

A photograph of a person sleeping on a wooden park bench. The person is wearing a light-colored jacket, orange pants, and grey sneakers. They are lying on their side with their head down. To the left of the person is a large, grey, cylindrical trash can. The background is slightly blurred, showing what appears to be a park setting with other people and bicycles in the distance.

# Analysis on homeless population in the US

*Data science makes our society better*

Group 5

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# Objectives :

1. **Analyzing and understanding the characteristics of US homeless population.**
  - a. Change in homeless population by year / state
  - b. Homeless population analysis by demographics
2. **Identifying potential factors that could have influenced the homeless population in the United States (2017 through 2020).**
  - a. Homeless population % growth by year (before pandemic vs. after pandemic)
  - b. Relationship between homeless population vs. State population
3. **Comparing how states/territories support their homeless population.**
  - a. Relationship between homeless population vs. Total counts of beds in shelters by year
4. **Conclusion / Suggestion (in view of policy maker)**



# Recent Increase in Homeless Population



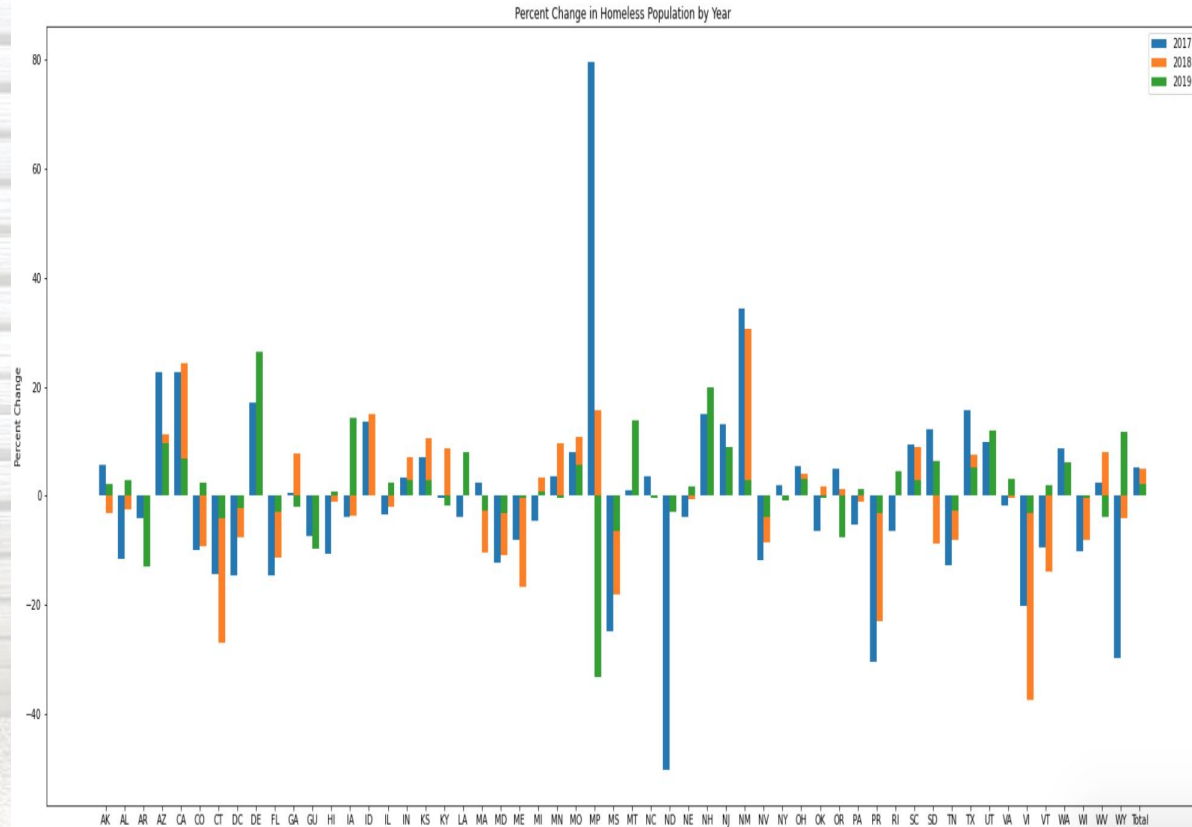
**Recent years (2017-2019) show a steady percent increase each year in Homeless Population.**



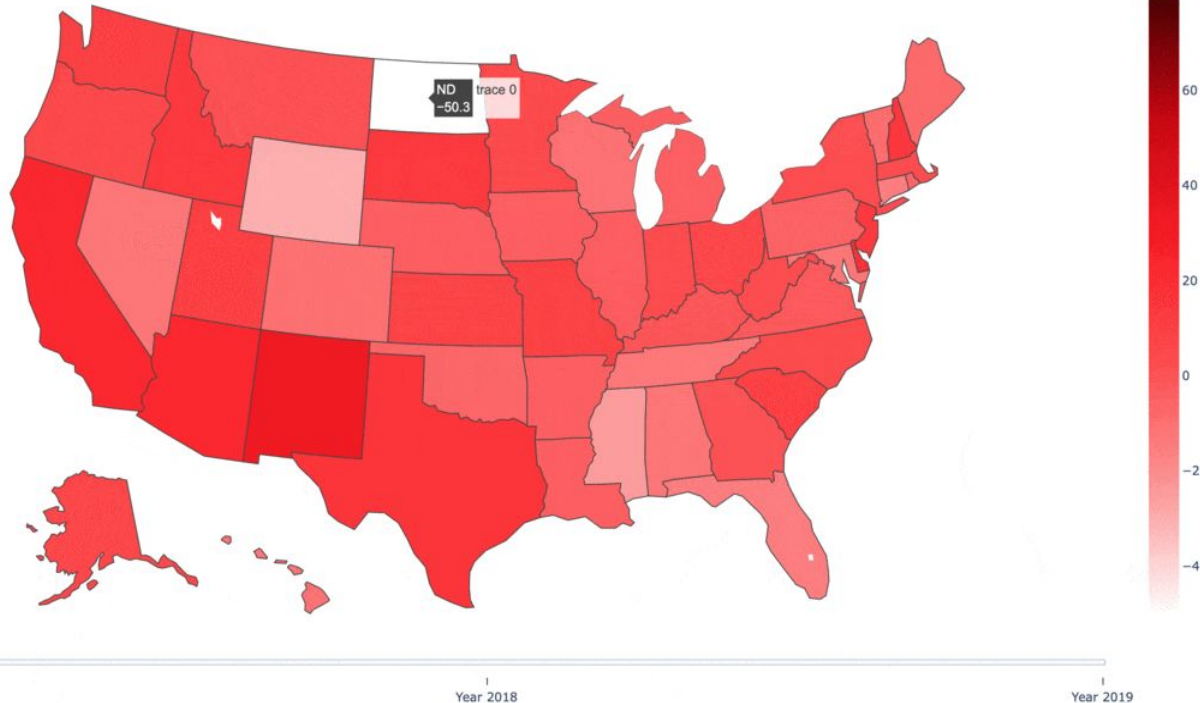
**The bar chart shows the major outliers, such as the Northern Maria Islands.**



**New Mexico, California, Arizona, and Texas have a steady percent increase since 2017.**



# High Increase in Specific States

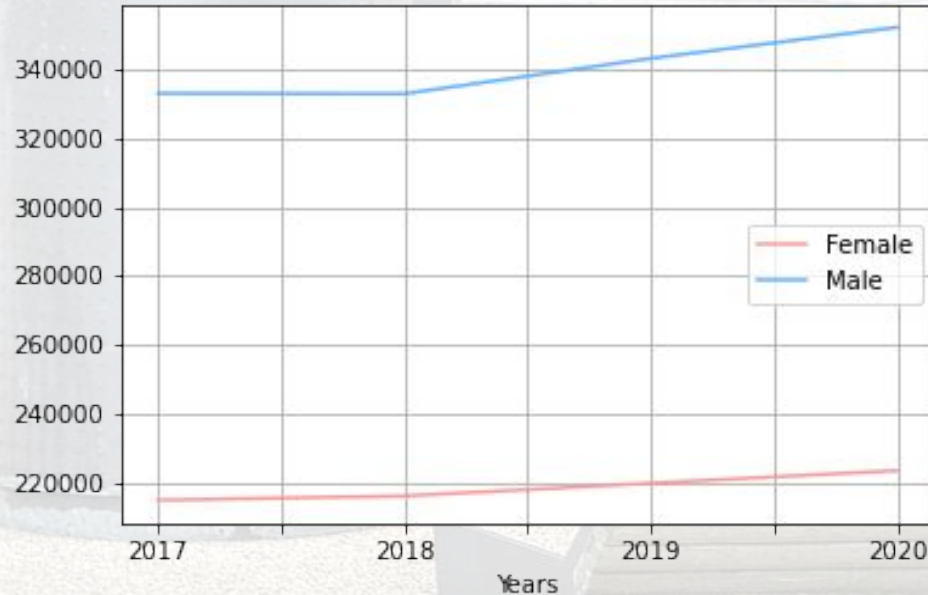


**New Mexico and California have dramatic increase in 2018.**

**Delaware has dramatic increase in 2019.**

# Homeless Population Demographics: Gender

Homeless Population from 2017 to 2020



Uptick in both male and female homeless population starting 2018.



Male homeless population consistently higher than that of the female population.





# Homeless Population Demographics: Gender

Homeless Population from 2017 to 2020



Slight downturn in transgender population in 2020

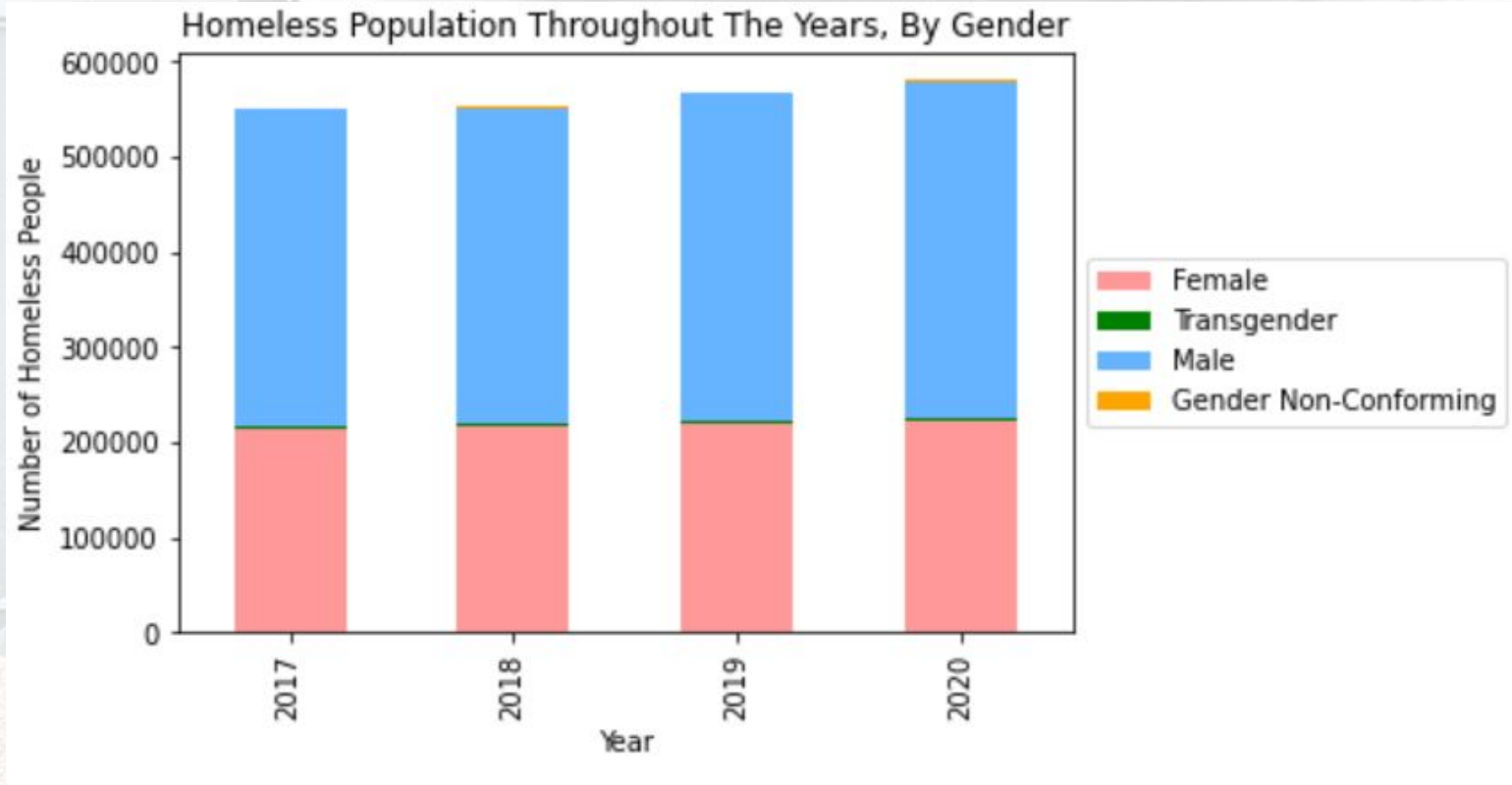


Decrease in rise of gender non-conforming population in 2020

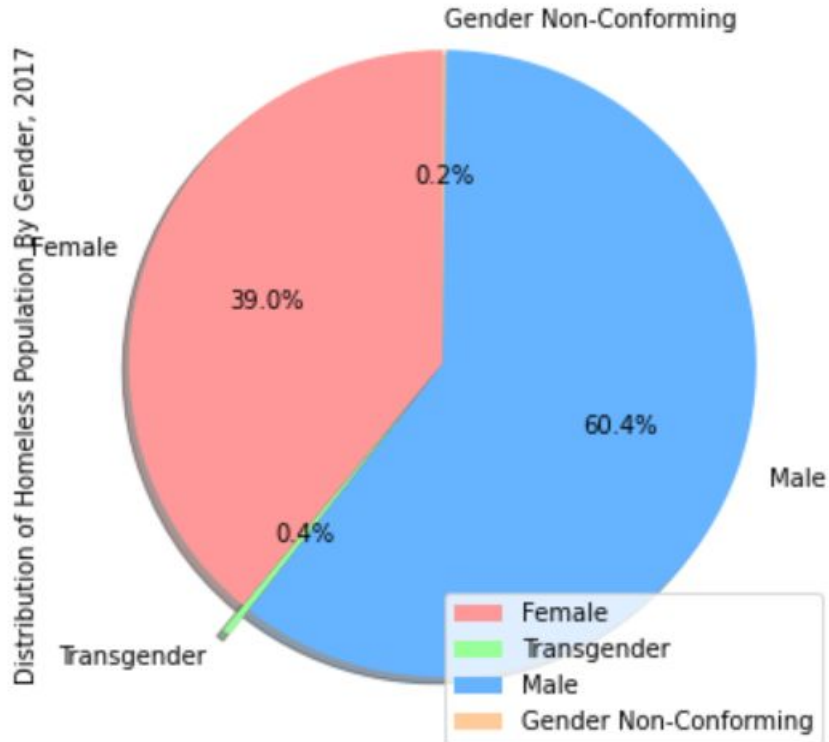


A young homeless person. The number of homeless people who are trans and gender diverse has 'simply exploded'. Photograph: Alamy Stock Photo

# Homeless Population Demographics: Gender

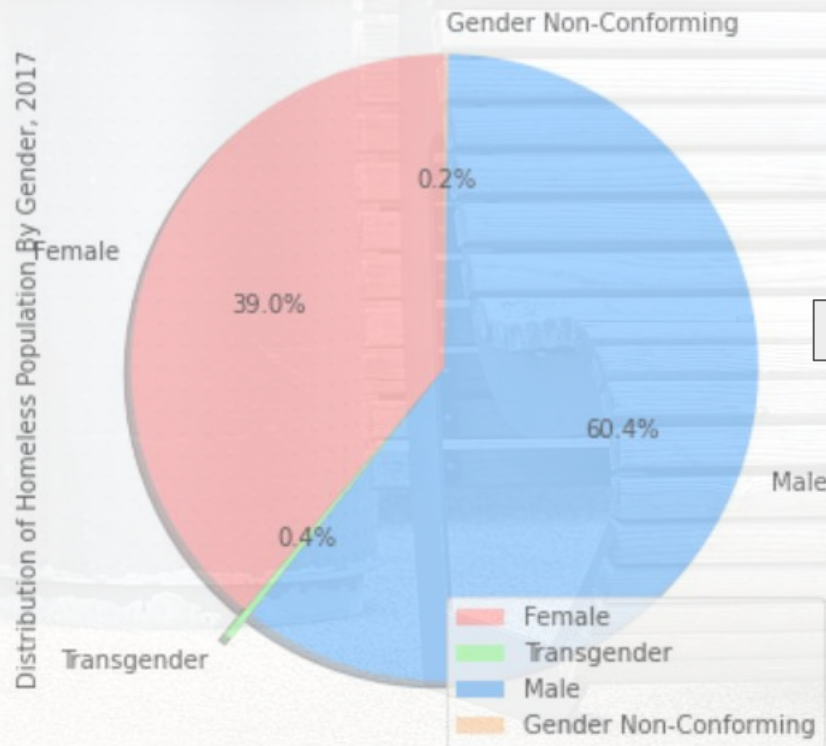


# Homeless Population Demographics: Gender

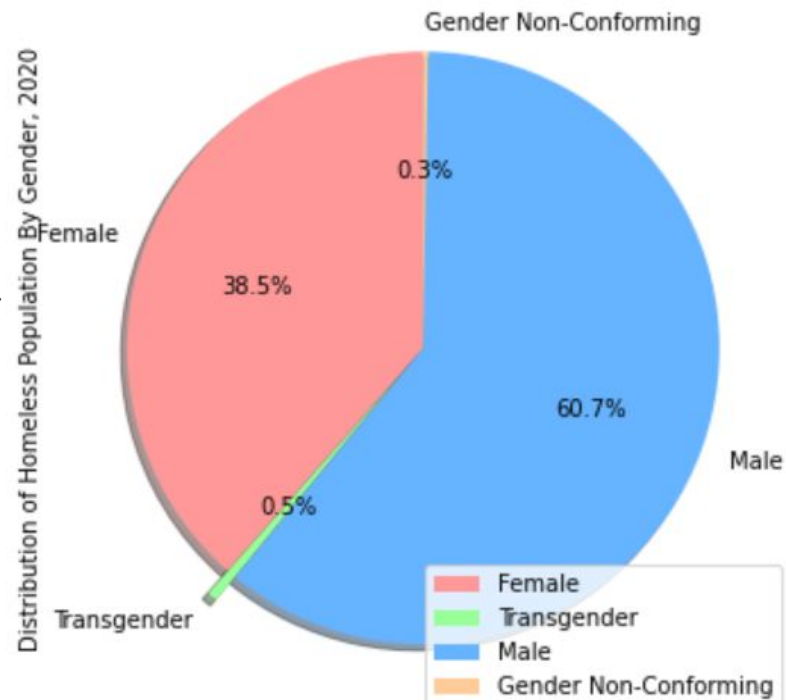




# Homeless Population Demographics: Gender

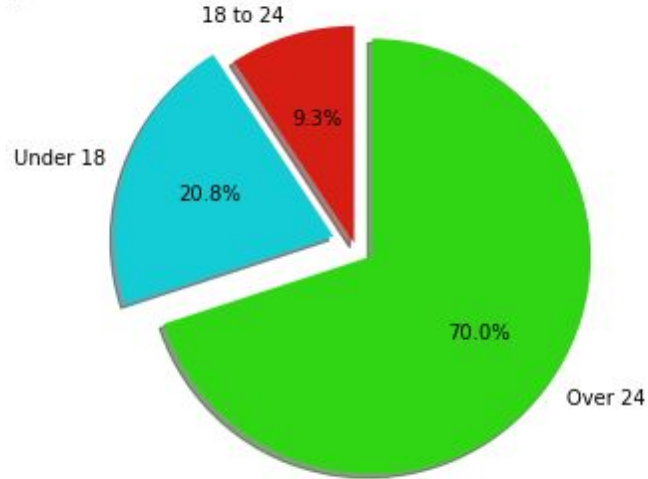


3 Yrs



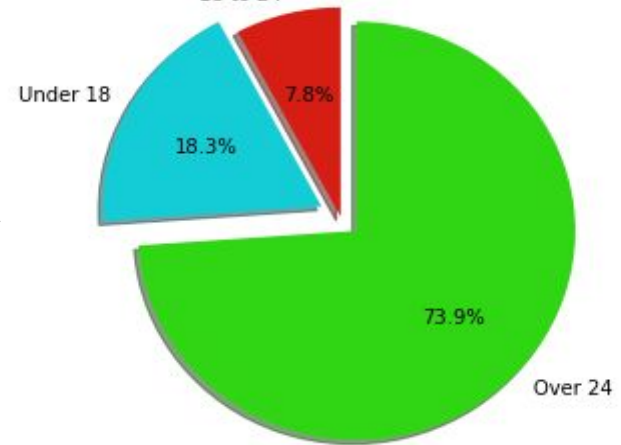
# Homeless Population Demographics: Age

Percentage of Homeless Population Under 18, 18 to 24, and Over 24 2017



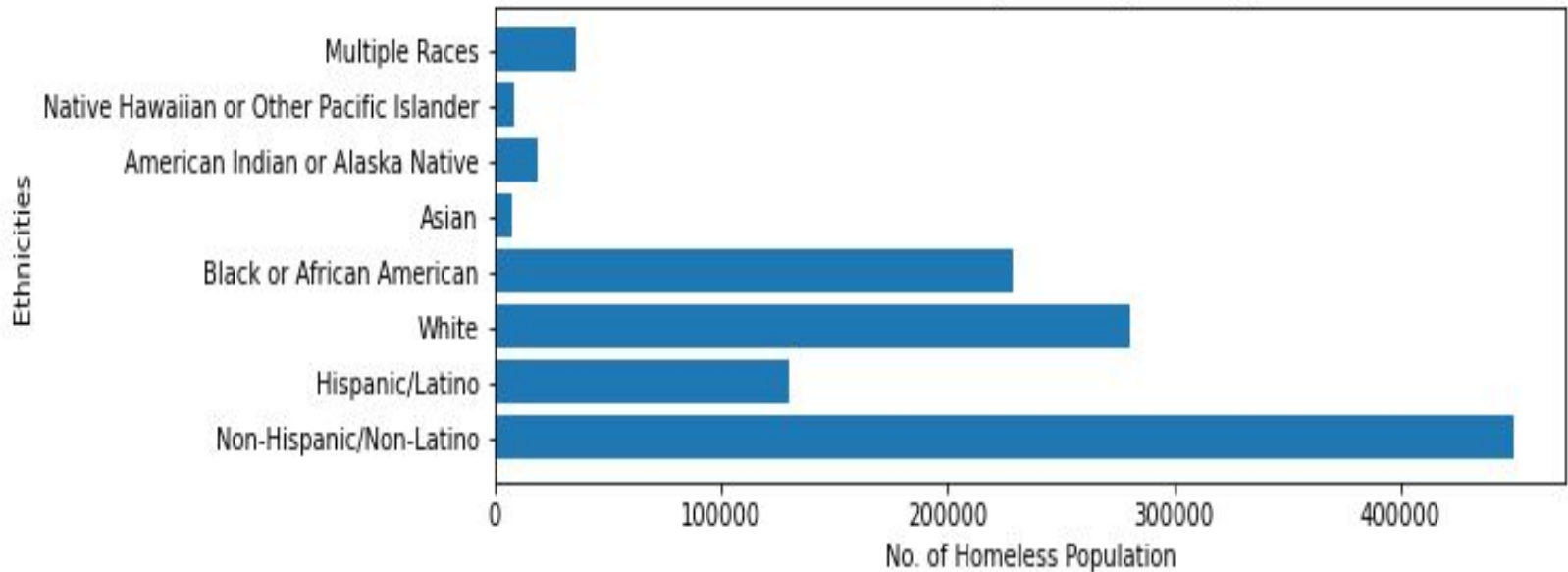
3 Yrs

Percentage of Homeless Population Under 18, 18 to 24, and Over 24 2020



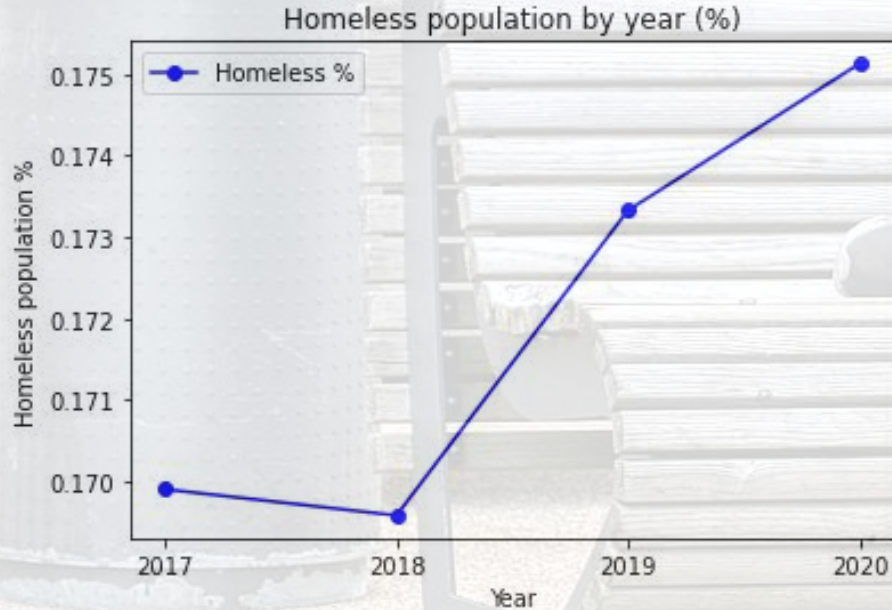
# Homeless Population Demographics: Ethnicity

Overall Homeless Population By Ethnicity 2020



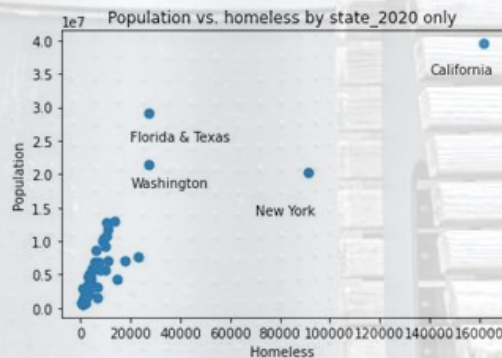


## Homeless population % growth by year



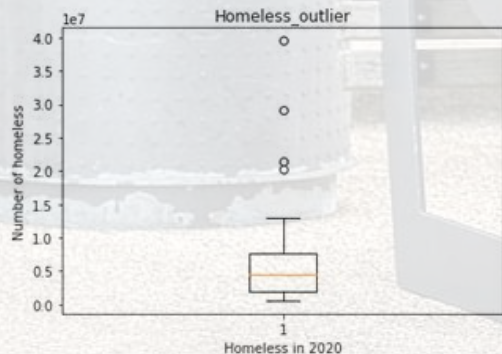
- Obviously, pandemic affects homeless population.
- Before pandemic, Homeless population accounts for 0.170% of total US population.
- After pandemic, it increased up to 0.175%
- For 4 years, homeless population increased by approx. 30,000 people.
  - Year 2017 : 550,996
  - Year 2020 : 580,466

# Relationship between homeless population vs. State population (2020)



	population	homeless
CA	39538223.0	161548
NY	20201249.0	91271
FL	21538187.0	27487
TX	29145505.0	27229
WA	7705281.0	22923

'Pearson correlation and P-value : (0.8219470535665727, 2.547843129292117e-13)'



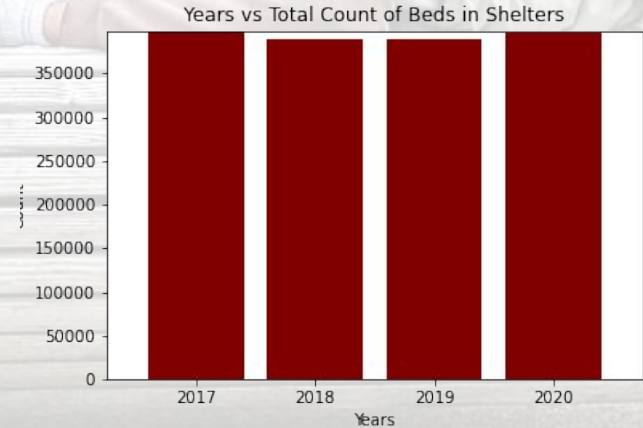
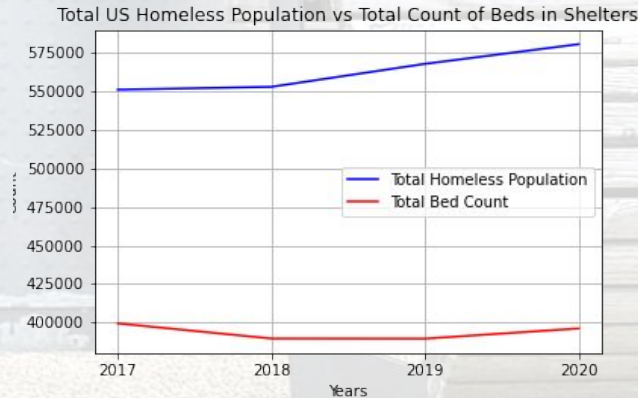
- Population positively correlates (+0.82) with state population (P value : < 5%)
- Ref. It turns out homeless population dataset has 5 outliers.
- It would be interesting to look into more variables to better explain
  - Income
  - Demographics





# Homeless Resources : Homeless Population Vs Beds Count

- Looking at the data and graphs, the nation is inadequately equipped to meet the needs of the growing homeless population.
- Also, notice in 2018 the spike in homeless population but a diversion in Total Bed count in homeless shelters. You would think there would be a spike in homeless shelter beds and resources to support it but that's not what the data shows.

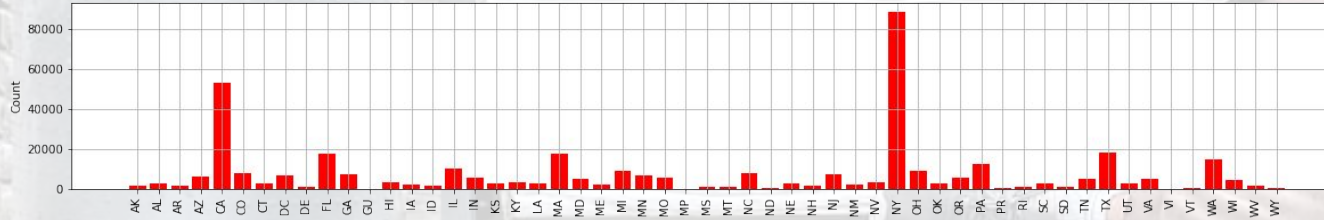




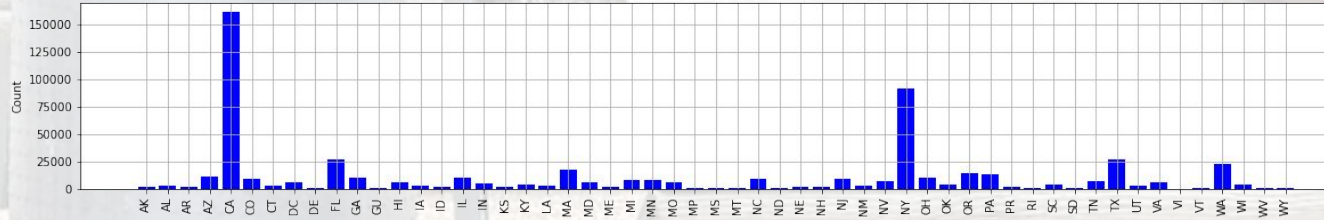


# Homeless Resources : Bed Count By State

2020 Homeless Shelter Beds Count By State



2020 Homeless Population By State



Jill Pable, Author provided

- With these bar charts you can see the outlier populations being in California and New York.
- Also this data shows New York, even though has a large homeless population is more equipped with beds in homeless shelters with California who is lagging behind immensely.

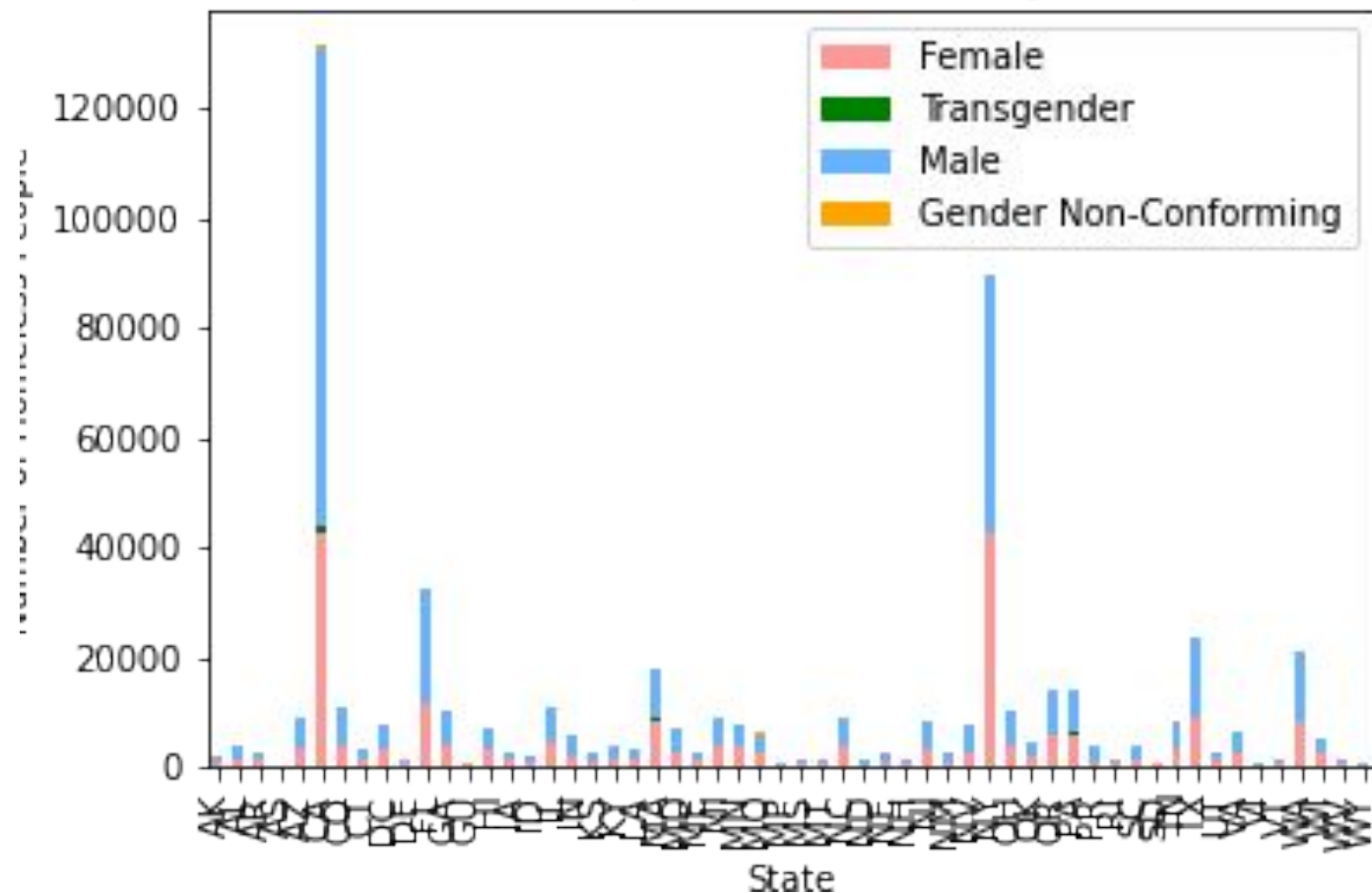
# Conclusions / Suggestions

1. **The homeless population is steadily increasing across the United States, especially in states with major cities.**
2. **Next steps should be comparing the total population from each gender with that of the homeless population.**
3. **XXX**
4. **Pandemic contributes increase in homeless population in the US. We need better care/policy to protect them from Covid-19.**
5. **The country does not have enough resources to combat the homeless population**

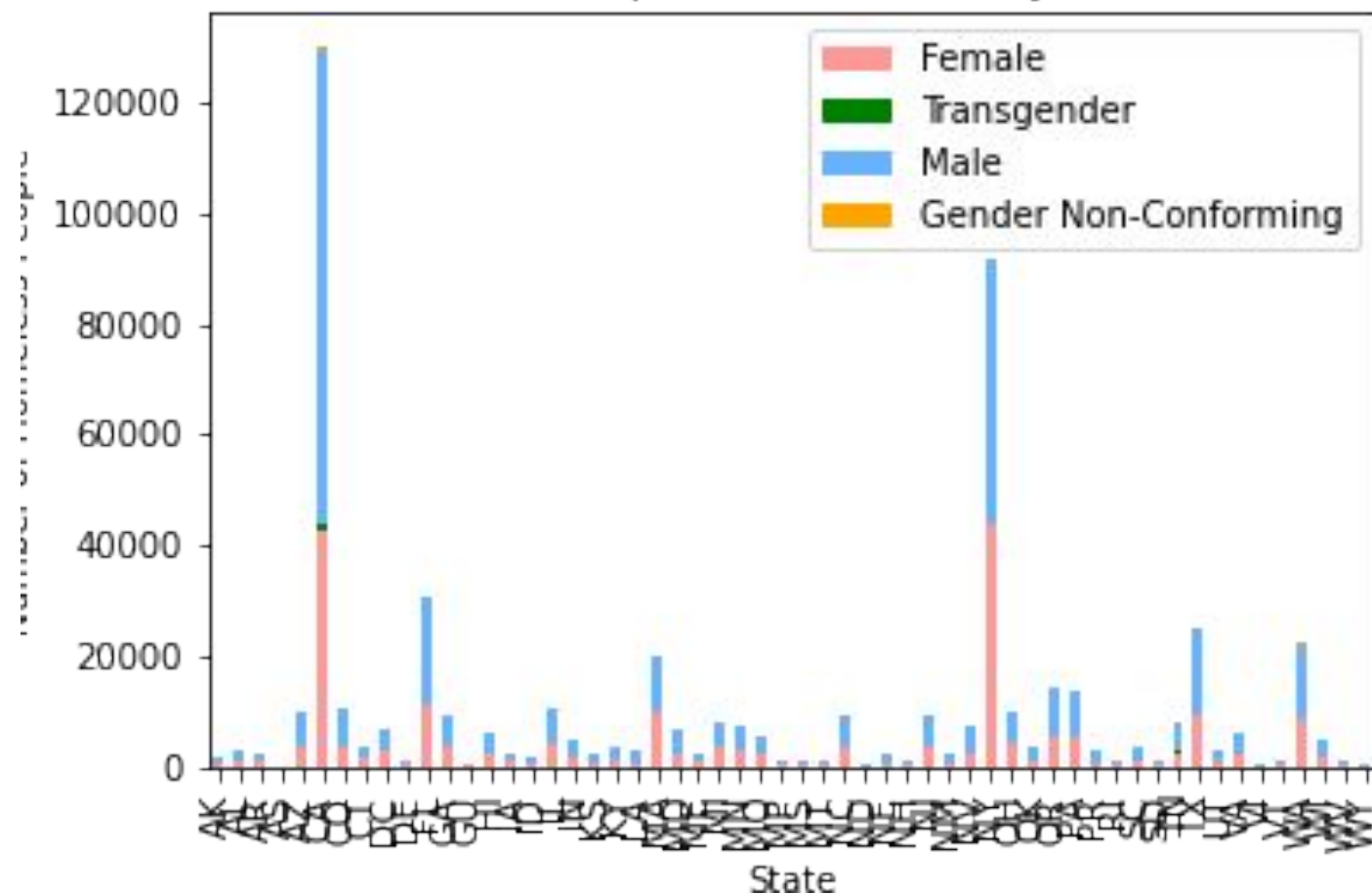
# Supplementary Slides



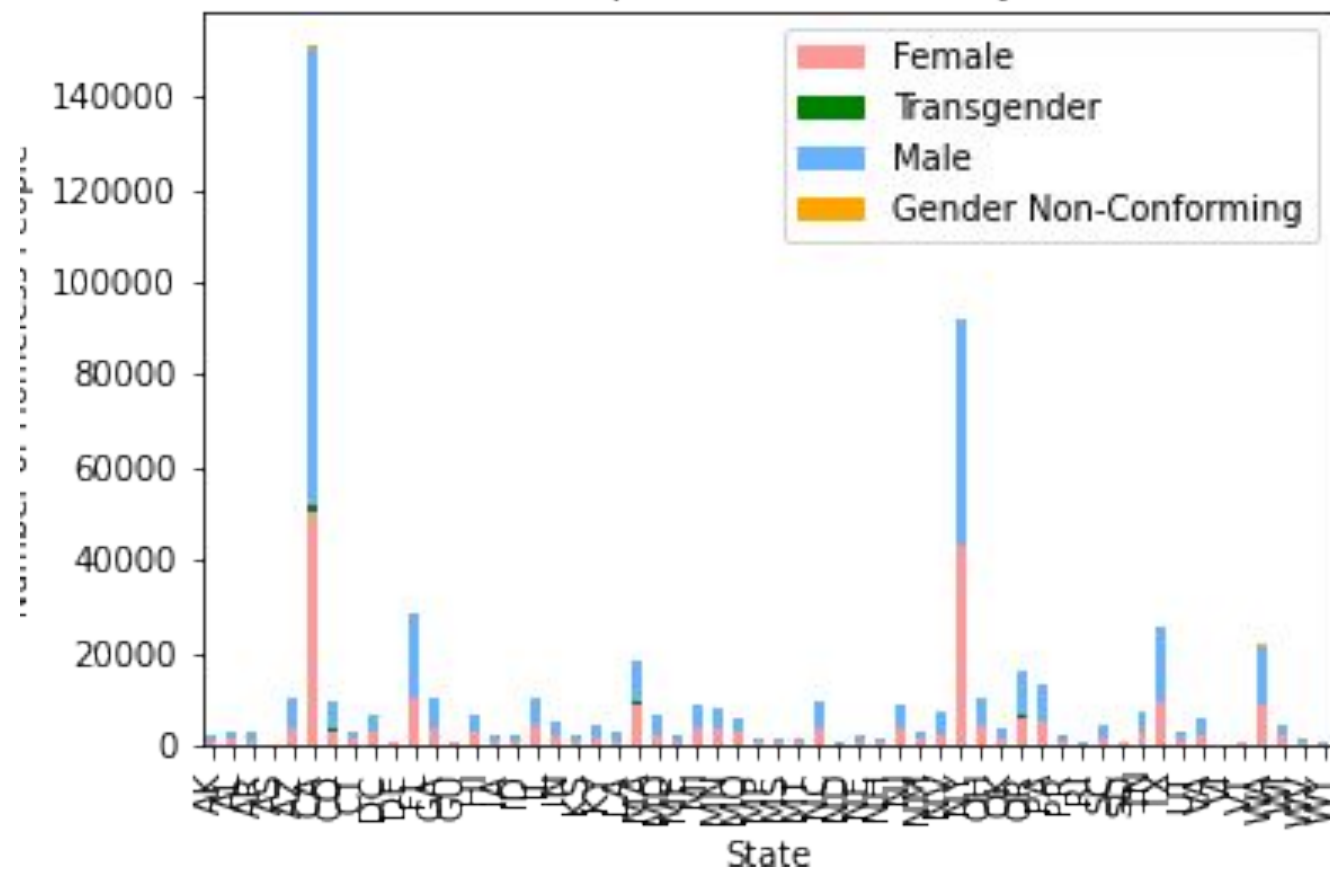
Homeless Population in 2017, By Gender



# Homeless Population in 2018, By Gender

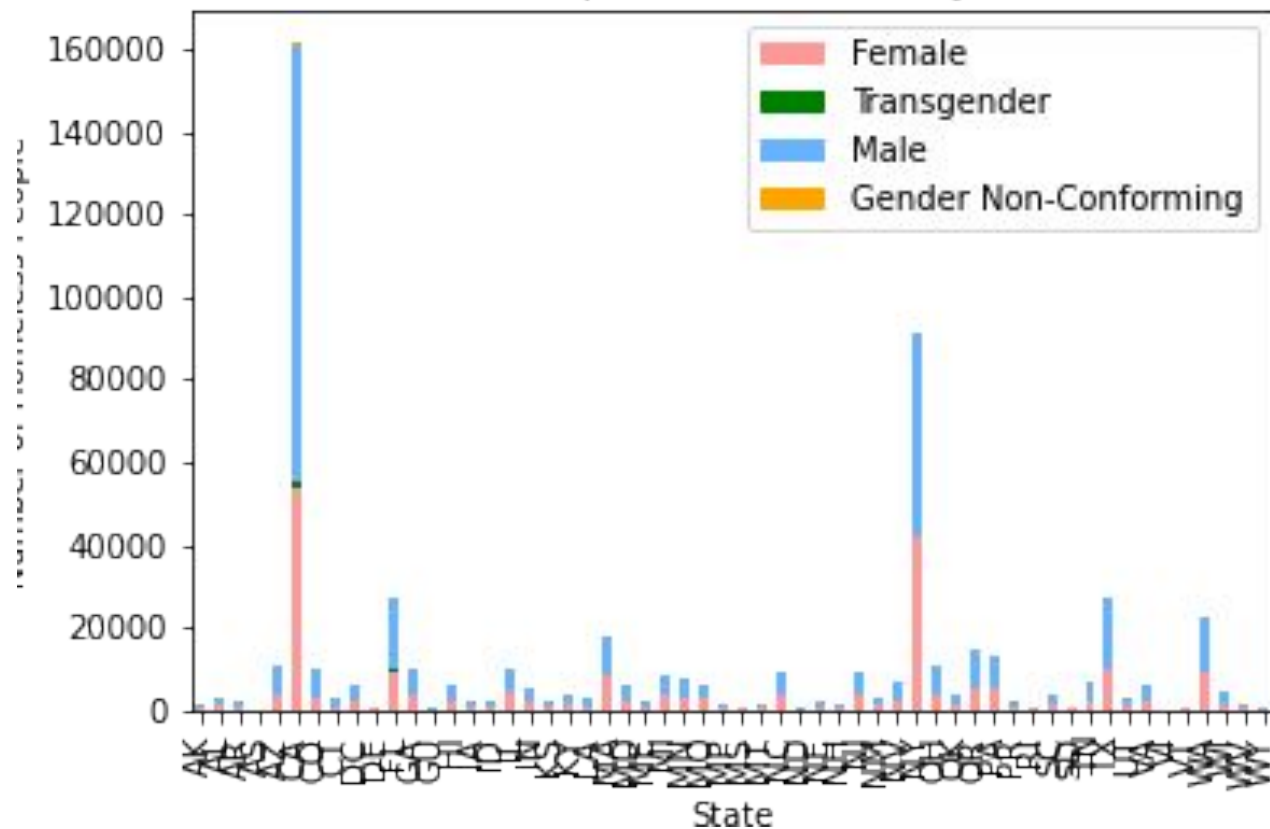


# Homeless Population in 2019, By Gender

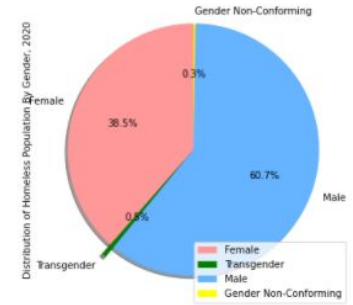
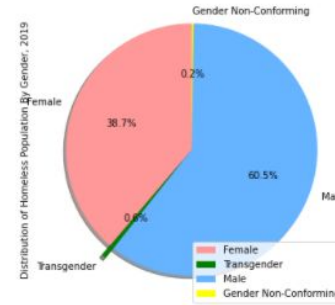
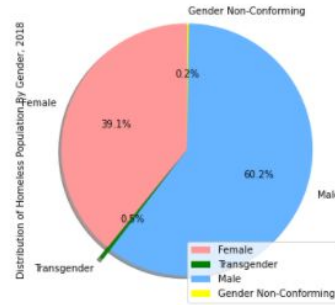
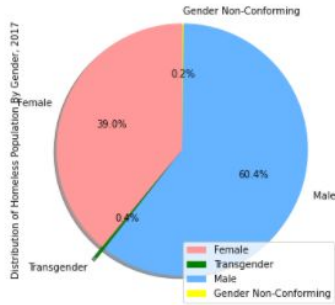




Homeless Population in 2020, By Gender



# Homeless Population Demographics: Gender



Year	% Female	% Male	% Transgender	% Gender Non-Conforming
2017	39.0	60.4	0.4	0.2
2018	39.1	60.2	0.5	0.2
2019	38.7	60.5	0.6	0.2
2020	38.5	60.7	0.5	0.3

CoCs Provided by State by Year

