

Assignment 3 - Section 1 Project

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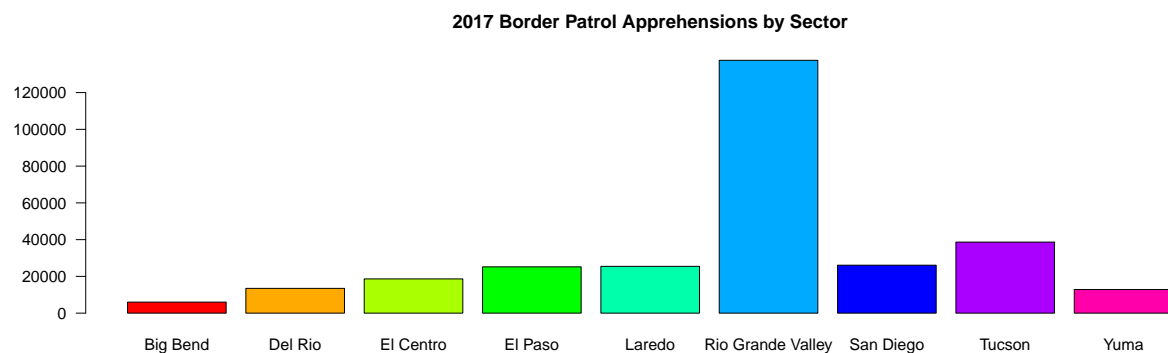
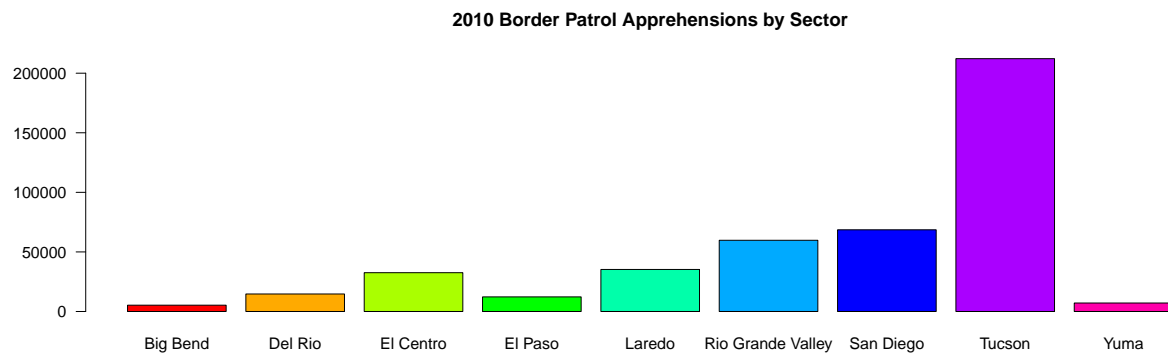
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Background

According to CNN, US-Mexico border apprehensions hit a 17-year low. However, its important to look at the data in order to analyze trends, thus we will look at:

Apprehensions by Sector

Looking at the number of apprehensions by Sector from 2010 to 2017 we see that the number of apprehensions in Tucson decreased from 2010 to 2017 however the number of apprehensions in Rio Grande Valley has increased.



The maximum number of total apprehensions however, has not decreased significantly

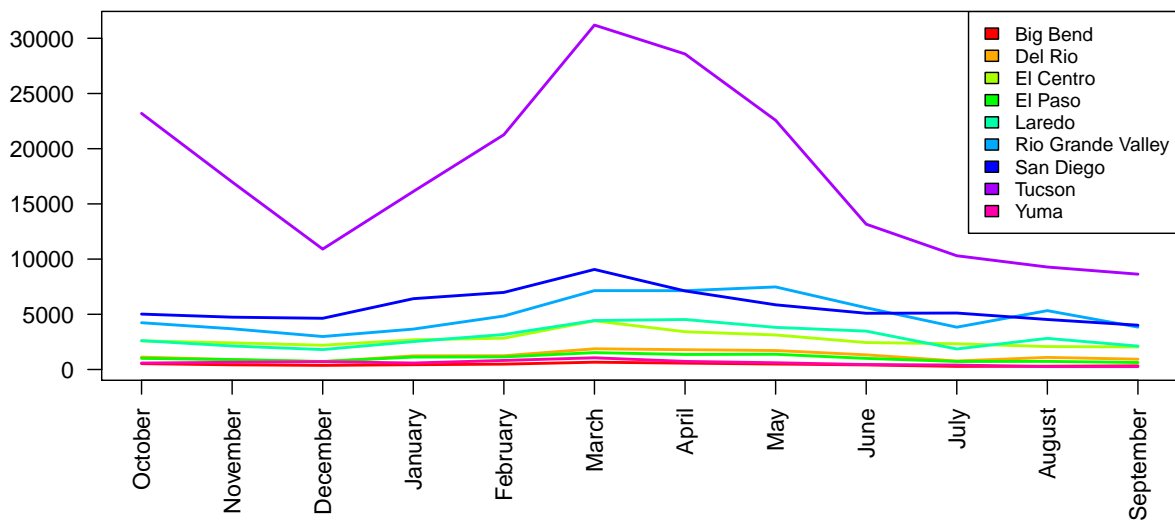
```
##
## Welch Two Sample t-test
##
## data: BP_2010[max_app_idx_2010, 1:12] and BP_2017[max_app_idx_2017, 1:12]
## t = 1.9547, df = 21.973, p-value = 0.06346
## alternative hypothesis: true difference in means is not equal to 0
```

```
## 95 percent confidence interval:
##   -379.5935 12819.5935
## sample estimates:
## mean of x mean of y
##   17683.5   11463.5
```

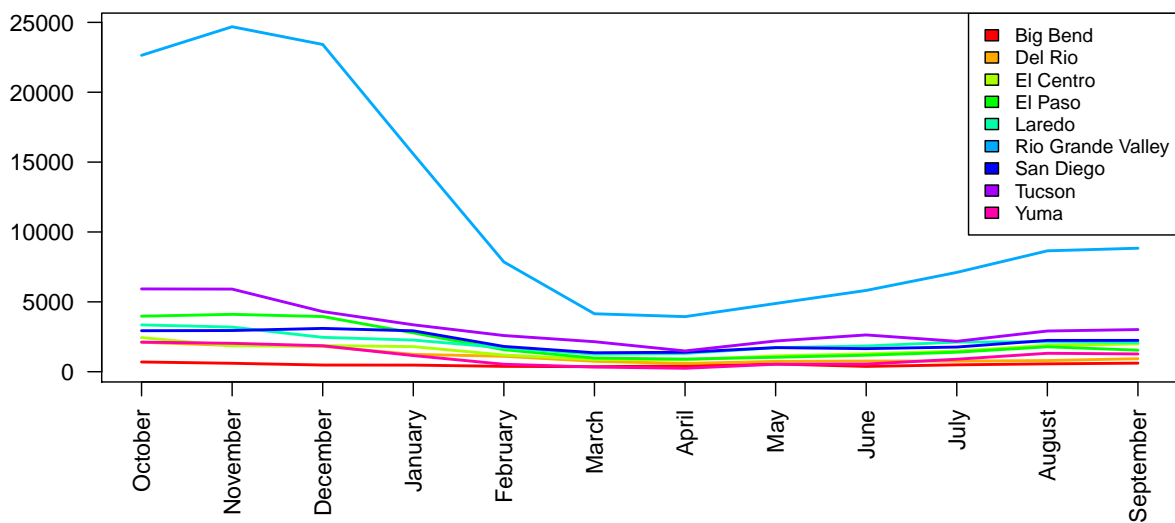
Apprehensions by Month

In 2010, the most apprehensions occurred in the months March - May, while in 2010 the most apprehensions occurred during October - December.

2010 Border Patrol Apprehensions by Month



2017 Border Patrol Apprehensions by Month



However again, this difference is not significant.

##

```
## Welch Two Sample t-test
##
## data: BP_2010[1:9, max_app_month_2010] and BP_2017[1:9, max_app_month_2017]
## t = 0.48741, df = 50.321, p-value = 0.6281
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
## -3119.921 5119.699
## sample estimates:
## mean of x mean of y
## 6060.852 5060.963
```

Time Series Summary

Data shows that the number of apprehensions has steadily decreased since 2000 with 2017 reaching a new minimum.

