

# Murder in the Midwest

1976–2017

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# Our goals

- Understand demographics and relationships of murder offenders and victims in the Midwest
- Explore social and political climates that may influence murder counts over time
- Call attention to the evolution of murder solve rates by state and over time in the Midwest

# Key Questions: Murder in the Midwest

What gender are victims and offenders?	Has the political climate played a role in murder counts over time?	Have murder solve rates increased or decreased over time?
Do relationships between victims and offenders influence the method of murder?	Do some states in the region have higher victim counts than others?	Are murder rates per capita greater in smaller or larger urban areas?
Are female victims more often murdered by someone they know?	Does the time of year affect the number of murders?	How old are murder victims?

# Data Sources

Murderdata.org

Census.gov

Wikipedia

## **CSV**

The Murder Accountability Project is an outgrowth of a 2010 national reporting project conducted by the newspapers and television stations owned by the E.W. Scripps Co. The computer algorithm that can spot serial killings within FBI computer files was developed as part of that project.

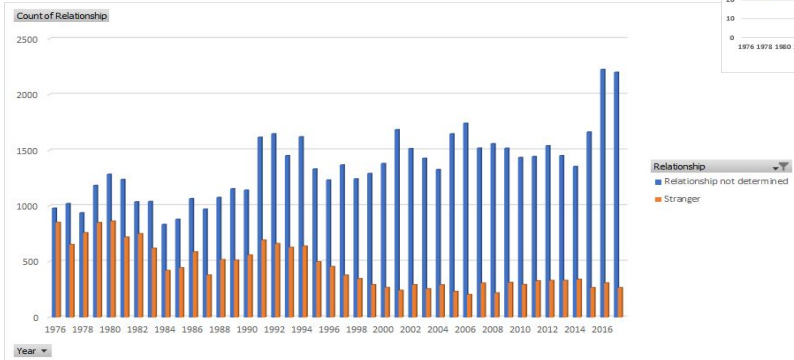
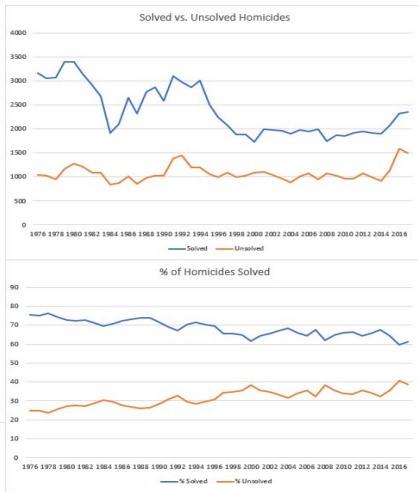
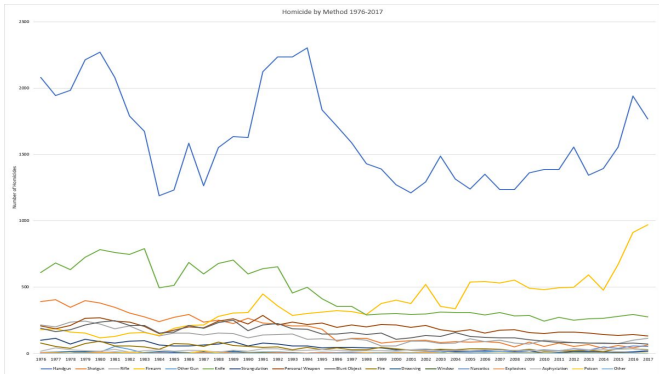
## **API**

This project used the Census API to grab data for the geography level of metropolitan statistical areas from the American Community Survey 5-year estimates in 2009. That year was chosen because that was when the MSAs in MAP were processed through SPSS, changing from their original codes to labels that in many cases had changed since then.

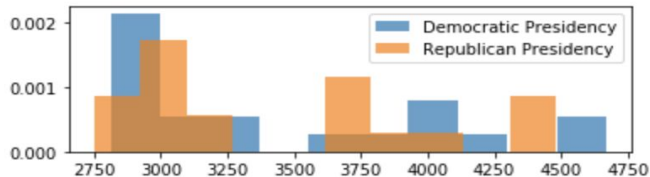
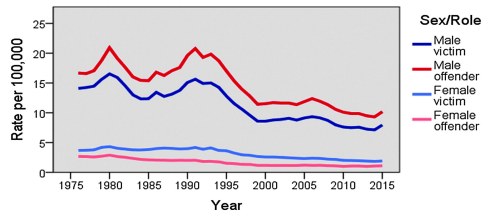
## **Various Entries**

Wikipedia was used to source the information about the presidents. The data was put together in Excel and saved as a CSV.

# Tinkering

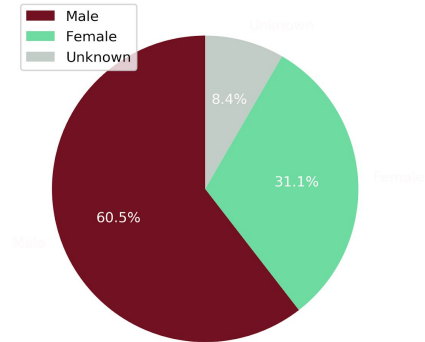


OffAge	(All)				
Count of State		Column Labels			
Row Labels	Female	Male	Unknown	Grand Total	
Illinois	2492	18368	12711	33571	
Indiana	1054	8354	4459	13867	
Iowa	222	1697	335	2254	
Kansas	417	2786	746	3949	
Michigan	2853	20107	11067	34027	
Minnesota	400	3508	858	4766	
Missouri	1413	10357	6659	18429	
Nebraska	194	1190	294	1678	
North Dakota	41	326	26	393	
Ohio	2315	15046	6703	24064	
South Dakota	60	458	43	561	
Wisconsin	685	5553	1283	7521	
Grand Total	12146	87750	45184	145080	

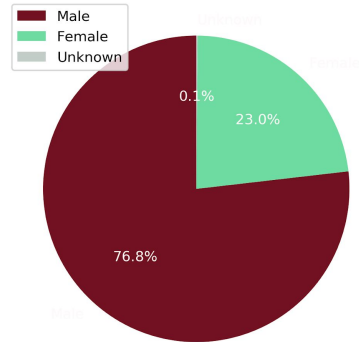


# Midwest Murder Demographics

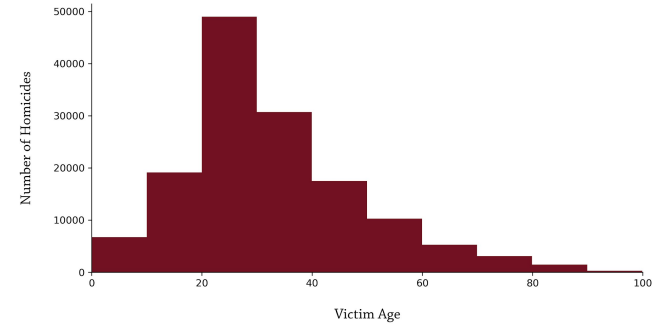
Sex of Offenders



Sex of Victims

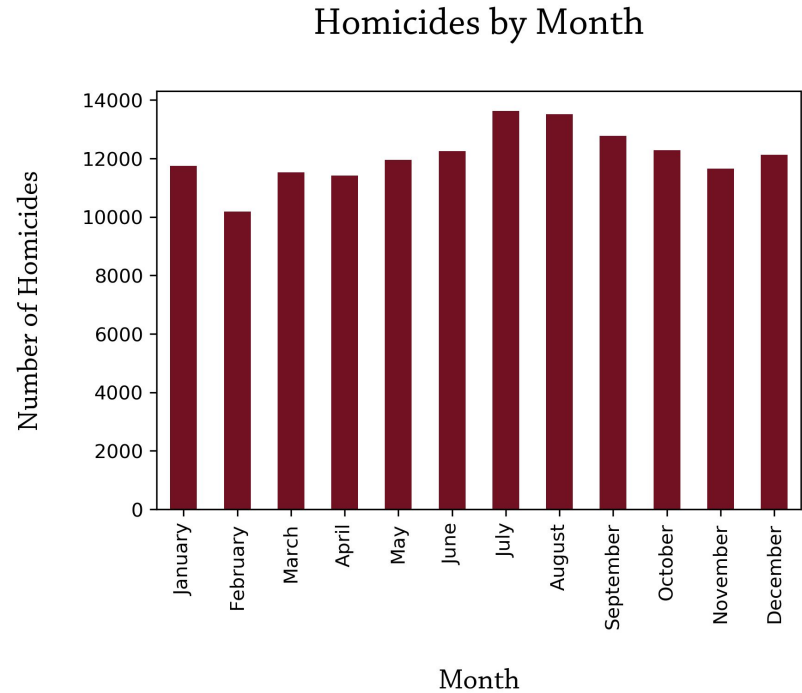


Age of Victims



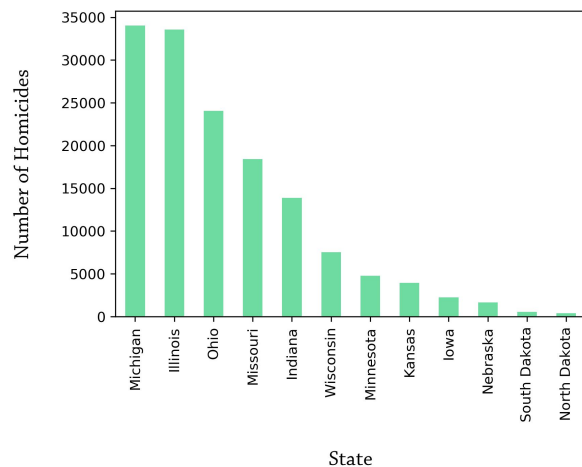
# Victim Count by State and Month

	State	Female Victim	Male Victim
0	ND	151	241
1	SD	203	357
2	NE	529	1149
3	KS	1204	2740
4	MN	1431	3327
5	WI	2095	5423
6	MO	4030	14388
7	IA	4208	11893
8	OH	5986	18012
9	IL	6023	27525
10	MI	7542	26410

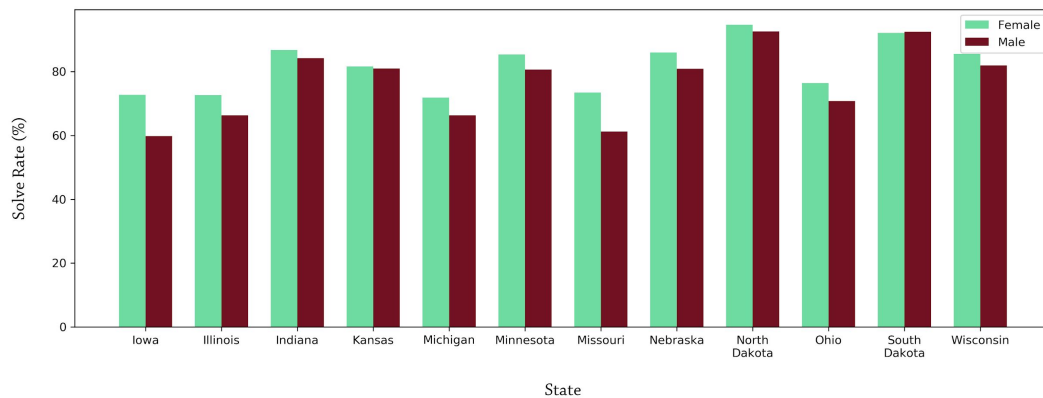


# Region Homicide Count and Solve Rates by State

Number of Homicides by State



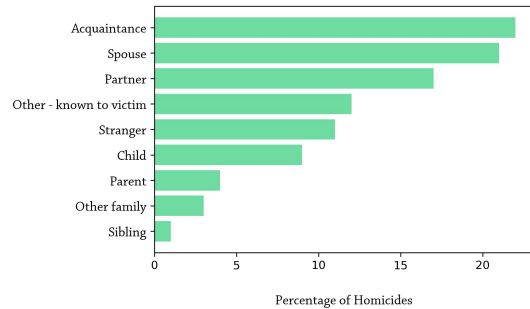
State Solve Rates by Victim Sex





# Victims, their relationships, and the method of murder

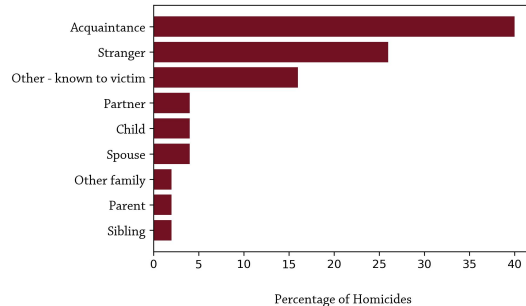
Relationship of Female Victim to Offender



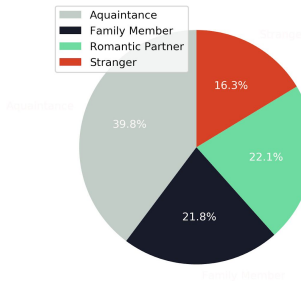
- Almost half (47%) of female victims with relationships defined were murdered by a spouse or partner as opposed to 8% of male victims.

- 43.9% of Close Contact weapons were used by family and romantic partners; strangers made up 16.3% of Close Contact Weapon use

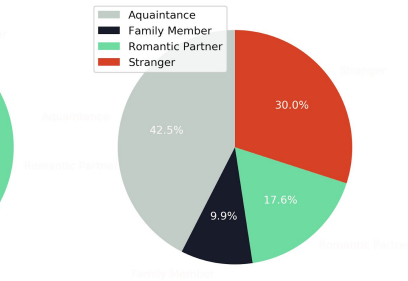
Relationship of Male Victim to Offender



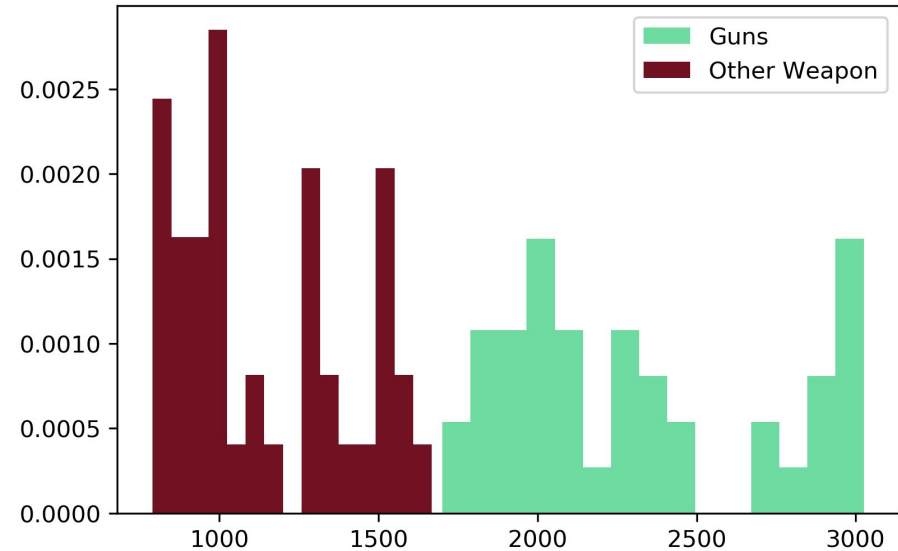
Close Contact Weapons



Little or No Contact Weapons



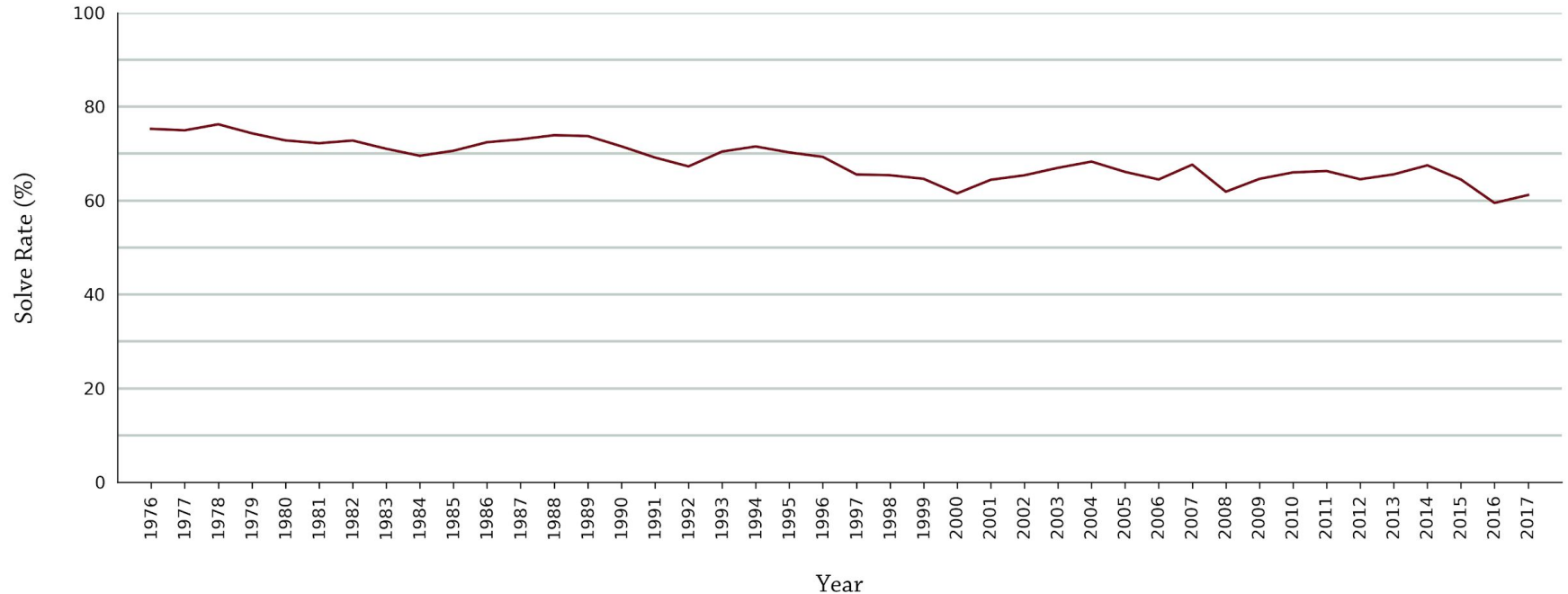
Guns are used in homicides significantly more than any other type of weapon



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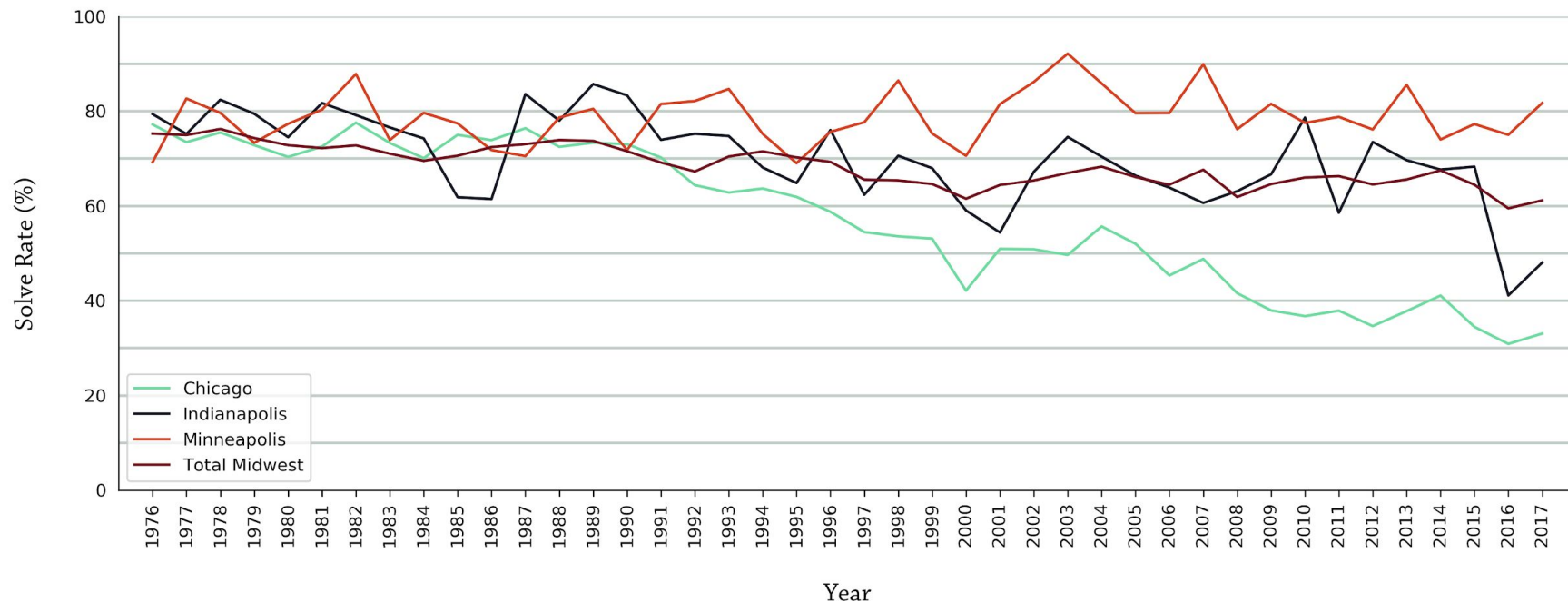
# Murder case solve rates through the years

Homicide Solve Rates in the Midwest



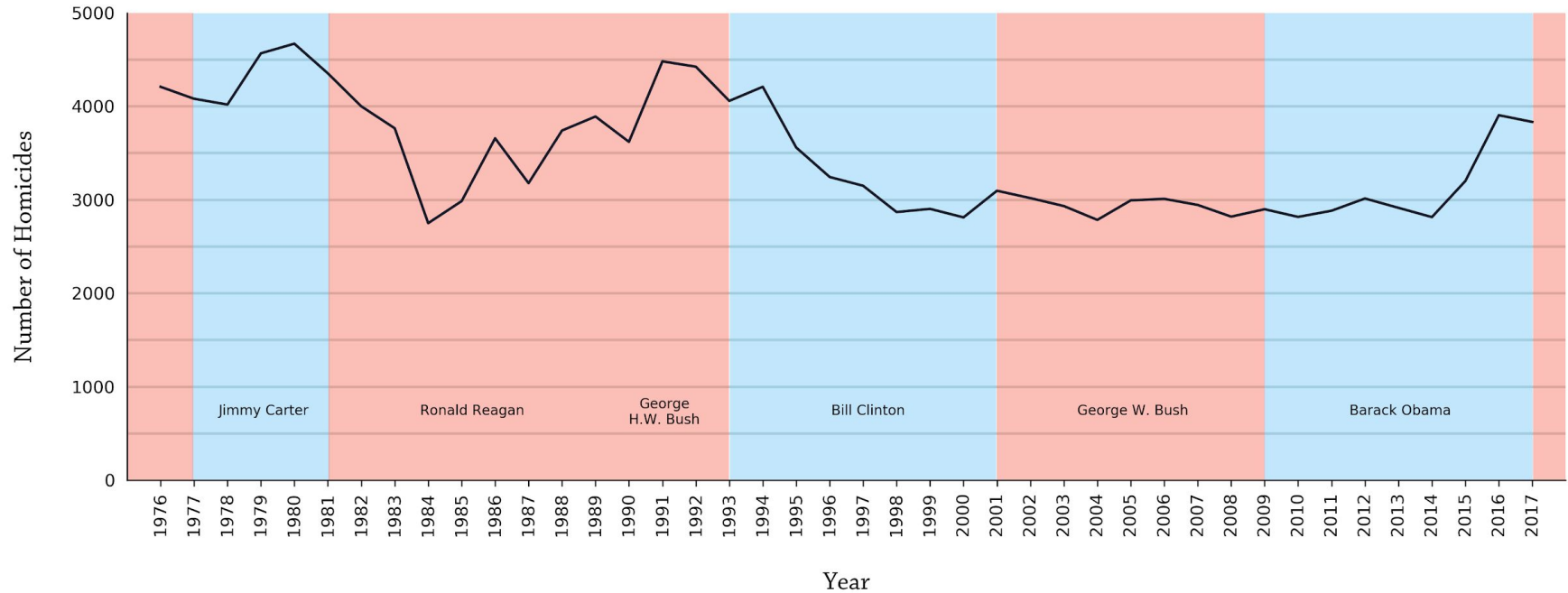
# Murder case solve rates through the years

Homicide Solve Rates in Major Midwest Cities



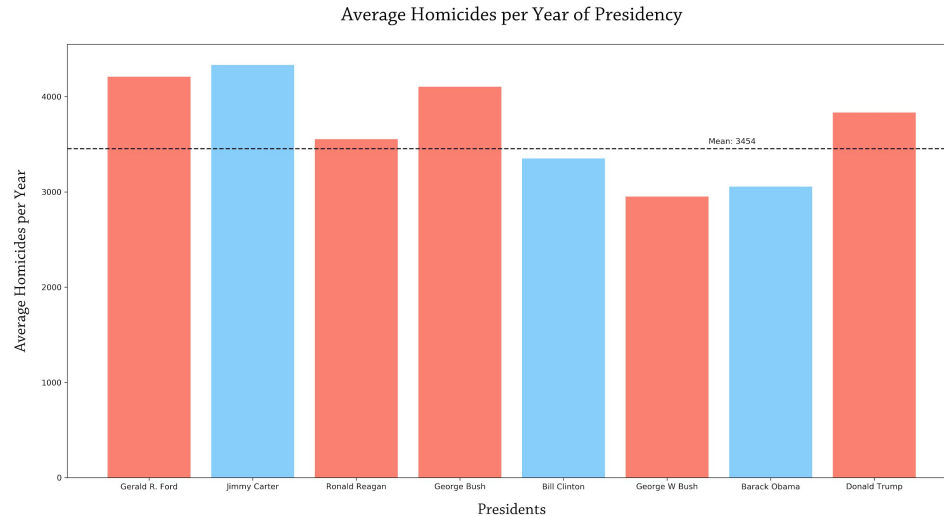
# Politics and murder through the years

Total Homicides per Year by Presidency

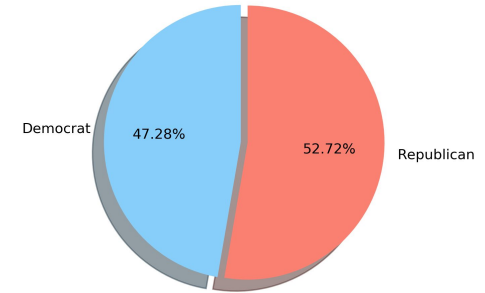


# Politics and Murder

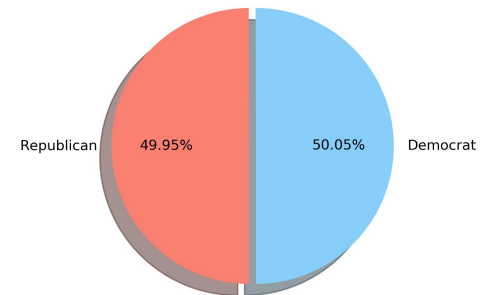
We found no statistically significant difference in the number of murders when comparing political parties.



% of Total Homicides by President's Political Affiliation  
1976-2017

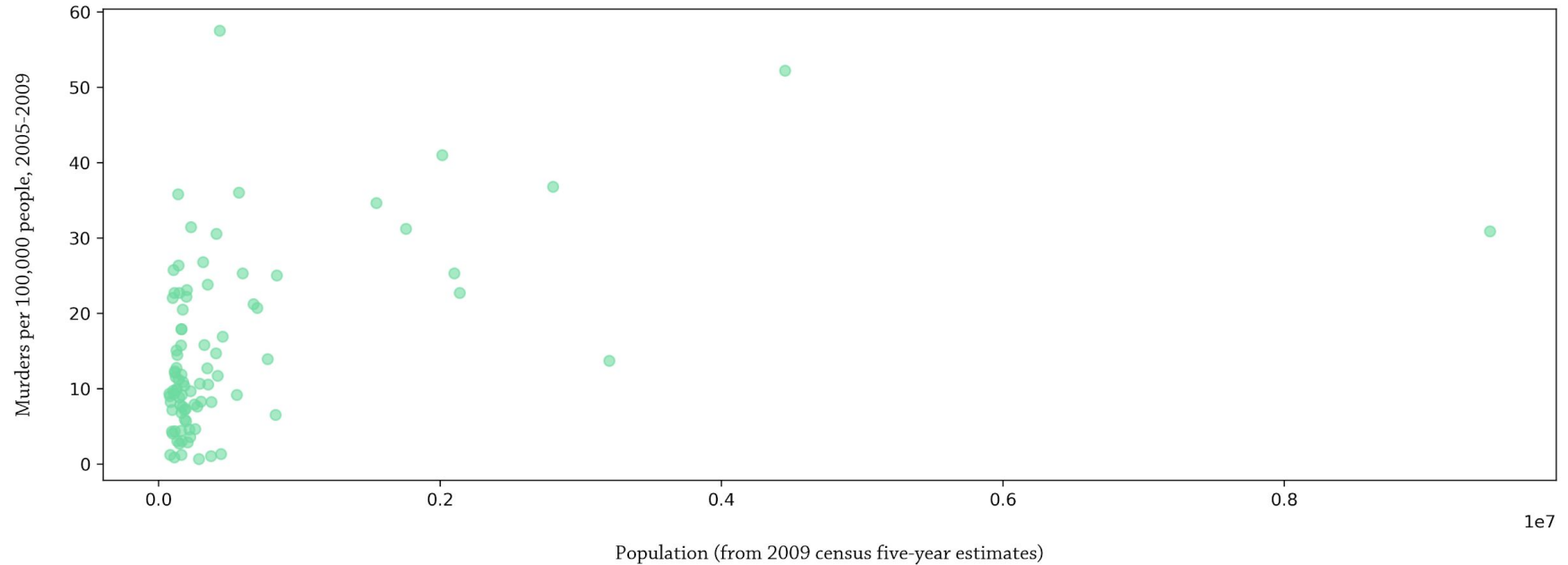


% of Total Homicides by President's Political Affiliation  
1977-2016



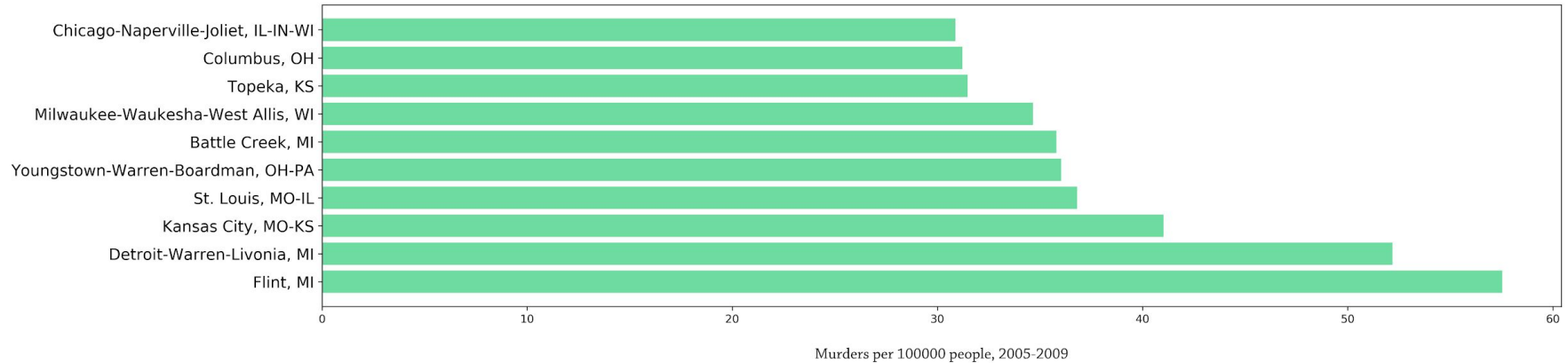
# Midwest Murders per Capita

Per capita murder rates in Midwest metro areas



# Midwest Murders per Capita

Top 10 Highest Per Capita Murder Rates by City





# Challenges and Wish List

## Challenges

- Merging on Git
- Narrowing down the scope of the project (we had SO much data)
- Formatting data frames to produce the desired plots

## If we had unlimited time, we'd like to research:

- Demographic breakdown of Midwest region in comparison to demographic breakdown of offenders and victims
- The impact advances in technology might have on the number of solved murders.
- Looking further into reasons why homicide clearance rates are decreasing.
- Explore more of what the dataset has to offer (multiple/single victim or offender, incident numbers)