1. **Overview of the analysis:** Explain the purpose of this analysis.

When starting a new business in a certain area, a responsible entrepreneur will do the research to fully understand the risks and variables that would impact its success. In this case, a client wishes to start a bikeshare business in Des Moines, Iowa and in order to get an idea of the statistics behind a similar successful bikeshare, we will be analyzing some data provided through the New York City Bikeshare. Through this analysis we can potentially determine the success of a future bikeshare in Des Moines.

1. **Results:**

Data included in the August NYC Bikeshare information includes bike id, trip duration, start time, stop time, station information and a few demographics pertaining to who is riding. Below are a few visualizations to help investors understand a few factors that would need to be taken into consideration with the initiation of a bikeshare business in Des Moines.

The first graph shows a linear depiction of trip duration during the month of August. The top of the graph lists the hours and the bottom has tick marks to break each hour into minutes. The greatest number of rides appear to be around 10 minutes long and the majority of the rides in NYC seem to be approximately 30 minutes or less. This may suggest that the bikeshare in Des Moines would be successful if the radius of the bikeshare territory would be within a 30-minute bike route.

Breaking down the trip duration a little further, we can take into consideration the gender of our riders. The graph shows that the majority of riders seemed to be male, with a small number of riders with undefined genders. This data proposes that males are more likely to use the bikeshare system. The US Census Bureau reports that the gender percentage of each city are comparable so this would most likely be an accurate representation on Des Moines bike riders.

Our next analysis will show a breakdown of each day of the week and when bikes were being picked up from any given station. Monday through Friday shows that most usage of the bikeshare system was around 08:00AM and 05:00PM to 06:00PM. This suggests that most users during the work week are using the bikeshare as transportation to their place of employment. During weekends, bikes are being used between 09:00AM and 07:00PM. When bikes are being used is very important to take into consideration when doing maintenance, or providing enough bikes during those periods of time.

Again, we can break down the previous graph by gender. This graph confirms what we had found earlier, that males are the prominent riders.

Through the bikeshare in NYC, people are given the option to subscribe to the system. This visualization shows the breakdown of those who subscribed versus casual customers, and their gender. As we can see, the majority of those who use the bikeshare are males who subscribed and are frequent users. The graph also reiterates that the majority of the bikes used are during the typical times an individual would go to work, and return home. With the given information, an environment that has a high population of working males would seem to have a higher chance of being successful.

The grouping of interactive graphs shows various information regarding the information provided in the NYC Bikeshare data during the month of August. The top right just shows the number of total rides during this month. The top left is a graph that links the birth year of the rider and the average duration of the trip in seconds. Data in this graph are questionable due to the number of riders who were recorded as being born prior to 1920, but it appears that those who were born following 1950 were consistently riding the bikes approximately 15 minutes. The pie chart is a breakdown of the gender of bikeshare users. The graph on the bottom shows the stations at which people had been starting their trip. The size and color of the bubble shows where the most popular stations are located.

1. **Summary:**

All of this information can be the building blocks of creating a successful bikeshare in Des Moines. While NYC is used to provide data to get an idea of demographics and bike usage, there are other factors to take into consideration prior to initiating this new bikeshare. Des Moines is very different than NYC and having realistic expectations can save time, money, and the possibility of ruined connections. More analysis could be done taking into transforming the data, grouping each user’s information to see a more accurate representation of who is using the system and how much. Looking into the start and stop stations and frequency of use. We can get a rough idea of comparable distances between points on interest in Des Moines, and narrow the search to find comparable distances and how it would translate to a different area. The following links are to the visualizations above, along with a couple more:

https://public.tableau.com/app/profile/staci.stapleton/viz/Bikesharing\_16549629540990/NYCStory?publish=yes

https://public.tableau.com/app/profile/staci.stapleton/viz/NYCBikeshareAnalysis\_16549759276490/NYCBikeshareAnalysis?publish=yes