
THE GEORGE
WASHINGTON
UNIVERSITY

WASHINGTON, DC

Data Warehouse Analysis for U.S. Federal Election

Team Member:
Ting Huang,
Lu Li,
Jason Liu,
Yu Luo,
Yuwen Luo,
Abenezer Tekle

Agenda

- Dimensional schema design
- Analytical questions walk through
 1. Which 5 states have the most candidates' offices in 2016 and 2020?
 2. Contribution by individual and committee breakdown by States in 2016 and 2020
 3. Contribution comparison by Trump, Biden and Clinton in 2016 and 2020
 4. Individual contribution for both parties based on occupation

Schema Part 1 - Candidate

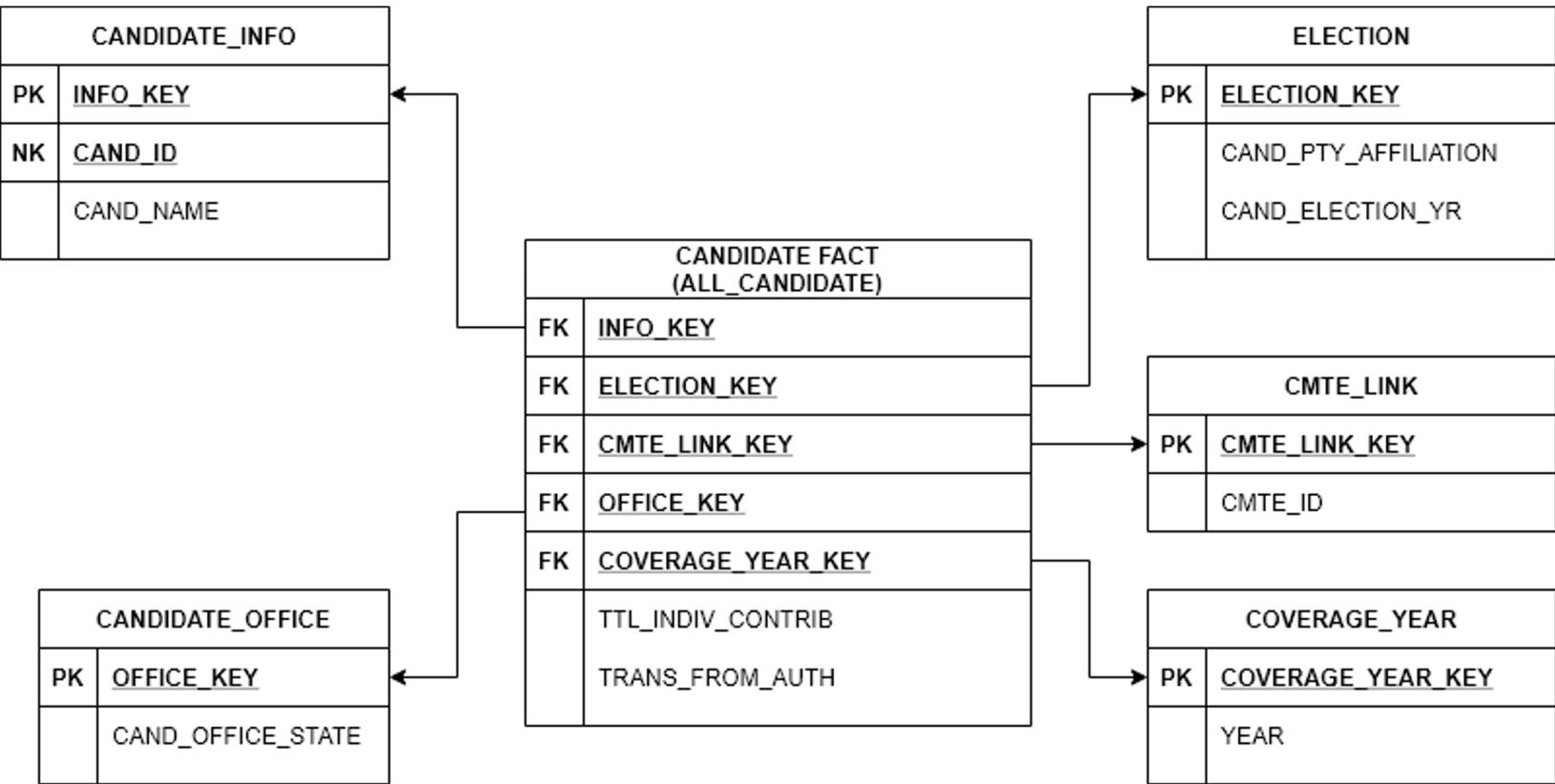
Information needed to solve the questions:

- **Q3** - Top 5 state that have most candidates' offices.
Compare year 2016 and 2020.

Compare distribution of parties in year 2016 and 2020.
 - candidate office state
 - year
- **Q5** - Total contribution amount by individual and by committee.

Compare Trump, Biden, Clinton.

Compare year 2016 and 2020.
 - candidate name
 - committee ID
 - year



1. Candidate Office
2. Candidate Information
3. Candidate Election Information
4. Committee Information, Committee ID
5. Coverage_Year, Year

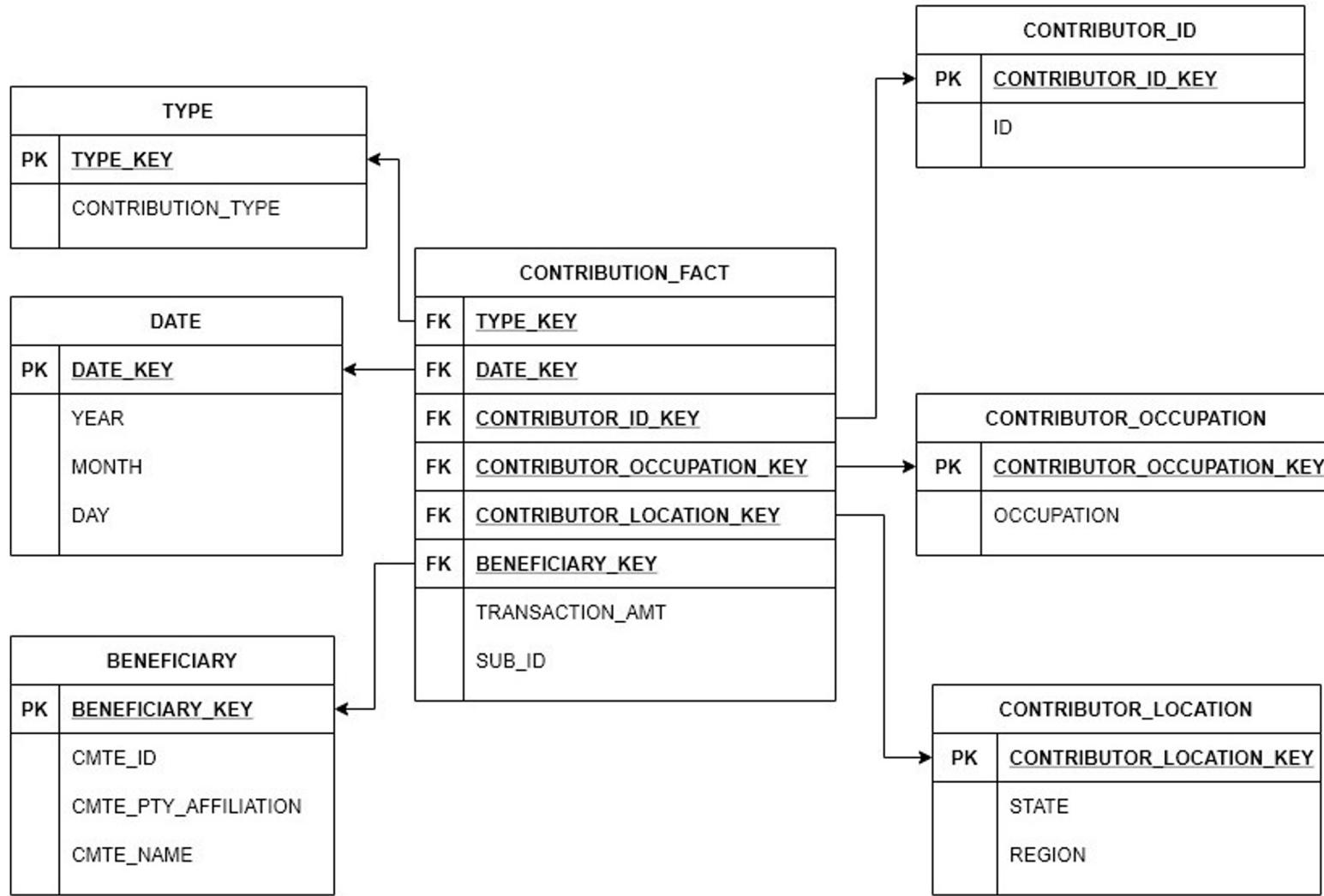
Schema Part 2 - Contribution

Information needed to solve the questions:

- **Q1** - Top 5 candidates that received most contributions by individuals.
Breakdown those contributions by region and compare by year.
 - contributor's region
 - year
 - contributor - individual
- **Q2** - Top 5 committee that received most contributions. Compare year 2016 and 2020.
 - contributor - individual and other committees
 - year

Information needed to solve the questions - cont.

- **Q4** - Contribution by individual and committee breakdown by States in 2016 and 2020
 - contributor - individual or committees
 - contributor's state
 - year
- **Q5** - Contribution comparison for Trump, Biden, Clinton in year 2020 and 2016
 - contributor - individual
 - year and month
- **Q6** - Individual contribution for both parties based on occupation
 - contributor - individual
 - contributor's occupation
 - beneficiary's party
 - year



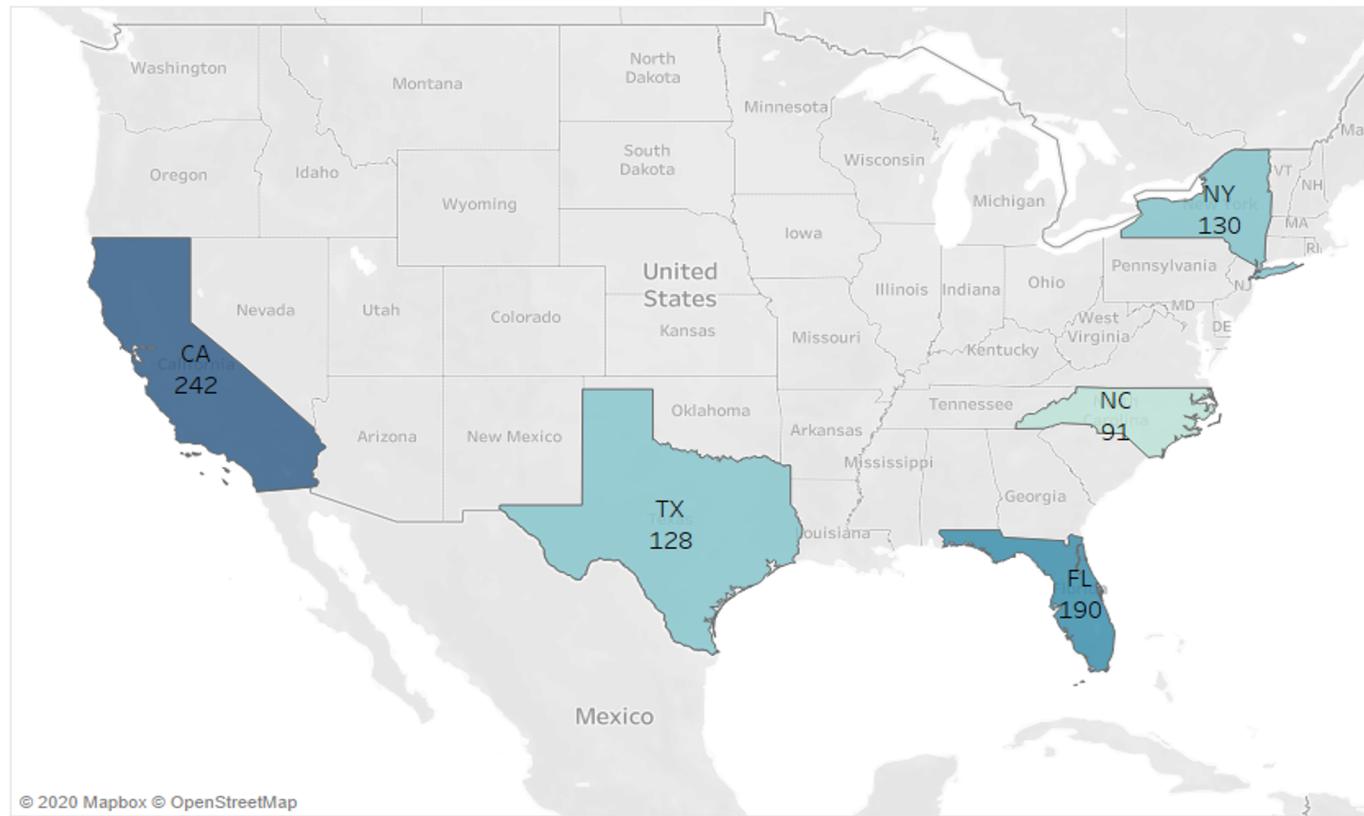
Analytical Question 1

Which 5 states have the most candidates offices in 2016 and 2020?
In those Top 5 state, how candidates are distributed among parties in both years?

2016

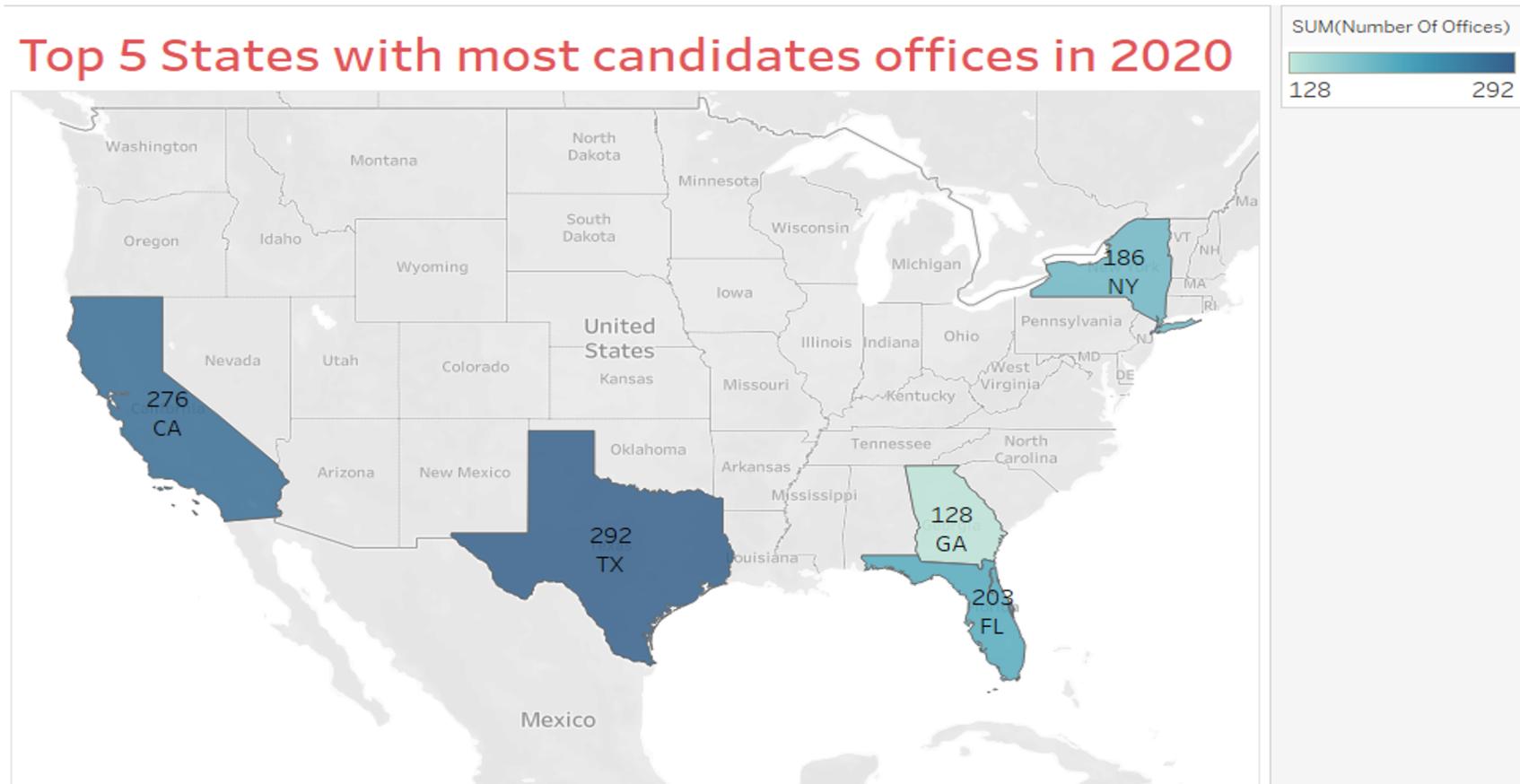
Top 5 States with most candidate offices in 2016

SUM(Number Of Offices)
91
242



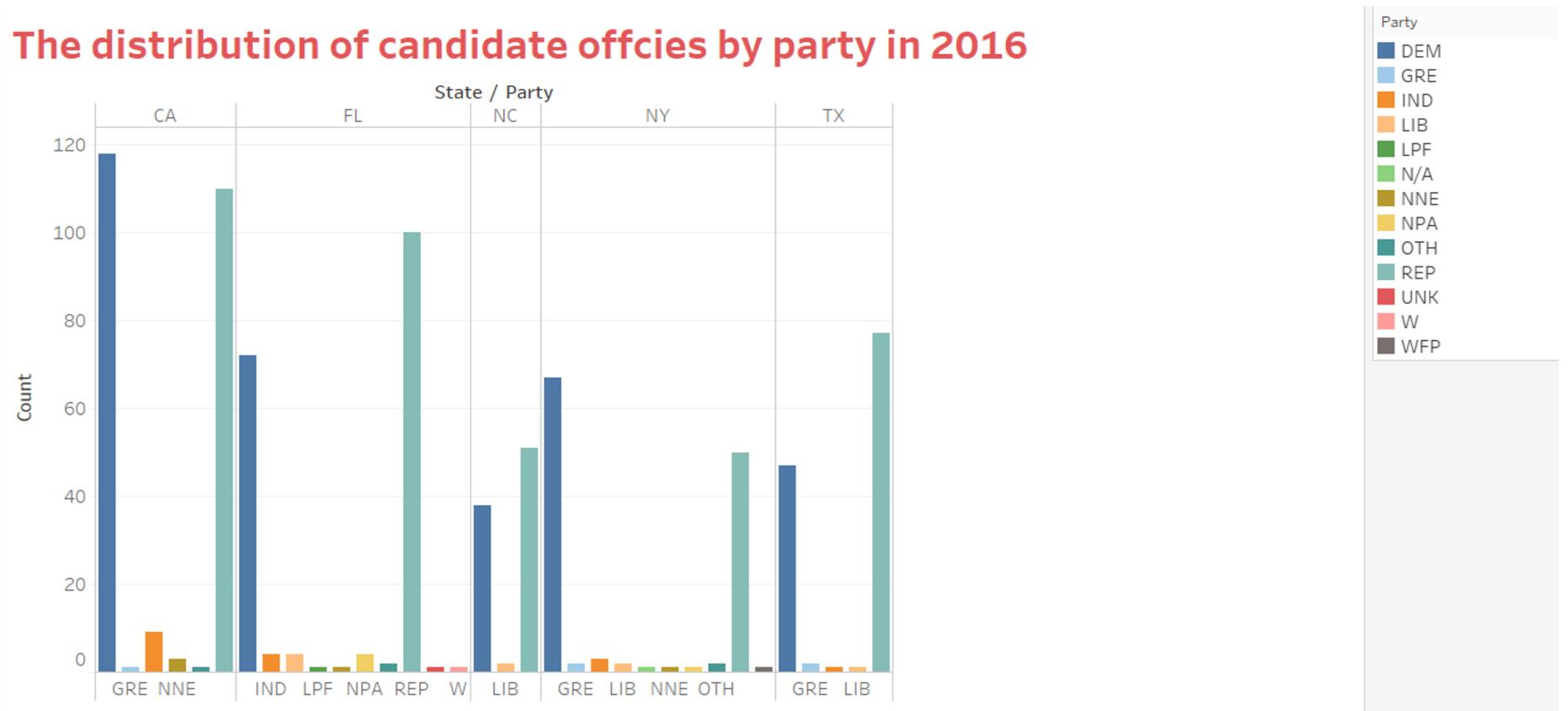
2020

Top 5 States with most candidates offices in 2020



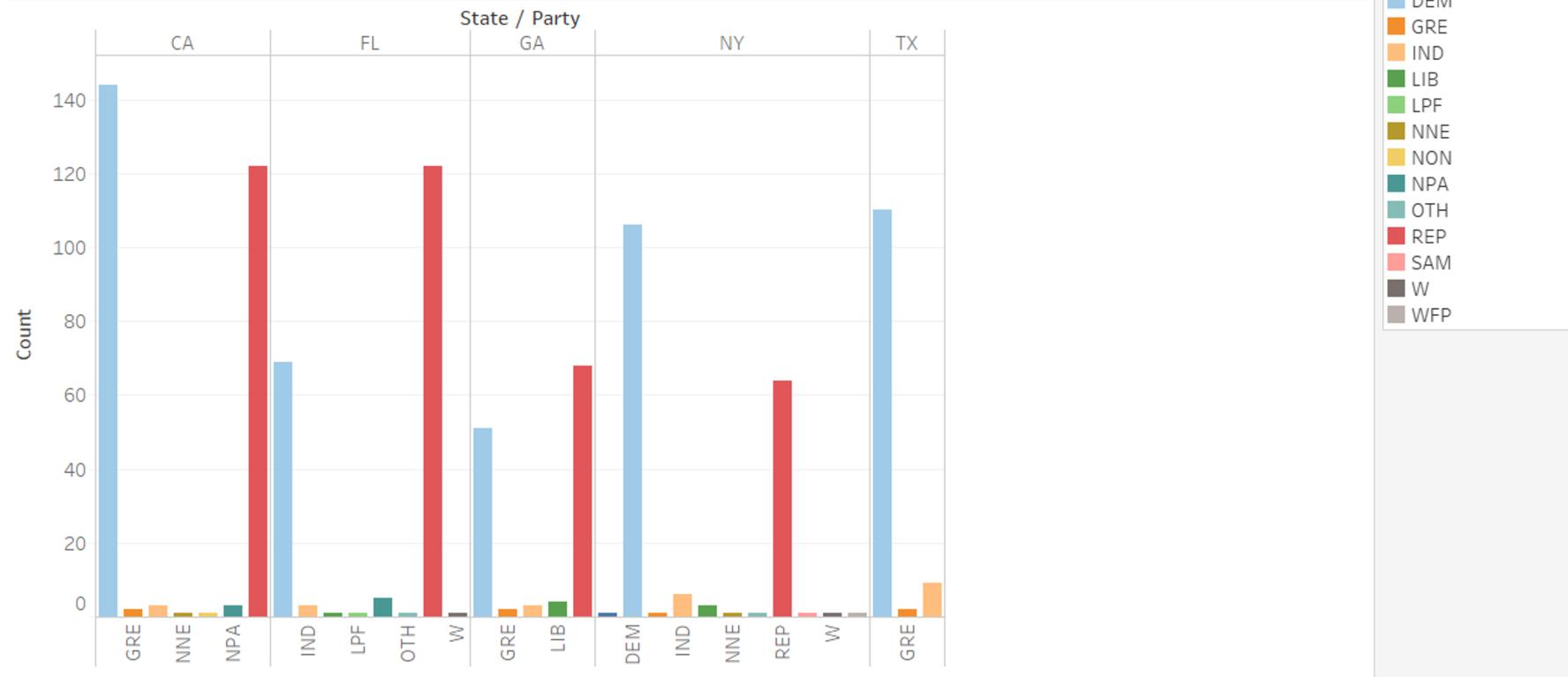
2016

The distribution of candidate offices by party in 2016



2020

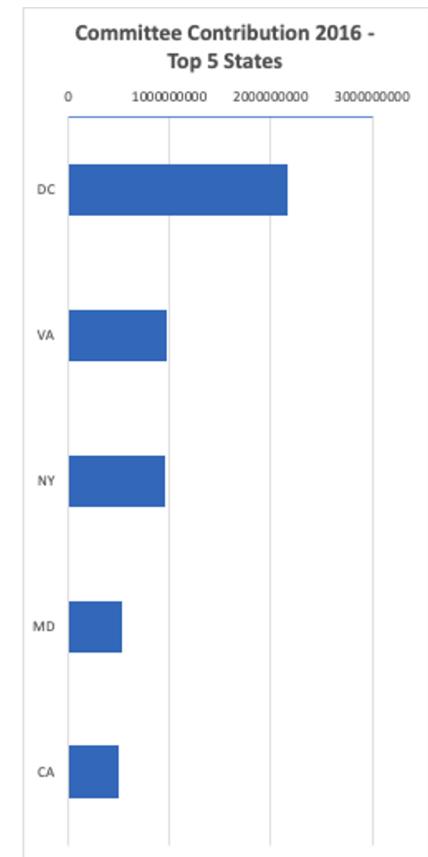
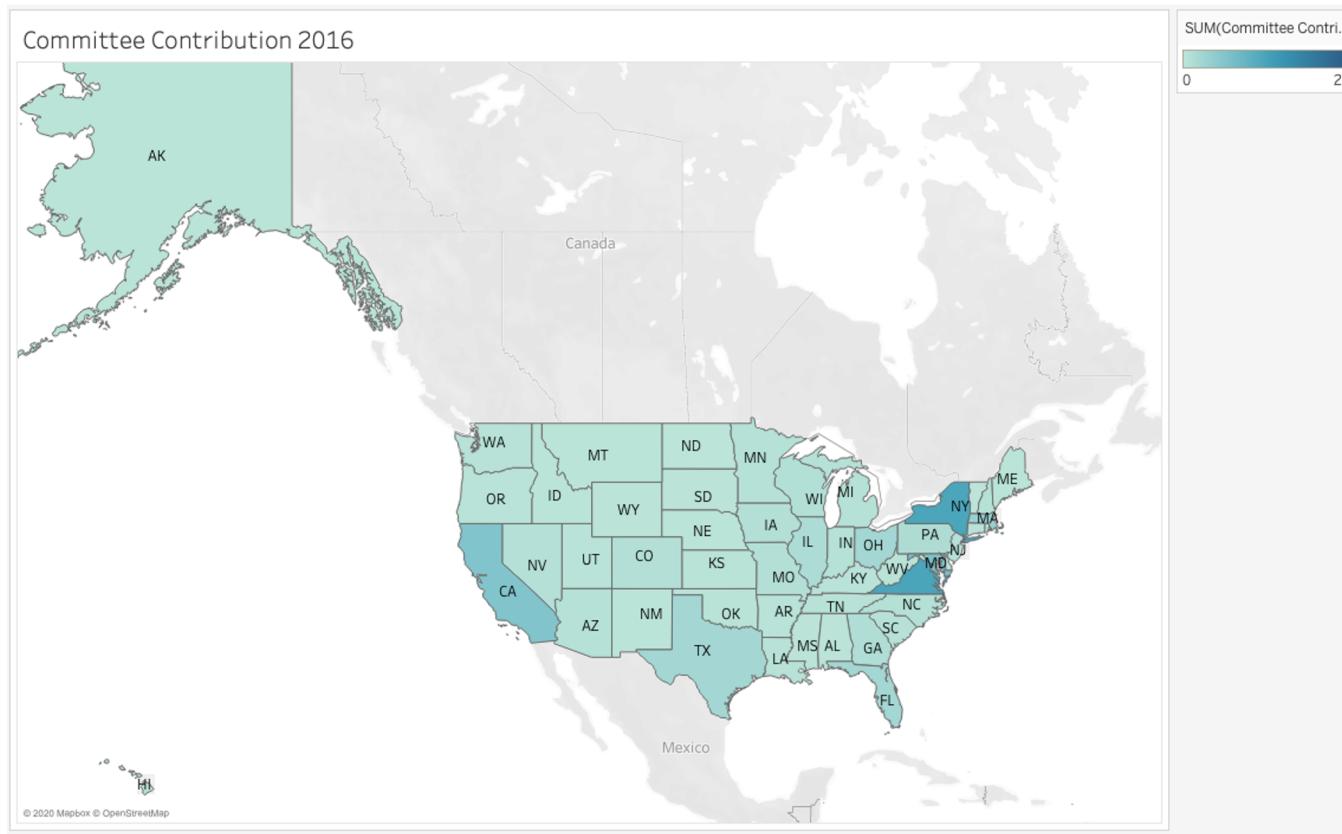
The distribution of candidate offices by party in 2020



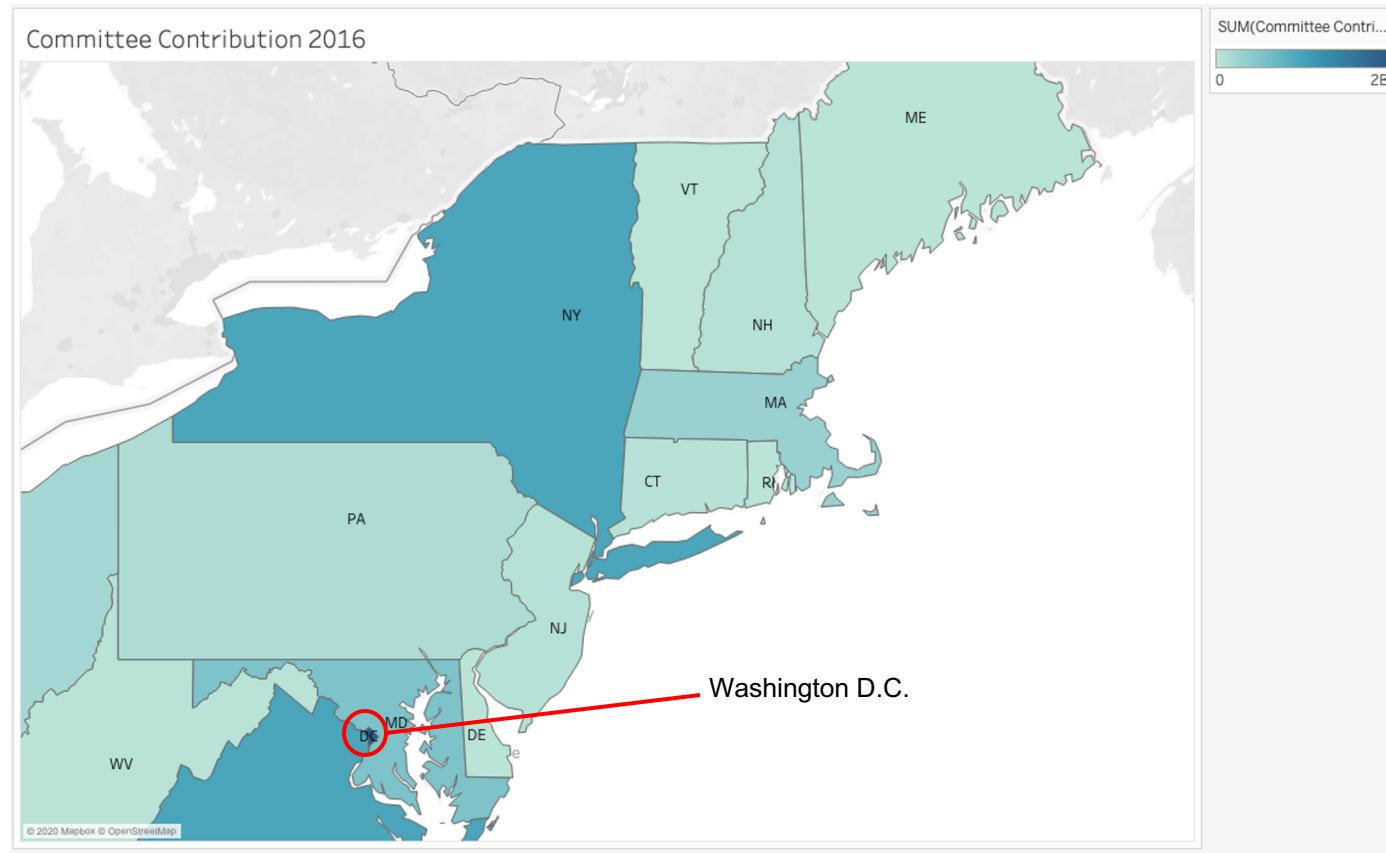
Analytical Question 2

Contribution by individual and committee breakdown by States in 2016 and 2020

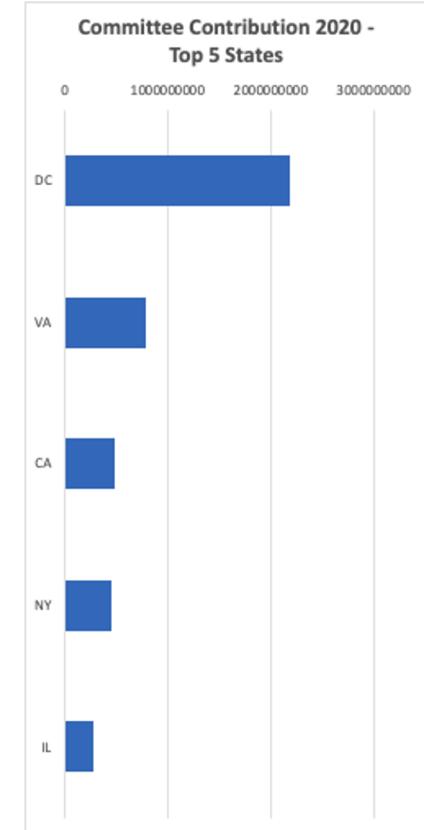
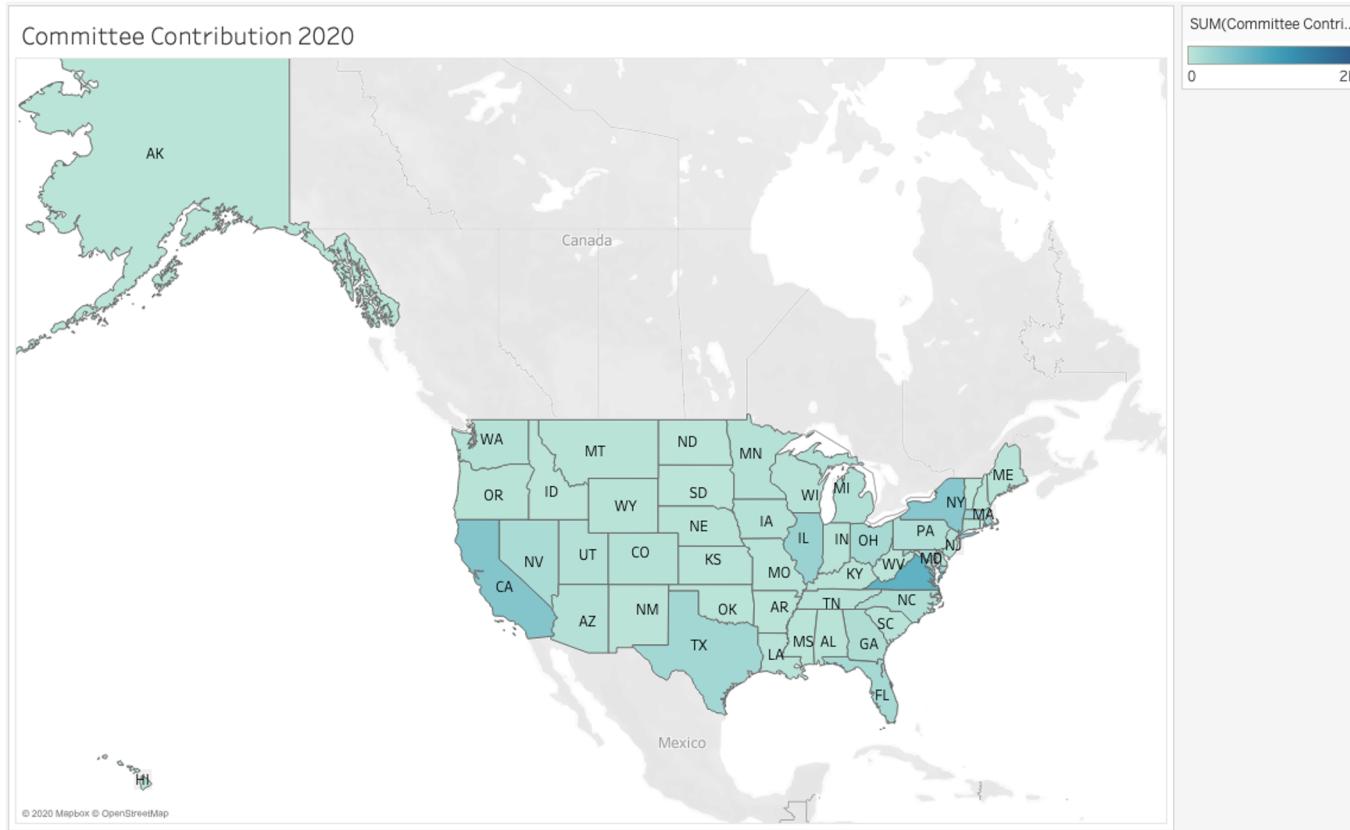
In 2016, the top 5 states by committee contribution are Washington D.C., Virginia, New York, Maryland, and California



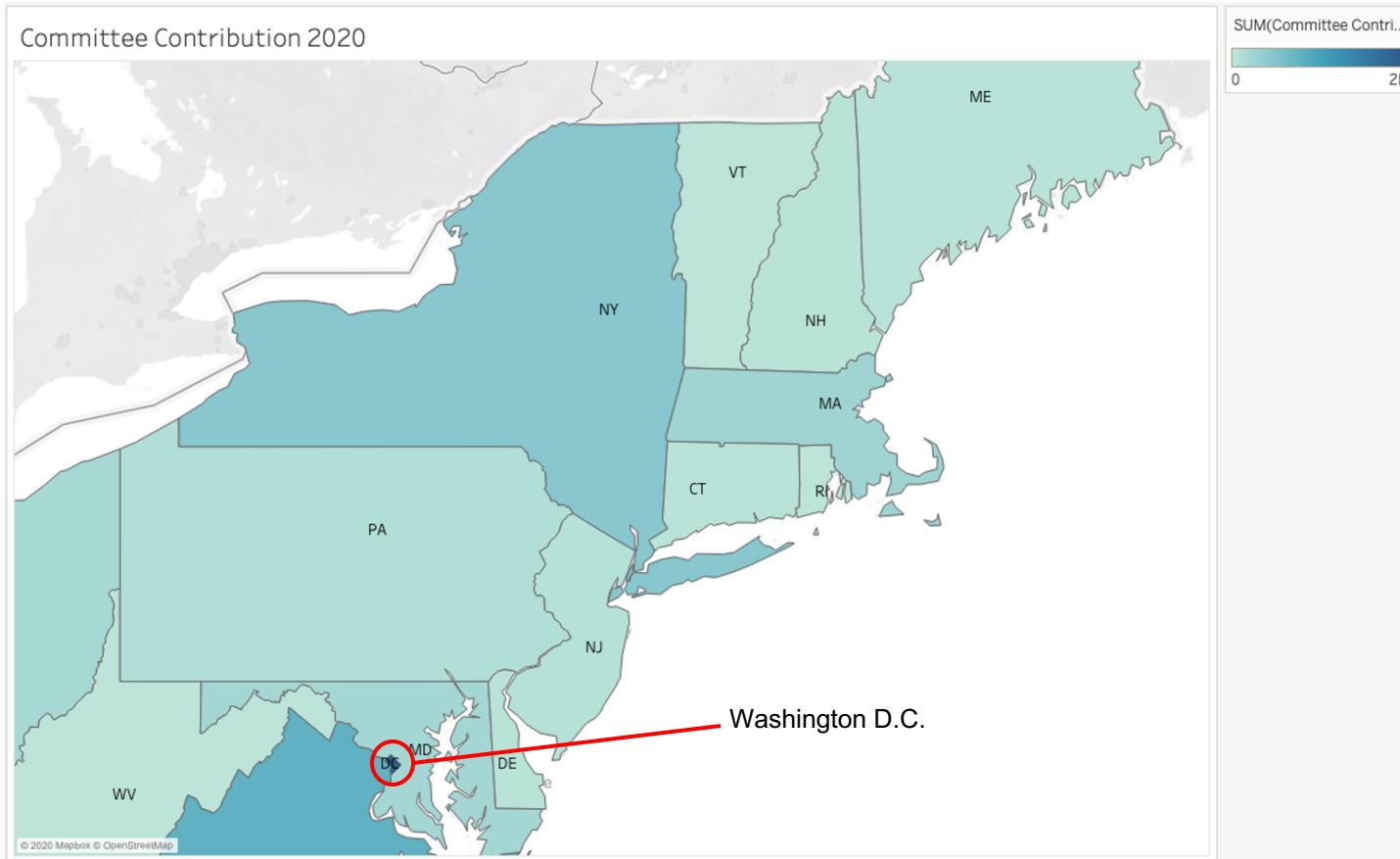
Zoom in to see more detail in New England and Mid-Atlantic regions



In 2020, the top 5 states by committee contribution are Washington D.C., Virginia, California, New York, and Illinois.



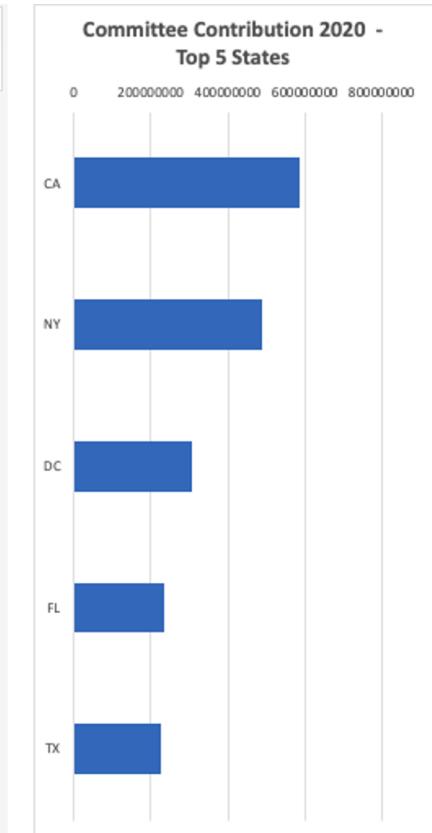
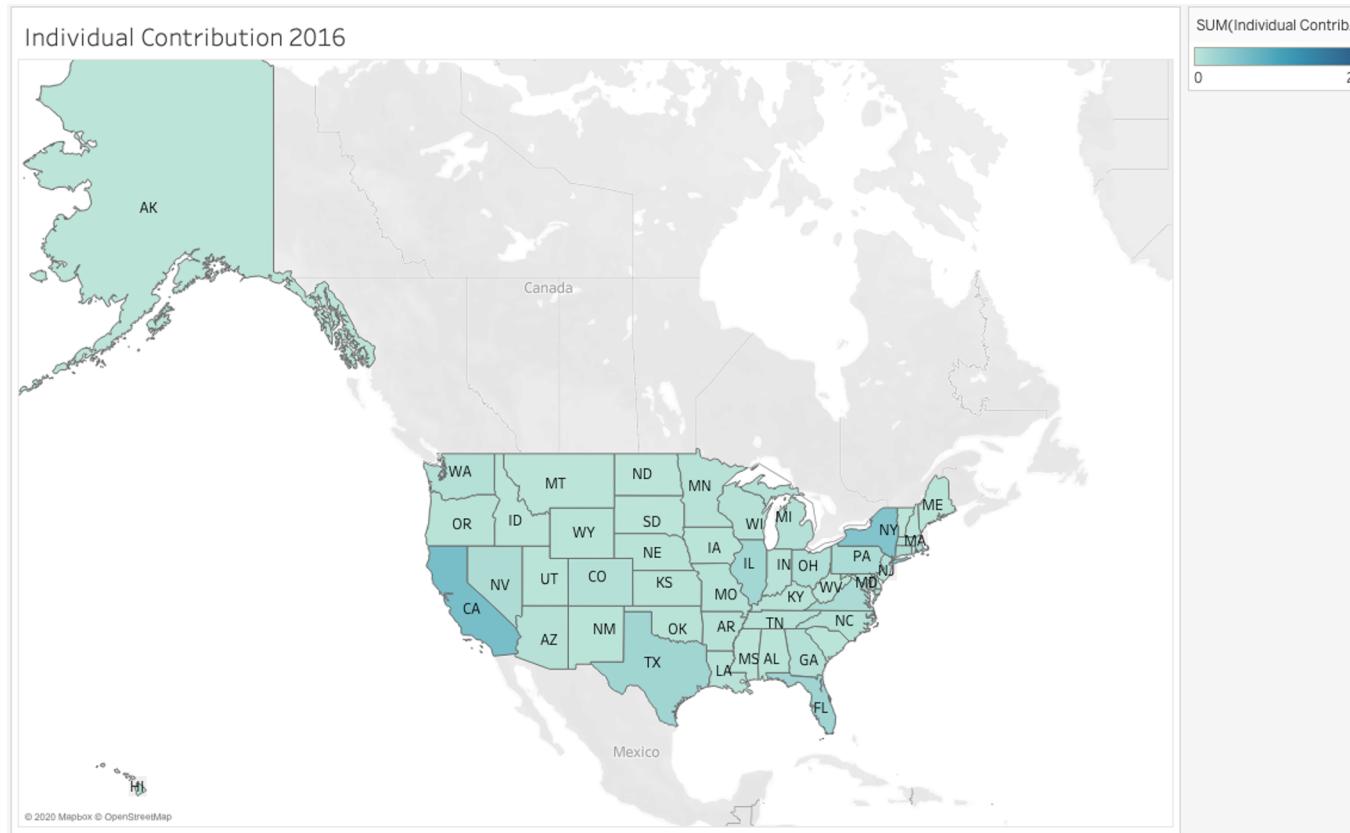
Zoom in to see more detail in New England and Mid-Atlantic regions



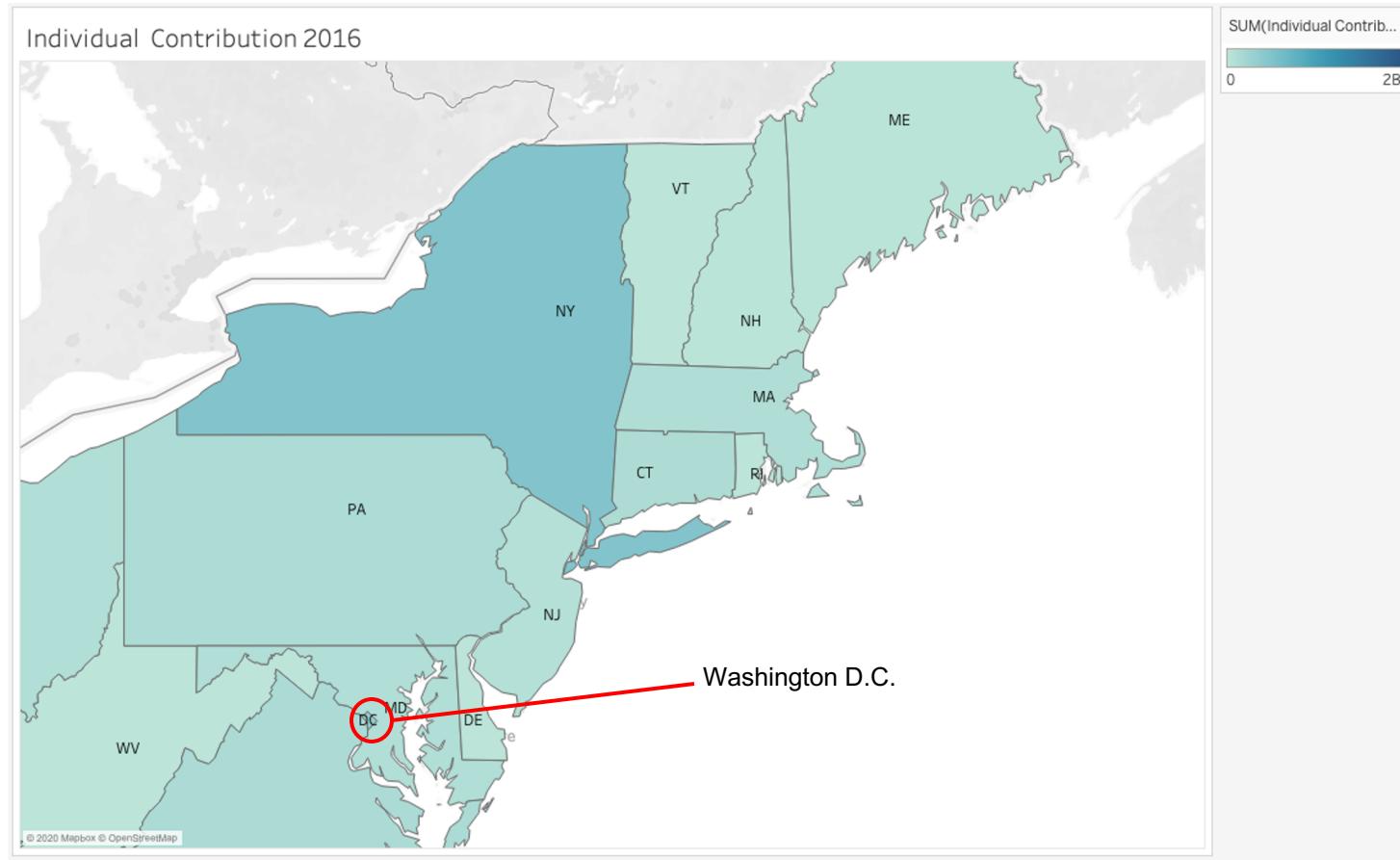
Takeaways:

1. Committees on the east coast (Washington D.C., New York, and Virginia) contributed more than committees in other parts of the country in the last two elections. On the West coast, California is where committees contributed the most.
2. The total amount of committee contribution from all states doesn't change much from 2016 and 2020. In fact, committees in New York, Virginia, and Maryland contributed noticeably less in 2020 than they did in 2016

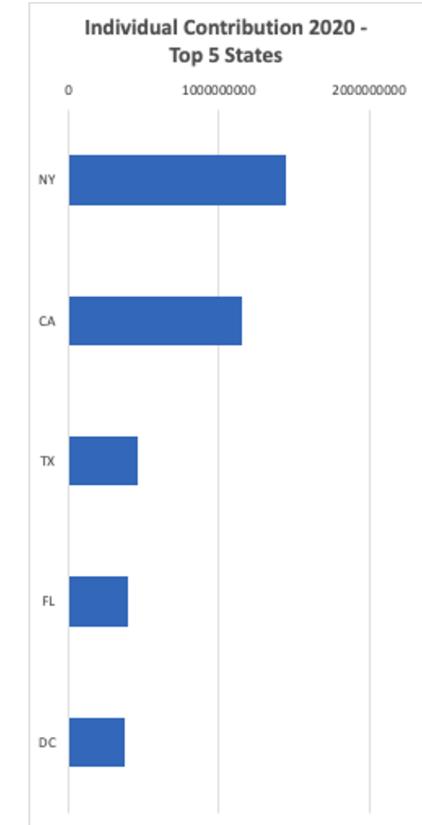
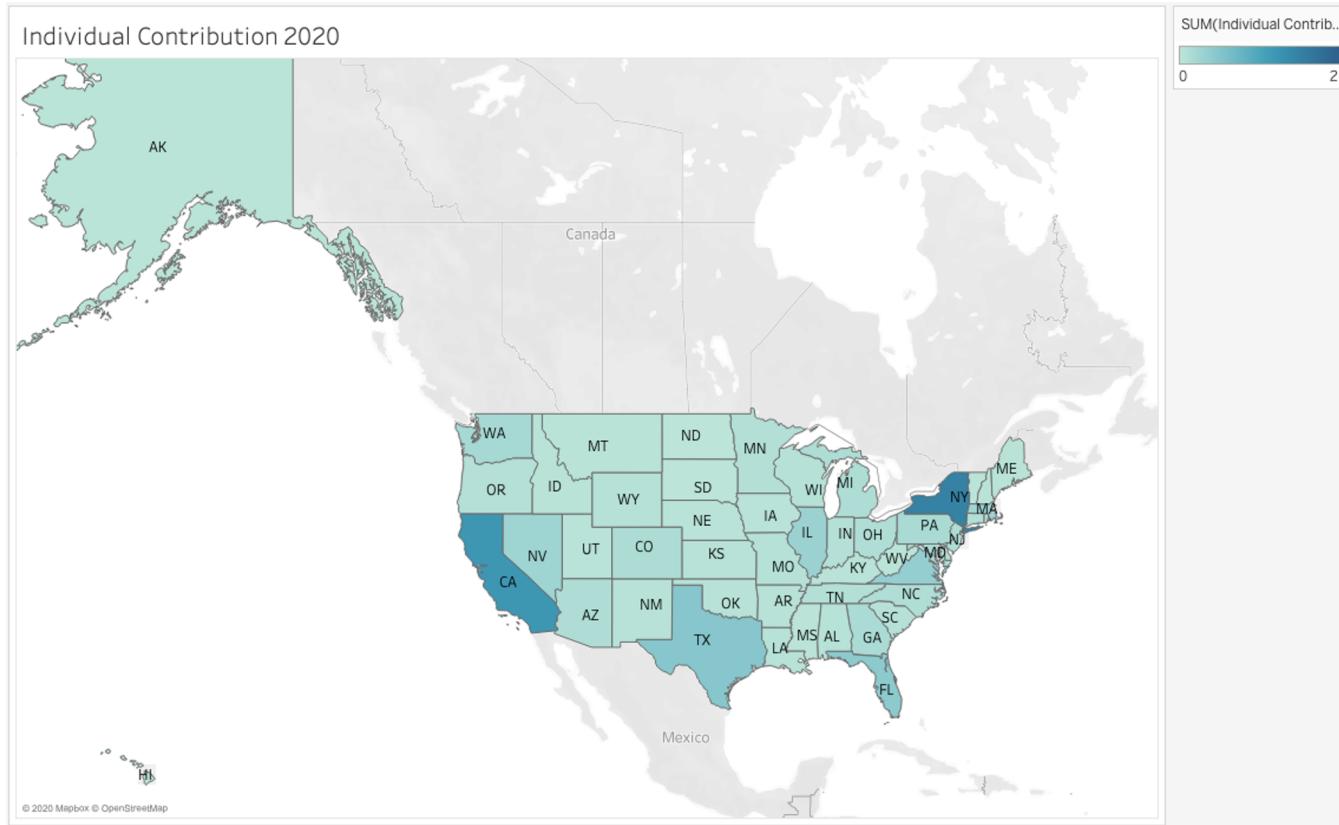
In 2016, the top 5 states by individual contribution are California, New York, Washington D.C., Florida, and Texas



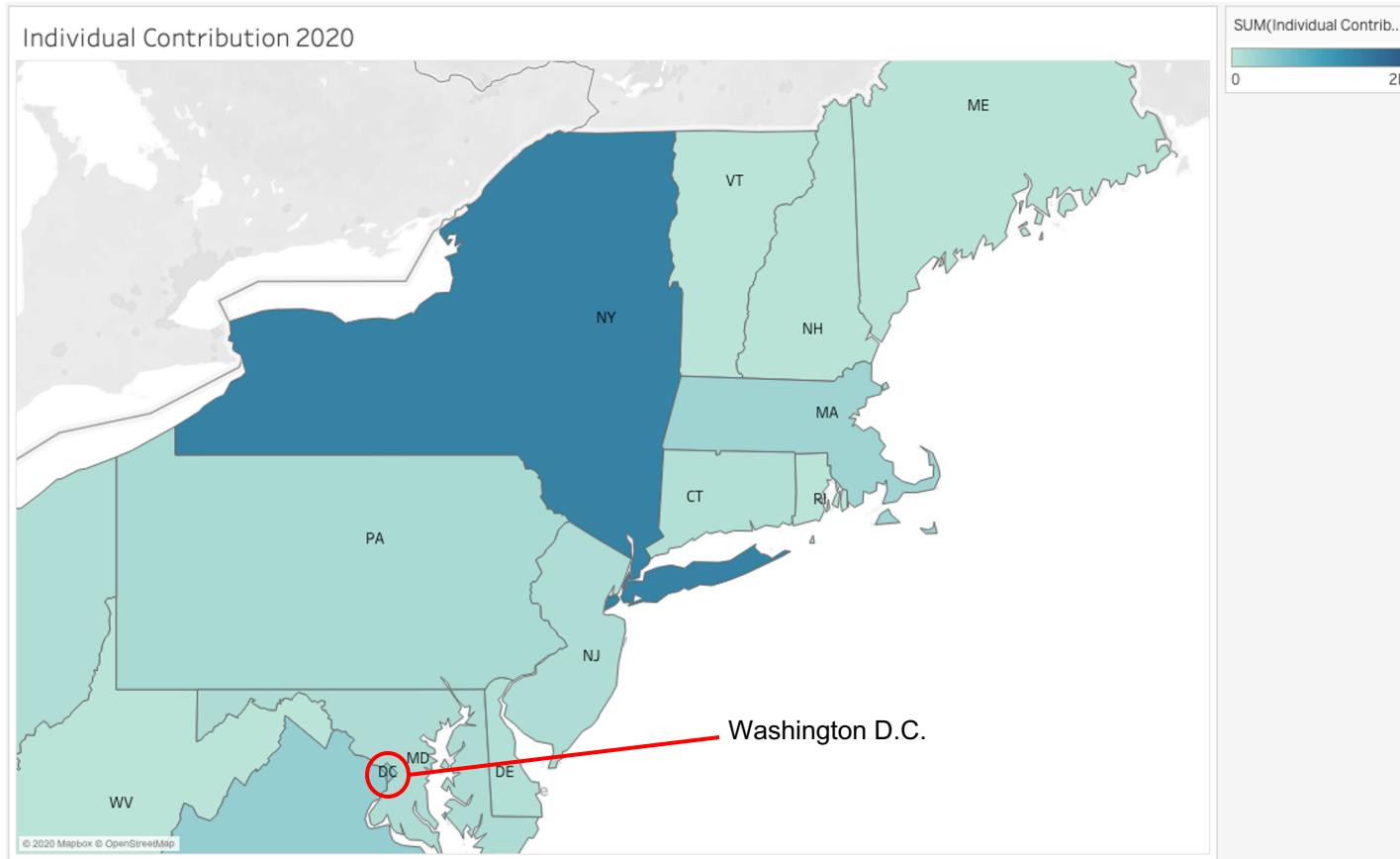
Zoom in to see more detail in New England and Mid-Atlantic regions



In 2020, the top 5 states by individual contribution are New York, California, Texas, Florida, and Washington D.C.



Zoom in to see more detail in New England and Mid-Atlantic regions



Takeaways:

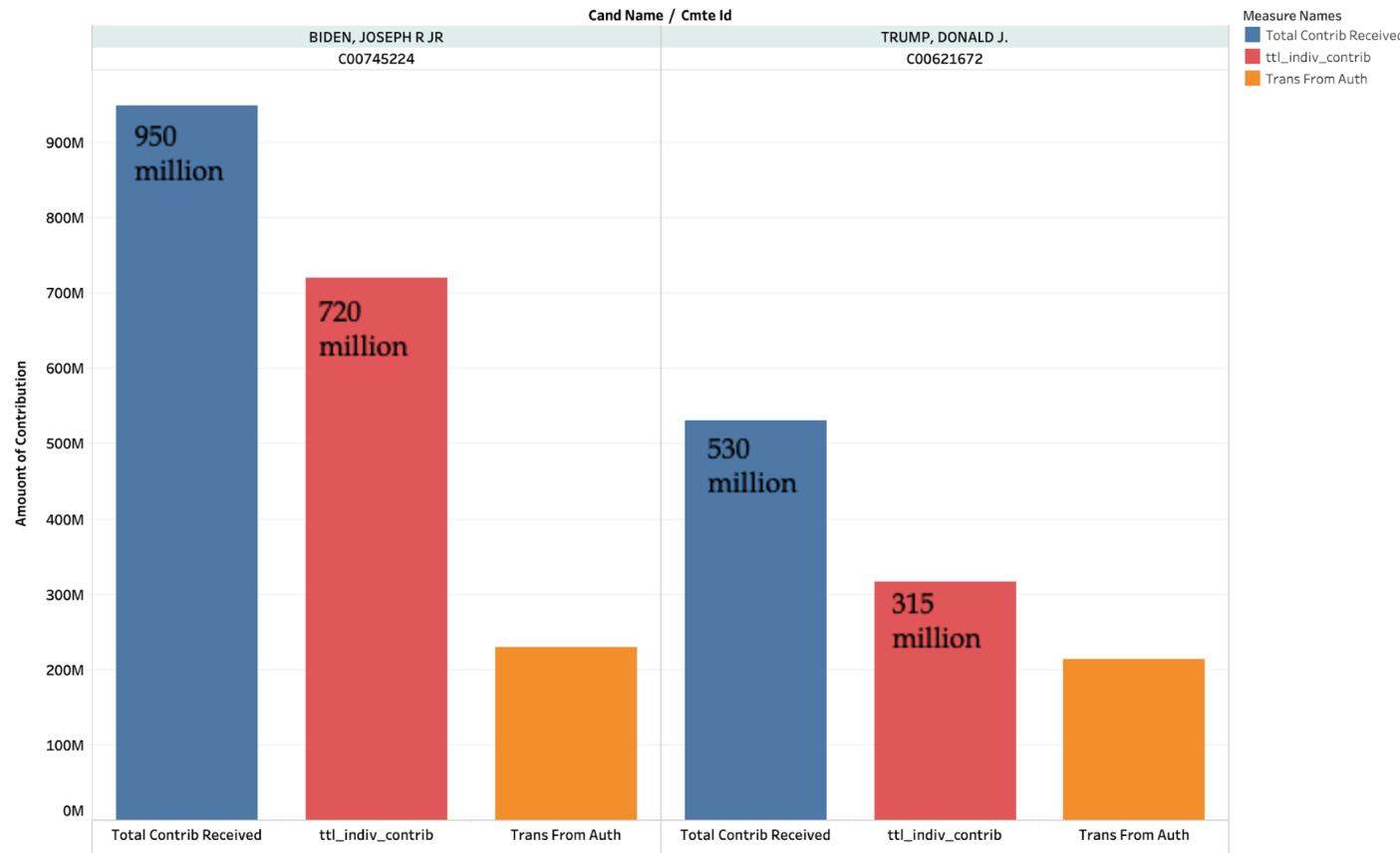
1. States that are heavily populated (New York, California, Texas, and Florida), except for Washington that has a smaller population, dominated individual contribution in the last two elections.
2. For individual contributors, 2020 is definitely a bigger year than 2016, as colors in New York, California, Florida, and Texas turns significantly darker. In New York and California, individual contribution is more than doubled from 2016 to 2020

Analytical Question 3

Contribution Comparison by Trump,
Biden and Clinton in 2020 and 2016

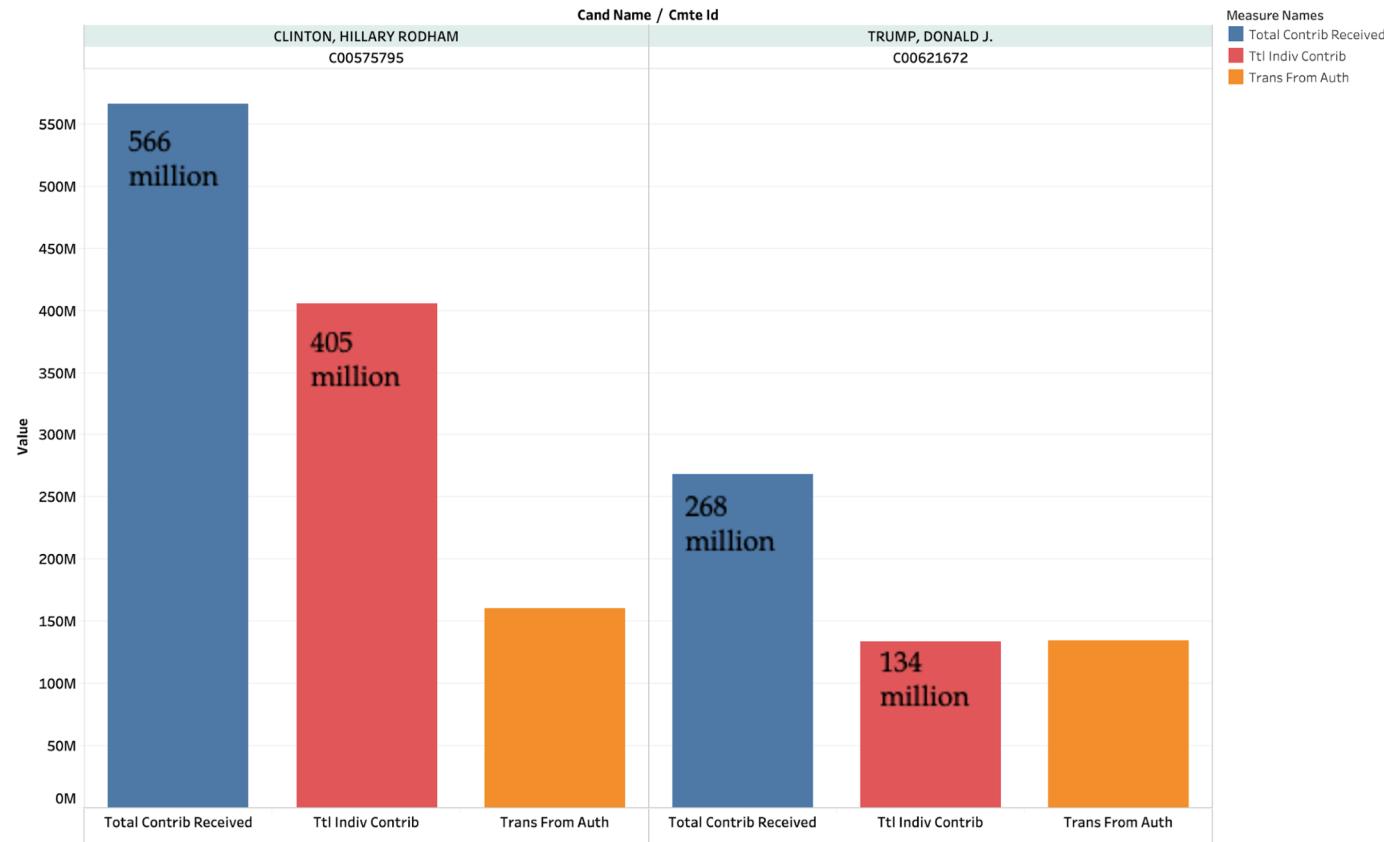
2020 BIDEN VS TRUMP

2020 BIDEN VS TRUMP



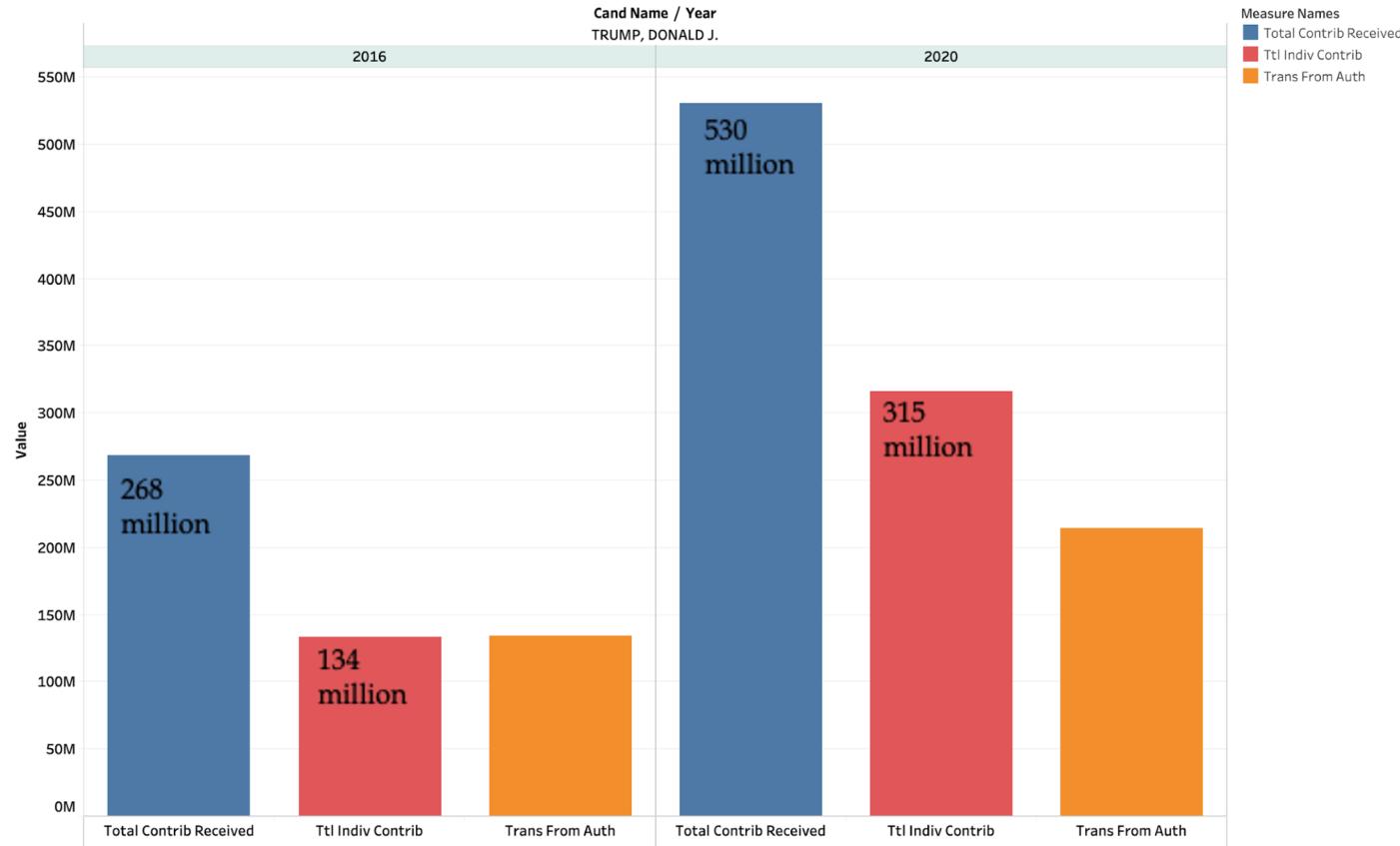
2016 CLINTON VS TRUMP

2016 CLINTON VS TRUMP



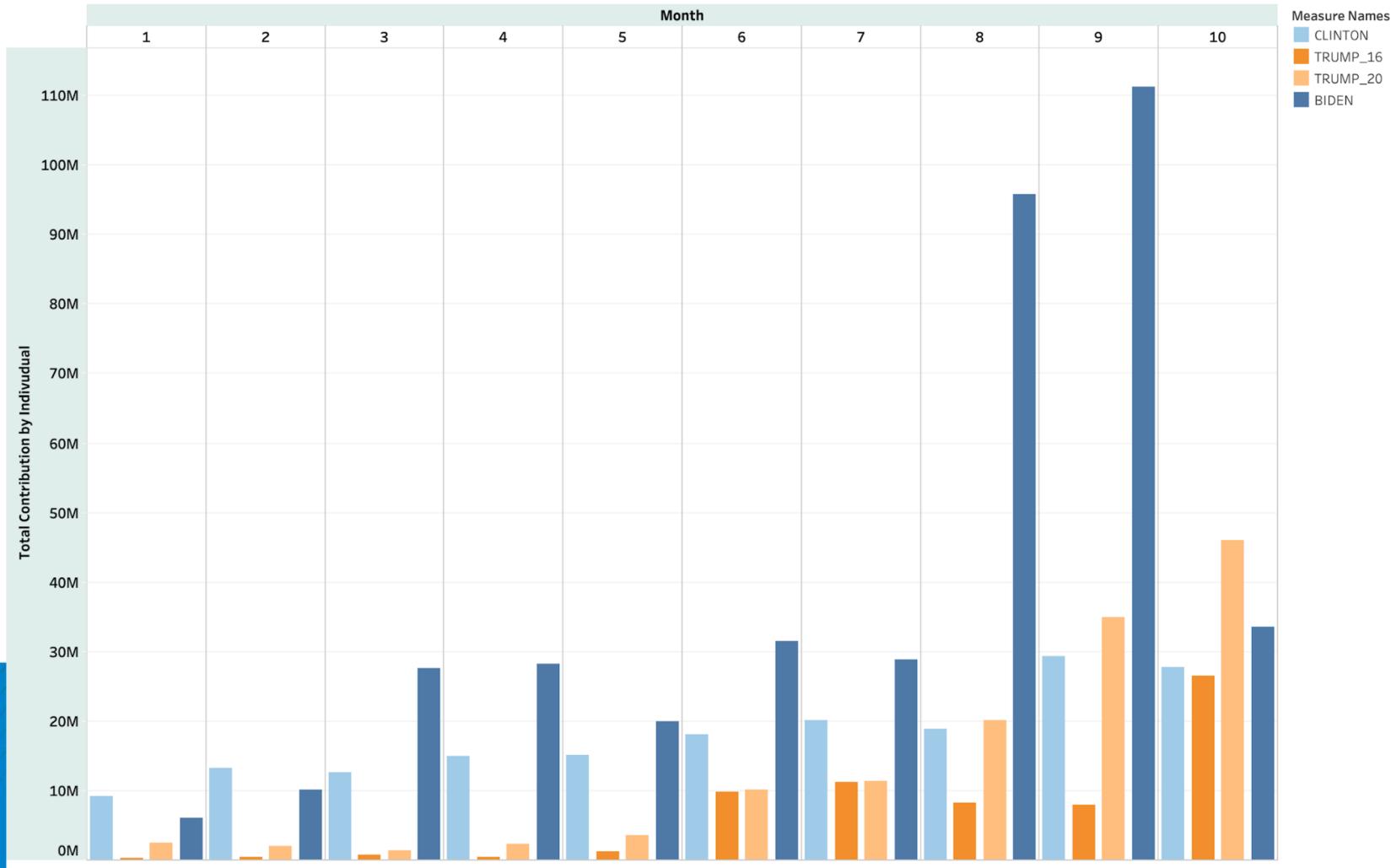
TRUMP 2016 vs 2020

TRUMP 2016 VS 2020



MONTHLY SUM OF CONTRIBUTIONS BY INDIVIDUALS

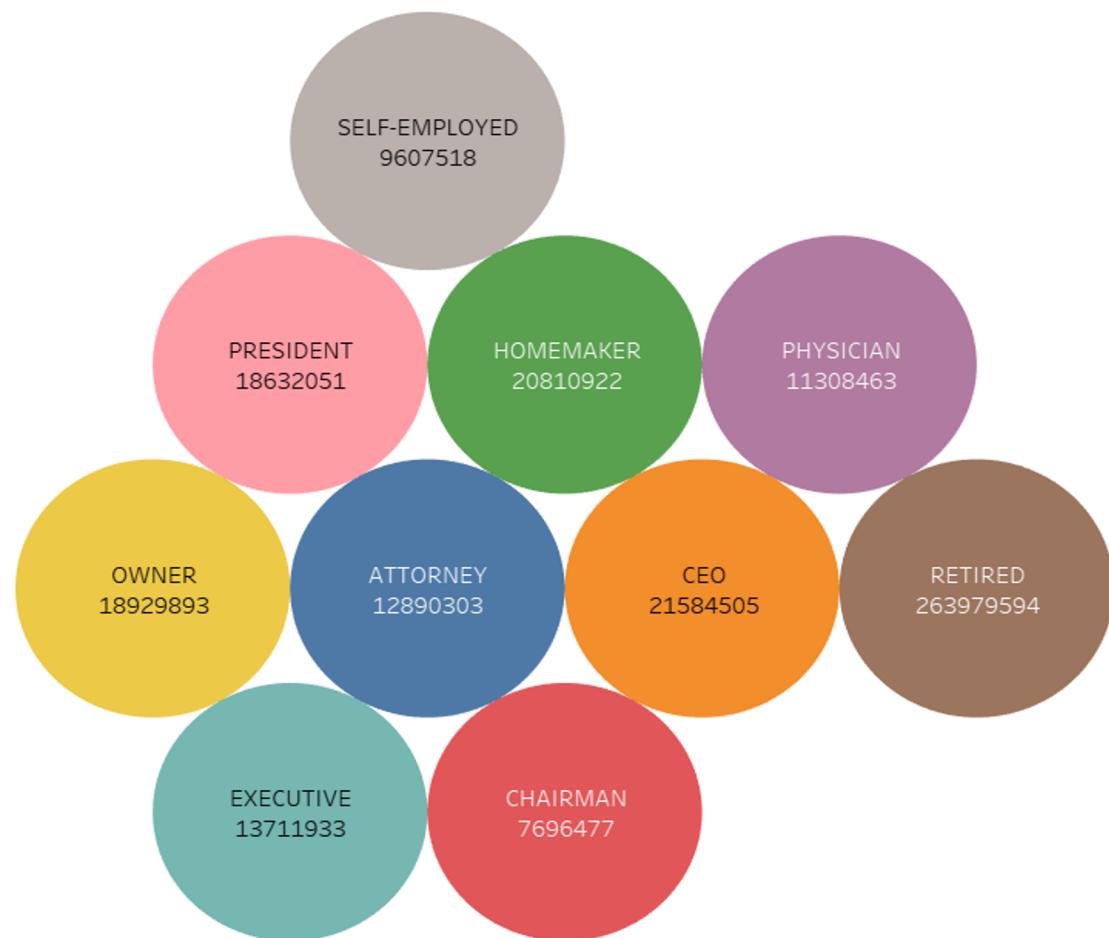
MONTHLY SUM OF CONTRIBUTION BY INDIVIDUALS



Analytical Question 4

Top Contribution by individual
grouped by occupation

2020 Republican Contributor Occupation



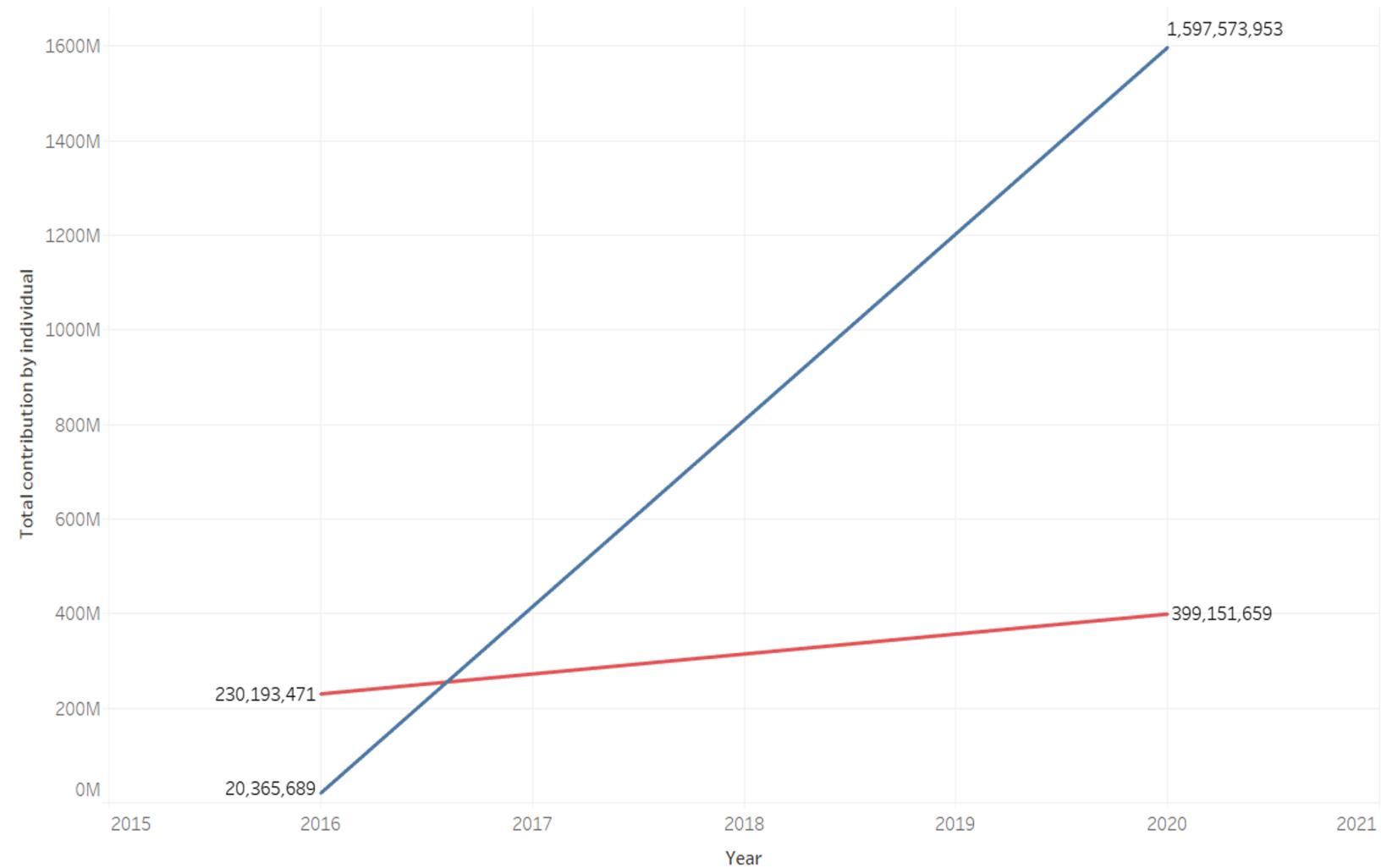
2020 Democrat Contributor Occupation



Contribution by individual in 2016 vs 2020

DEM vs REP contribution in 2016&2020

Party
DEM
REP



Q&A

THANK YOU!!!