

C.A.R. OPEN DATA

Car Accidents Rome

An insight into the Romans' Life



Curated by:

Luca Animati
Leonardo Nicola Palma

INTRODUCTION

Reason

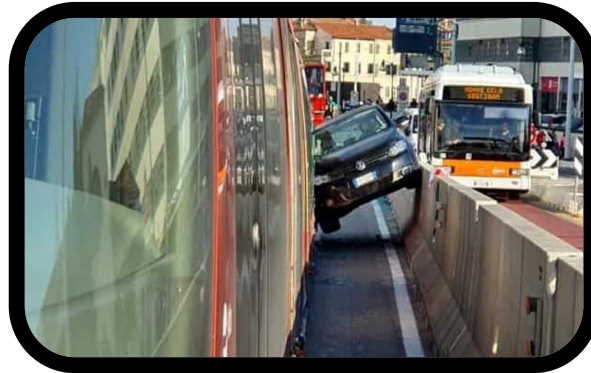
According to INRIX research, Rome is the most congested city in Italy.

Focus

Most afflicted roads/areas.
Uncover patterns and correlations.



Looking out of the window of an ATAC Bus...



Yeah, Romans are not known for their patience...



DATASET

Provided by OpenData Roma

Road

Name of the road

Coordinates

Longitude and Latitude

Date and Time

day/month/year
hours : minutes

Injured

Number of injured
people

Deaths

Fatalities

Vehicle Type

Car/motorcycle



TABLE OF CONTENTS (ROADMAP)

01

Data Evaluation

Numbers and percentages

Data Visualization

Plotting

02

03

Geographical Distribution

Density maps and point plot of the most dangerous roads.

Network

Road relationships based on date.

04



DATA EVALUATION

Numbers and percentages

01

Crunching Data



Date

From 2006 to
August 2022



Total Accidents

~ 530k Accidents
~ 86 Accidents per Day
~ 1.3 mln People



Sex

74% Men
26% Women

M

F



Vehicle

68% Cars
32% Motorcycles

C

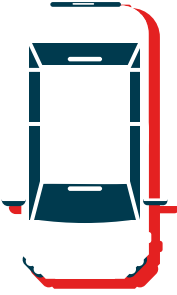
M



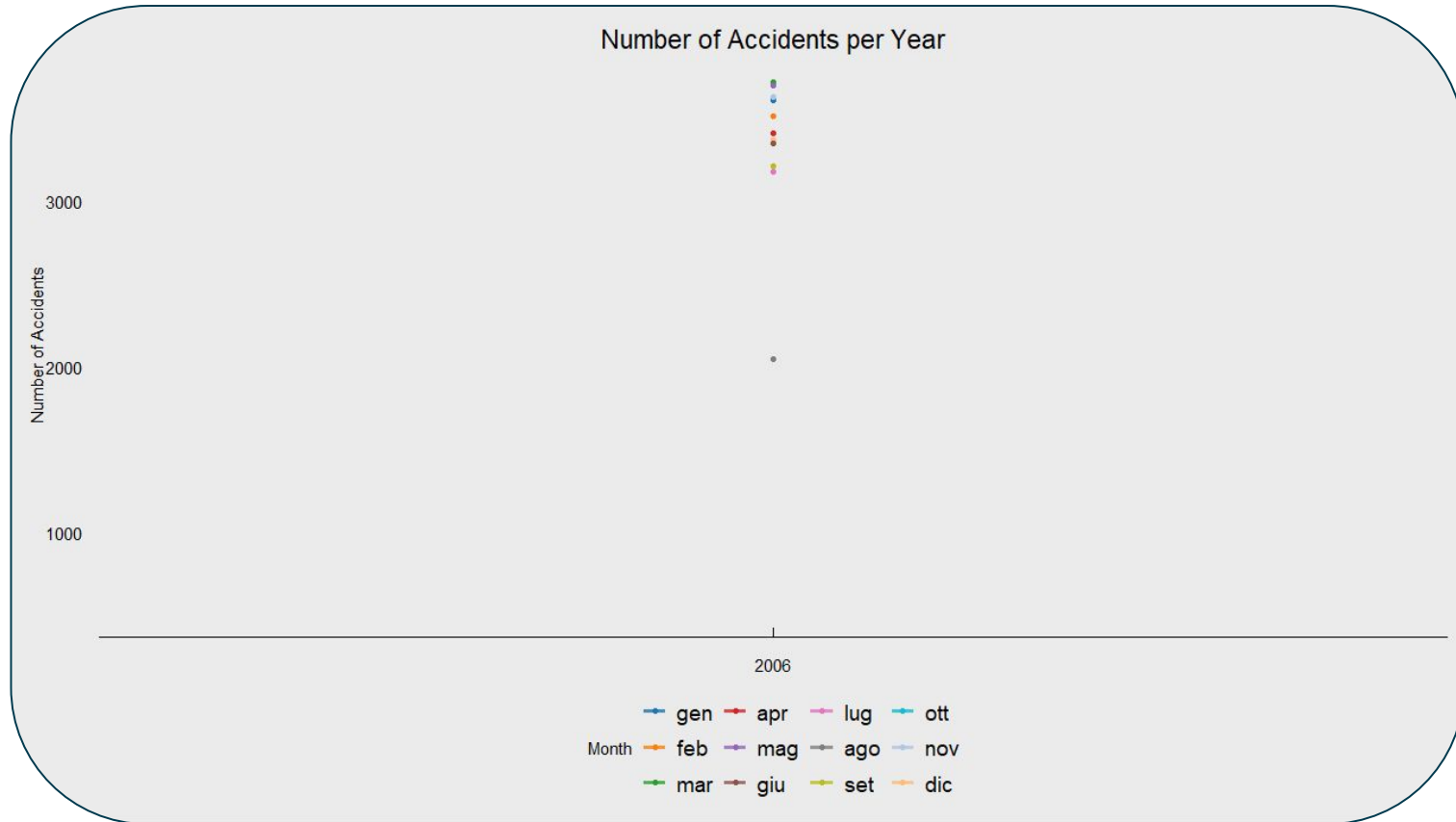
DATA VISUALIZATION

Accidents over Time

02



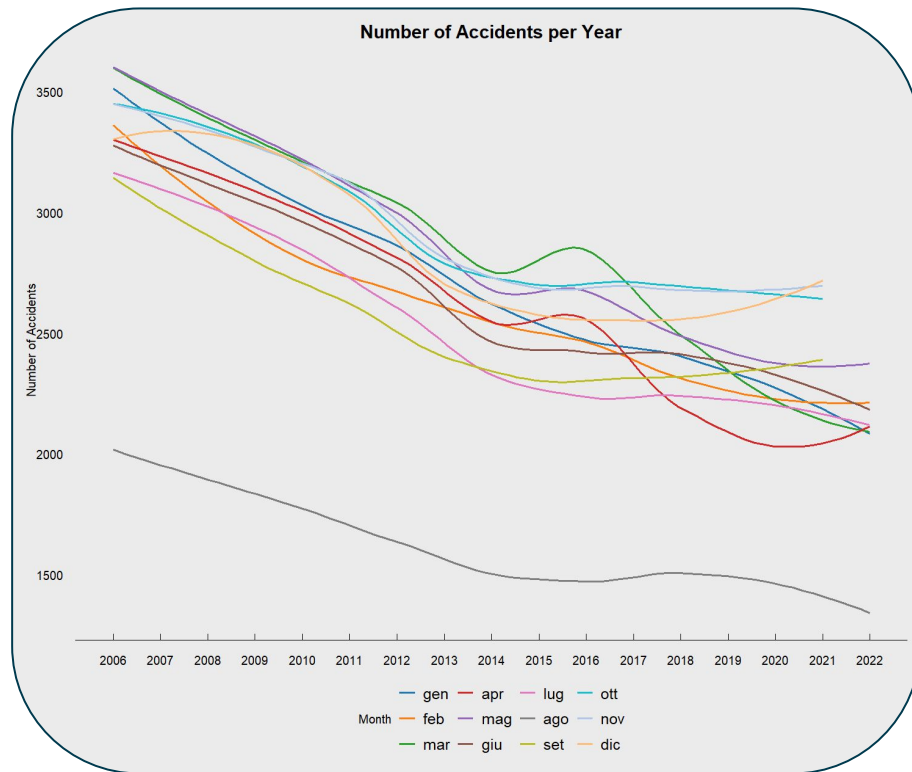
Accidents over Years



Accidents Trend

Average of Accidents per Month

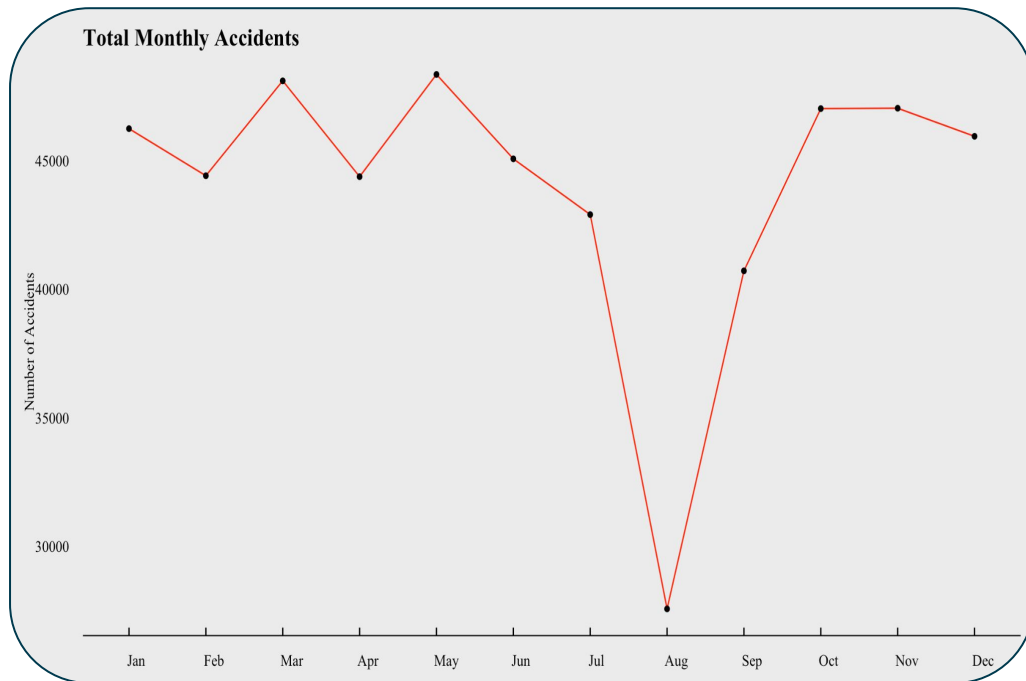
Jan: 3083	Apr: 2958	Jul: 2860	Oct: 3135
Feb: 2916	May: 3223	Aug: 1837	Nov: 3136
Mar: 3207	Jun: 3004	Sep: 2714	Dec: 3063
Winter: 9206	Spring: 9185	Summer: 7411	Autumn: 9334



Accidents Trend

Average of Accidents per Month

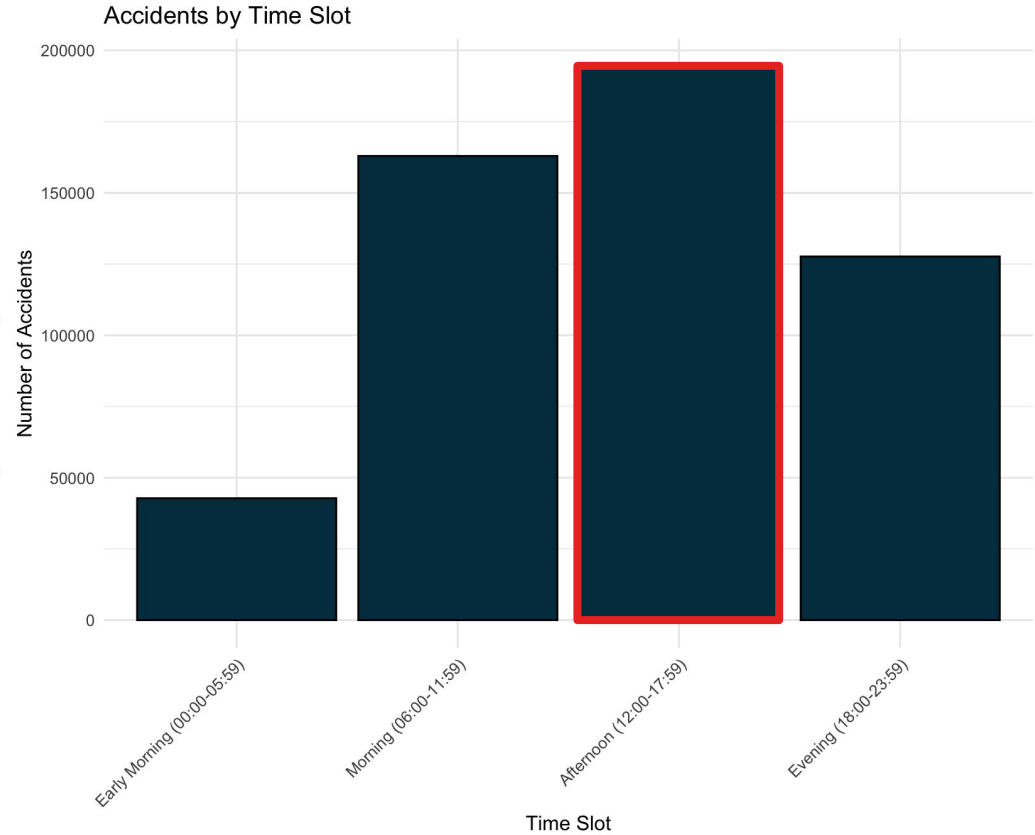
Jan: 3083	Apr: 2958	Jul: 2860	Oct: 3135
Feb: 2916	May: 3223	<u>Aug: 1837</u>	Nov: 3136
Mar: 3207	Jun: 3004	Sep: 2714	Dec: 3063
Winter: 9206	Spring: 9185	Summer: 7411	Autumn: 9334



Accidents Trend

Average of Accidents by Time Slot

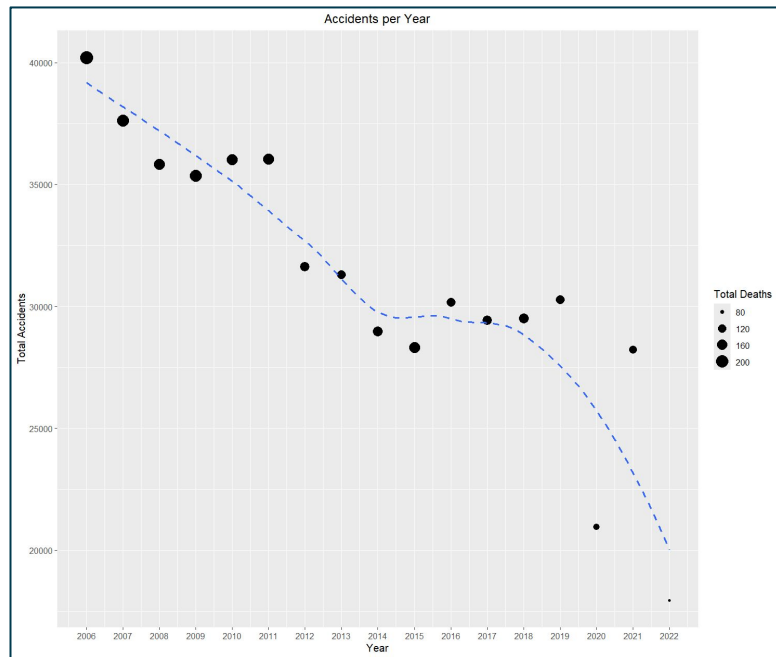
(Very) Early Morning	Morning	Afternoon	Evening
7	26	32	21



Deaths Trend

Number of Deaths per Year

2006: 214	2009: 188	2012: 140	2015: 162	2018: 146	2021: 109
2007: 194	2010: 164	2013: 130	2016: 127	2019: 131	2022: 78*
2008: 171	2011: 166	2014: 149	2017: 140	<u>2020: 94</u>	
579	518	419	429	371	187*

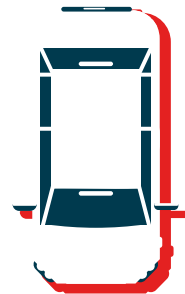


*The data stops at the end of August 2022 because of the police department database being under maintenance.

Geographical Distribution

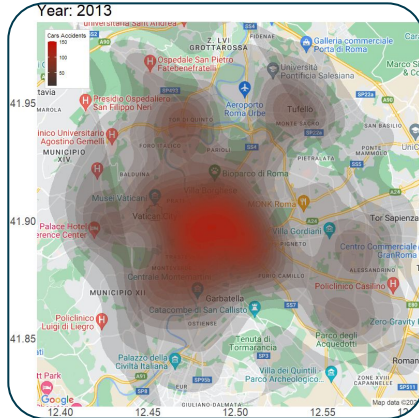
A look into the most dangerous areas

03

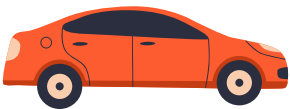


Density Maps

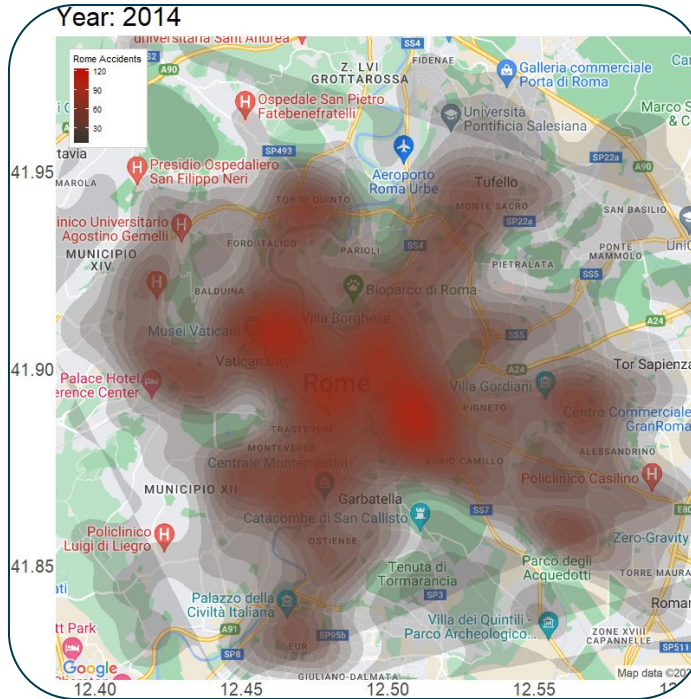
Cars Accidents



1 Deadly Accident every **5.06 Accidents**

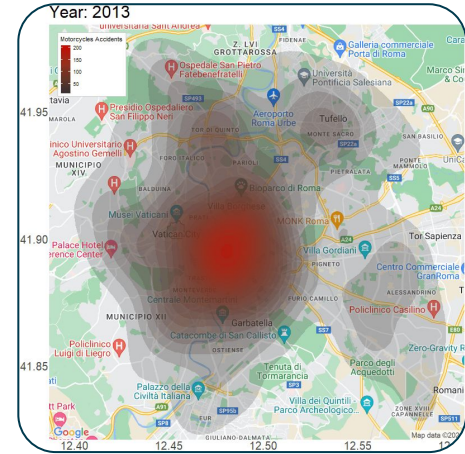


Rome Accidents



1 Deadly Accident every **5.3 Accidents**

Motorcycles Accidents

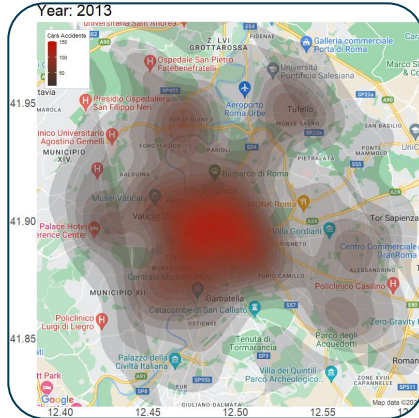


1 Deadly Accident every **6.45 Accidents**



Density Maps

Cars Accidents

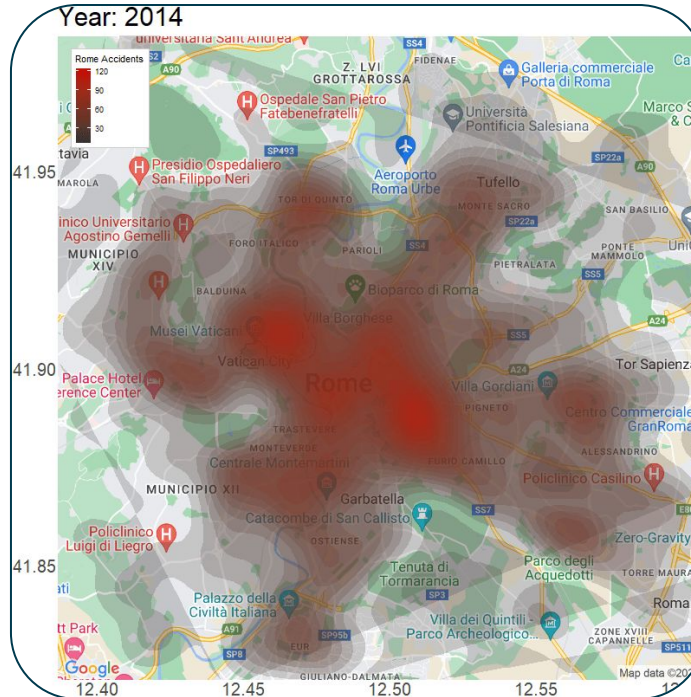


Tot. Num. Cars: **~1.77mln**
Tot. Deadly Accidents : **71520**

Deadly Accident Rate per Car: **4.04%**



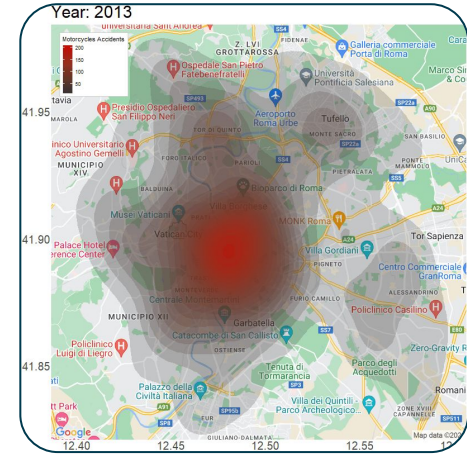
Rome Accidents



Tot. Num. Vehicles: **~2.1mln**
Tot. Deadly Accidents : **99141**

Deadly Accident Rate per Vehicle: **4.60%**

Motorcycles Accidents



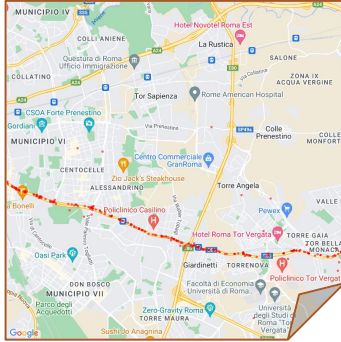
Tot. Num. Motorcycles: **~385k**
Tot. Deadly Accidents : **21952**

Deadly Accident Rate per Motorcycle: **5.70%**



Point Maps

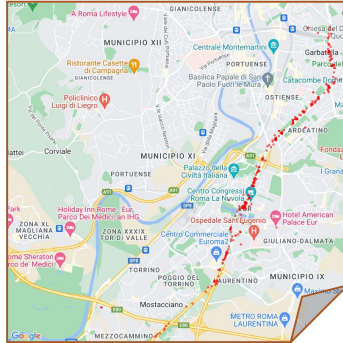
Casilina



Avg. per Year:

687

Colombo

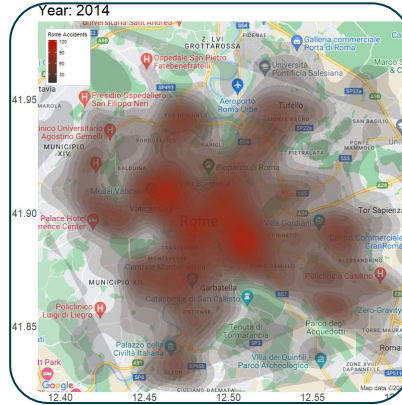


Avg. per Year:

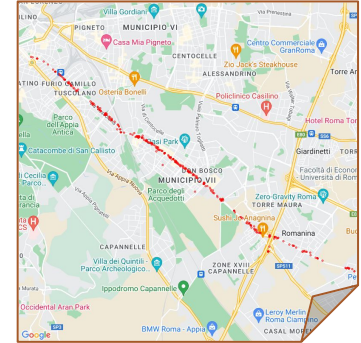
662

Rome Accidents The 5 Most Dangerous Roads:

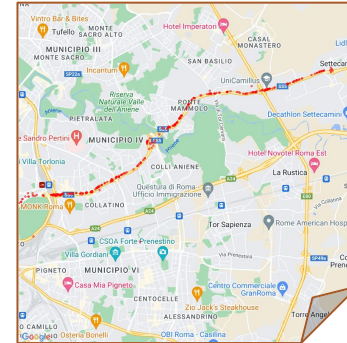
47858 out of **528765**



Tuscolana



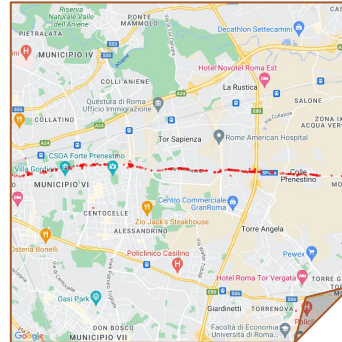
Tiburtina



Avg. per Year:

476

Prenestina



Avg. per Year:

604

Avg. per Year:

562

Network

A Temporal Relationship between Roads

04



Edges: Temporal Connections per Month

Node Size: Number of Connections

Weight: Number of Composed Accidents

Density:
0.614

Num. of Edges:
142

THANK YOU!

From the
C.A.R. Team

github.com/lucadroid



Do you have any questions?

animati.1935417@studenti.uniroma1.it
palma.2043253@studenti.uniroma1.it



github.com/leothdev