Voting Patterns in Massachusetts

2023-06-27

Import Data

```
library(readxl)

# Set the file path of the Excel file
file_path <- "data/Voter-Turnout-Statistics.xlsx"
file_path1 <- "data/voter2.xlsx"
file_path2 <- "data/voter3.xlsx"

# Read the Excel file
data <- read_excel(file_path)
data1 <- read_excel(file_path1)
data2 <- read_excel(file_path2) ## CHECK WHICH IS WHICH BEFORE ANALYSIS

# Display the data
print(data)
```

```
## # A tibble: 38 x 4
##    `State Election` `Registered Voters` `Total Votes Cast` `Turnout Percentage`
##               <dbl>               <dbl>              <dbl>                 <dbl>
##  1             1948             2484938            2155347                 0.867
##  2             1950             2475396            1947071                 0.787
##  3             1952             2555025            2424548                 0.949
##  4             1954             2523414            1942071                 0.770
##  5             1956             2671369            2388129                 0.894
##  6             1958             2556300            1952588                 0.764
##  7             1960             2720359            2495504                 0.917
##  8             1962             2635086            2144051                 0.814
##  9             1964             2723598            2388230                 0.877
## 10             1966             2641538            2076826                 0.786
## # i 28 more rows
```

```
print(data1)
```

```
## # A tibble: 38 x 4
##    `State Primary` `Registered Voters` `Total Votes Cast` `Turnout Percentage`
##              <dbl>               <dbl>              <dbl>                 <dbl>
##  1            1948             2484938             591248                 0.238
##  2            1950             2475396             827158                 0.334
##  3            1952             2555025             960580                 0.376
##  4            1954             2523414             604804                 0.240
##  5            1956             2671369             848880                 0.318
##  6            1958             2556300             768456                 0.301
##  7            1960             2720359             860474                 0.316
##  8            1962             2635086            1293764                 0.491
##  9            1964             2723598             946864                 0.348
```

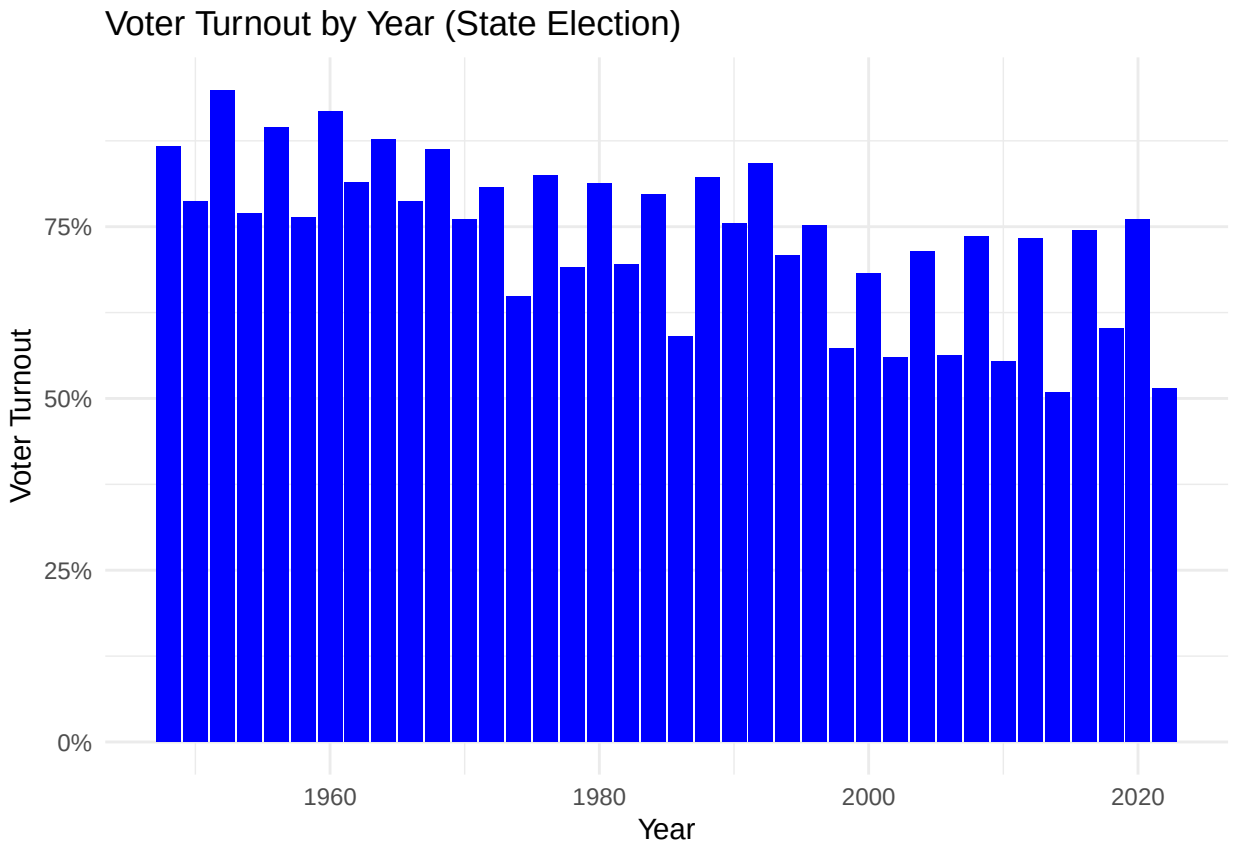
```
## 10            1966             2641538             846094                0.320
## # i 28 more rows
```

```
print(data2)
```

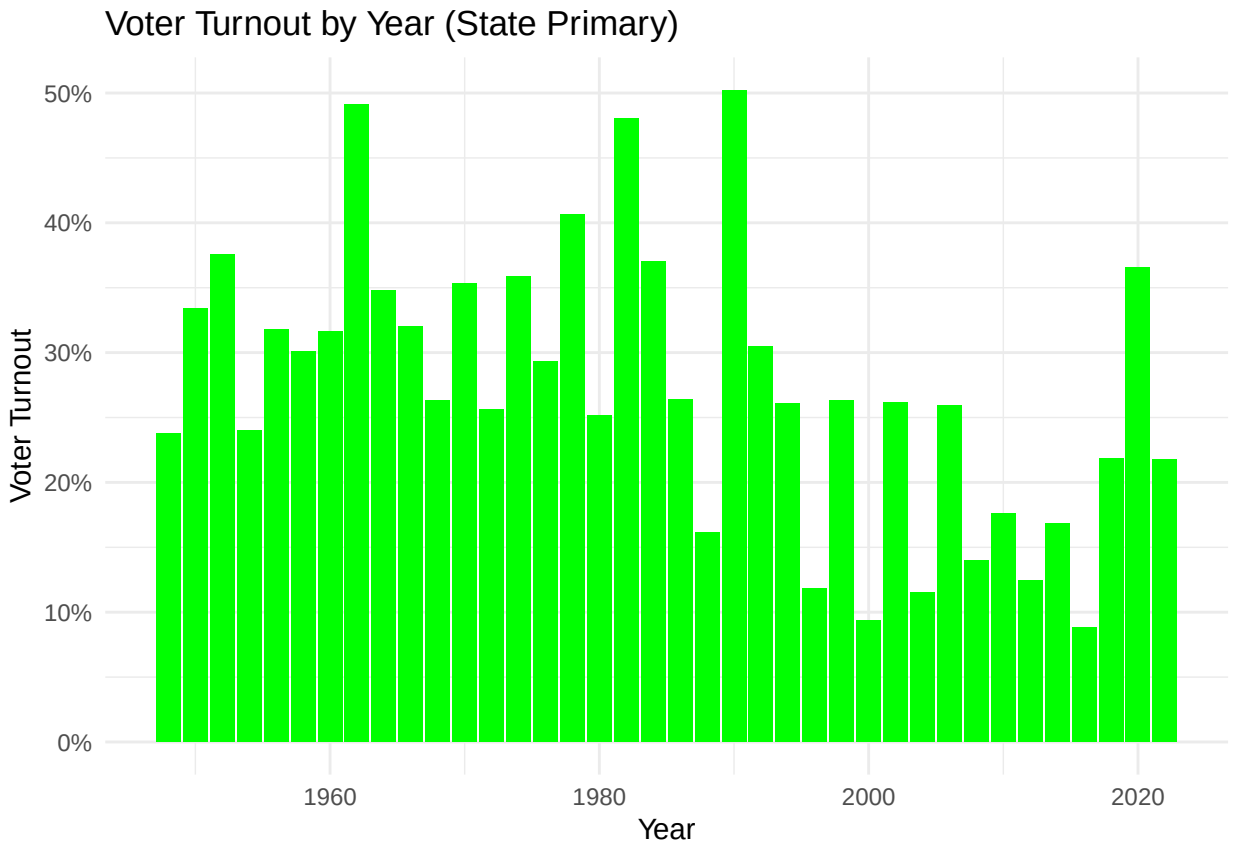
```
## # A tibble: 18 x 4
##    `State Primary` `Registered Voters` `Total Votes Cast` `Turnout Percentage`
##              <dbl>               <dbl>              <dbl>                 <dbl>
##  1            1952             2666025             573973                 0.215
##  2            1956             2671936             183660                 0.0687
##  3            1960             2720359             252244                 0.0927
##  4            1964             2723598             345598                 0.127
##  5            1968             2725058             471397                 0.173
##  6            1972             2775538             768981                 0.277
##  7            1976             2872483             941943                 0.328
##  8            1980             3026097            1330727                 0.440
##  9            1984             3054129             711171                 0.233
## 10            1988             2965272             975106                 0.329
## 11            1992             3130272            1086359                 0.347
## 12            1996             3166047             455362                 0.144
## 13            2000             3794046             360064                 0.0949
## 14            2004             3903810             696636                 0.178
## 15            2008             4308228            1883846                 0.437
## 16            2012             4111128             529542                 0.129
## 17            2016             4271835            1863339                 0.436
## 18            2020             4581319            1700087                 0.371
```

Turnout Percentage Per Each Voting Year

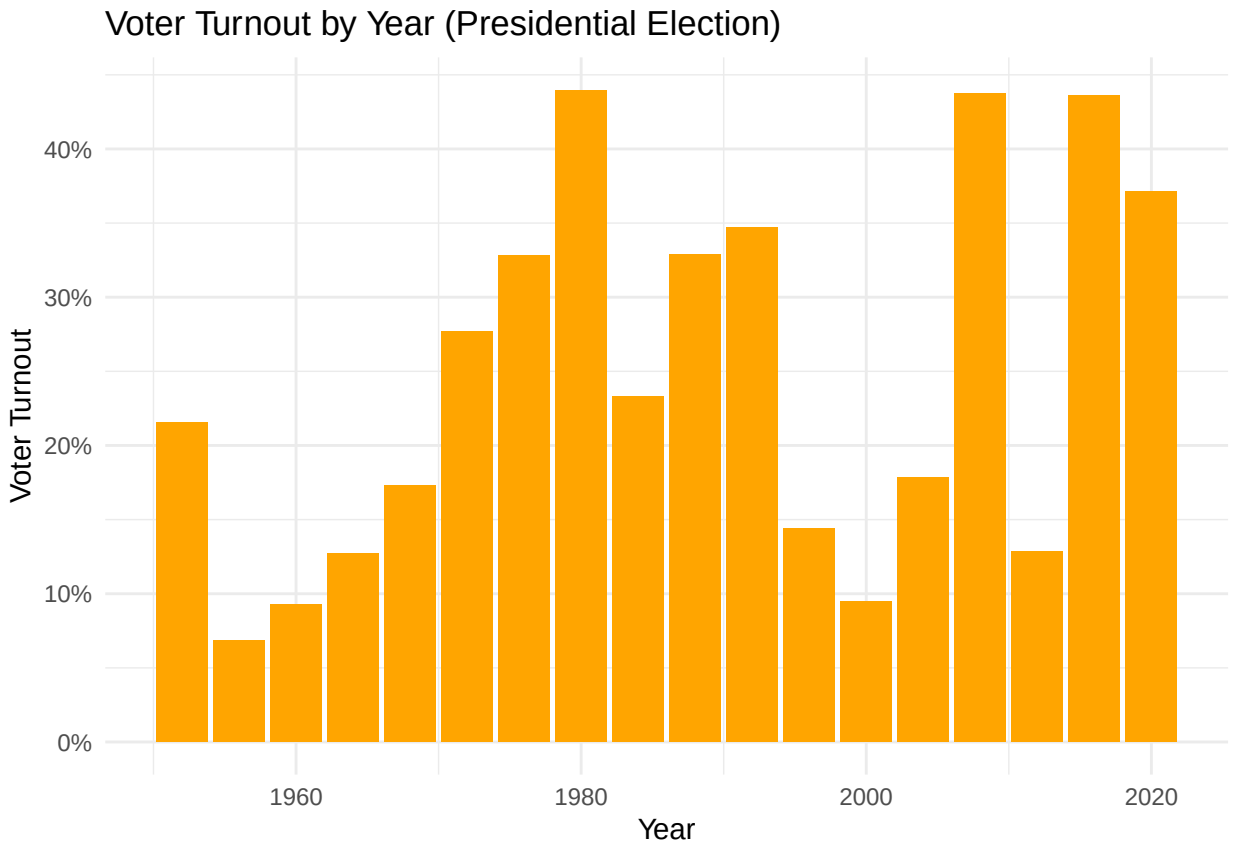
```
library(ggplot2)

# Create a bar plot for data
ggplot(data, aes(x = `State Election`, y = `Turnout Percentage`)) +
  geom_bar(stat = "identity", fill = "blue") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (State Election)") +
  theme_minimal() +
  scale_y_continuous(labels = scales::percent)
```




```
# Create a bar plot for data1
ggplot(data1, aes(x = `State Primary`, y = `Turnout Percentage`)) +
  geom_bar(stat = "identity", fill = "green") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (State Primary)") +
  theme_minimal() +
  scale_y_continuous(labels = scales::percent)
```

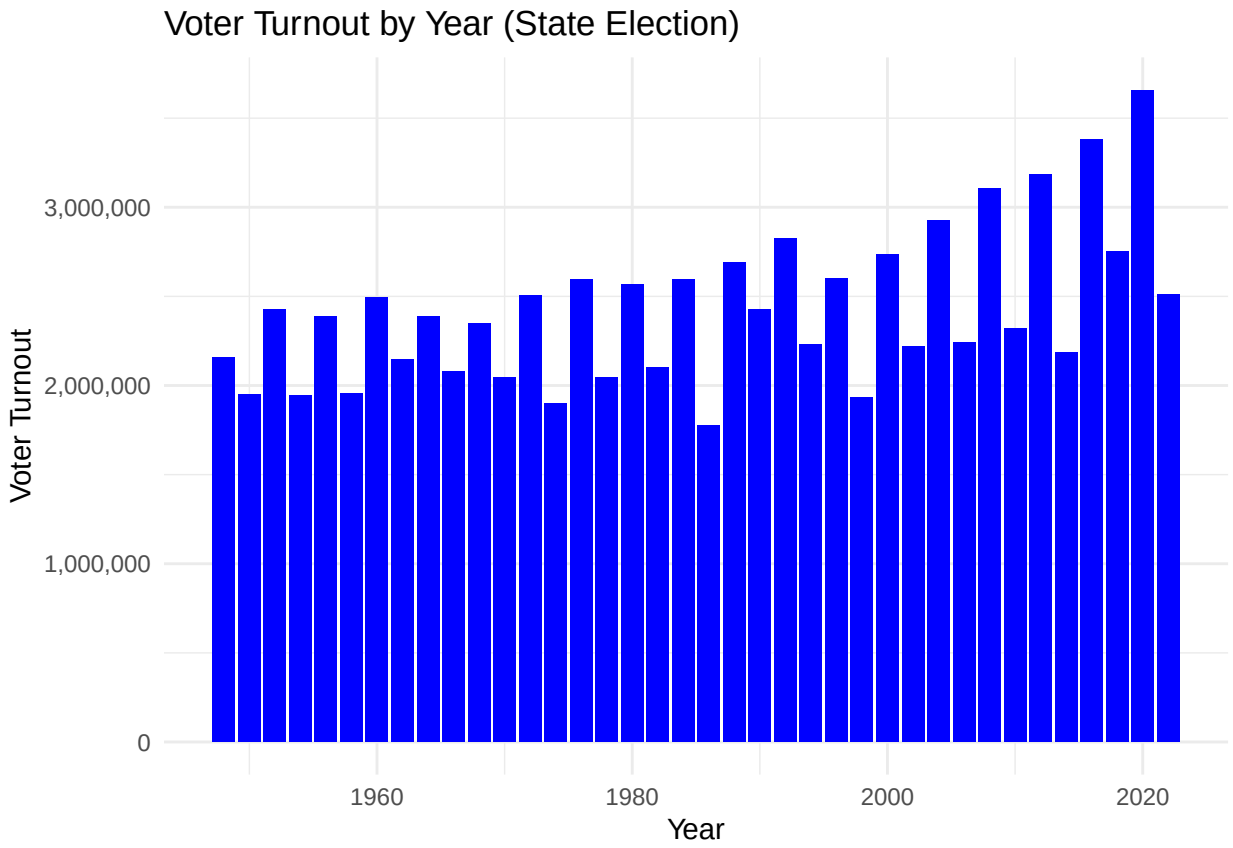



```
# Create a bar plot for data2
ggplot(data2, aes(x = `State Primary`, y = `Turnout Percentage`)) +
  geom_bar(stat = "identity", fill = "orange") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (Presidential Election)") +
  theme_minimal() +
  scale_y_continuous(labels = scales::percent)
```

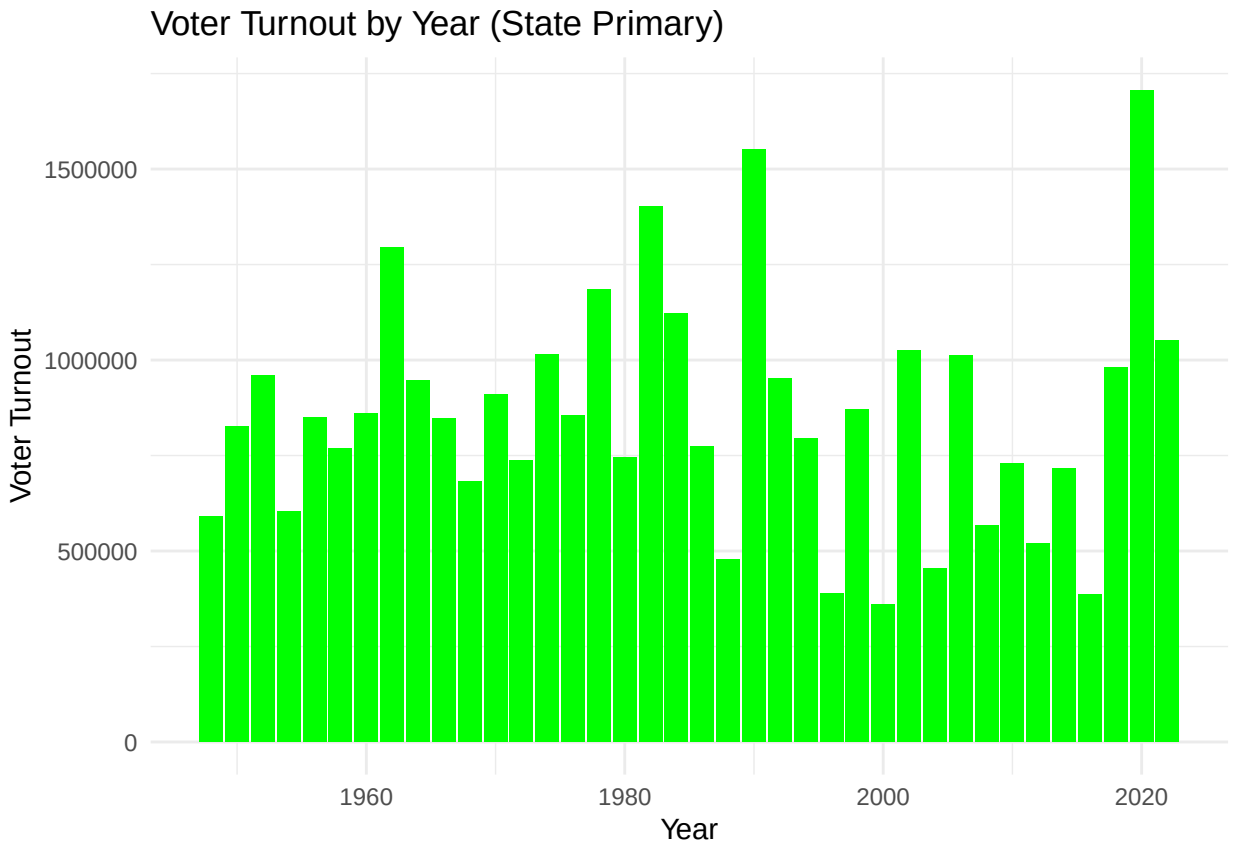


Total Votes Cast Per Each Voting Year

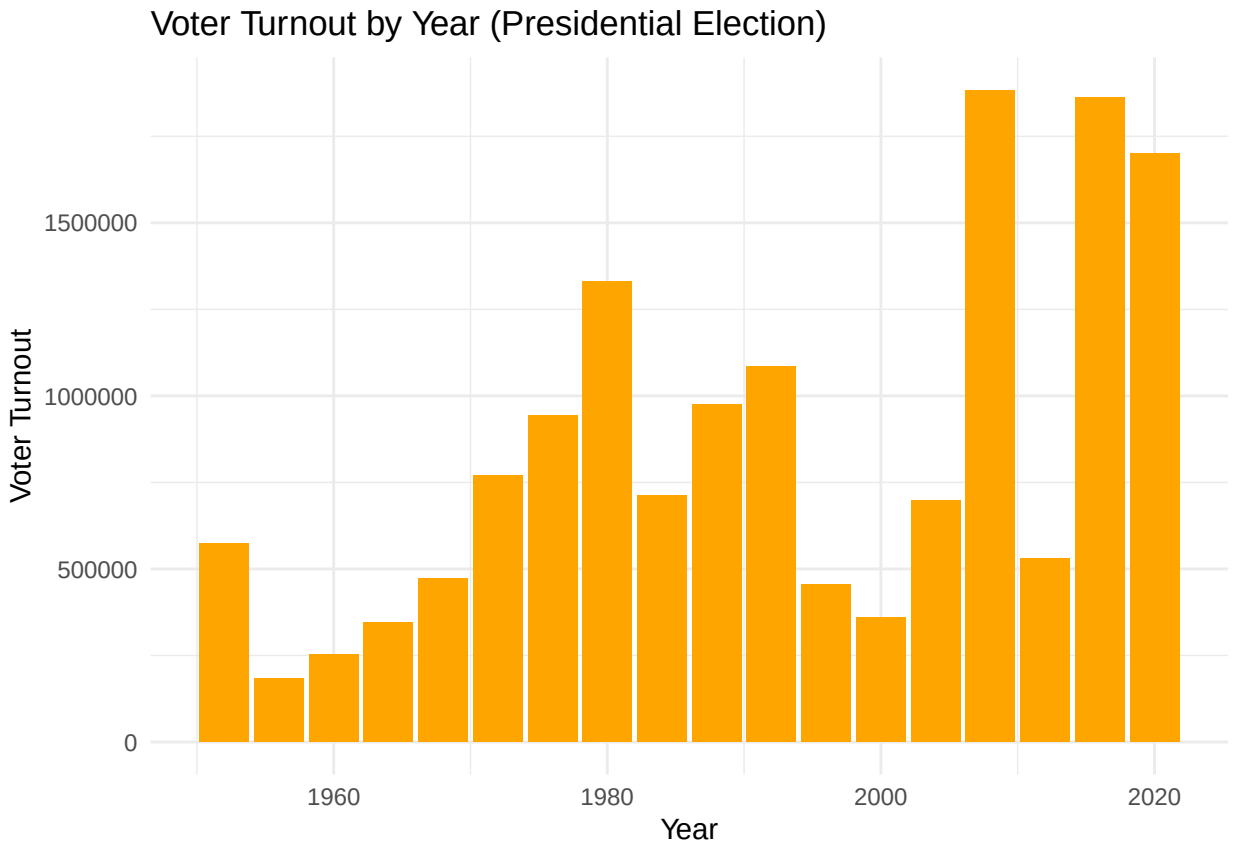
```
# Create a bar plot for data
ggplot(data, aes(x = `State Election`, y = `Total Votes Cast`)) +
  geom_bar(stat = "identity", fill = "blue") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (State Election)") +
  theme_minimal() +
  scale_y_continuous(labels = scales::comma)
```




```
# Create a bar plot for data1
ggplot(data1, aes(x = `State Primary`, y = `Total Votes Cast`)) +
  geom_bar(stat = "identity", fill = "green") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (State Primary)") +
  theme_minimal()
```

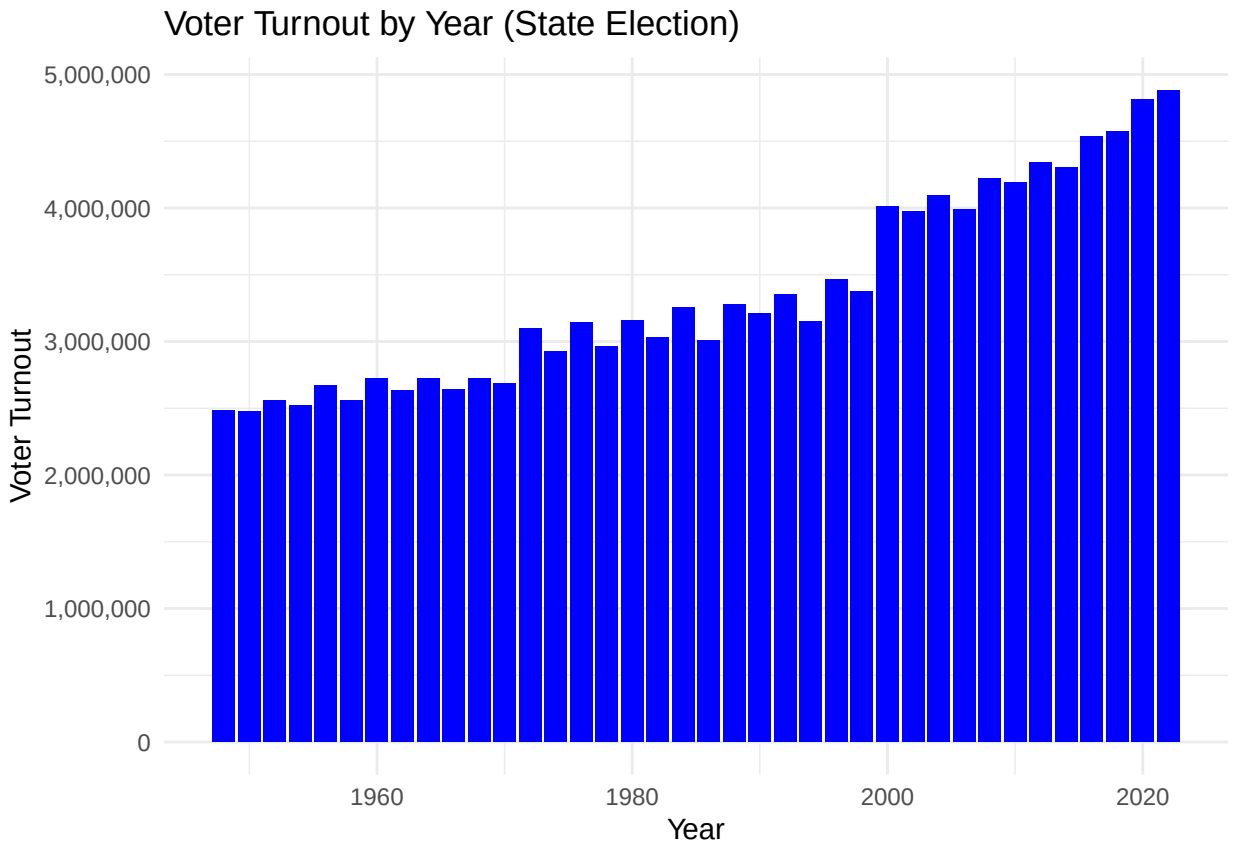



```
# Create a bar plot for data2
ggplot(data2, aes(x = `State Primary`, y = `Total Votes Cast`)) +
  geom_bar(stat = "identity", fill = "orange") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (Presidential Election)") +
  theme_minimal()
```

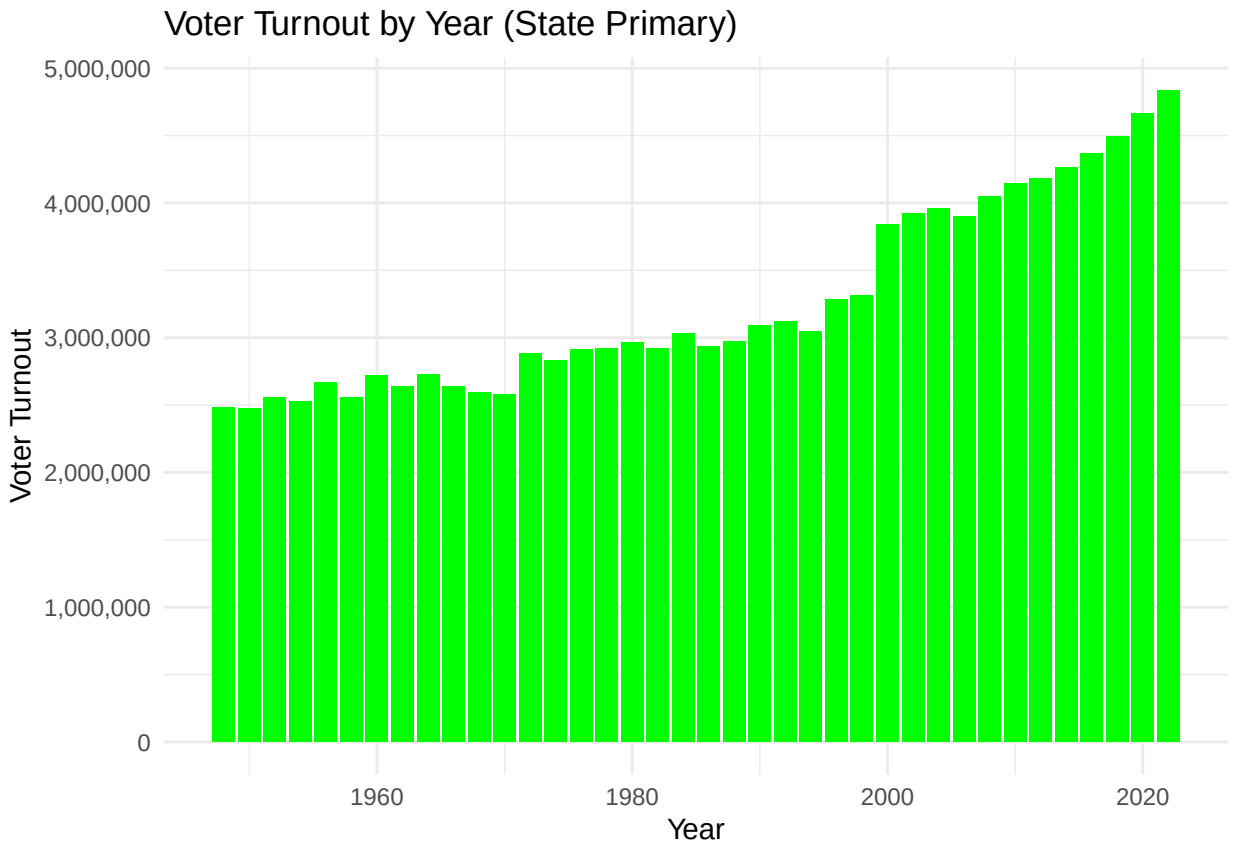


Registered Voters Per Each Voting Year

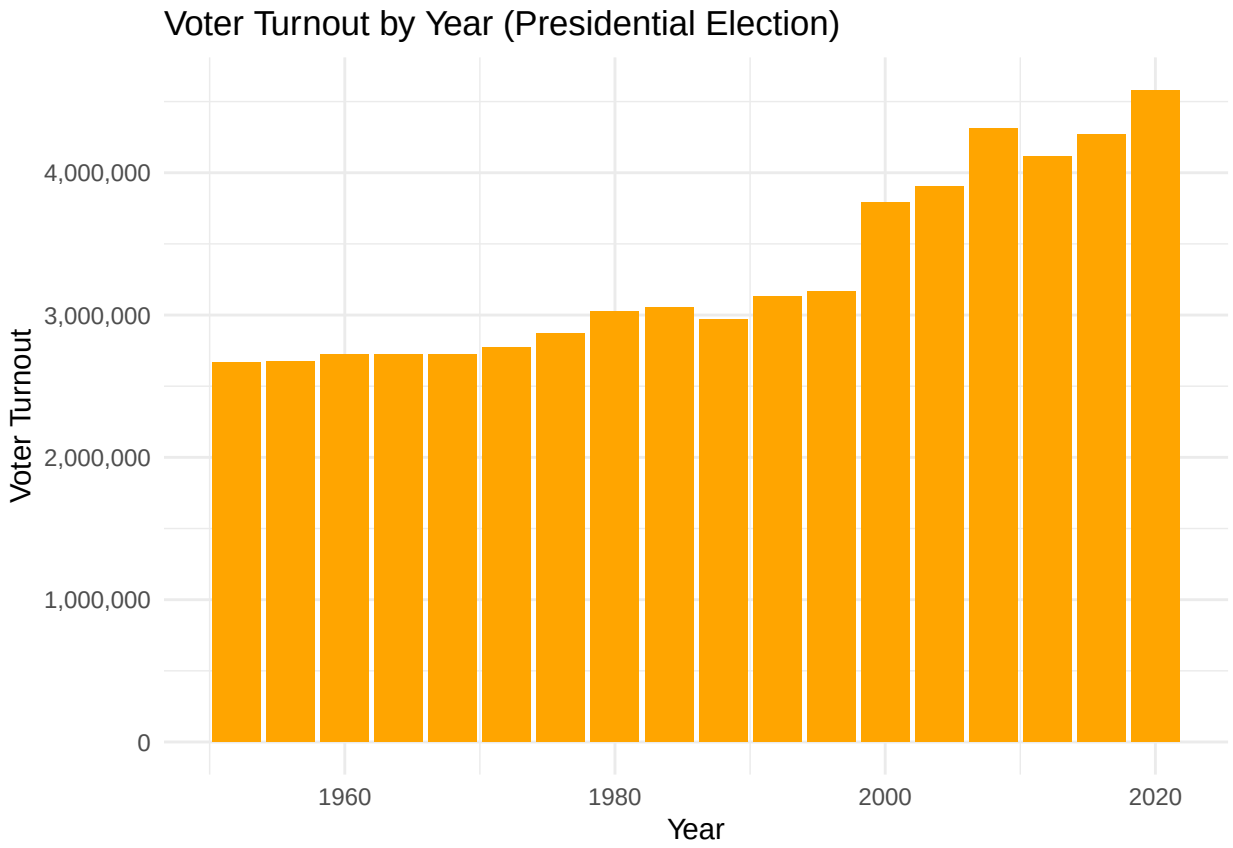
```
library(ggplot2)

# Create a bar plot for data
ggplot(data, aes(x = `State Election`, y = `Registered Voters`)) +
  geom_bar(stat = "identity", fill = "blue") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (State Election)") +
  theme_minimal() +
  scale_y_continuous(labels = scales::comma)
```




```
# Create a bar plot for data1
ggplot(data1, aes(x = `State Primary`, y = `Registered Voters`)) +
  geom_bar(stat = "identity", fill = "green") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (State Primary)") +
  theme_minimal() +
  scale_y_continuous(labels = scales::comma)
```




```
# Create a bar plot for data2
ggplot(data2, aes(x = `State Primary`, y = `Registered Voters`)) +
  geom_bar(stat = "identity", fill = "orange") +
  labs(x = "Year", y = "Voter Turnout") +
  ggtitle("Voter Turnout by Year (Presidential Election)") +
  theme_minimal() +
  scale_y_continuous(labels = scales::comma)
```


Voter Turnout by Year (Presidential Election)
Voter Turnout
4,000,000
3,000,000
2,000,000
1,000,000
0
1960
1980
2000
2020
Year