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DS4200 / Professor Yang

Summary of Visualization Design

Our website: <https://ibabaig.github.io/ds4200-final/>

Static Visualization #1: Network Graph of MBTA Routes

This graph visually represents the different routes of the MBTA, including the orange, blue, green, and red lines. Stops are depicted as nodes, with lines connecting them to illustrate routes. Gray nodes indicate transfer points between multiple lines, facilitating easy navigation across the transit network.

Static Visualization #2: Average Flow Bar Graph

This bar graph showcases the average flow of passengers across the main MBTA lines: Green, Red, Blue, and Orange. Each bar corresponds to a specific line, with height indicating the average passenger flow. The graph highlights the popularity of each line, with the Green Line being the most frequented and the Orange Line the least.

Static Visualizations #3: Heatmap Visualizations of Passenger Ons and Offs

Heatmaps depict passenger activity across different time periods and routes, scaled to 10 million. They reveal peak demand periods and popular routes, with colors ranging from dark purple (low activity) to pale yellow (peak activity). The heatmaps offer insights into commuting patterns and enable the identification of busy routes and times.

Interactive Visualization #1: Bubble Chart of Average Flow at Stops

This interactive chart displays the average flow of people at different MBTA stations across the four lines. Bubbles represent stations, with size indicating average flow volume and color representing the respective route lines. Users can hover over bubbles for details and use a dropdown menu to focus on specific lines, facilitating exploration of flow patterns.

Interactive Visualization #2: Bar Chart of Total Ons/Offs Across Time Periods

This chart shows total ons and offs of passengers across different time periods for each MBTA line, using a stacked bar graph. Users can select specific lines using an Altair selection tool and hover over bars for precise values. It provides insights into when each line is most used throughout the day.