



# **Police Reform: How using a Cluster Model can provide key information**

# Acknowledging My Privilege

Before going over my presentation, I find it important to recognize and acknowledge my privilege.



# Also

Also, my background information  
and problem statement contains  
information that may be triggering.





'I can't breathe'

**9 MINUTES  
29 SECONDS**  
**#GEORGEFLOYD**



A decorative graphic at the top of the slide featuring a network of interconnected nodes and lines, with a central blue double quote icon inside a dashed circle.

“

*The voices calling for an end to the killings of African Americans need to be heard. The voices calling for an end to police violence need to be heard.*

*Michelle Bachelet  
UN High Commissioner for Human Rights*

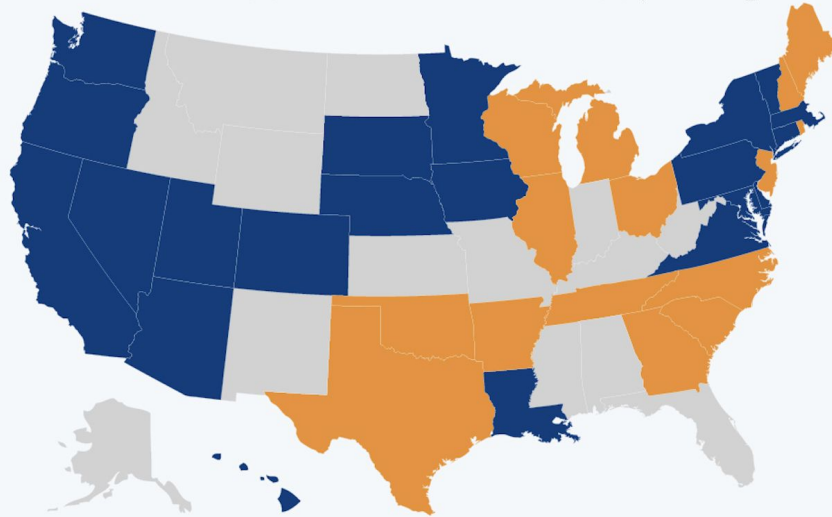


# Reform for real or for show?

## Which States Have Acted on Police Reform?

New police oversight bills enacted or pending  
by state since the death of George Floyd

■ New bill(s) enacted ■ New bill(s) pending



Excludes resolutions

Source: National Conference of State Legislatures





# GET THE DATA ON POLICING IN AMERICA.



GET THE FACTS ABOUT  
US POLICE DEPARTMENTS AT  
[policescorecard.org](https://policescorecard.org)

POLICE  
SCORECARD

# How did I cluster the counties? How do we define 'similar counties?'

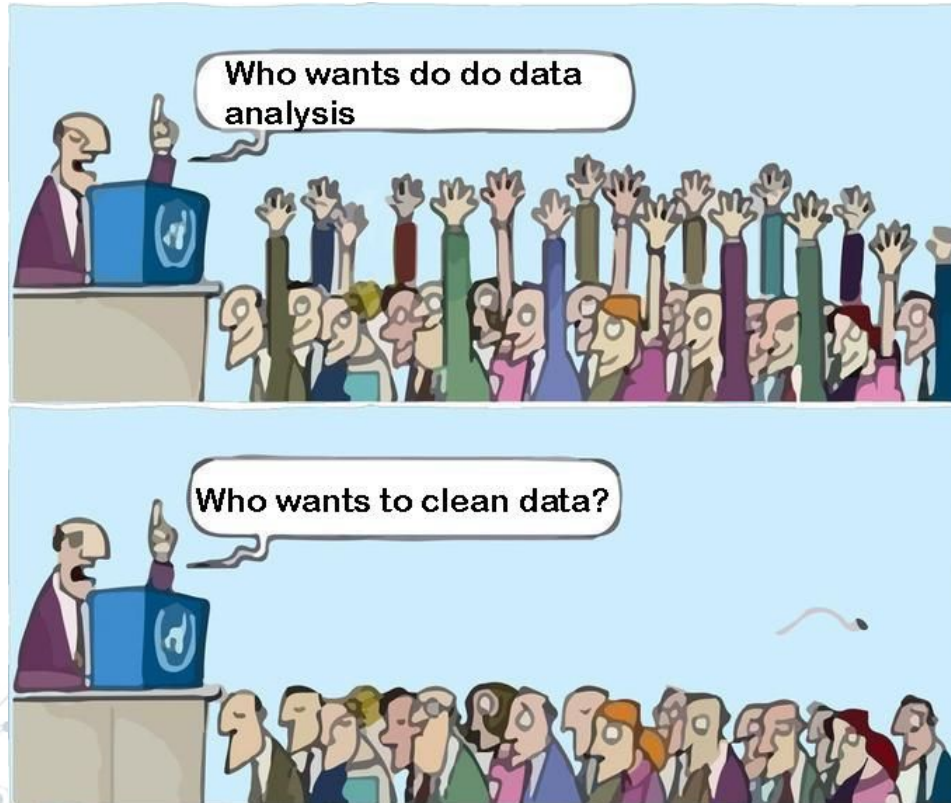
## Categories

- Quality of Life
- Health Behaviors
- Access & Quality of Clinical Care
- Education
- Family & Social Support
- Community Safety
- Physical Environment

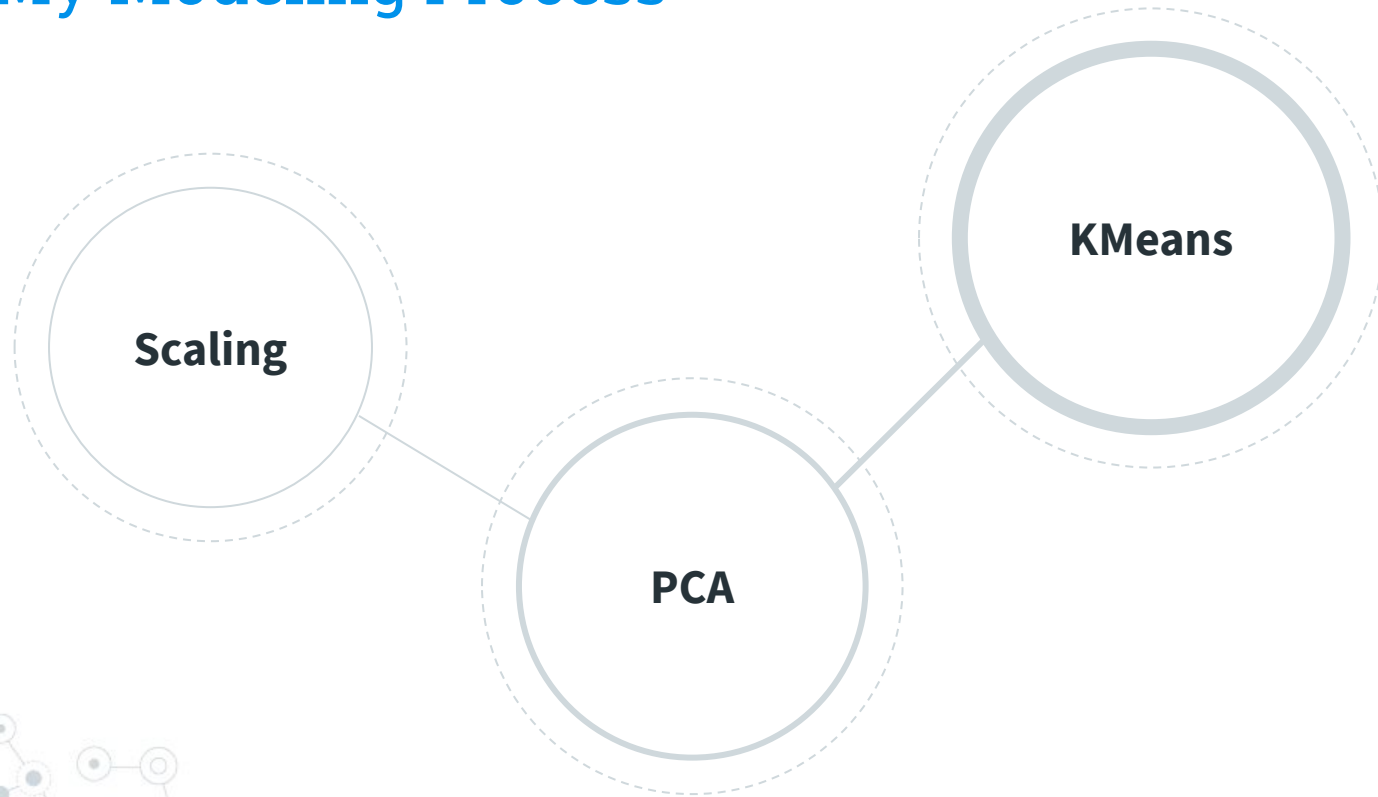




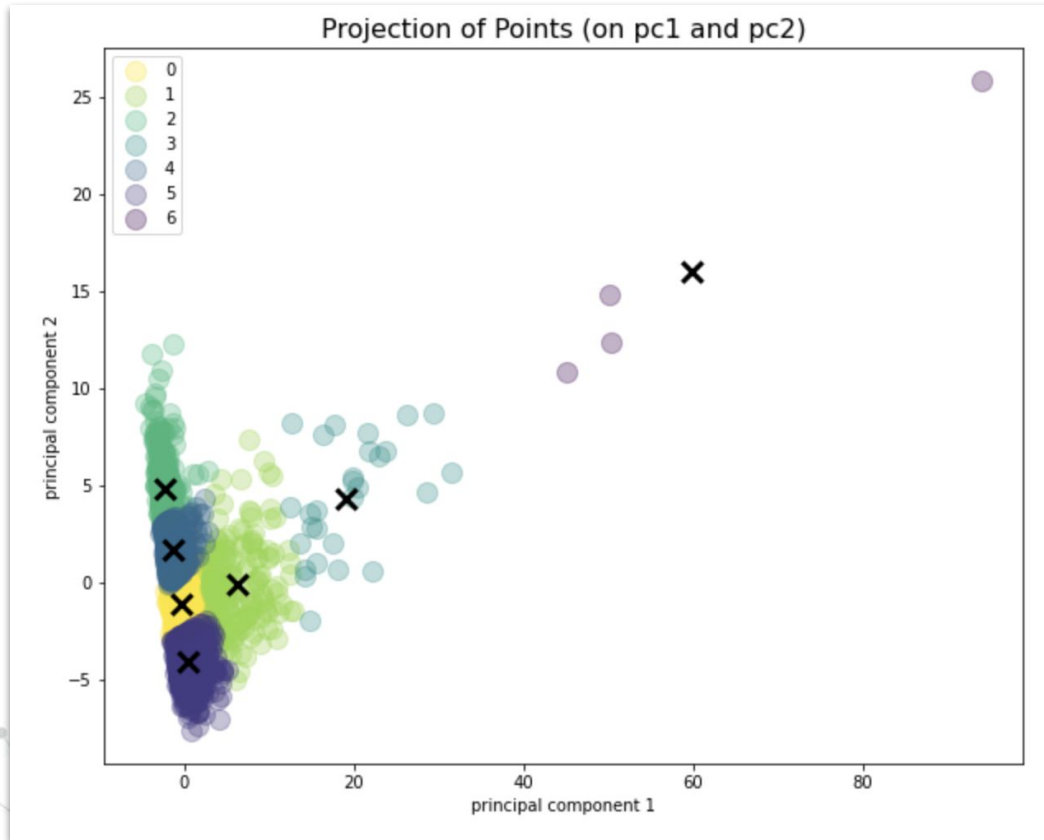
# Cleaning...and cleaning...and cleaning



# My Modeling Process



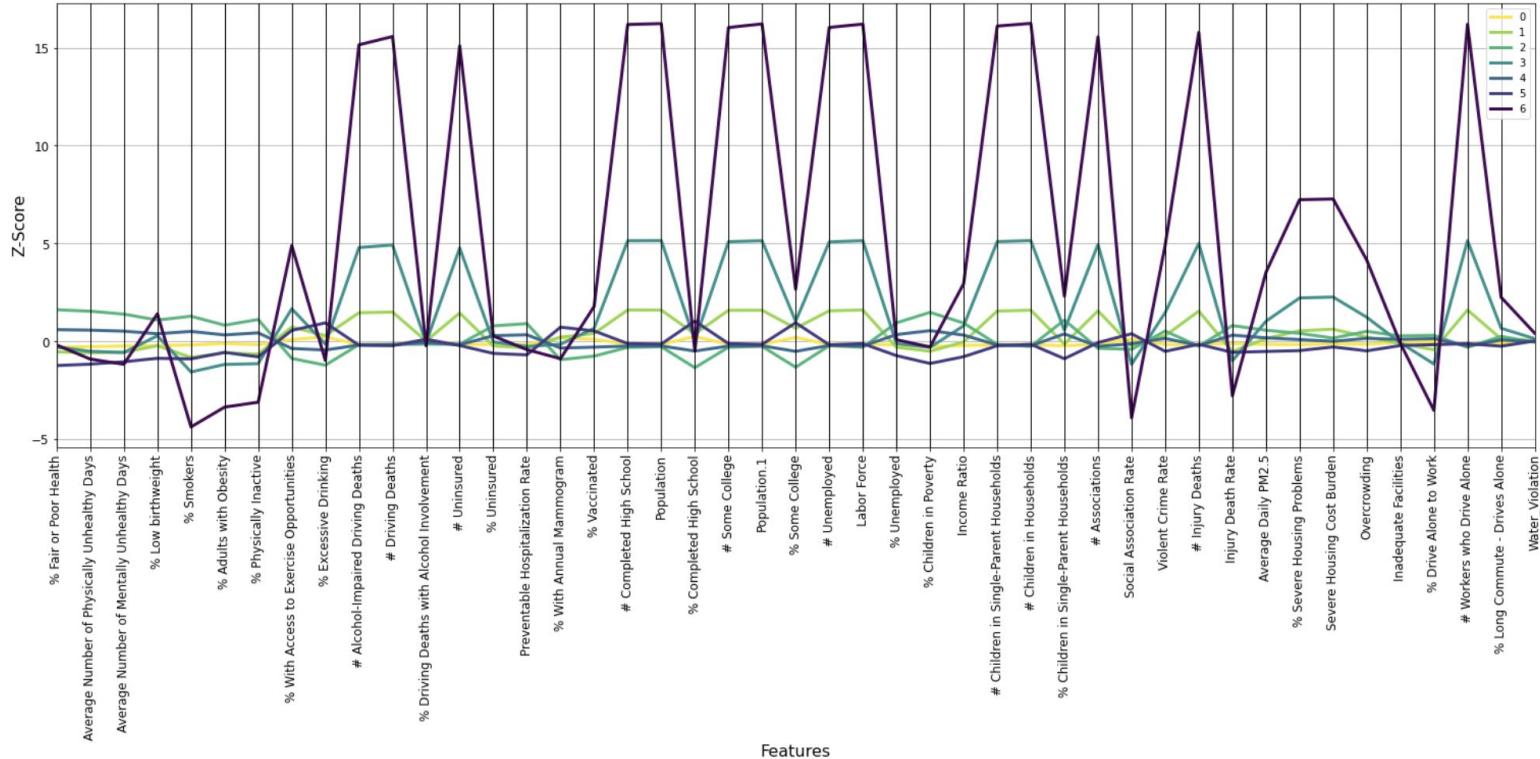
# Graphing My Clusters



The cluster centers are marked with an 'x.' Each point represents the transformed data after PCA. It reduced my dimensions from 46 to 2. After 2 principal components, my silhouette score actually decreased - it's possible it was picking up more noise.

# Analyzing My Clusters

Parallel Coordinate Plot of Centroids of Each Cluster



# Conclusions

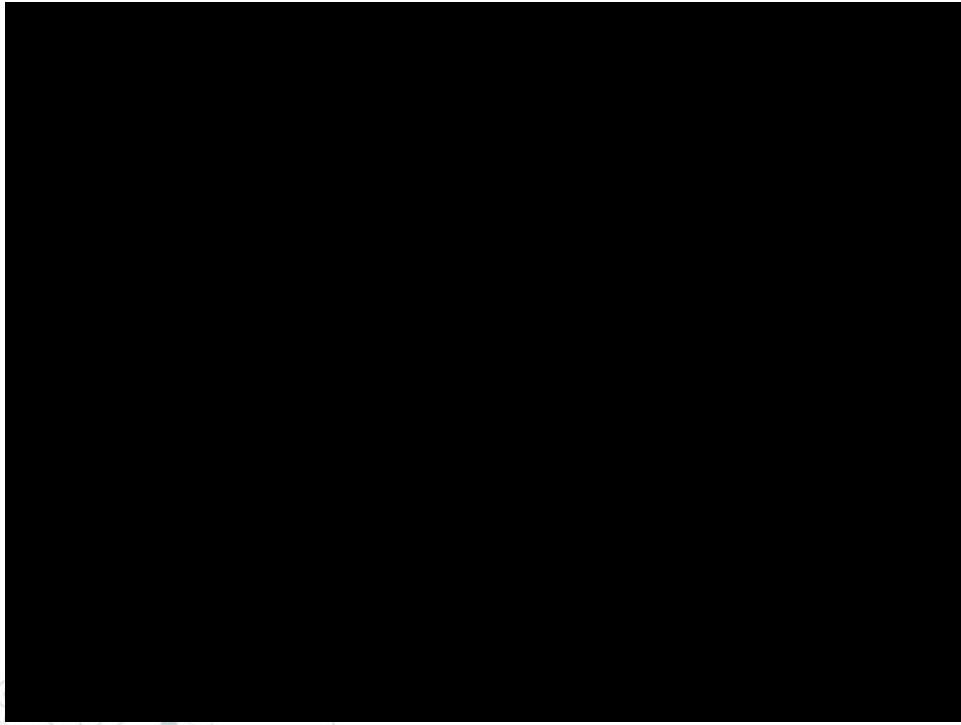


The clusters and function I created are merely a starting point - a way for local policymakers and change-agents get more data about places that are doing better than they are.

## Next Steps




# My Current Function





## Enter Information



State Name

County Name

Email

Password

☐ Terms and conditions

Send Scores

## Results Screen 1

The county you entered is:

**Denver**


The state you entered is:

**Colorado**

The current average Police Scorecard for Denver County, CO is:

**45**

Click for More Information



## Results Screen 2

Of the counties most like Denver, Colorado, the highest scoring counties are:

Honolulu, Hawaii

with an average score of: **57**

El Paso, Texas


with an average score of: **54.8**

Williamson, Texas

with an average score of: **53.8**

Click on any city name above to be directed to their police scorecard



The background of the slide is a light gray network pattern. It consists of numerous small circles, some of which are solid gray and others are hollow with a gray outline. These circles are interconnected by a web of thin, light gray lines, creating a complex, organic structure that resembles a molecular or digital network.

**Thank you!**  
**Any Questions?**