When an emergency evacuation is announced, the head of the household needs to make a responsible and quick decision to evacuate their family. The 2017 evacuation of Hurricane Irma is referred to as the largest evacuation in the history of the nation, with approximately 6.5 million Floridians under mandatory or voluntary evacuation orders (1). When an emergency evacuation is announced to the residents of a state, the head of the household needs to make a responsible and quick decision to evacuate their family. Florida's 2017 census estimates approximately 51.1 percent of Florida's 21,300,000 residents are women; of which an estimated 4,350,000 are single mother, heads of households. This knowledge can be leveraged to better plan and to respond to other large-scale evacuations with the inclusion of single mothers and their families, as well as identify the best practices moving forward. This presentation addresses the initial findings and macroscopic analysis of single mother head of household evacuations from Hurricane Irma. In order to serve single mothers and their families, much can be learned from the analysis of hurricane evacuation data. This presentation discusses a comparison between the evacuation travel patterns in counties with high and low percentages of single-parent homes and provides insights into evacuation patterns. More broadly, this information can be used to help single mothers evacuate in a safe, affordable, and timely manner. Emergency evacuations are financially burdensome and result in the potential loss of income for time away from work. In addition, the vulnerability of property left unattended and possible destruction of property could possibly lead to unsafe choices being made. In order to serve single mothers and their families, much can be learned from the analysis of hurricane evacuation data. This presentation discusses a comparison between the evacuation travel patterns in counties with high and low percentages of single-parent homes and provides insights into evacuation patterns. More broadly, this information can be used to help single mothers evacuate in a safe, affordable, and timely manner. Emergency evacuations are financially burdensome and result in the potential loss of income for time away from work. In addition, the vulnerability of property left unattended and possible destruction of property could possibly lead to unsafe choices being made. 

# Introduction

The 2017 evacuation of Hurricane Irma has been referred to as the largest evacuation in the history of the nation, with approximately 6.5 million Floridians under mandatory or voluntary evacuation orders (1). When an emergency evacuation is announced to the residents of a state, the head of the household needs to make a responsible and quick decision to evacuate their family. Florida's 2017 census estimates approximately 51.1 percent of Florida's 21,300,000 residents are women; of which an estimated 4,350,000 are single mother, heads of households. This knowledge can be leveraged to better plan and to respond to other large-scale evacuations with the inclusion of single mothers and their families, as well as identify the best practices moving forward. This presentation discusses a comparison between the evacuation travel patterns in counties with high and low percentages of single-parent homes and provides insights into evacuation patterns for this cohort.

In the case of an evacuation, the state government declares a state of emergency when hurricanes are a category 4 or more. Prior research conducted in the wake of Hurricane Katrina illustrated the effects of the Irma evacuation on the roadway infrastructure in both spatial and temporal terms (8). This research furthered prior investigations by quantifying the “Evacuation flow” for single mothers empirically. The second task was data collection and processing, which included research into federal and private organizations or programs that assist single mothers in case of a natural disaster. The following was provided by the U.S. Census Bureau to provide information on how many children live in various home settings.

# Methodology

The SunGuide program gathers roadway data from across the State of Florida. Traffic counts and average travel speeds are reported every hour and archived for analysis. The following graphs represent travel in the time leading up to, during and after Hurricane Irma.

# Results

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# Conclusion

In order to serve single mothers and their families, much can be learned from this data which could help these family leaders be prepared to make a quick well-planned decision in times of emergency evacuation. A growth in the number of single mothers has been recorded in counties with a high and low percentage of single-parent homes was conducted. This analysis can help determine the difference of evacuation patterns in areas with higher concentrations of single mothers. The ultimate goal of this study was to take these differences and find ways to help single mothers evacuate in a safe, affordable, and timely manner. For example, organizations and public entities could assist families facing financial burdens by the loss of income for time away from work, the high cost of evacuating such as hotel, restaurant and travel expenses for a week or more. In addition, the vulnerability of property left unattended and possible destruction of property could possibly lead to unsafe choices being made. In addition, advice will be provided to various governmental agencies regarding how to decrease the many risks these families face. Suggestions for better financial policies to help these at-risk families will also be provided.

# Current references

- Edwards, T. (2017) “Crisis Children (Edwards, 6). Related to single mothers, many different organizations such as the NCSMC and The Mommes Network facilitate access to education and other services. The nongovernmental organization (NGO) is a non-profit organization that offers quality food boxes to American families after an evacuation. This organization and others like it are funding one of the biggest issues a single mother faces during and after an evacuation. In addition, the Single Mothers Grants website provides Government Assistance Programs for single mothers that consist of the assistance provided by federal, state, local, and private organizations such as the NCSMC and The Mommes Network. The study was conducted in the wake of Hurricane Katrina, where the emergency relief provided a range of providers for such situations (Edwards T., personal communication, May 9, 2019). Edwards adds that “[t]his provides problemmatic and restrictive for many single mothers” and that currently there is growing awareness of domestic violence and natural disasters (Edwards T., personal communication, May 9, 2019). In addition, Edwards states that “[t]his matter affects single mothers as separation does not mean that they are safe, as safety risk increase at the time of separation and early in separation” (Edwards T., personal communication, May 9, 2019). This brings another issue, if these single mothers are being separated before, during, and after such disasters. From the analysis provided by this study, the United States should create a program similar to the “Crisis Payments.” This would allow single-mothers to feel more confident in making the decision to evacuate because they know the cost of the safer option would be less.