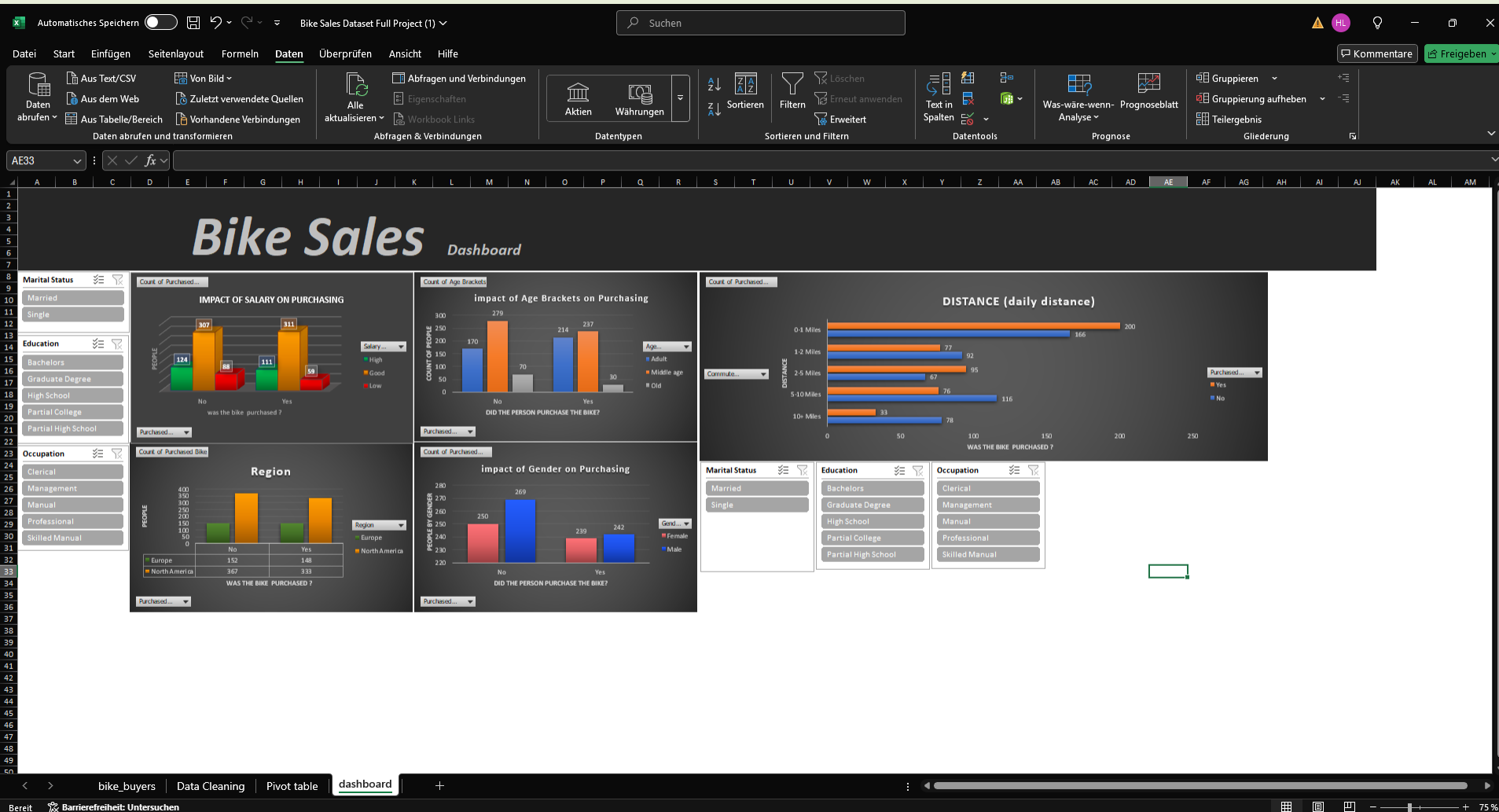
ID	Marital Status	Gender	Income	Salary Level	Children	Education	Occupation	Home Ownr	Cars	Commute Distance	Region	Age	Age Brackets	Purchased Bike
12496	Married	Female	€ 40.000	Good	1	Bachelors	Skilled Manual	Yes		0-1 Miles	Europe	42	Middle age	No
24107	Married	Male	€ 30.000	Good	3	Partial College	Clerical	Yes		1-1 Miles	Europe	43	Middle age	No
14177	Married	Male	€ 80.000	High	5	Partial College	Professional	No		2-5 Miles	Europe	60	Middle age	No
24381	Single	Male	€ 70.000	Good	0	Bachelors	Professional	Yes		1-5-10 Miles	North America	41	Middle age	Yes
25597	Single	Male	€ 30.000	Good	0	Bachelors	Clerical	No		0-1 Miles	Europe	36	Adult	Yes
13507	Married	Female	€ 10.000	Low	2	Partial College	Manual	Yes		0-1-2 Miles	Europe	50	Middle age	No
27974	Single	Male	€ 160.000	High	2	High School	Management	Yes		4-10 Miles	North America	33	Adult	Yes
19364	Married	Male	€ 40.000	Good	1	Bachelors	Skilled Manual	Yes		0-1 Miles	Europe	43	Middle age	Yes
22155	Married	Male	€ 20.000	Low	2	Partial High School	Clerical	Yes		2-5-10 Miles	North America	58	Middle age	No
19280	Married	Male	€ 120.000	High	2	Partial College	Manual	Yes		1-1 Miles	Europe	40	Middle age	Yes
22173	Married	Female	€ 30.000	Good	3	High School	Skilled Manual	No		2-1-2 Miles	North America	54	Middle age	Yes
12697	Single	Female	€ 90.000	High	0	Bachelors	Professional	No		4-10+ Miles	North America	36	Adult	No
11434	Married	Male	€ 170.000	High	5	Partial College	Professional	Yes		0-1 Miles	Europe	55	Middle age	No
25323	Married	Male	€ 40.000	Good	2	Partial College	Clerical	Yes		1-1-2 Miles	Europe	35	Adult	Yes
23542	Single	Male	€ 60.000	Good	1	Partial College	Skilled Manual	No		1-0-1 Miles	North America	45	Middle age	Yes
20870	Single	Female	€ 10.000	Low	2	High School	Manual	Yes		1-0-1 Miles	Europe	38	Adult	Yes
23316	Single	Male	€ 30.000	Good	3	Partial College	Clerical	No		2-1-2 Miles	North America	59	Middle age	Yes
12610	Married	Female	€ 30.000	Good	1	Bachelors	Clerical	Yes		0-1 Miles	Europe	47	Middle age	No
27183	Single	Male	€ 40.000	Good	2	Partial College	Clerical	Yes		1-1-2 Miles	Europe	35	Adult	Yes
25940	Single	Male	€ 20.000	Low	2	Partial High School	Clerical	Yes		2-5-10 Miles	North America	55	Middle age	Yes
25598	Married	Female	€ 40.000	Good	0	Graduate Degree	Clerical	Yes		0-1 Miles	Europe	36	Adult	Yes
21564	Single	Female	€ 80.000	High	0	Bachelors	Professional	Yes		4-10+ Miles	North America	35	Adult	No
19193	Single	Male	€ 40.000	Good	2	Partial College	Clerical	Yes		0-1-2 Miles	Europe	35	Adult	Yes
26412	Married	Female	€ 80.000	High	5	High School	Management	No		3-5-10 Miles	Europe	56	Middle age	No
27184	Single	Male	€ 40.000	Good	2	Partial College	Clerical	No		1-0-1 Miles	Europe	34	Adult	No
12590	Single	Male	€ 30.000	Good	1	Bachelors	Clerical	Yes		0-1 Miles	Europe	63	Old	No
17841	Single	Male	€ 30.000	Good	0	Partial College	Clerical	No		1-0-1 Miles	Europe	29	Adult	Yes
18283	Single	Female	€ 100.000	High	0	Bachelors	Professional	No		1-5-10 Miles	North America	40	Middle age	No
18299	Married	Male	€ 70.000	Good	5	Partial College	Skilled Manual	Yes		2-5-10 Miles	North America	44	Middle age	No
16466	Single	Female	€ 20.000	Low	0	Partial High School	Manual	No		2-0-1 Miles	Europe	32	Adult	Yes
19273	Married	Female	€ 20.000	Low	2	Partial College	Manual	Yes		0-0-1 Miles	Europe	63	Old	No
22400	Married	Male	€ 10.000	Low	0	Partial College	Manual	No		1-0-1 Miles	North America	26	Adult	Yes
20942	Single	Female	€ 20.000	Low	0	High School	Manual	No		1-5-10 Miles	Europe	31	Adult	No
18484	Single	Male	€ 80.000	High	2	High School	Skilled Manual	No		2-1-2 Miles	North America	50	Middle age	Yes
12291	Single	Male	€ 90.000	High	5	Partial College	Professional	No		2-2-5 Miles	Europe	62	Old	Yes
28380	Single	Female	€ 10.000	Low	5	Partial High School	Manual	No		2-0-1 Miles	Europe	41	Middle age	No

bike_buyers Data Cleaning Pivot table dashboard + 100 %

Bereit Barrierefreiheit: Untersuchen

Attachment

Analysis and Visualizations



Thank you for your attention