615_final

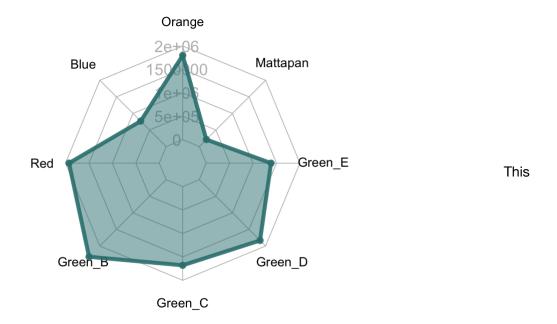
Yalong Wang

2022-12-13

MBTA

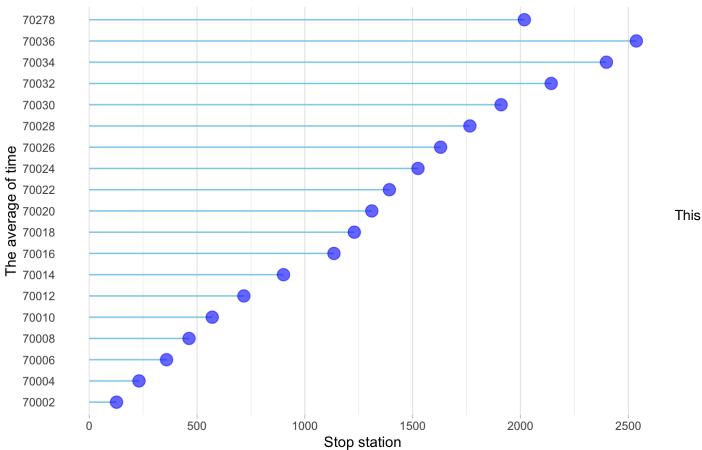
```
## [1] "Orange" "Blue" "Red" "Green-B" "Green-C" "Green-D" "Green-E" ## [8] "Mattapan"
```

The count of different subway lines in the past one year



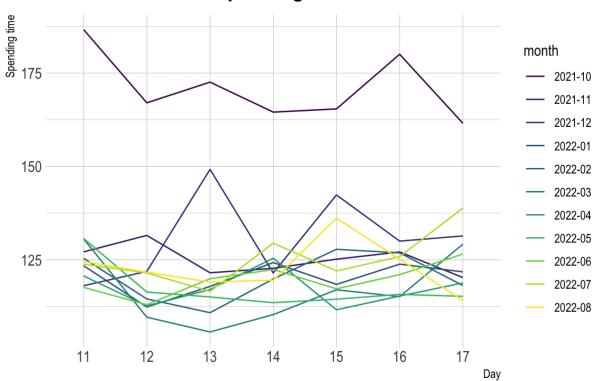
Graph shows the amount of data for each subway line. As you can see from the radar chart, Green-B has the most data, over 2,000,000 items, while Mattapan, on the other hand, has the least data, less than 500,000.





graph shows the spending time of different stations to the '70001' station. As you can see, the time spending increases means the there is longer distance between this station and '70001' station, except '70278' station. In this case, we can find the reason why the data of '70278' is abnormal.

The different time spending for '70002' station to '70001' station

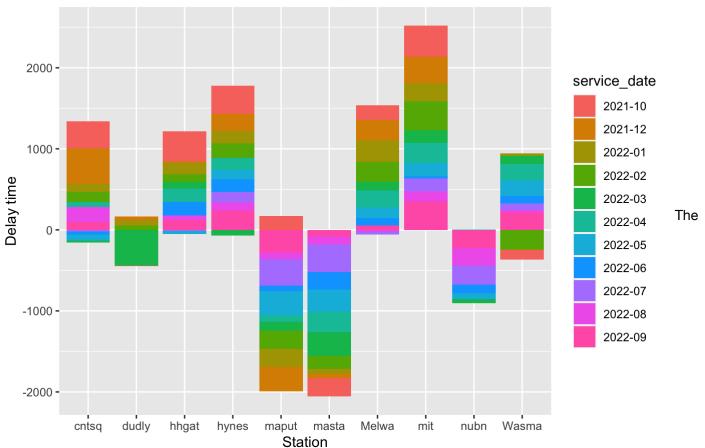


This graph shows the time spending of '70002' station to '70001' station for different date. Obviously, the line of '2021-10' is far above of others, which means the time spending on 2021, October is more than other month.

##Bus

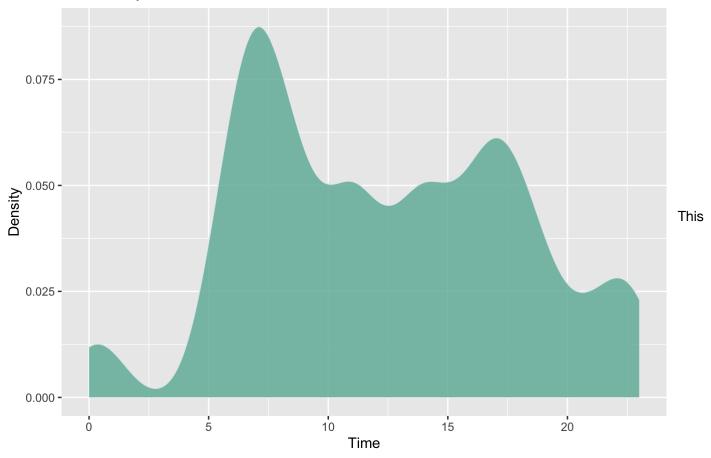
```
## `summarise()` has grouped output by 'time_point_id'. You can override using the
## `.groups` argument.
```

The route '01' different station's delay time for different month



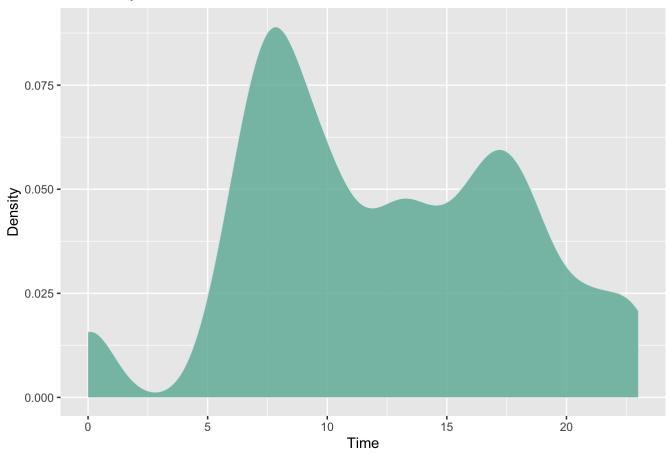
graph means the different time between the actual time to scheduled time for route '01' to different station. This graph means when buses arrive at 'dudly', 'maput', 'masta' and 'nubn' station, it often arrives in advance. However, buses arrive at other stations, it often delays.

The start point time for route '64'



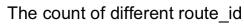
graph shows the route '64' Departure time distribution figure. It shows That the peak is reached at 7 a.m. departure time. The 4:00 a.m. departure time reached its lowest point.

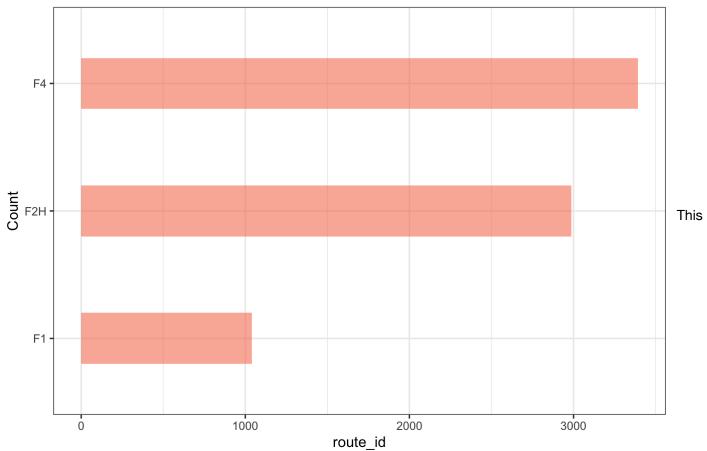
The end point time for route '64'



This graph is as same as the above one. It shows the route '64' distribution arrival times at the terminal, with the highest arrival time at 8 a.m. Which means '65' route from the start to the end point almost spend an hour.

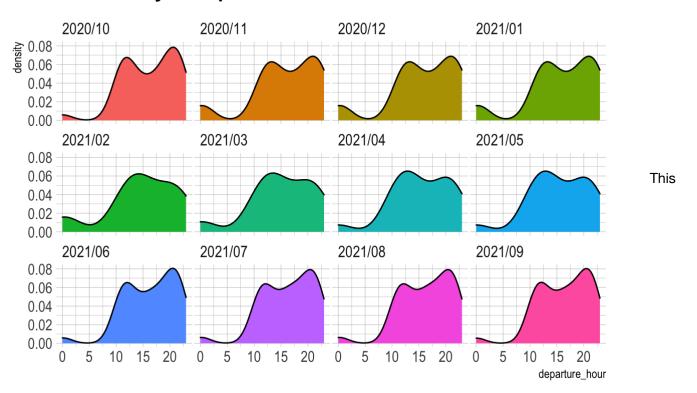
##Ferry





graph shows the count of different 'route'. As you can see, the 'F4' route has the most count, which means the 'F4' count has high flow rate.

The density of departure time for different month



graph shows the density of ferry's departure time for different month. In those figures, different month does not have too much changes.