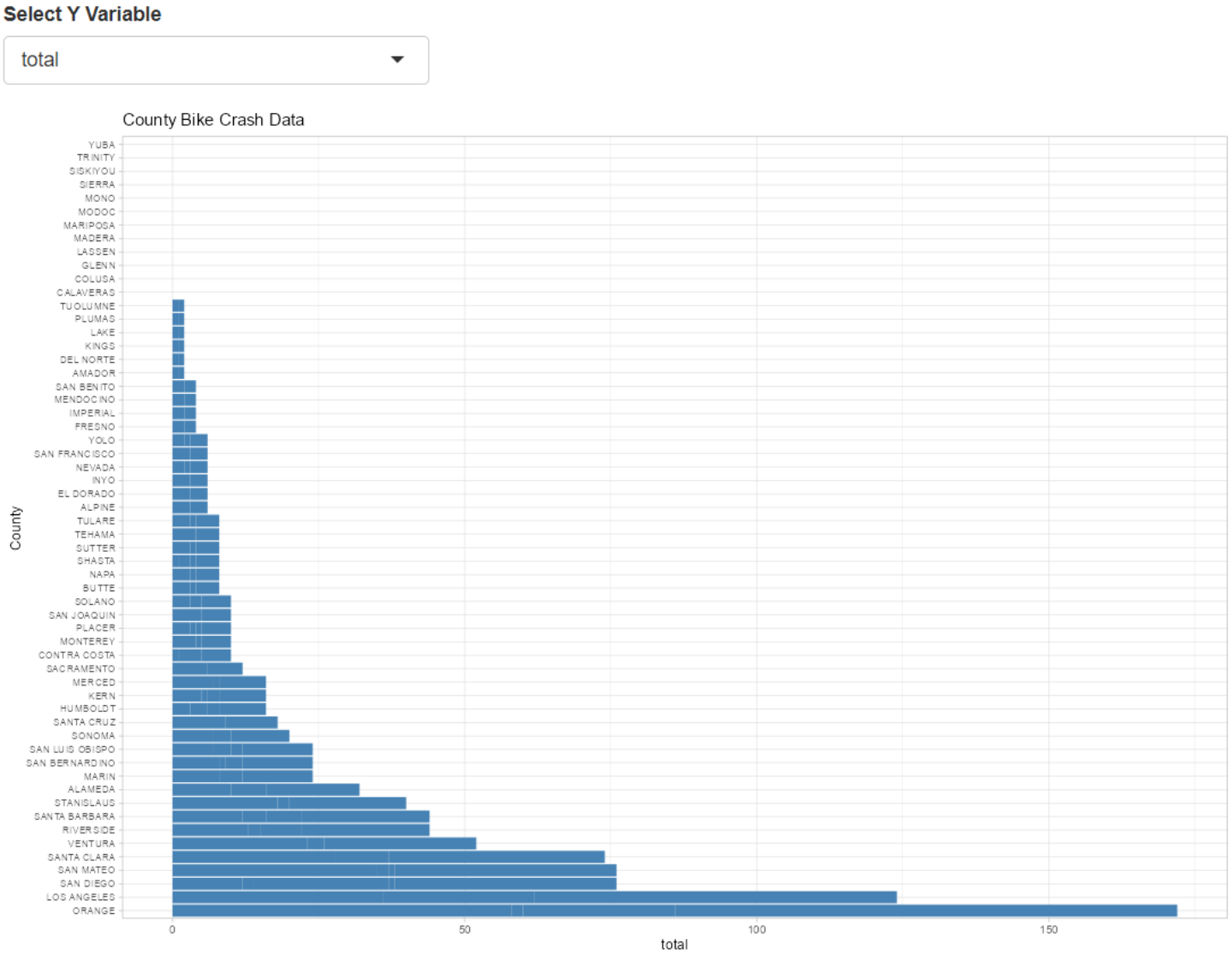
Bike Incidents in California

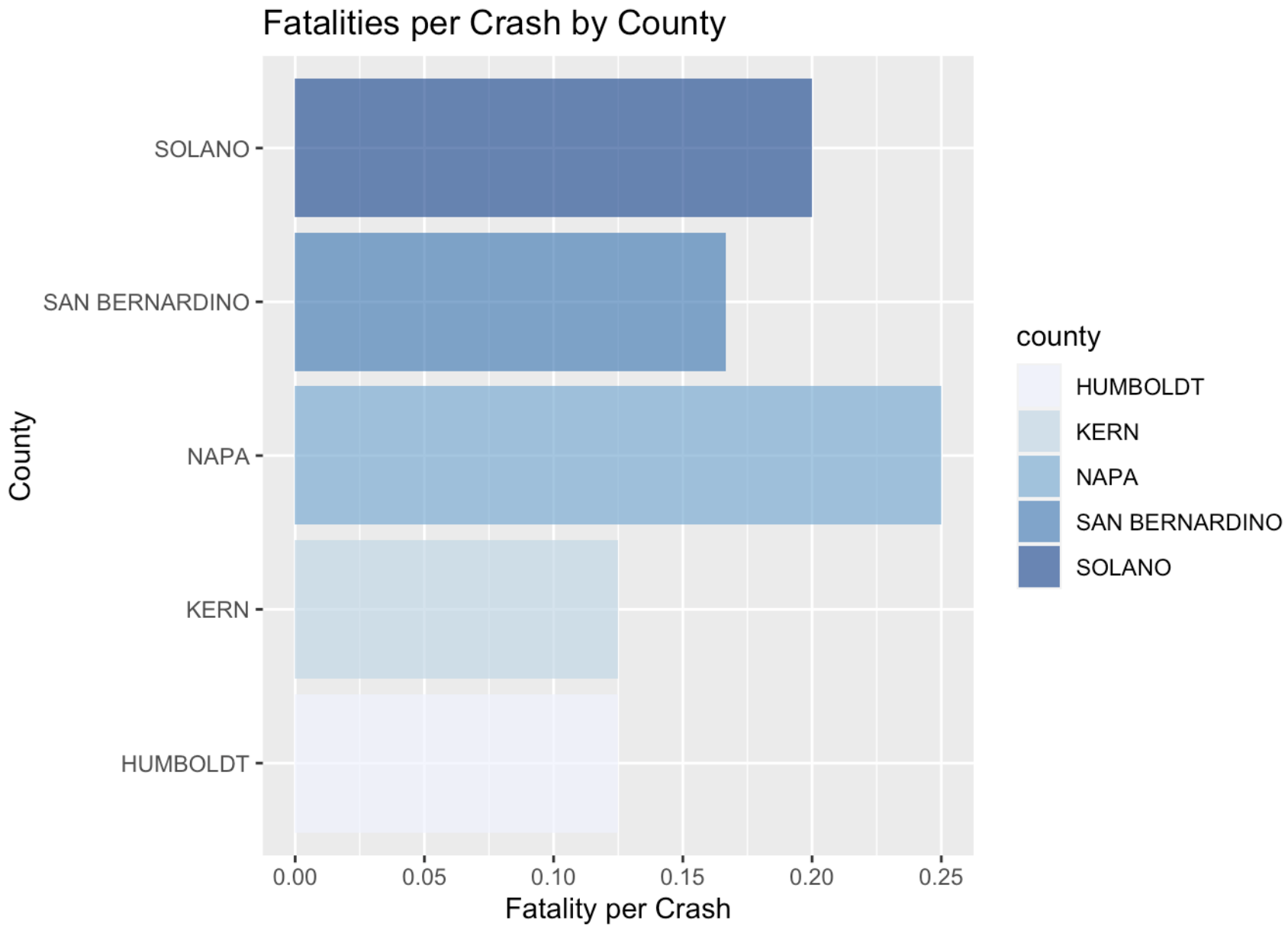
Our data

```
Rows: 290
Columns: 13
$ county          <chr> "ALAMEDA", "ALAMEDA", "ALAMEDA", "ALAMEDA", "ALAMEDA", "ALPI…
$ highway_type    <chr> "Conventional", "Expressway", "Freeway", "One-Way City Stree…
$ total           <dbl> 10, 0, 6, 0, 16, 3, 0, 0, 0, 3, 1, 0, 0, 0, 1, 3, 0, 0, 1, 4…
$ fatality        <dbl> 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, …
$ injury          <dbl> 10, 0, 5, 0, 15, 3, 0, 0, 0, 3, 1, 0, 0, 0, 1, 3, 0, 0, 1, 4…
$ latitude        <dbl> 37.6017, 37.6017, 37.6017, 37.6017, 37.6017, 38.5974, 38.597…
$ longitude       <dbl> -121.7195, -121.7195, -121.7195, -121.7195, -121.7195, -119.…
$ state           <chr> "California", "California", "California", "California", "Cal…
$ year            <dbl> 2022, 2022, 2022, 2022, 2022, 2022, 2022, 2022, 2022, 2022, …
$ pop             <dbl> 1663823, 1663823, 1663823, 1663823, 1663823, 1515, 1515, 151…
$ total_capita    <dbl> 6.010255e-06, 0.000000e+00, 3.606153e-06, 0.000000e+00, 9.61…
$ fatality_capita <dbl> 0.000000e+00, 0.000000e+00, 6.010255e-07, 0.000000e+00, 6.01…
$ injury_capita   <dbl> 6.010255e-06, 0.000000e+00, 3.005127e-06, 0.000000e+00, 9.01…
```

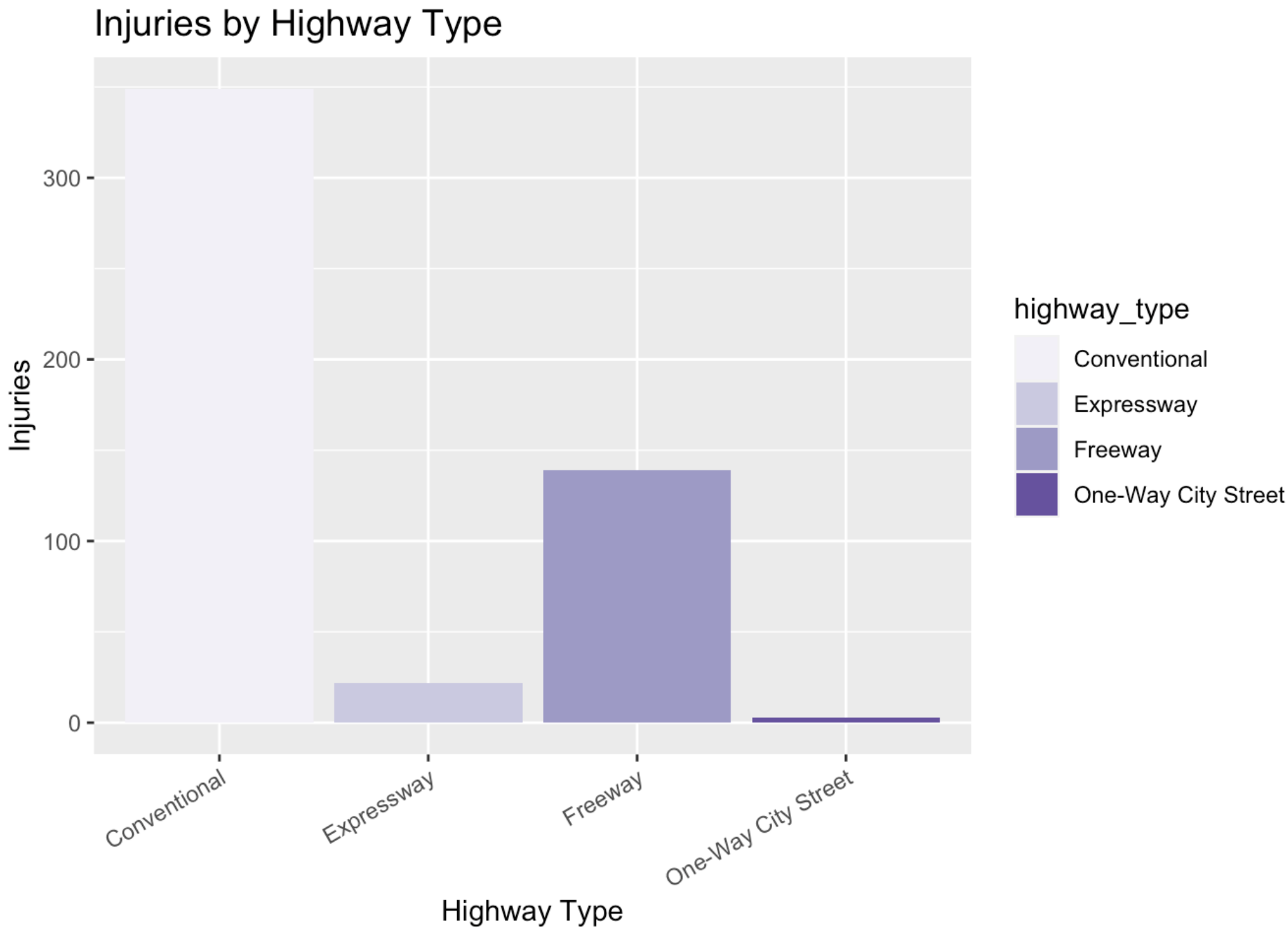
Which county has the most bike crashes?



Which County Has the Highest Fatality:Crash Ratio?

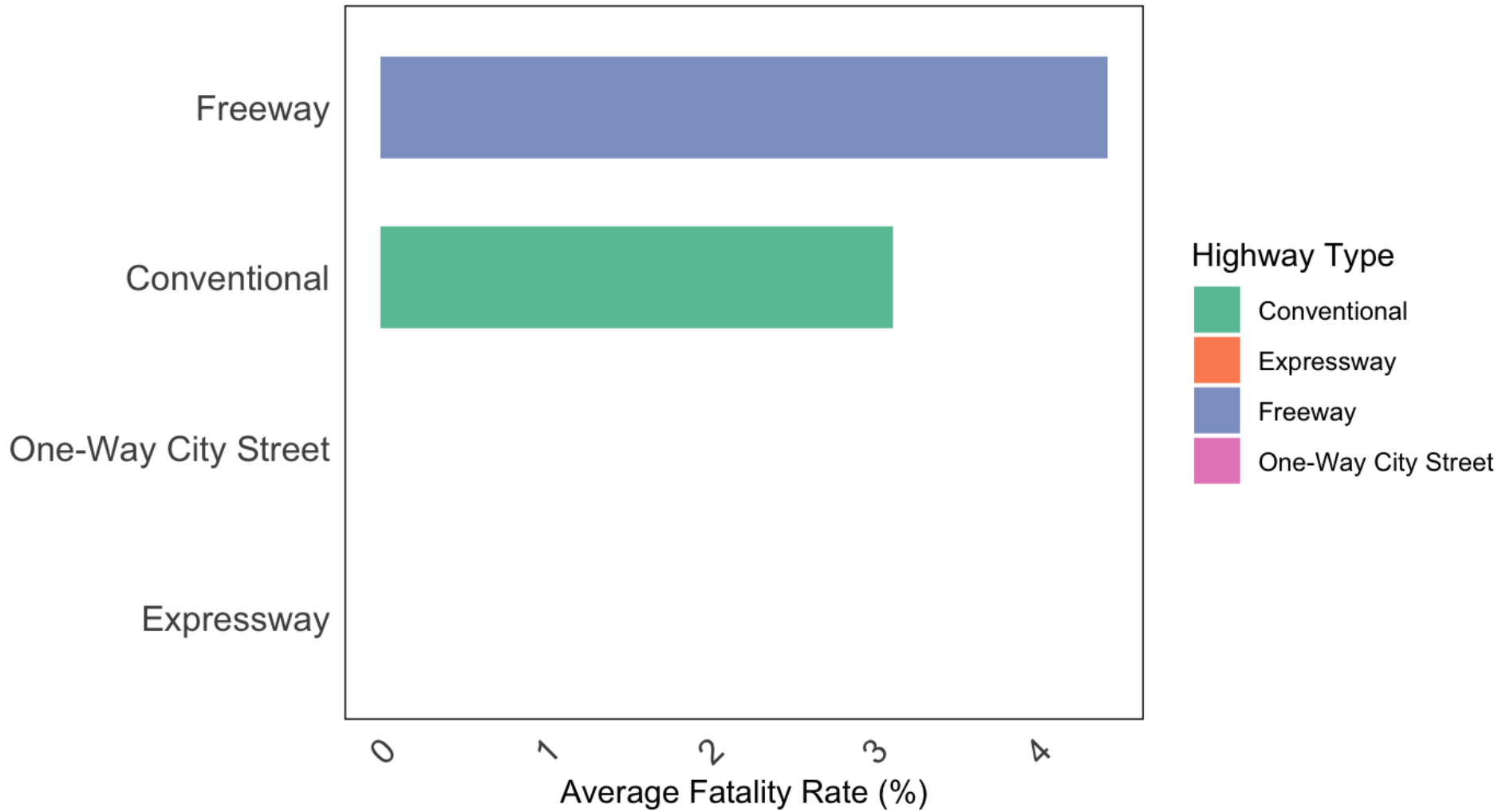

Fatalities per Crash by County
SOLANO
SAN BERNARDINO
NAPA
KERN
HUMBOLDT
County
0.00
0.05
0.10
0.15
0.20
0.25
Fatality per Crash
county
HUMBOLDT
KERN
NAPA
SAN BERNARDINO
SOLANO

Which Type of Road Leads to the Most injuries?

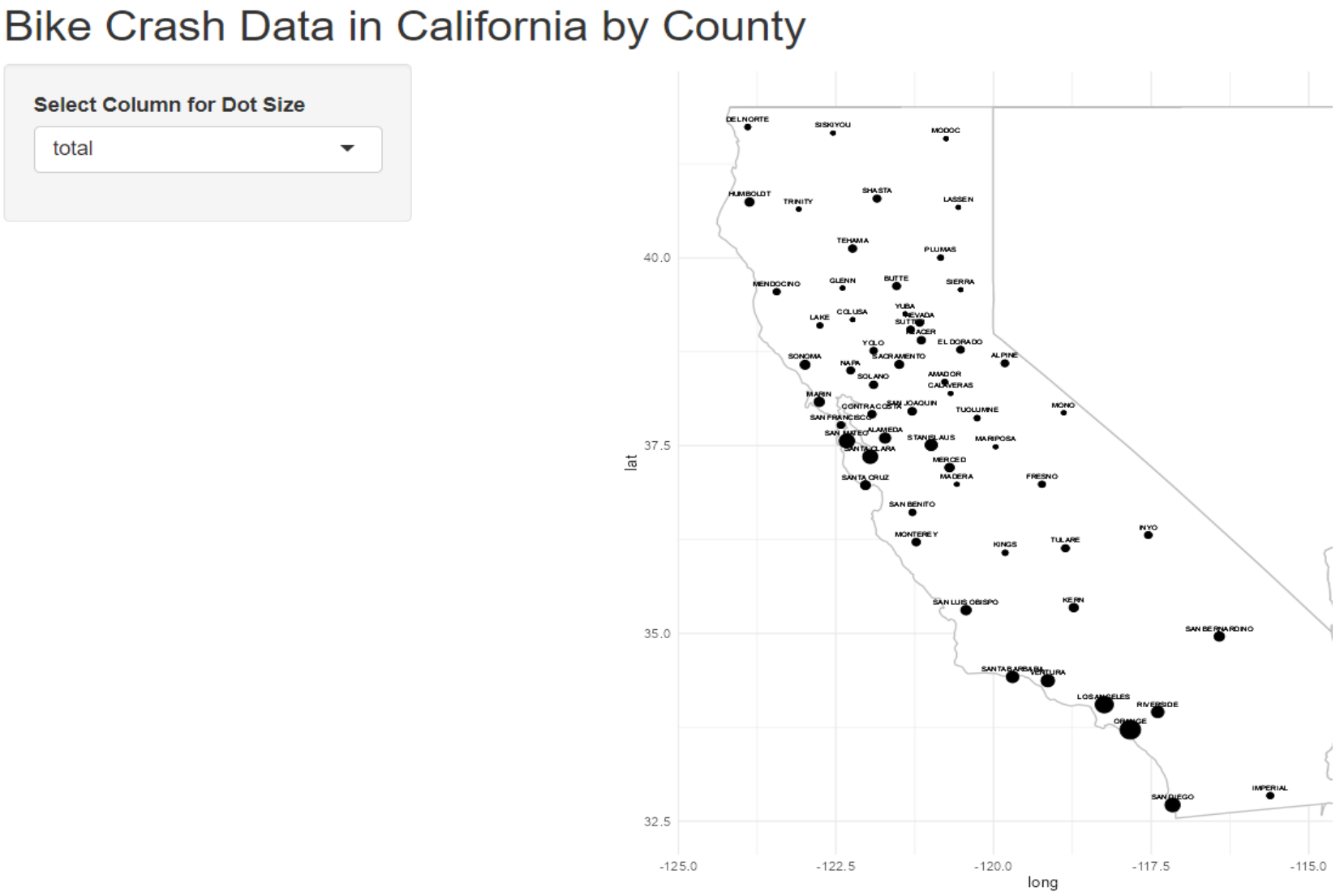

Injuries by Highway Type
Injuries
300
200
100
0
Conventional
Expressway
Freeway
One-Way City Street
Highway Type
highway_type
Conventional
Expressway
Freeway
One-Way City Street

What street type is the most fatal?

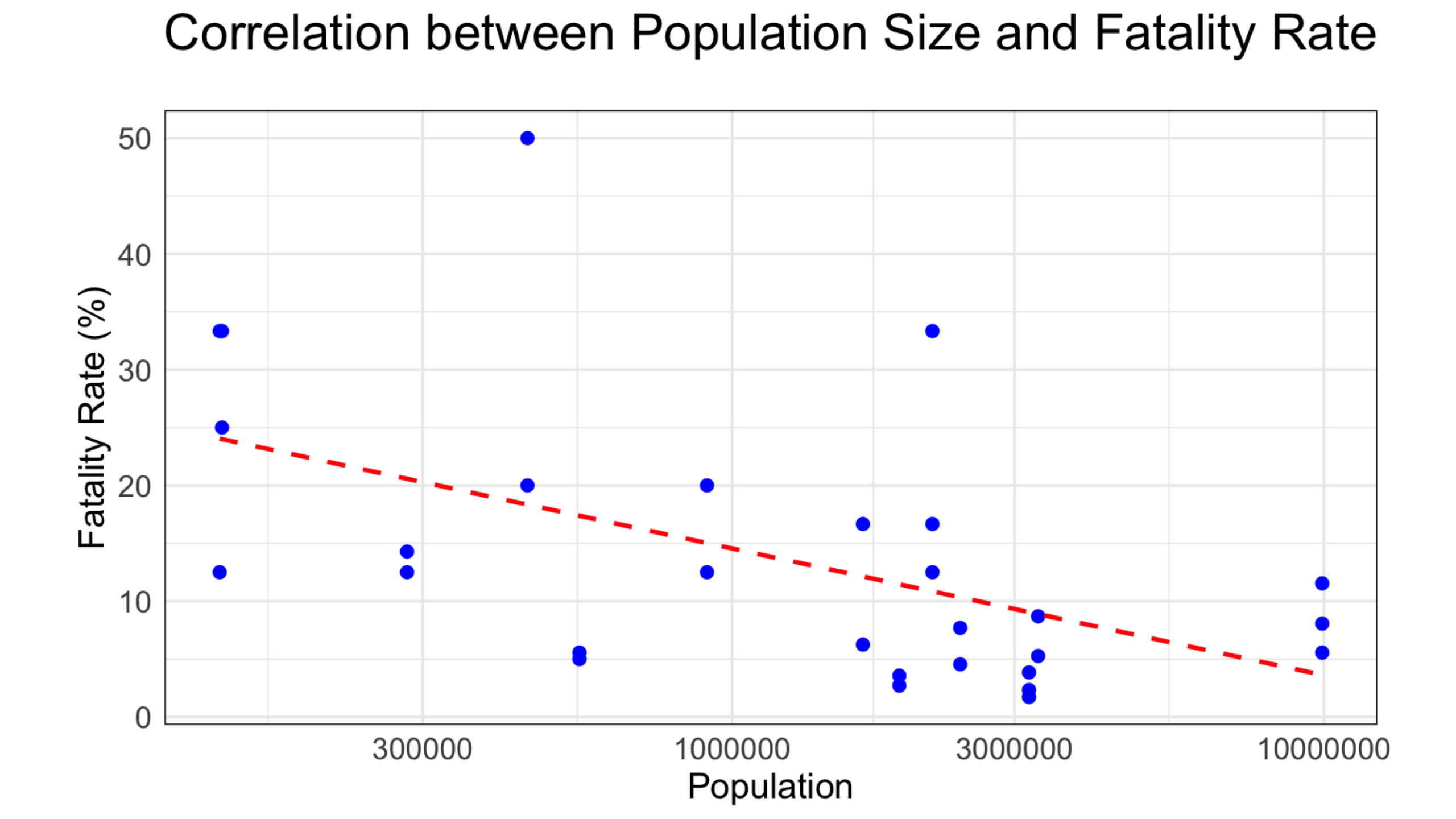
Average Fatality Rate Among Types of Streets



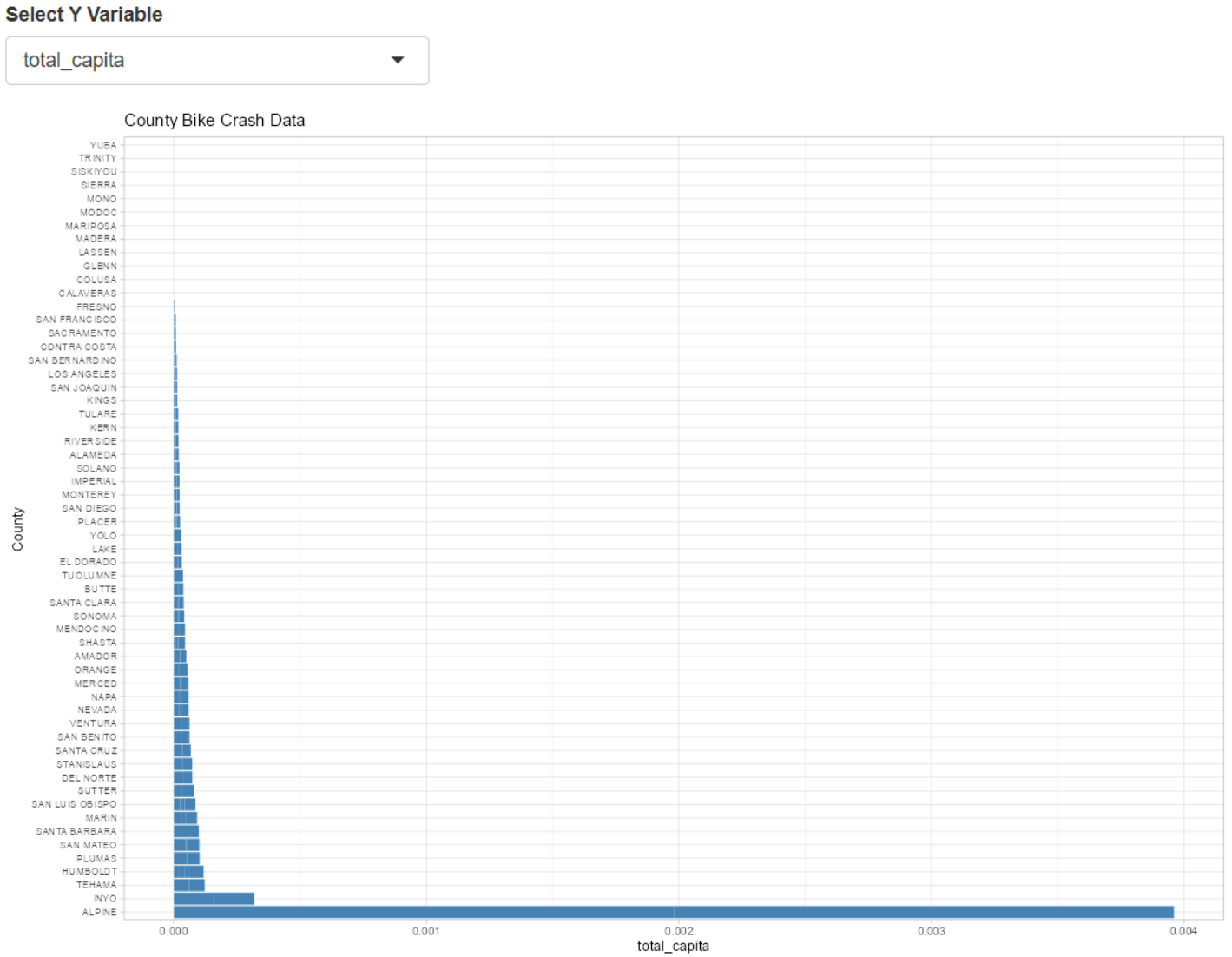
Map of total reported bike crashes in California

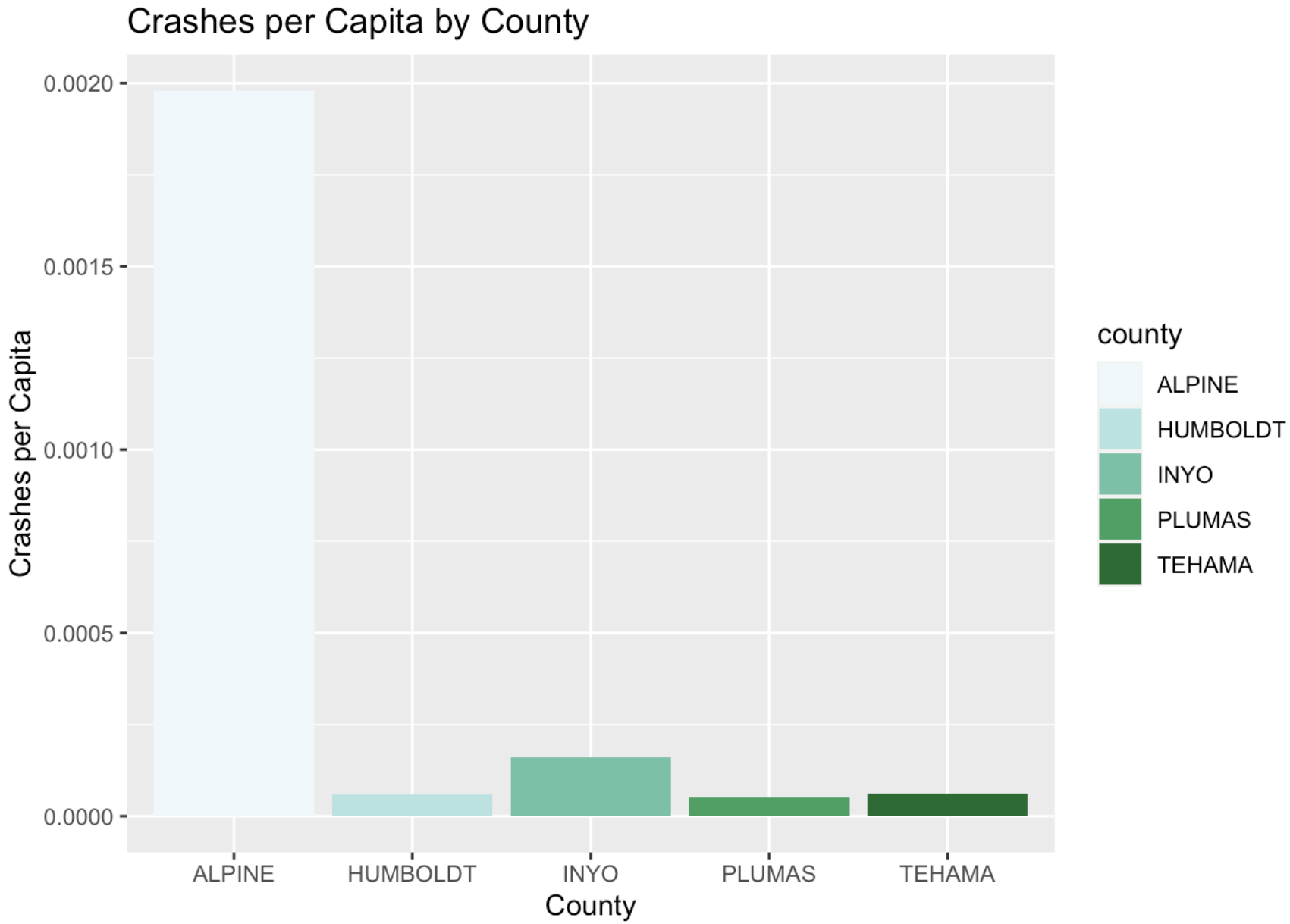


Are you more likely to get into a fatal accident in a county with a larger population?

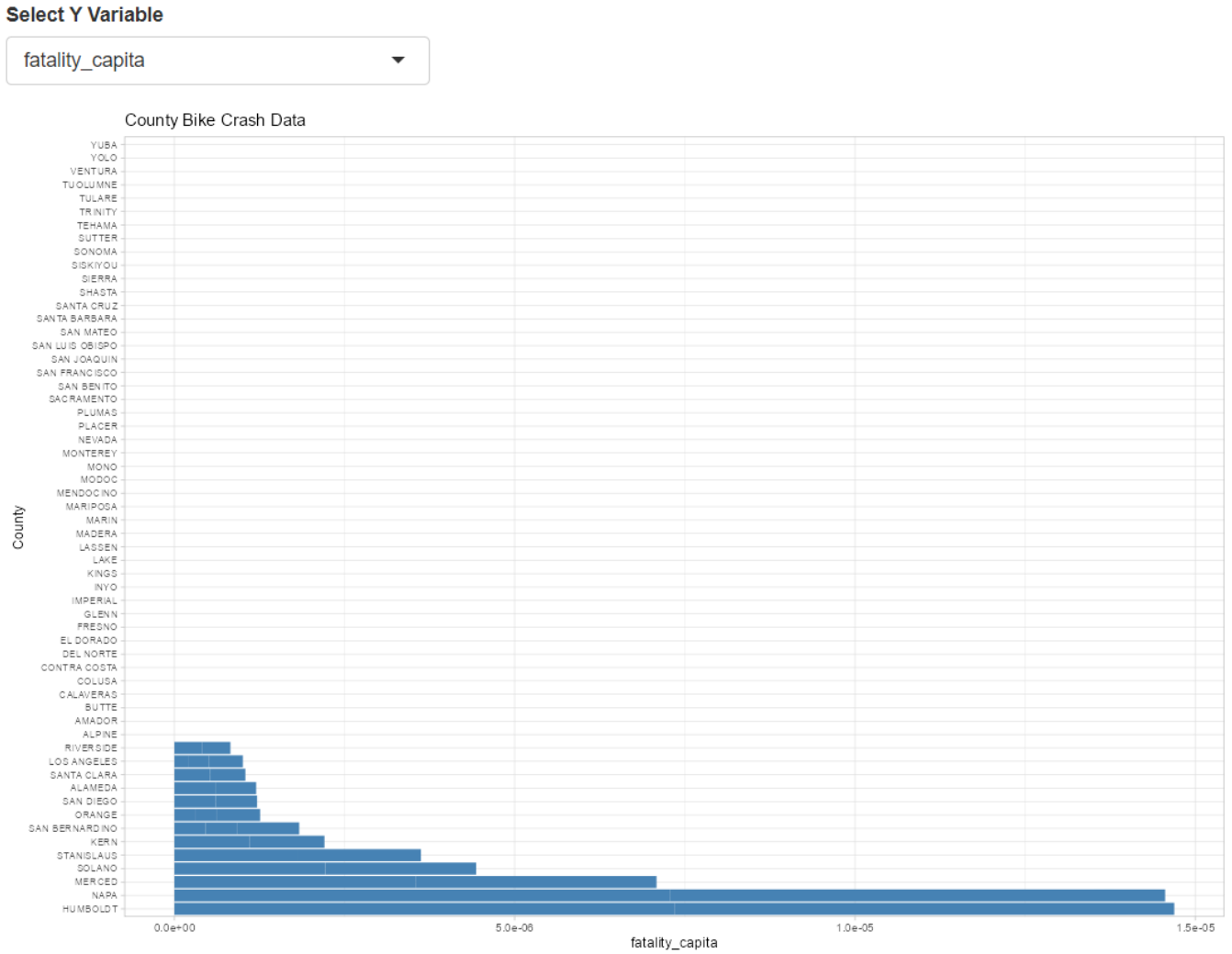

Correlation between Population Size and Fatality Rate
Fatality Rate (%)
50
40
30
20
10
0
300000
1000000
3000000
10000000
Population

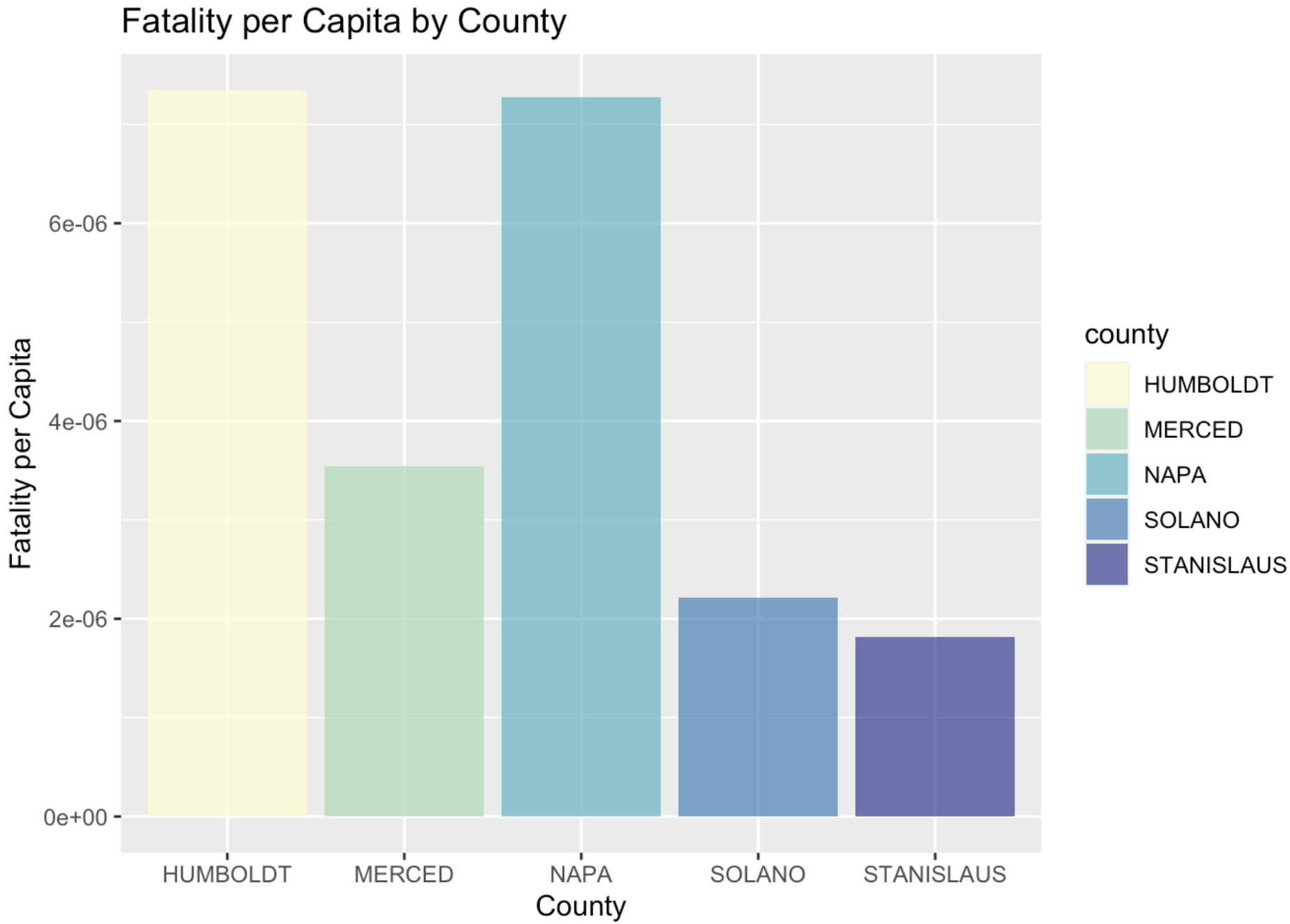
Which county has highest bike crash per CAP?



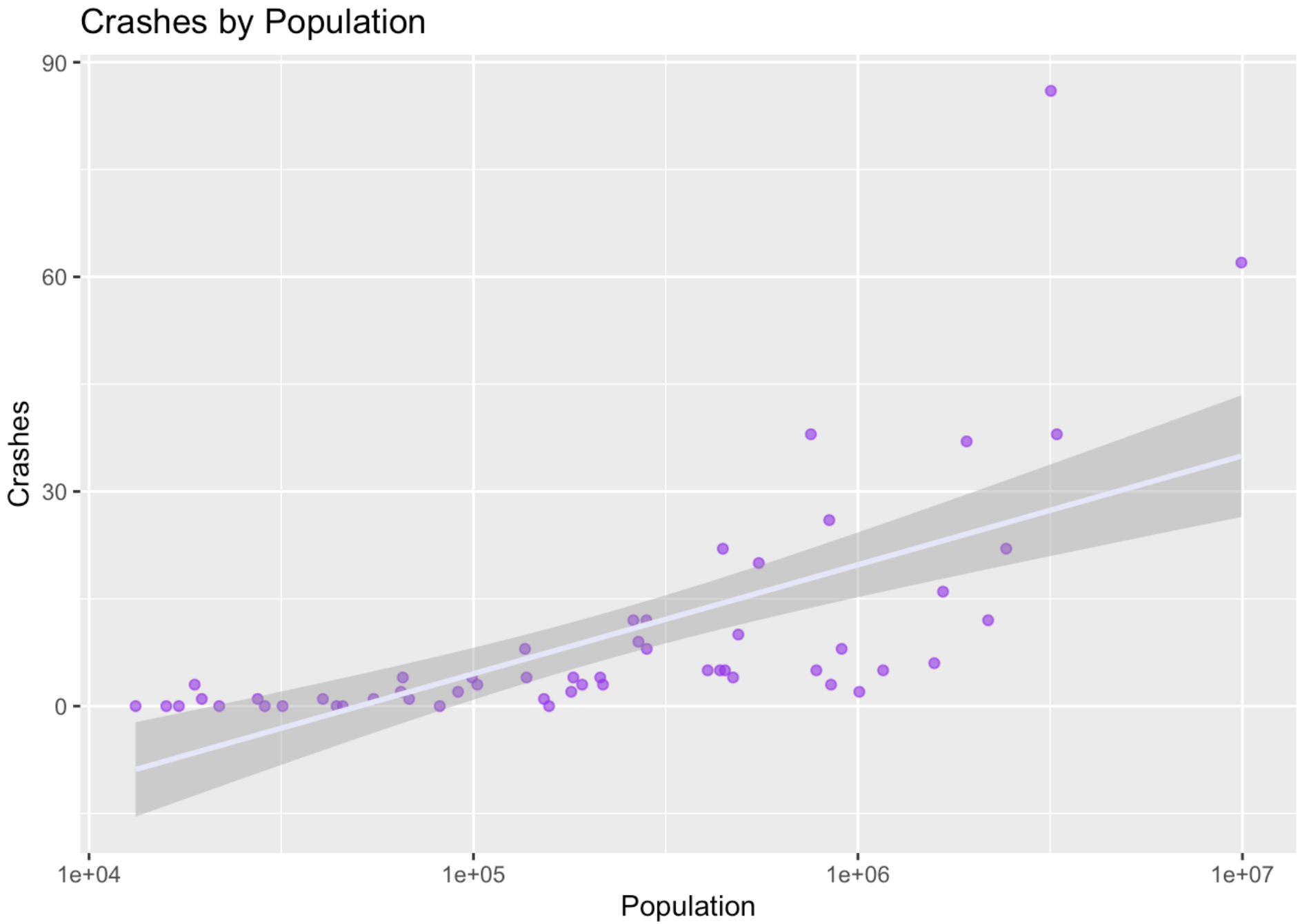

Crashes per Capita by County
0.0020
0.0015
0.0010
0.0005
0.0000
Crashes per Capita
ALPINE
HUMBOLDT
INYO
PLUMAS
TEHAMA
County
county
ALPINE
HUMBOLDT
INYO
PLUMAS
TEHAMA

Which County Has the Highest Fatalities per Capita?




Fatality per Capita by County
Fatality per Capita
6e-06
4e-06
2e-06
0e+00
HUMBOLDT
MERCED
NAPA
SOLANO
STANISLAUS
County
county
HUMBOLDT
MERCED
NAPA
SOLANO
STANISLAUS

Is There a Correlation Between Population and Crashes?


Crashes by Population
90
60
30
0
Crashes
1e+04
1e+05
1e+06
1e+07
Population

Yolo County and Side Note about Data Science

- Yolo county, had only 3 reported injuries in 2022…
- Do we think only 3 people were hit on bikes in 2022?