

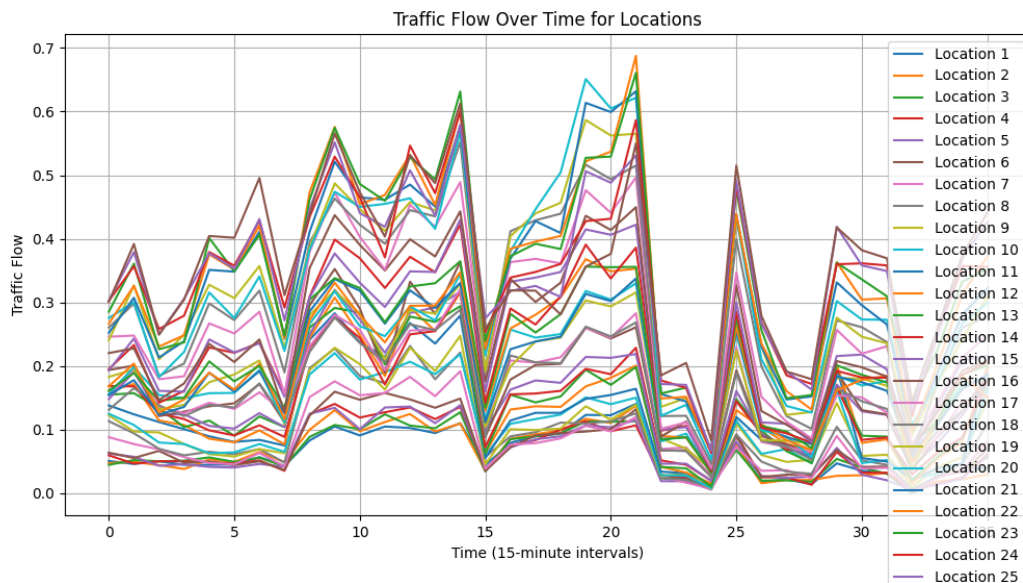
## INDIVIDUAL ASSIGNMENT

ARIANA ROCHA (Andrew ID: afrocha)

DUE: 23 SEP 2024

### Phase 2: Exploratory Data Analysis (EDA) on Time Series Data (25 Points)

**Objective:** Perform EDA on the data streamed from Kafka, focusing on understanding the temporal patterns in the traffic flow data.



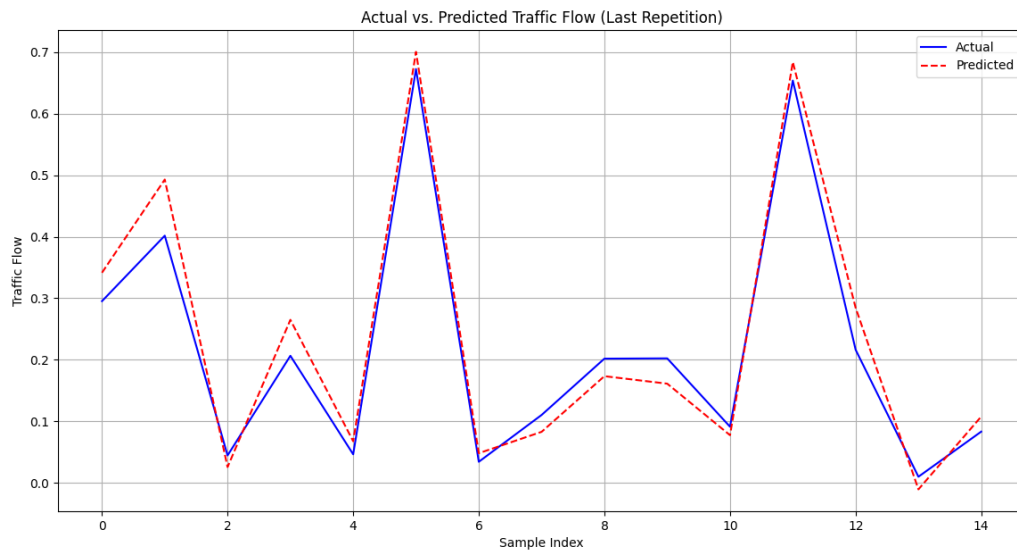
**Explanation:** Graph plots traffic data patterns over the last 450 minutes that coincide with expected traffic flow. There are noticeable decreases in traffic flow at the 15 and ~20 increment marks likely depicting phenomenon consistent with rush hour patterns.

### Phase 3: Basic Traffic Flow Prediction (35 Points)

**Objective:** Develop a simple predictive model to forecast traffic flow using the features derived from the time-series data

Average traffic flow for all of the points across all locations, trained over 100 repetitions.

Weakness to the model is that I am possibly overfitting based on one month worth of data.



Predicted traffic flow for the next 15 minutes: 0.11