**Overview:**

In the following project we are looking at walking as a mode of transportation and influencing factors that would make walking a primary choice of transportation or not. More specifically we analyze if an individual can create a walkable community where no one would require cars. How we approached this topic is by looking for trends in walkable communities like car ownership, income, and public transportation.

**Dataset:**

For this project we found a large dataset on EPA.gov looking at the National Walkability Index in the United States and Puerto Rico. This data is providing information at census block group level and every block is assigned a National Walkability Score. The National walkability score is measure based on multiple factors such as street density, proximity to transit stops and diversity of area along with many other criteria.

**Analysis questions:**

Do individuals living in a highly walkable area still choose to have a vehicle?

- Do high income earners who live in a walkable community own car?

- Do middle income earners who live in a walkable community own car?

- Do low-income earners who live in a walkable community own car?

If individuals are within proximity to public transit stops and live in a walkable community, will they likely still own a vehicle?

**Pre-Analysis:**

After looking at the dataset we found on EPA.gov we realized there was a lot of missing values in Census Block Groups located in Puerto Rico. So, we decided to drop all Census Block Group in Puerto Rico and just provide analysis on the rest of American groups. From here we further cleaned up the dataset by locating columns/ stats that pertain to our research and drop any rows with missing values.

**Analysis:**

In high income earning, most walkable communities and percentage of zero car ownership household on a census block level there was a weak and negative correlation.

In high income earning, most walkable communities and percentage of one car ownership household on a census block level there was a weak and positive correlation.

In high income earning, most walkable communities and percentage of two plus cars ownership household on a census block level there was a weak and negative correlation.

After analyzing High income earners living in a walkable city on a census block level, we grouped the census block levels by area and charted results in a bar graph. We found for high income earners that a strong percent will at least own one car and between areas the ownership for two plus cars or no cars fluctuates.

For middle income earners living in most walkable communities and compared these values against percentage of one, or two-plus car ownership, there seems to almost be no correlation between variables.

After analyzing middle income earners living in a walkable city on a census block level, we grouped the census block levels by area and charted results in a bar graph. We found for middle income earners that…..

In low income earning, most walkable communities and percentage of zero car ownership household on a census block level there was a weak and positive correlation.

In low income earning, most walkable communities and percentage of one car ownership or two plus cars ownership in household on a census block level both have a weak and negative correlation.

After analyzing low income earners living in a walkable city on a census block level, we grouped the census block levels by area and charted results in a bar graph. We found for low income earners that…..

We analyzed the distance from population weighted centroid to transit stops in meters and car ownership in most walkable communities. We used a random sample size of 2000 since the dataset is dense. This sample size portrays that individuals in a walkable communities will own a car whether they are near a transit stop or not.

**Data Bias:**

Some concerns we noted in the data set is that low, middle, high income criteria are set to fixed ranges across America. This may not provide an accurate depiction of low, middle, high income earners as cost of living vary for each area in America.

**Conclusion:**

In conclusion, the data analysis does not show a clear indication that a walkable community can be created with no vehicles. Whether you have high, middle, low income, or are near public transportation in a very walkable area, the average household would still own a car in America.