Crime Rate in Maryland USA

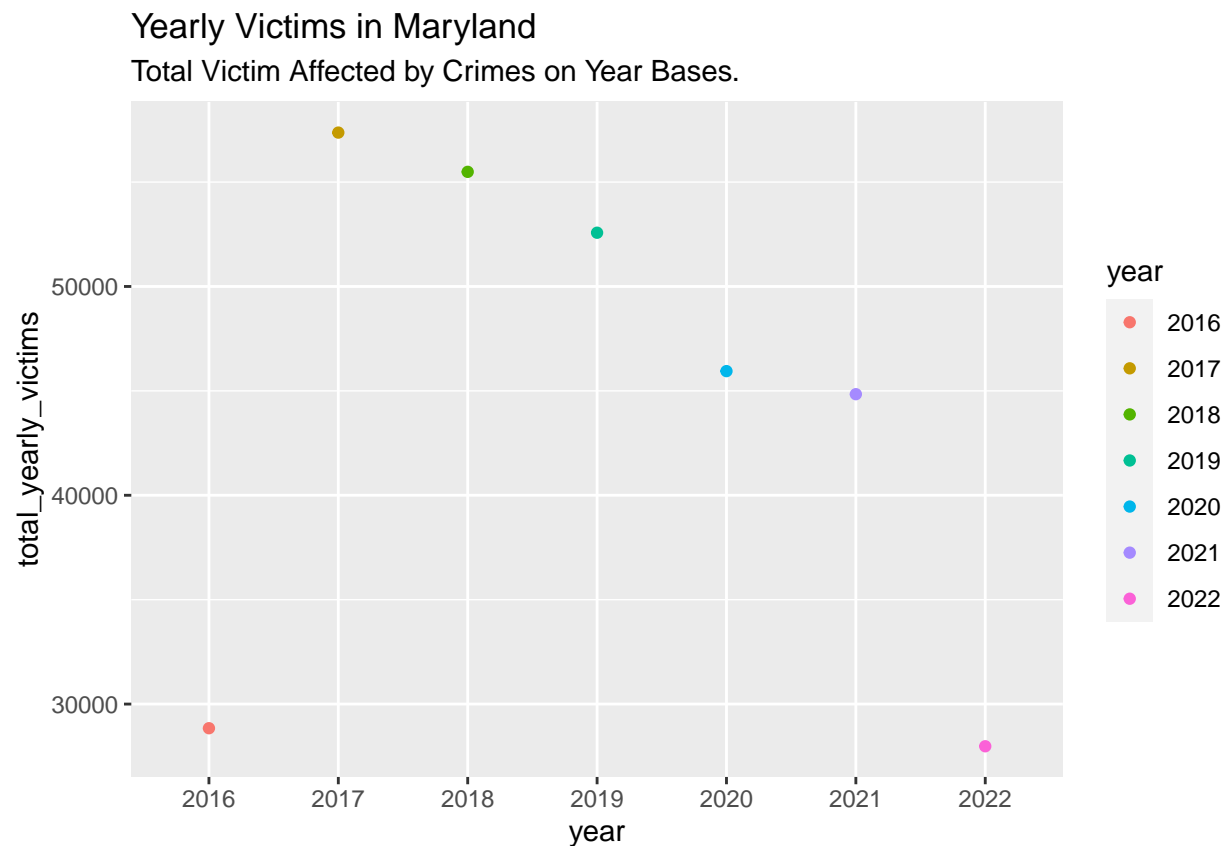## George.B

2022-12-15

SUMMARY

problem

- What is the total numbers of crimes committed in Maryland from 2016 to 2022, What Cities in Maryland are mostly affected by these crimes and how do we reduce the crime rate in these Cities.

research

- According to statista.com, research show that Maryland has an unemployment rate as follows:-

    - 4.3% unemployment rate in 2016.
    - 4% in 2017
    - 3.6% in 2018
    - 83.4% in 2019
    - 6.7% in 2020
    - 5.8% in 2021

- according to statista.com in 2021, the educational section research shows individual's educational qualification level by percentage:-

- 3.7% of Maryland residents/indigenes could not finish or do not attend the 9th grade.

- 5.2% goes to individual between 9th grade to 12th grade but no diploma.

- 23.8% graduated high school(includes equivancy).

- 17.8% has some college but no degree.

- 6.9% has associate's degree.

- 22.4% has bachelor's degree.

- 20.2% are graduates or has professional degree.

- Cost of living in Maryland USA is high with:-

    - rent and utilities - one person = $1300 and forfamily = $2249.
    - food - one person = $500 and family = $1400.
    - Transport - 8one person = $100 and family = $250.

- with a average salary of $50,000 to $60,000 yearly.

    - salary after tax $4500 monthly.

Analysis and Data Visualisation

```
## # A tibble: 7 x 2
##   year  total_yearly_victims
##   <chr>             <dbl>
## 1 2016              28843
## 2 2017              57369
## 3 2018              55489
## 4 2019              52574
## 5 2020              45945
## 6 2021              44841
## 7 2022              27979
```


Yearly Victims in Maryland
Total Victim Affected by Crimes on Year Bases.

- The table above show the total records of individuals affected by crimes in Maryland.
- The data visualization shows that

  - 2016 and 2022 has the lowest number of crimes committed below 30,000 crimes each, while
  - 2017,2018 and 2019 record crimes committed of over 50,000 crimes committed each in Maryland alone.

```
## # A tibble: 10 x 4
## # Groups:   total_yearly_victims, month [10]
##    total_yearly_victims month year  year_vic
##                   <dbl> <chr> <chr>    <dbl>
## 1                  4861 11    2017      4861
## 2                  4874 07    2016      4874
```

```
##  3                      4876 10    2016        4876
##  4                      4884 09    2017        4884
##  5                      4892 07    2018        4892
##  6                      4902 09    2016        4902
##  7                      4909 12    2016        4909
##  8                      4928 05    2017        4928
##  9                      4993 08    2017        4993
## 10                      5051 10    2017        5051
```
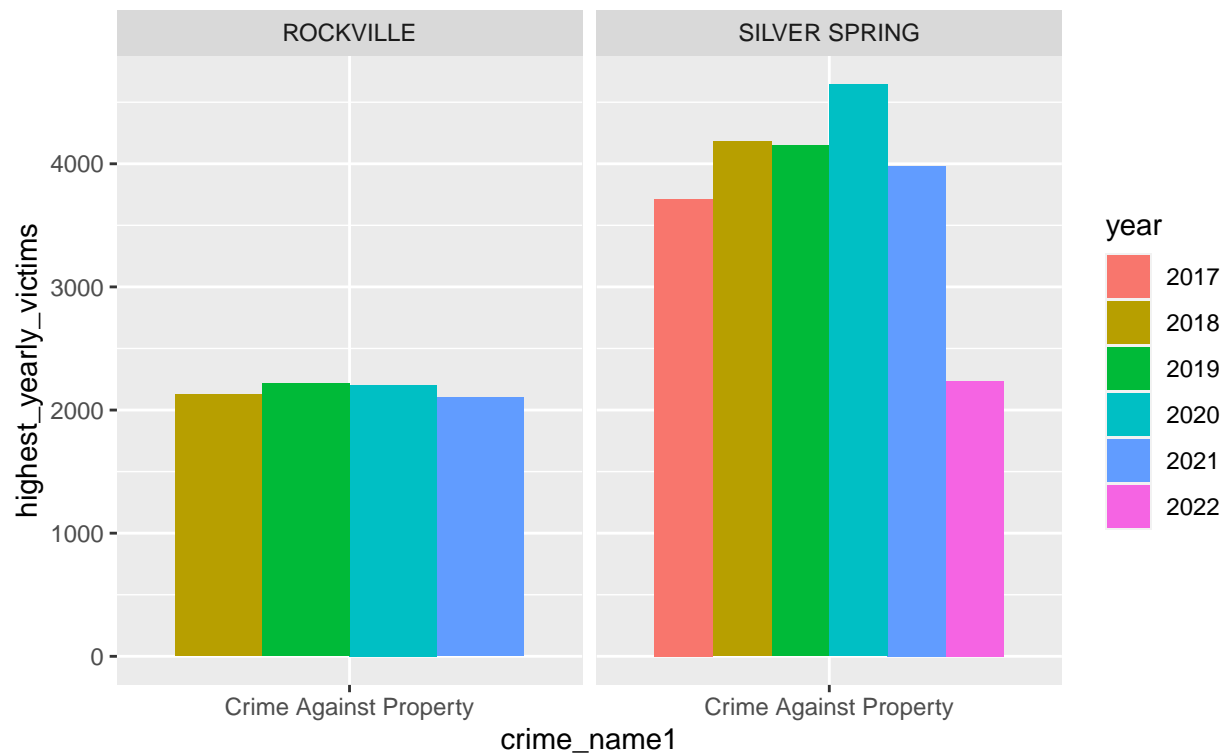
- The table above shows the months with the highest number of crimes recorded in each year in Maryland.

```
## # A tibble: 10 x 5
## # Groups:   total_yearly_victims, year, crime_name1 [10]
##    total_yearly_victims year  crime_name1          city          highest_yea~1
##                   <dbl> <chr> <chr>                <chr>                 <dbl>
##  1                 2102 2021  Crime Against Property ROCKVILLE            2102
##  2                 2125 2018  Crime Against Property ROCKVILLE            2125
##  3                 2203 2020  Crime Against Property ROCKVILLE            2203
##  4                 2216 2019  Crime Against Property ROCKVILLE            2216
##  5                 2236 2022  Crime Against Property SILVER SPRING        2236
##  6                 3714 2017  Crime Against Property SILVER SPRING        3714
##  7                 3981 2021  Crime Against Property SILVER SPRING        3981
##  8                 4147 2019  Crime Against Property SILVER SPRING        4147
##  9                 4180 2018  Crime Against Property SILVER SPRING        4180
## 10                 4645 2020  Crime Against Property SILVER SPRING        4645
## # ... with abbreviated variable name 1: highest_yearly_victims
```

Yearly: Crimes by Cities

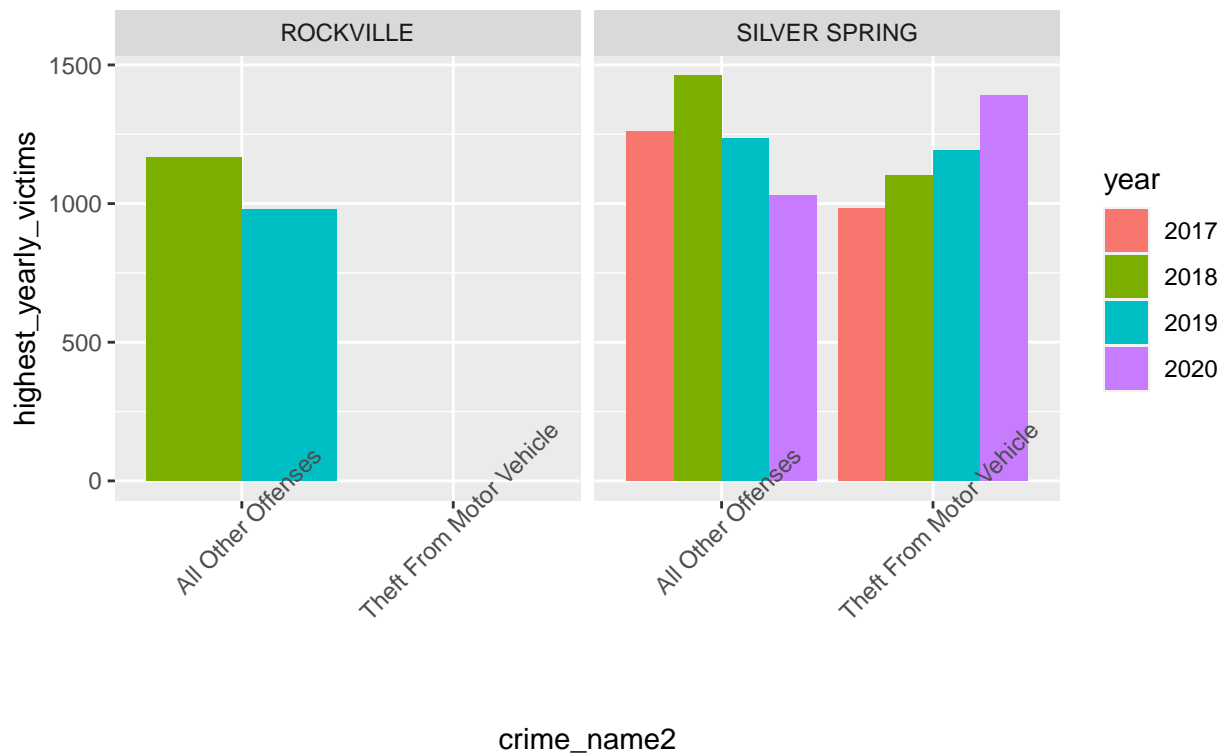CIties in Maryland with the Highest Number of Crimes

- This table shows that **Crime Against Property** has the highest number committed between 2017 to 2021.
- The chart shows that Silver Spring has the highest number of crimes(crimes against property) with a record of 2236 to 4645 from 2017 to 2021.
- While Rockville follows with crimes recorded(crimes against property) between 2102 to 2216 from 2017 to 2021.

```
## # A tibble: 10 x 5
## # Groups:   total_yearly_victims, year, crime_name2 [10]
##    total_yearly_victims year  crime_name2             city          highest_y~1
##                   <dbl> <chr> <chr>                   <chr>               <dbl>
##  1                  980 2019  All Other Offenses      ROCKVILLE             980
##  2                  984 2017  Theft From Motor Vehicle SILVER SPRING        984
##  3                 1028 2020  All Other Offenses      SILVER SPRING        1028
##  4                 1101 2018  Theft From Motor Vehicle SILVER SPRING       1101
##  5                 1168 2018  All Other Offenses      ROCKVILLE            1168
##  6                 1193 2019  Theft From Motor Vehicle SILVER SPRING       1193
##  7                 1235 2019  All Other Offenses      SILVER SPRING        1235
##  8                 1262 2017  All Other Offenses      SILVER SPRING        1262
##  9                 1389 2020  Theft From Motor Vehicle SILVER SPRING       1389
## 10                 1461 2018  All Other Offenses      SILVER SPRING        1461
## # ... with abbreviated variable name 1: highest_yearly_victims
```

Yearly: Crimes by Cities

CIties in Maryland with the Highest Number of Crimes
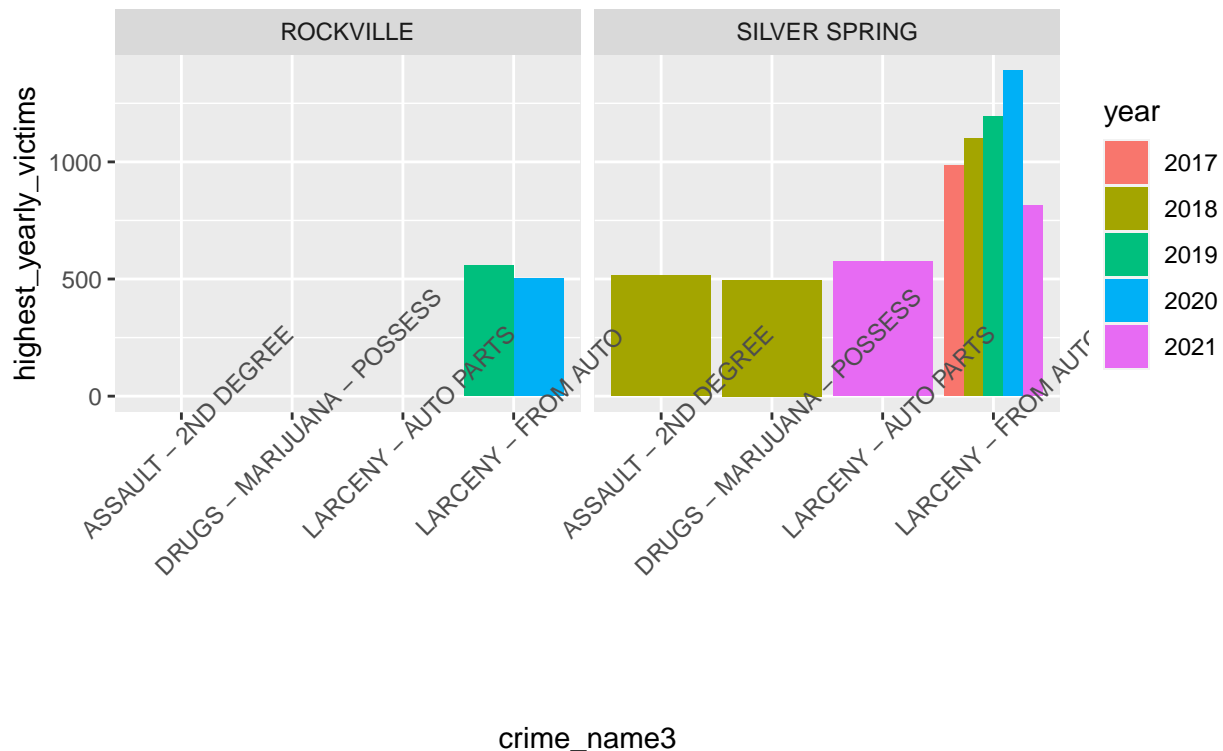

crime_name2

- This table shows that **Theft from Motor Vehicle** and **All Other Offenses** has the highest number committed between 2017 to 2021.

- The chart above shows that Silver Spring still has the highest number of crime in terms of Theft from Motor Vehicle and All Other Offenses with a record between 984 to 1416 in the pass 5 years. While Rockville follows again with a record number of 980 to 1160 crime from Theft from Motor Vehicle** and **All Other Offenses in the pass five years.

```
## # A tibble: 10 x 5
## # Groups:   total_yearly_victims, year, crime_name3 [10]
##    total_yearly_victims year  crime_name3                  city          highes~1
##                   <dbl> <chr> <chr>                        <chr>            <dbl>
##  1                  496 2018  DRUGS - MARIJUANA - POSSESS SILVER SPRING      496
##  2                  501 2020  LARCENY - FROM AUTO          ROCKVILLE         501
##  3                  516 2018  ASSAULT - 2ND DEGREE         SILVER SPRING      516
##  4                  559 2019  LARCENY - FROM AUTO          ROCKVILLE         559
##  5                  575 2021  LARCENY - AUTO PARTS         SILVER SPRING      575
##  6                  813 2021  LARCENY - FROM AUTO          SILVER SPRING      813
##  7                  984 2017  LARCENY - FROM AUTO          SILVER SPRING      984
##  8                 1101 2018  LARCENY - FROM AUTO          SILVER SPRING     1101
##  9                 1193 2019  LARCENY - FROM AUTO          SILVER SPRING     1193
## 10                 1389 2020  LARCENY - FROM AUTO          SILVER SPRING     1389
## # ... with abbreviated variable name 1: highest_yearly_victims
```

Yearly: Crimes by Cities

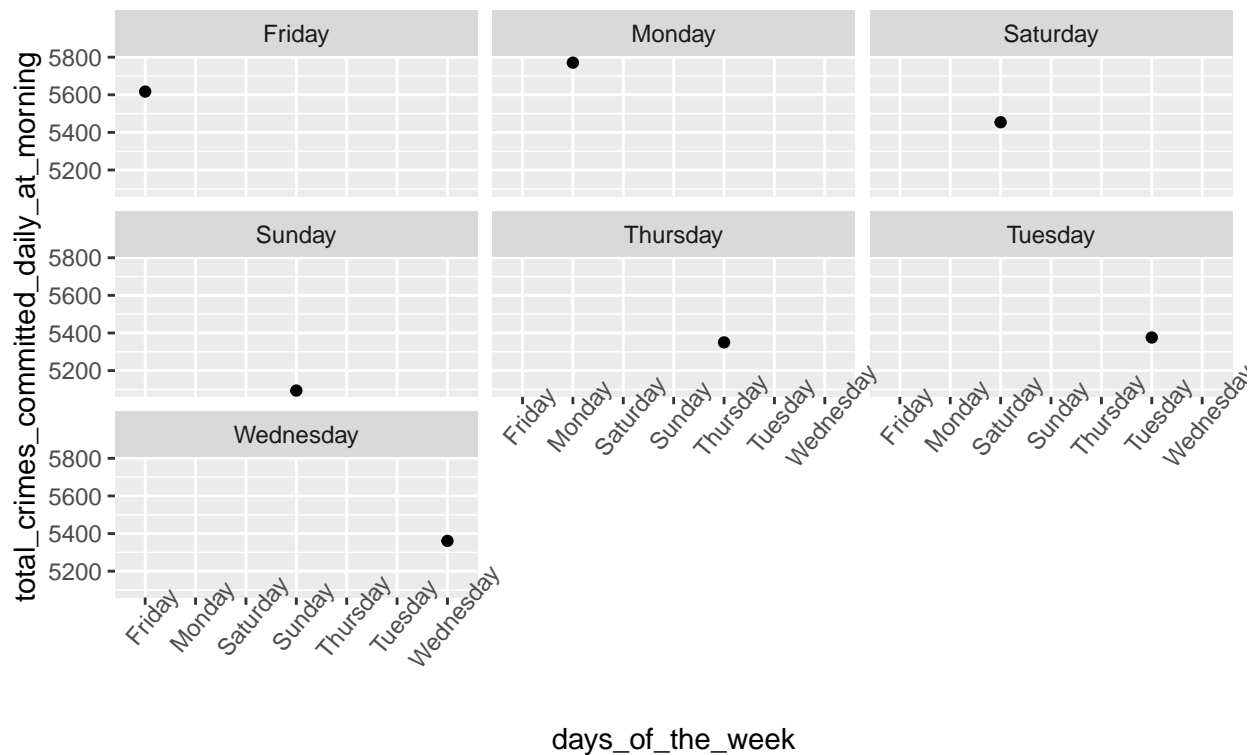### CIties in Maryland with the Highest Number of Crimes

crime_name3

- This table shows that **Assault**, **Drugs** and **Larceny** has the highest number committed between 2017 to 2021.
- The above chart shows that Silver still has the highest number of Assault,Drugs and Larceny crimes committed in the state of Maryland with Assault and Drugs having a crime record of 494 and 516 each, while Larceny has a record of over 550 to 1389 in the pass 5 years.

- And Rockville has the second highest number of Larceny record of 501 to 559, and has no high record of Assault and Drugs in the passed 5 years

```
## # A tibble: 7 x 2
##   days_of_the_week total_crimes_committed_daily_at_morning
##   <chr>                                             <int>
## 1 Friday                                             5617
## 2 Monday                                             5771
## 3 Saturday                                           5454
## 4 Sunday                                             5094
## 5 Thursday                                           5350
## 6 Tuesday                                            5376
## 7 Wednesday                                          5361
```

Weekly Crimes

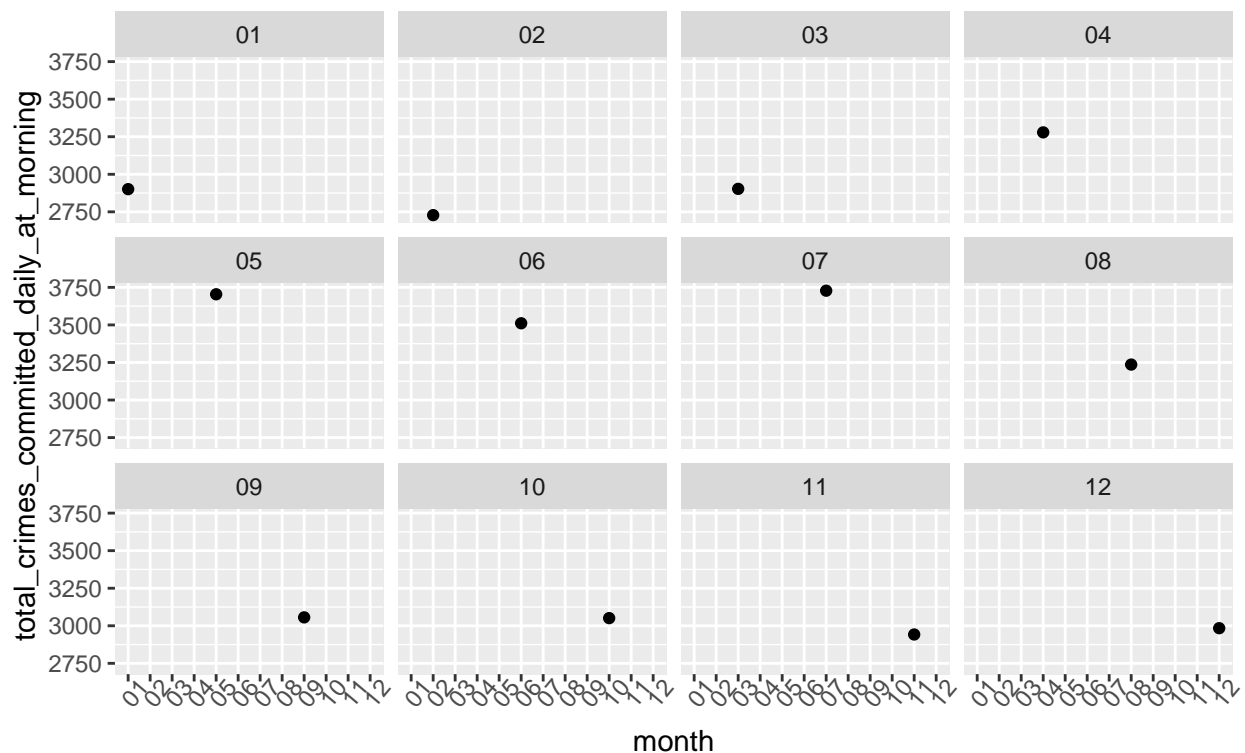### Number of Crimes committed in the Morning from 2016 to 2022

days_of_the_week

- This table shows the total number of crimes committed weekly committed in the morning from 2016 to 2022.
- The data chart shows that **Mondays**, **Fridays** and **Saturdays** has higher crimes are been committed in the morning.
- While **Sunday** has the lowest number o crime committed in the morning in the pass six years.

```
## # A tibble: 12 x 2
##   month total_crimes_committed_daily_at_morning
##   <chr>                                   <int>
##  1 01                                      2901
##  2 02                                      2728
```

```
##  3 03                                                 2903
##  4 04                                                 3279
##  5 05                                                 3704
##  6 06                                                 3511
##  7 07                                                 3728
##  8 08                                                 3236
##  9 09                                                 3056
## 10 10                                                 3051
## 11 11                                                 2942
## 12 12                                                 2984
```

Total Monthly Crimes

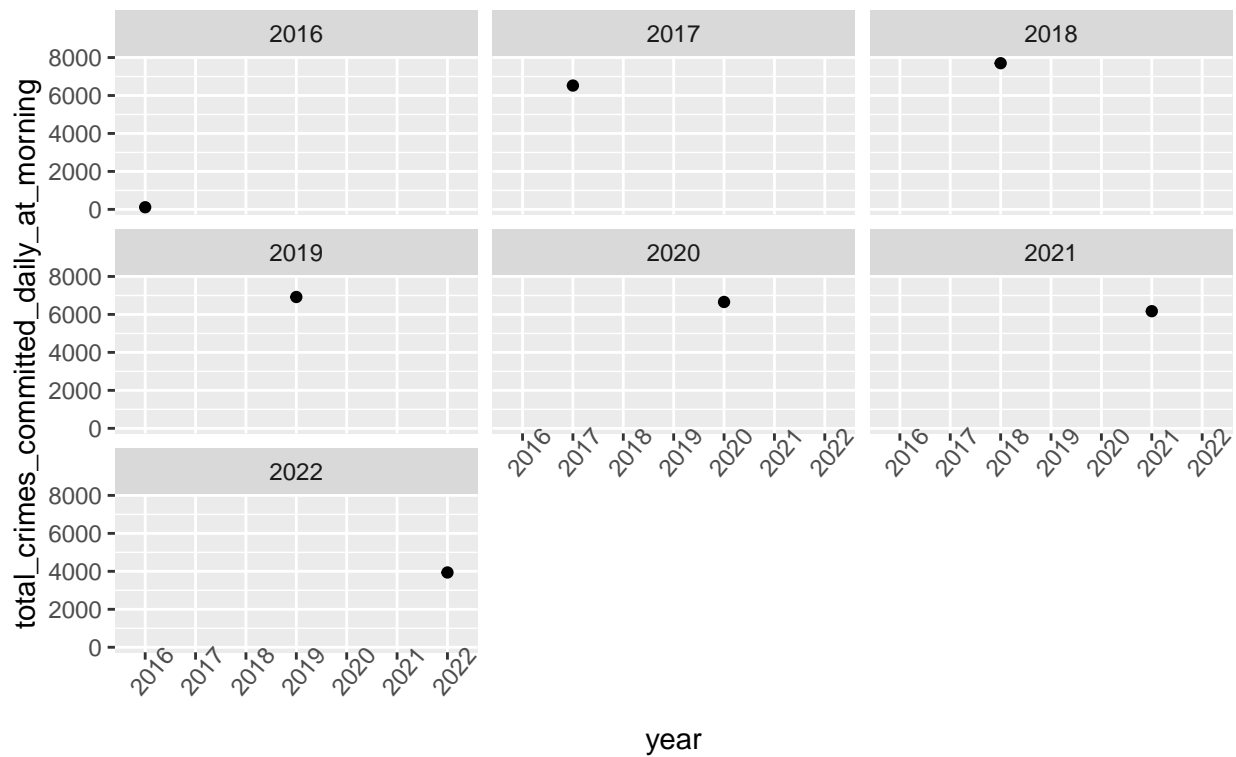Number of Crimes committed in the Morning from 2016 to 2022

- This table shows the total number of crimes committed in the morning Monthly from 2016 to 2022.
- The chart shows that the 1st quarter of each year(from 2016 to 2022),has a low number of crime committed in the morning(below 3,000 each),except for the month of **April** that has a high number of crime of 3279.
- The 2nd quarter of the each year has a very high number of crime committed in the morning between 3200 to 3700 in the 2nd quarter of each year.
- and 3rd quarter has a low number crime committed in the morning with a record below 3100 for each of the last 4 month.

```
## # A tibble: 7 x 2
##   year  total_crimes_committed_daily_at_morning
##   <chr>                                    <int>
## 1 2016                                       113
## 2 2017                                      6524
```

```
## 3  2018                                                    7701
## 4  2019                                                    6918
## 5  2020                                                    6657
## 6  2021                                                    6171
## 7  2022                                                    3939
```
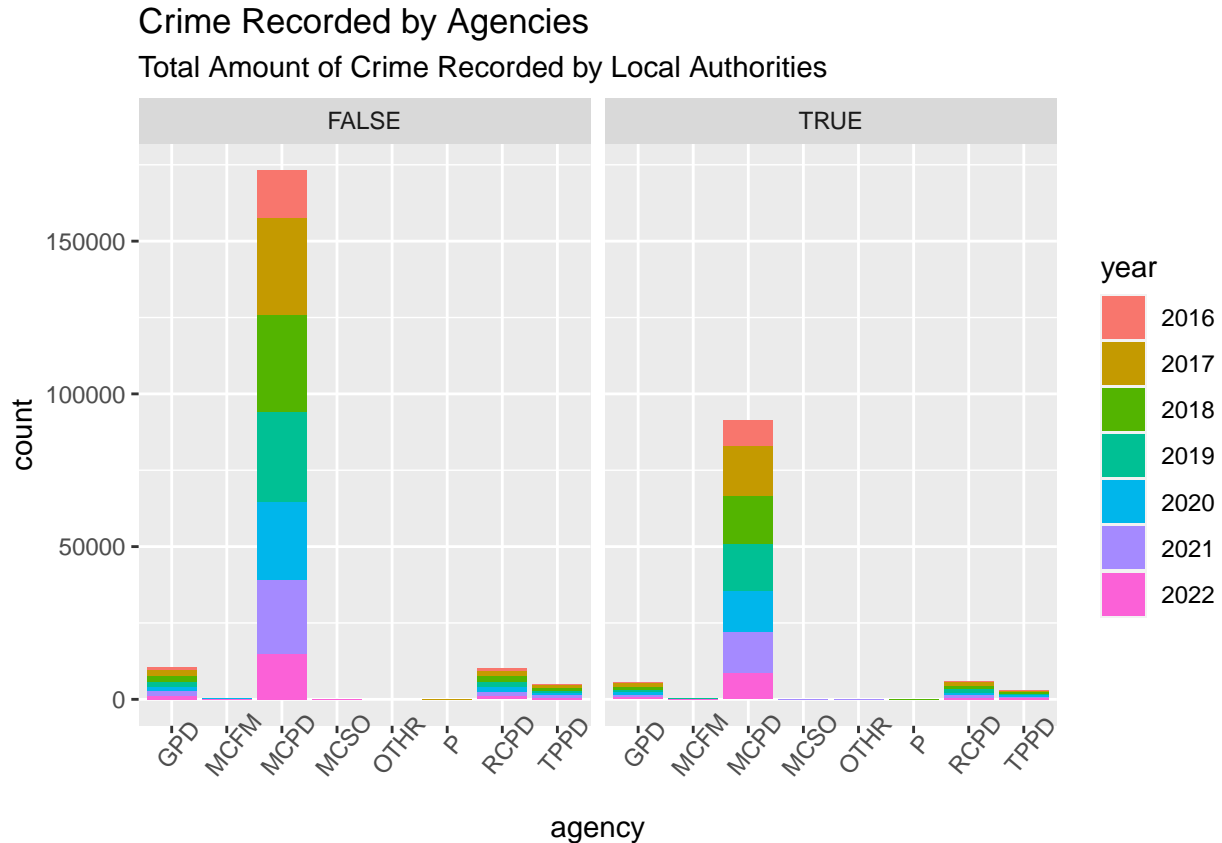
Total Year Crimes

Number of Crimes Committed in the morning from 2016 to 2022

year

- This table shows the total number of crimes committed in the morning Yearly from 2016 to 2022.
- 2016 and 2022 has the lowest number of crime committed in the morning with a record of 2016(113) and 2022(3939) respectfully.
- While from 2017 to 2021 record a very high number of crime committed in Maryland with a record between 6100 to 7700.

Crime Recorded by Agencies
Total Amount of Crime Recorded by Local Authorities

- The chart shows that crime cases recorded by the Agencies in Maryland.
- Montgomery County Police Department(MCPD) has the highest number of crime case record the pass six years, with over 150,000 crime between Afternoon and Night and over 80,000 crime been done in the morning hours of each day.
- While Greenbelt Police Department(GPD)and the Rockville Police Department(RCPD) has recorded crimes of over 8,000 case both from from morning crime and Afternoon, Night crimes.

RECOMMENDATION

solution

- Unemployment: the state of Maryland has a healthy unemployment rate between 3% and 5%.

- The Government of Maryland should invite investors to the state thereby creating more jobs opportunities for the residence

- create a system that makes it easy for individual to obtain loan and grant for startup business, and the Government should create a strong supervision term to supervise the business of any individual who obtained grant or loan from the them.

- Educational sector:-

- with only 22% people living in Maryland having a degree and 20% graduate of having a professional degree. _ the Government should create a better educational system that fight against bully, discrimination, Racism etc. _ make sure the tuition fees for are affordable by parent.

- Cost of living:- with Maryland cost of living on the high side. _ The Government should help by increasing the minimum wage.