Q. What is the project focus/overall goal?

The primary focus of this project is to develop a data driven report based on an analysis of MBTA bus data that examines service performance trends by geography. This information will provide important insights on potential service level disparities and their impacts on various demographic groups, thereby contributing to the larger goal of enhancing public transit equity and effectiveness in Boston.

Q. Why is this project important?

Improved Public Transportation: Understanding the performance of the MBTA bus system is crucial for ensuring efficient and reliable public transportation. By analyzing bus performance data, we can identify areas where improvements are needed, ultimately leading to better transit services for residents.

Equity and Accessibility: Analyzing service performance by geography and demographics helps identify potential disparities in access to public transportation. This project can shed light on whether certain neighborhoods or demographic groups face challenges in accessing reliable bus services, which is critical for promoting equity and social inclusion.

Data-Driven Decision Making: By using data to inform decisions, transit authorities can allocate resources more effectively, prioritize improvements in areas with the greatest need, and make evidence-based decisions to enhance overall service quality.

Economic Development: Public transit is a backbone of urban economic activity; hence, improving its efficiency and equity can foster economic development.

Environmental Sustainability: By analyzing and proposing improvements for bus services, the project contributes towards promoting public transit as a greener mobility option.

Q. What type of data will you collect or be analyzing?

MBTA Bus Data: Arrival and departure times, bus stop locations, ridership, etc.

Demographic Data: Information about the communities served like income levels, race, ethnicity, age, etc., obtained from census data.

Additional Data: Weather data, traffic data, epidemiological data, etc., for the extension projects.

Q. What are potential limitations of the project?

Data Completeness: The accuracy and completeness of the data may vary, which could introduce biases or inaccuracies in the analysis.

Temporal Scope: The one-month data scope (January 1, 2022 - January 31, 2022) might not capture seasonal or other temporal variations in bus service performance and ridership.

External Factors: Numerous external factors like weather conditions, traffic congestion, road construction or special events can affect bus service performance and may not be fully accounted for in the analysis.

Q. What are your next steps? Divide tasks amongst the team.

Data Collection and Preprocessing: Gather the necessary data and clean it for analysis
(Manushi and Eason)

Preliminary Analysis: Conduct initial analysis to understand the data characteristics and answer base questions
(Chandrahas and Munir)

Extension Proposal Development: Develop proposals for extension projects based on the initial findings and interests
(Patrick)