DEPA Final Project Design

Meeting 2

**Duo Zhou**

**Business Design**

The Target audiences for this project are the operation teams of the Transportation Network Providers (sometimes called rideshare companies). The project will provide a business solution to efficiently allocate vehicles to maximize ridership and profits in the City of Chicago. In this design ridership will only focus on the pickup locations and total length of the trip.

**Main Data Sets.**

**Name**: Transportation Net-Work Providers and Chicago Community Area(CCA) Consensus.

**Useful Info from Each Dataset**

*Transportation Net-Work Providers*

Location, Date & Time, Ridership, Fare and Tips.

*Chicago Community Area Consensus*

Income level, Ethnicity and Education Level.

**Supporting Data sets. (Will be collected by Bowen)**

**List**: Major Sports Event Schedules, Weather data over the same time period and Chicago Community Area Geographic Boundaries data.

**Solutions**

**Results Virtualizations will be generated for the following parameters.**

-Mapping the location on the map for each trip. This will show the hot zones for pick up locations. (Locations will only be differentiated by CCA)

-Generating horizontal bar graph to reveal the relationship of ridership vs. Income, ethnicity and education level.

-Grouping ridership over the day of the week to show the difference in ridership between weekdays and weekends in each CCA.

-Grouping ridership over different weather conditions to show the difference in ridership via various weather and temperature conditions in each CCA. (People will tend to utilize more share rides for short distances during cold or rainy days)

-Grouping ridership over the days of major sports events. (On sports events days, we should observe a noticeable increase in the CCA where the event takes place)

- Finally, We can use Holt-Winters Model to do a time series forecast on the ridership in each CCA to predict ridership changes and give vehicles allocation suggestions accordingly.