# Current timing: approx 2 min

# Intro

* The MBTA transports about 1.3 million people on a given weekday. Using ridership figures from the past two years, you can get a reasonably accurate prediction of ridership at any time for any station. These models break down when weather conditions force people to break routine. We set out with the goal of visualizing how ridership changes for different types of weather and different severity levels.

# General About stations

You can see some intuitive patterns by looking at select stations

* Oak Grove, for example.; Since it’s in a heavily residential neighborhood on the end of the Orange Line, almost all of its entries consist of early morning commuters.
* State Street is the polar opposite since it lies in the commercial center of Boston and the majority of its entries occur at the end of the business work day.
* South Station acts as a hub and is a hybrid type of station with heavy traffic during both rush hours.
* These are not earth-shattering conclusions. Having the data reflect our basic intuition about public transportation provides the user with a good introduction to visualizing the MBTA before diving into the weather data.

# Weather Insights

* One of our motivating goals was to determine at what point does snow start to affect the number of people riding the T. For trace amounts up to four inches, we didn’t see an appreciable drop in ridership. Above four inches of snow, it’s clear to see that ridership is much less than when there is no snow. Keep in mind that we have less data for days with greater amounts of snowfall.
* Another reasonable question might be whether stations in residential areas are more affected by snow than stations closer to downtown Boston. The question is hard to answer by looking at the ridership plots alone, so we’ve encoded the map to reflect which stations show similar loss in ridership for a user-selected amount of snow. (Select a station, use arrows to highlight two similarly-shaded stations, also highlight the scale if possible). Note that there isn’t a large difference between *Station A (residential, TBD)* and *Station B (commercial, TBD)**as indicated by the shading.*
* We also found that weekend traffic saw large decreases for even minimal amounts of snow. This differs from what we saw for weekdays and suggests that weekend routines are less compulsory and are much more sensitive to snowfall.