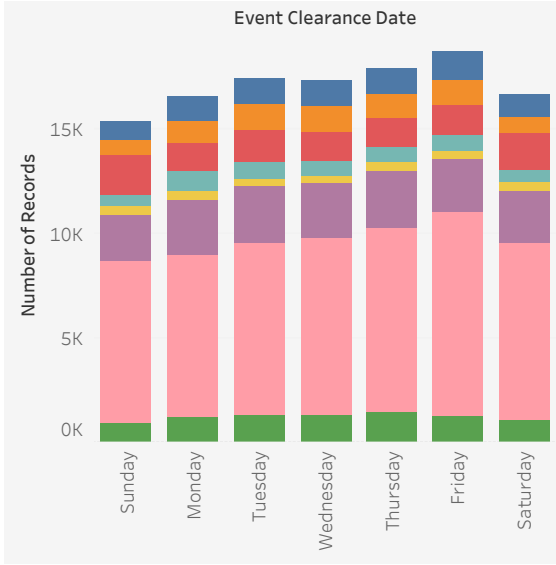
USER GROUP: A group of friends wants to run a Poke food truck in Seattle's Downtown Area. Because of the hectic nature of the area, they are concered about criminal activity and traffic incidents, both of which could hurt them and their customers. A lack of safety would negatively impact the financial success of their food truck.
SCENARIO: Seattle's Downtown Area, which consists of Belltown, Pike Market, First Hill, Yesler Terrace, Central Business District, International District, and Pioneer Square. The group of friends chose this area since it is arguably the busiest place in Seattle, helping them attract more customers. However, Downtown is also very busy and at times disorganized. In order to increase safety, the friends want to find a street location with a relatively low frequency of traffic accidents, and establish operating hours during times of low criminal activity.
RESEARCH QUESTION: How can we avoid criminal activity to help promote the safety, success, and growth of the food truck? This question will help determine the location of and operating hours of the food truck. Useful data to help determine food truck location would be the location and frequency of traffic incidents in Seattle, specificially the Downtown Area, and how recent these incidents occurred. For operating hours, the amount of relevant crime types in Downtown for each weekday and hour would be helpful.

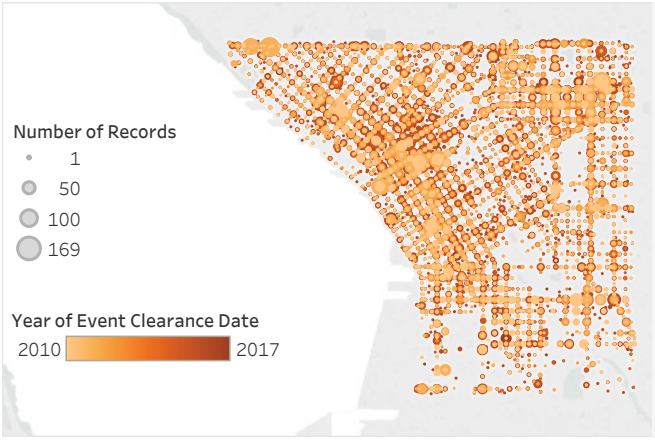
Another dataset that would be useful in helping answer this question would be pedestrian activity in Seattle's Downtown. This data could reveal areas with more people at certain times of the day, and any patterns with pedestrians. This information would help the friends strategically place their food truck to attract more customers. In addition, there may be a correlation between pedestrian activity and the number of traffic incidents. It seems plausible that because there are more people walking, drivers are more accident prone.

Number of Crimes per Day



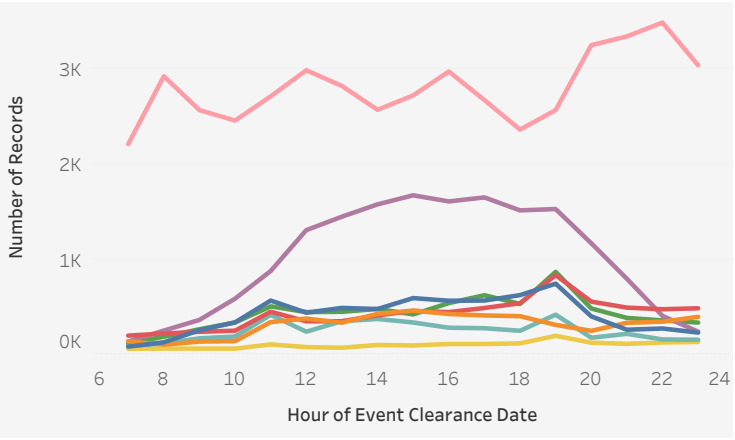
The chart on the left displays the different crimes that may occur during each day of the week. The data compiles and displays in a bar graph the total number of records for specific crimes each day over the span of 8 years (2010-2017). This information is useful to the user so that they could determine which days their food truck will be open. It is likely that the users will choose to open their food truck on days with relatively less crime occuring. Based on Tufte's principles, this visualization might be ineffective because it does not show the specific amount of crime records. While it is easy to see Friday has the highest amount of crime, the lack of detail makes it harder to distinguish between other week days. In addition because the individiual crimes are not aligned, it might be hard to see the variation between each day.

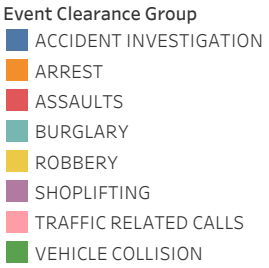
Traffic Incidents in Seattle Downtown



Based on the Longitude and Latitude coordinates of the dataset, this map shows the location and frequency of traffic incidents in Seattle Downtown Area. Users can clearly locate areas where traffic incidents occur less often. In addition, a redder color shows that the incidents happened more recently than areas that are orange. This visualization is effective because it uses size and color to display areas with more traffic incidents, and makes it easy for the eye to compare locations. One small problem is the clustering of locations, but this can be fixed by zooming in.

Number of Crimes Per Hour (7 AM - 11 PM)





Dataset provided by Seattle 911 incident reports: https://cata-log.da-ta.gov/dataset/seattle-police-department-911-in-cident-response-52779

This graph shows the number of records for specific crimes per hour, spanning from 2017-2010. The users can observe overall trends for each crime, and also find times where the most and least of each crime type occurs. This information can help determine which crimes should be prioritized in terms of avoiding, and the hours the food truck should operate, in order to avoid traffic incidents and other potential problems. This is an effective visualization because the line graph shows a continuous distribution of the dataset and makes it easy to compare from an hour-to-hour basis. On the other hand, this might not be as effective since the amount of Traffic Related Calls and Shoplifting occur at much higher frequencies. As a result, the other 6 crimes are cluttered at the bottom and the data could potentially be distorted.