



Murder Cases in the United States (1976-2016)

(Group 20 - An Analysis using Tableau)

Jordan Manchev
Min Yang
Xiaojie(Jamie) Pan
Nupur Neti

Introduction to dataset

- Data from the Murder Accountability Project
 - <http://www.murderdata.org/>
 - Nonprofit organization based in Washington DC
 - Collects data on murders in the United States
 - Dedicated to informing society about unsolved homicide cases
- 750,000 homicides cases between 1976 and 2016
- Variables
 - Year of murder case
 - Latitudes and Longitudes of county where murder occurred
 - Categorical variables : Type of crime, weapon, and the demographics of victim and offender
 - Continuous variables : Number of offenders and victims, Ages
 - Binary: Case resolved or not



Tracking America's unsolved homicides

Data cleaning

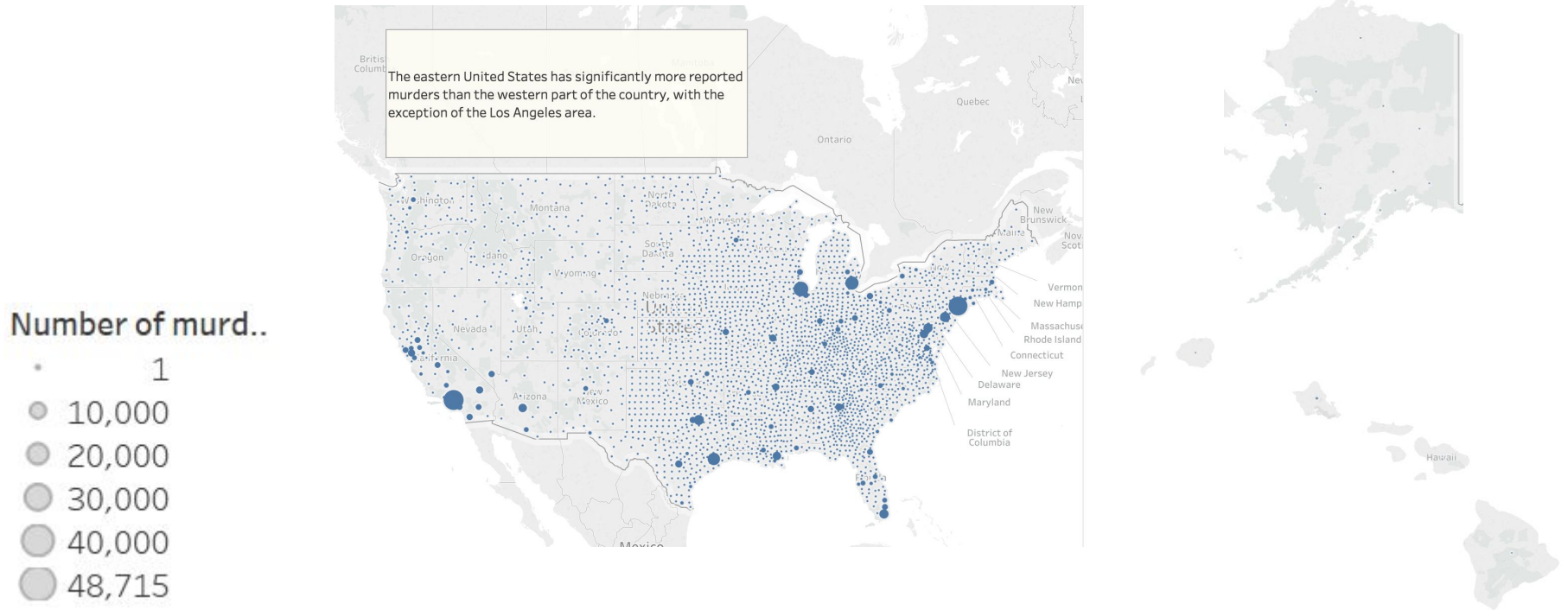
Data Cleaning and Wrangling in Tableau Prep

- Removed insignificant columns
- Split columns storing complex variables
- Imputed null values for missing data(Example : for unknown age)
- Created new calculated fields to use custom variables in advanced visualizations
- Renamed fields to clarify meaning

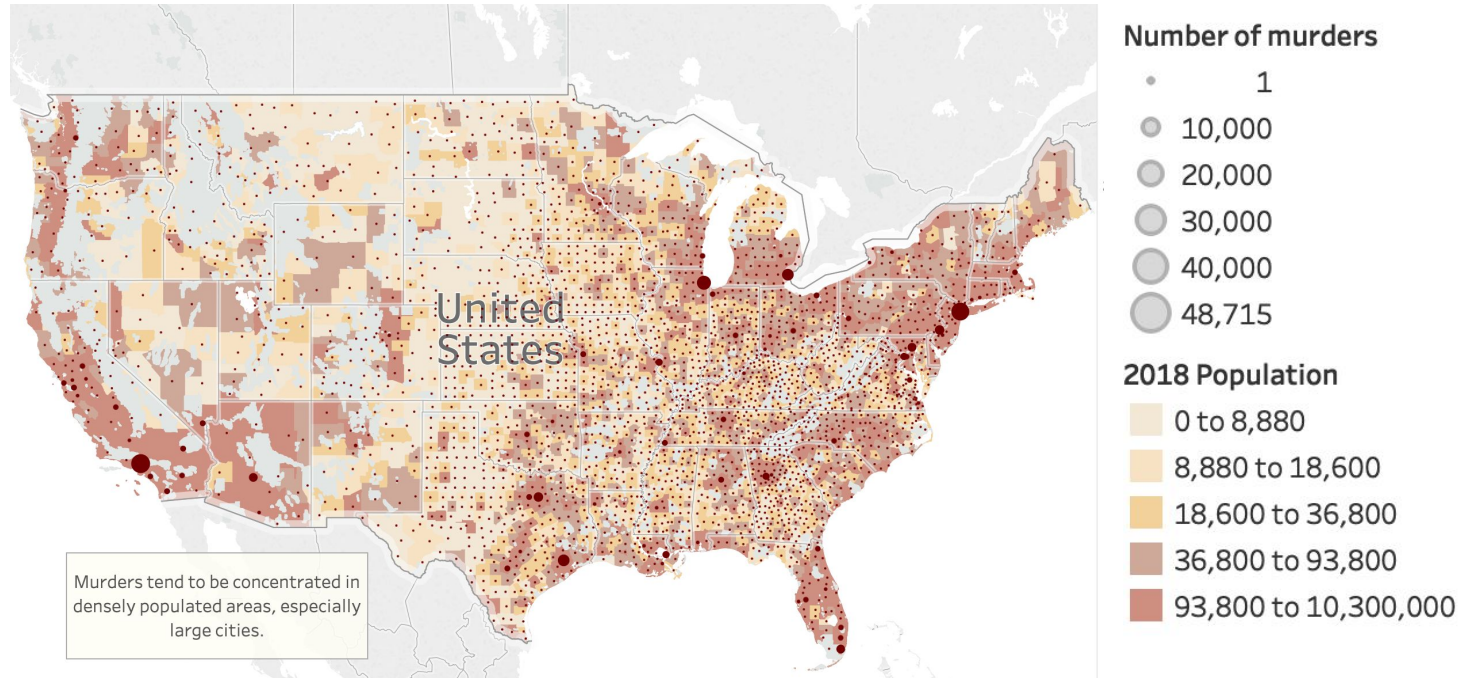
Changes (35)

- Calculated Field
[Situation - Split 1]
TRIM(SPLIT([Situation], "/" , 1))
- Calculated Field
[Situation - Split 2]
TRIM(SPLIT([Situation], "/" , 2))
- Group and Replace
[Situation - Split 2]
3 values replaced
- Rename Field
[Number of offenders]
From [Situation - Split 2] to [Number of offenders]
- Group and Replace
[Situation - Split 1]
2 values replaced
- Rename Field
[Number of victims]
From [Situation - Split 1] to [Number of victims]
- Remove Field
[Situation]
- Group and Replace
[OffAge]
"999" replaced by null

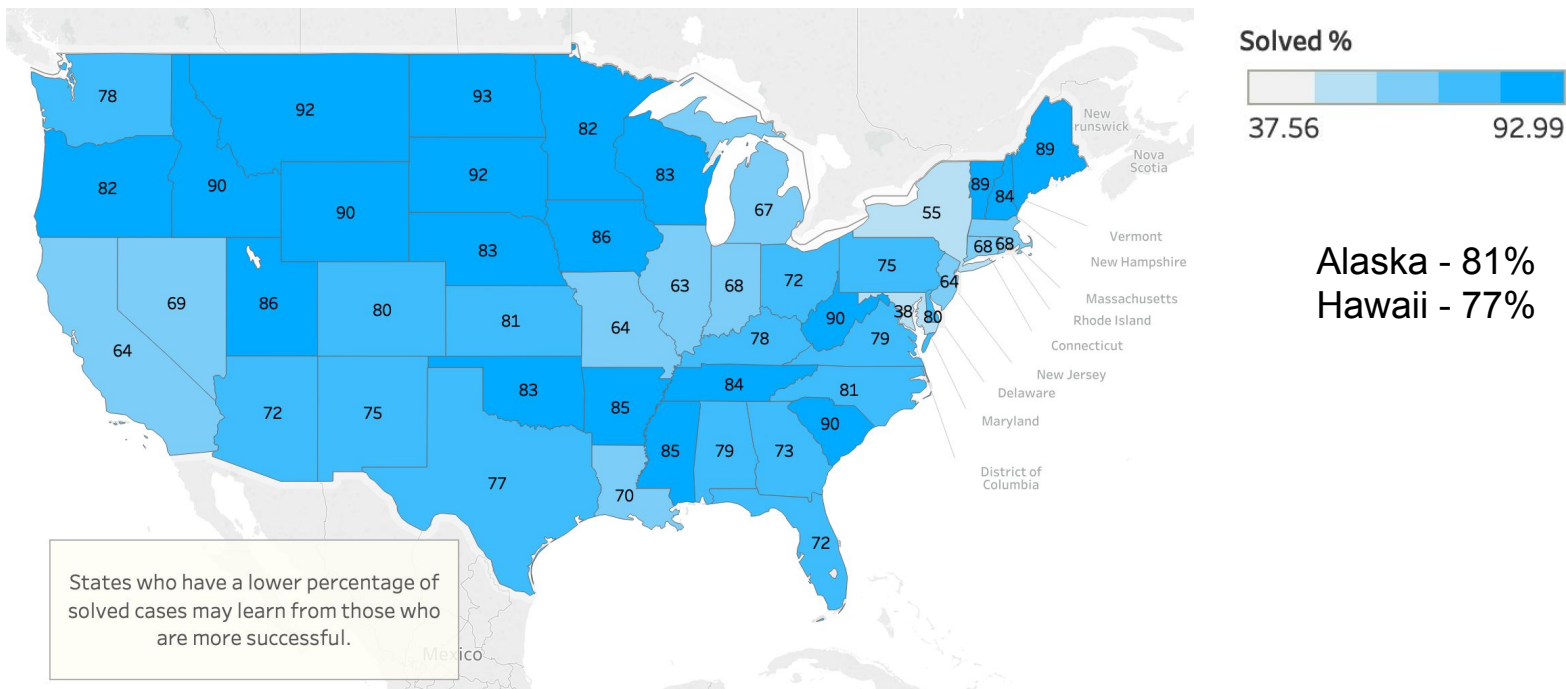
Densities of murders across counties



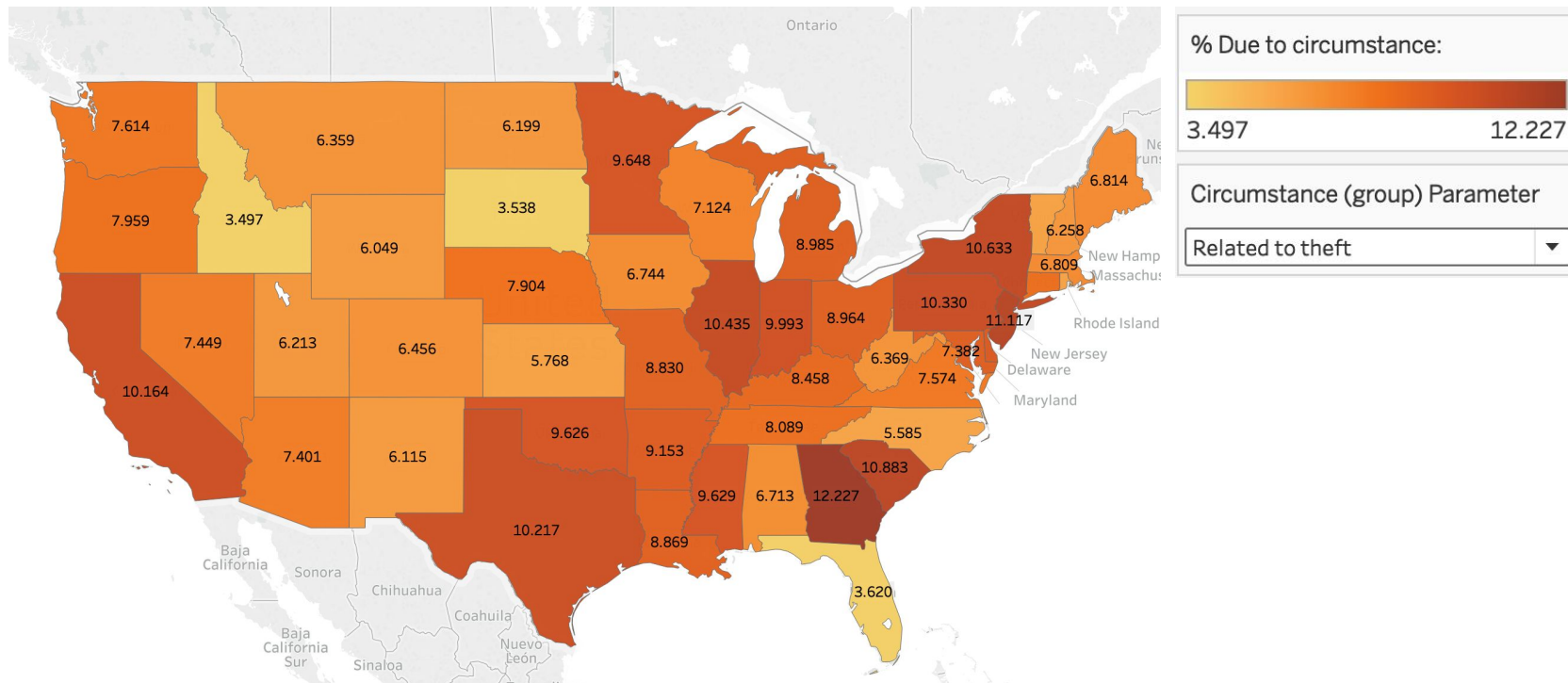
Densities of murders vs 2018 population

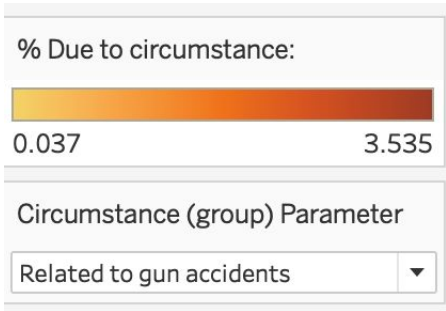


Percentage of solved murders by state



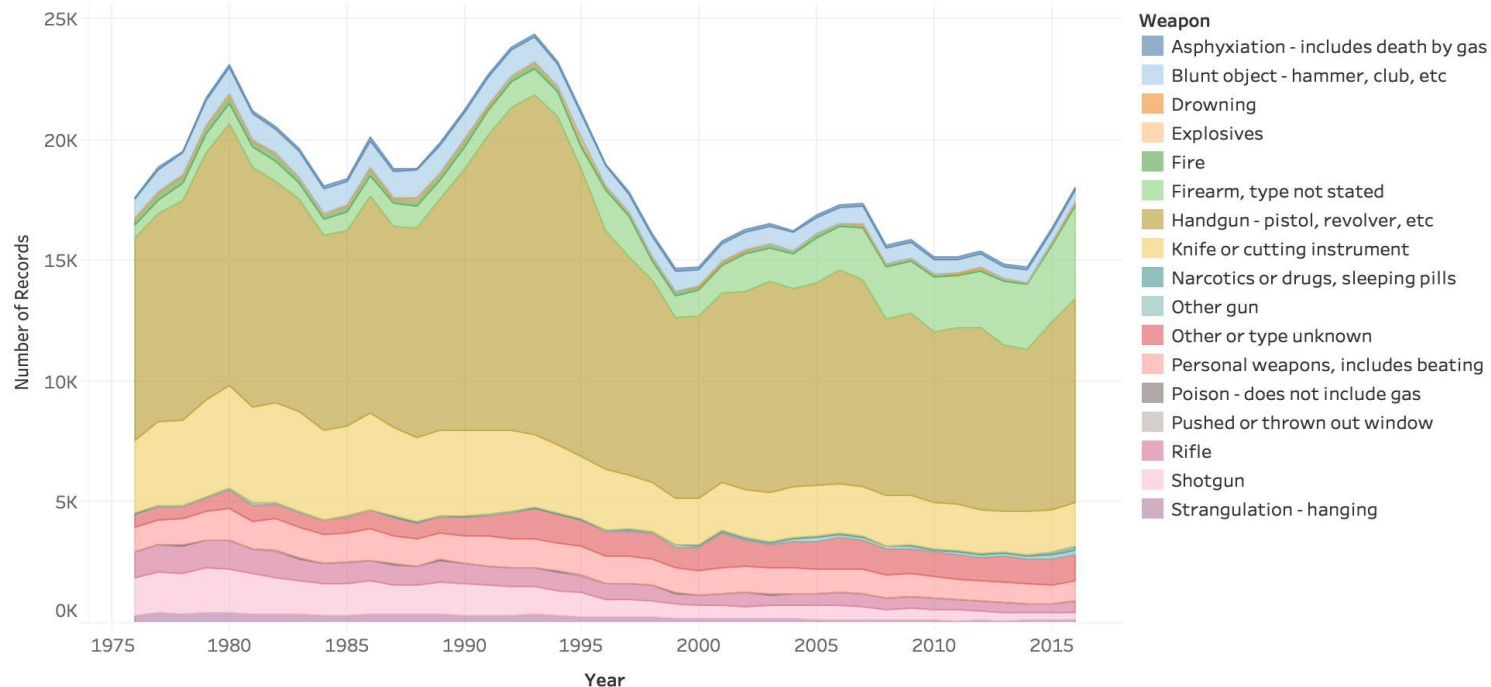
Murder circumstances across counties





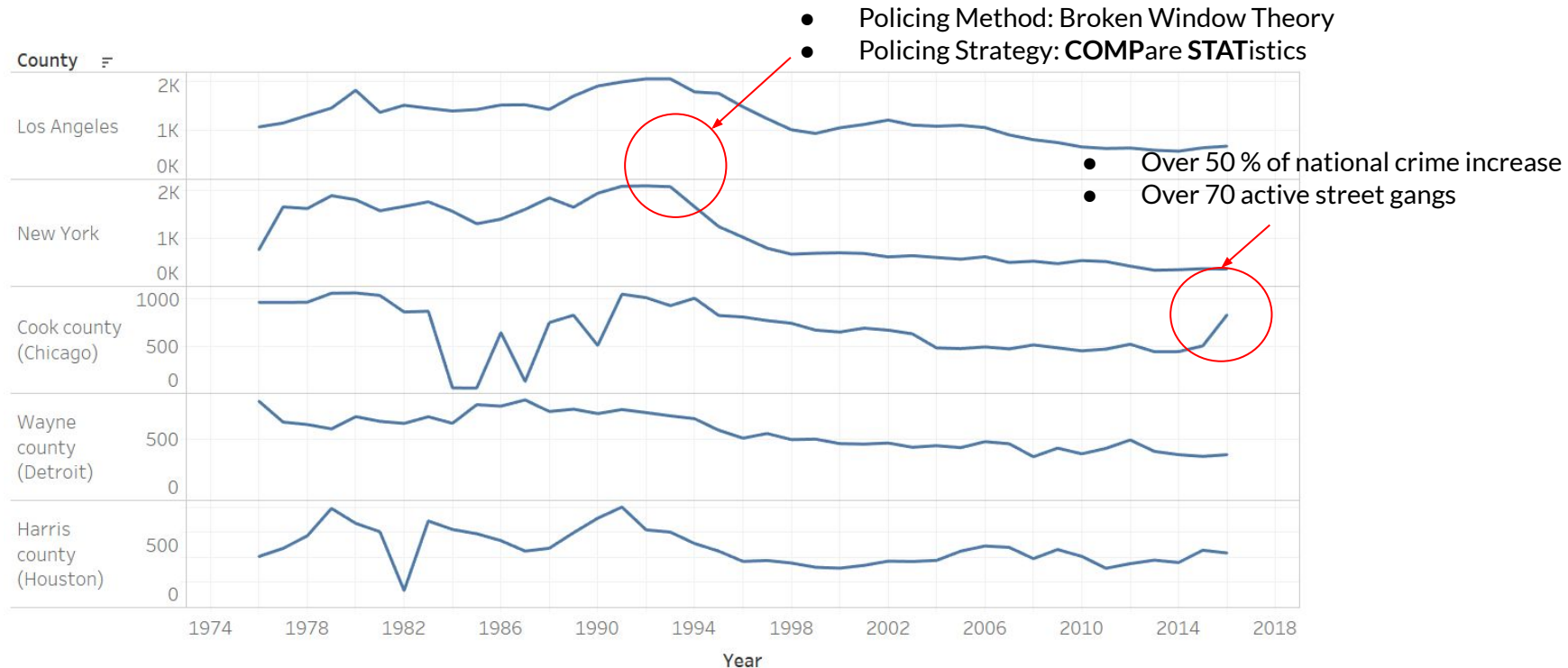
Analysis of weapon over time

Time

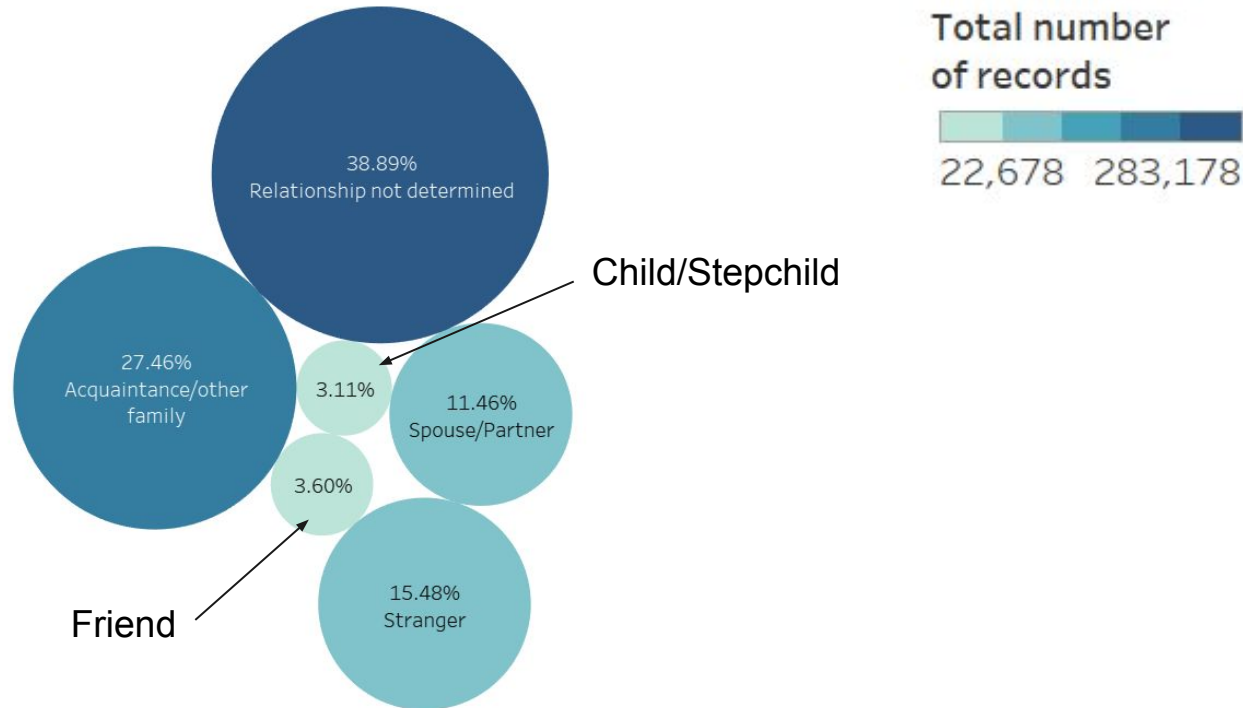


The plot of sum of Number of Records for Year. Color shows details about Weapon. The view is filtered on Weapon, which keeps 17 of 17 members.


Top five counties in the US by murder count



Relationship of victim to offender



Single vs. multiple offenders/victims

	Single offender	Multiple offenders	Unknown offenders	Number of cases
Single victim	414,012	75,511	201,186	 10K 414K
Multiple victims	34,359	10,358	16,887	

Most murders involve a single victim and a single offender. Oftentimes the offenders aren't named until the case is resolved, which is why the number of offenders is often unknown.

Analysis of circumstances by victim sex

Circumstance (group)	Victim Sex	
	Male	Female
Related to theft	55,776	11,519
Related to substance abuse	44,211	5,011
Juvenile gang killings	22,460	1,191
Felon killed by police	15,548	501
Argument over money or property	13,096	2,057
All suspected felony type	9,608	3,481
Felon killed by private citizen	11,994	269
Lovers triangle	8,289	3,611
Related to sexual offences	1,203	5,006
Related to gun accidents	4,344	1,132
All other manslaughter by neglig..	2,926	1,634
Arson	2,549	1,990
Gangland killings	4,194	277
Child killed by babysitter	705	539
Gambling	1,043	21
Institutional killings	1,022	40
Sniper attack	428	120
Abortion	2	8

- Males tend to be the victims of murder much more often than females, in every category except in cases involving sexual offences
- Theft is by far the leading circumstance that leads to murder for both sexes
- Gang killings and substance abuse have also been leading circumstances in male murders



QUESTIONS?

Link to Tableau Story :

https://public.tableau.com/profile/yordan.manchev#!/vizhome/Tableau_Project_Group20/Murders_story