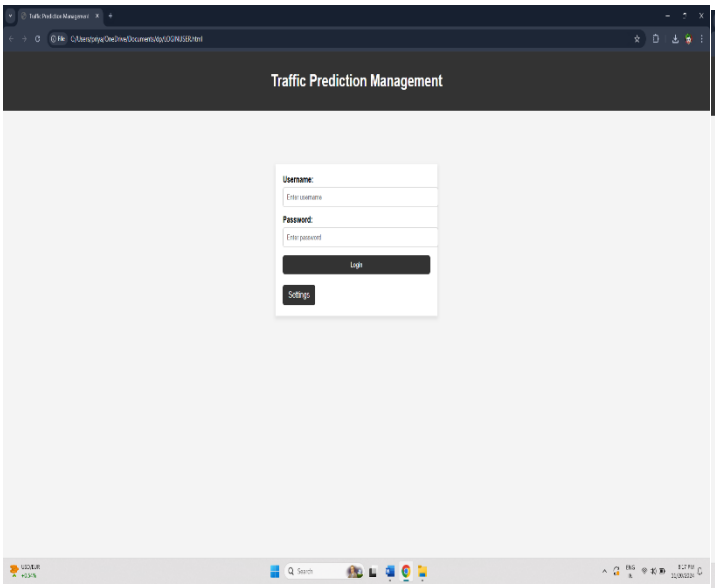
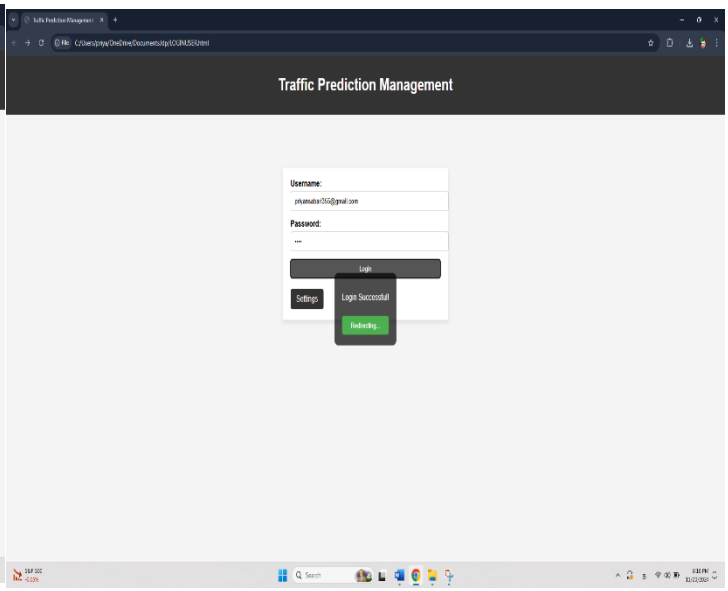
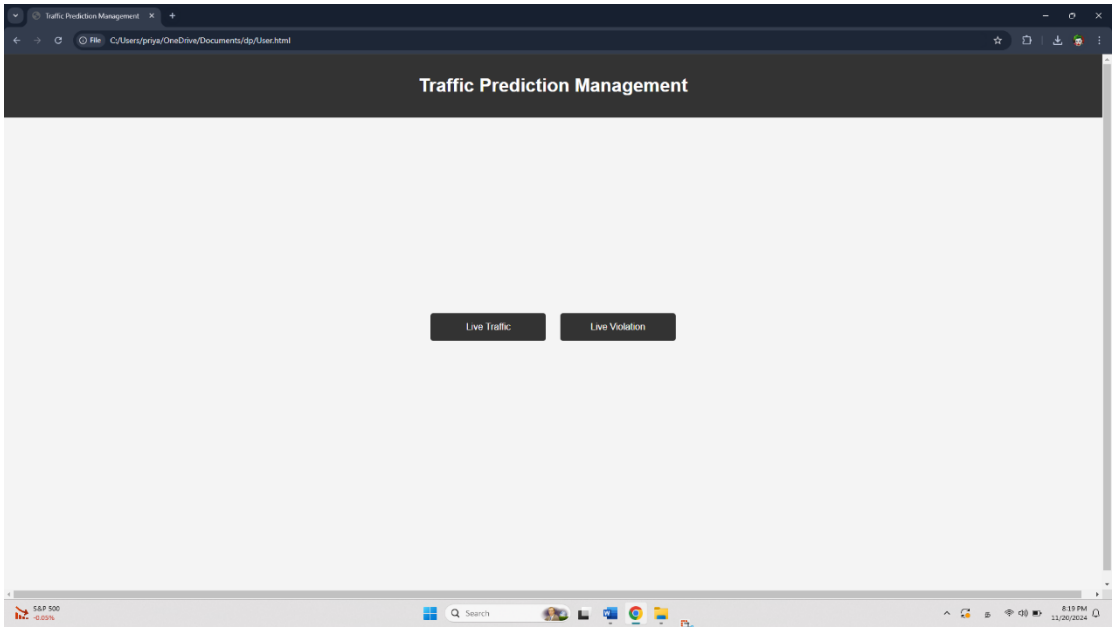
APPENDIX 2

SCREEN SHOTS

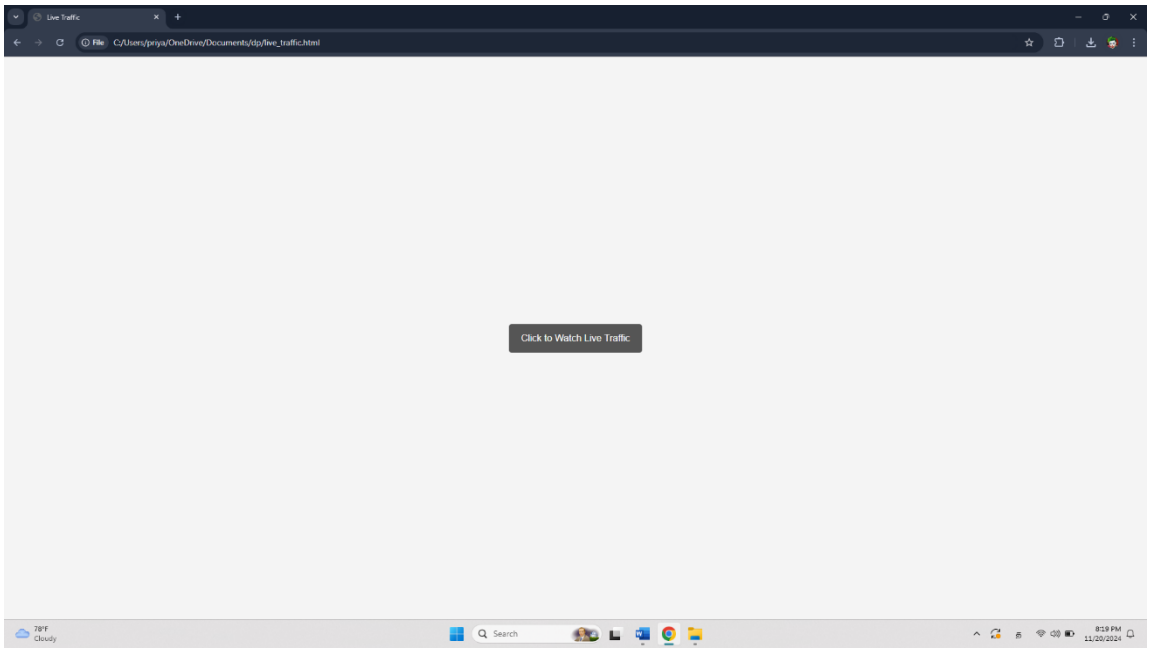




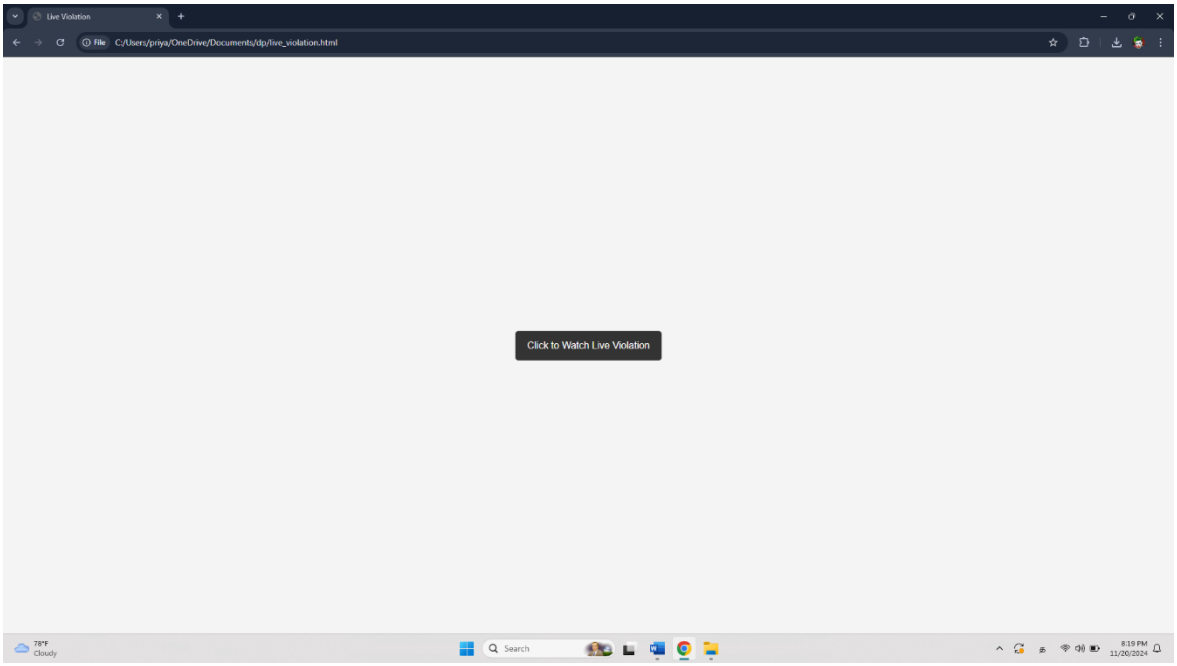
Login



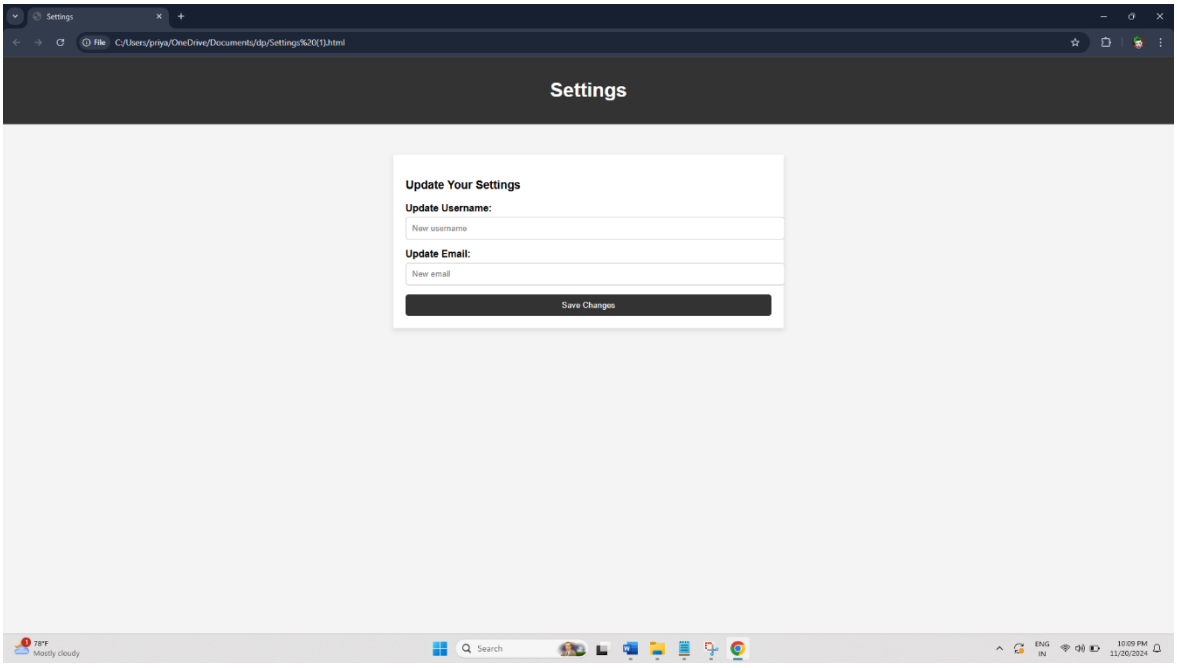
User



Live Traffic

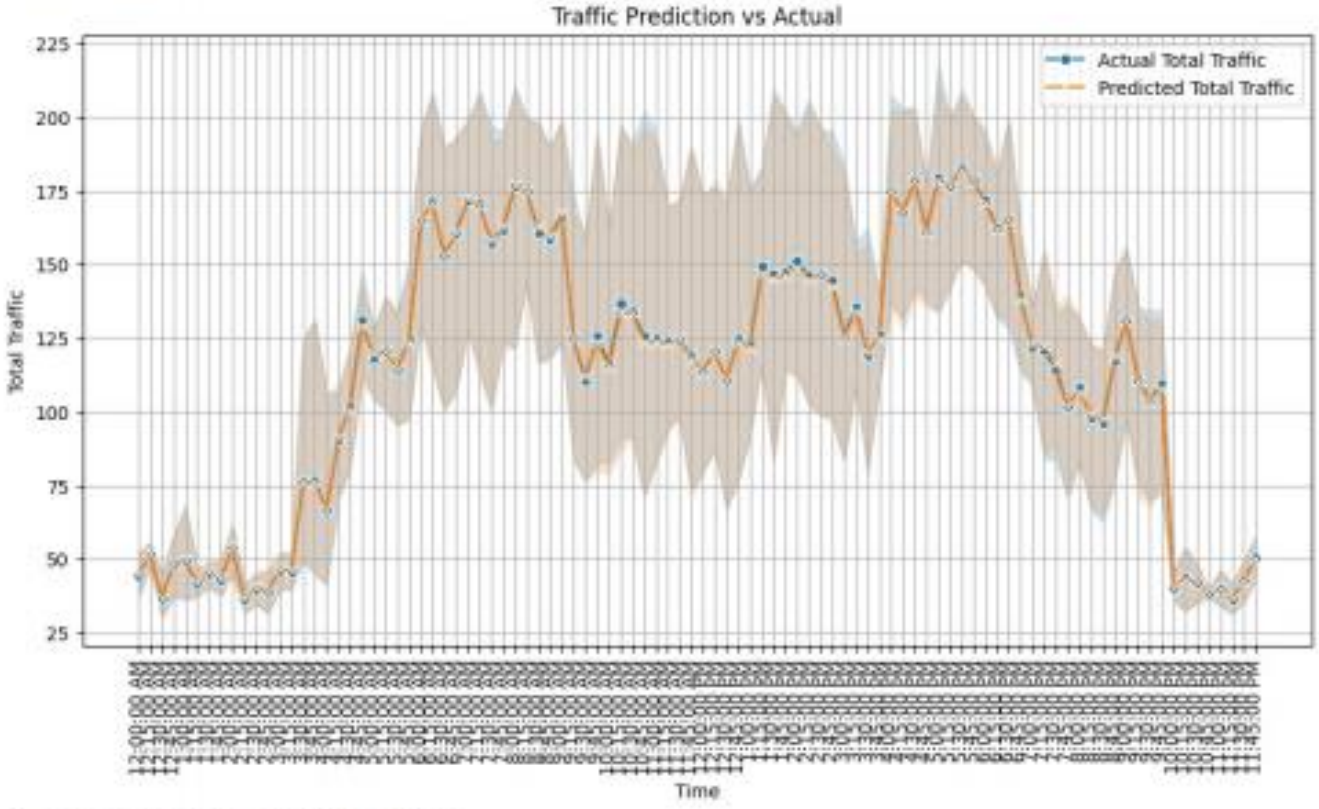


Live Violation



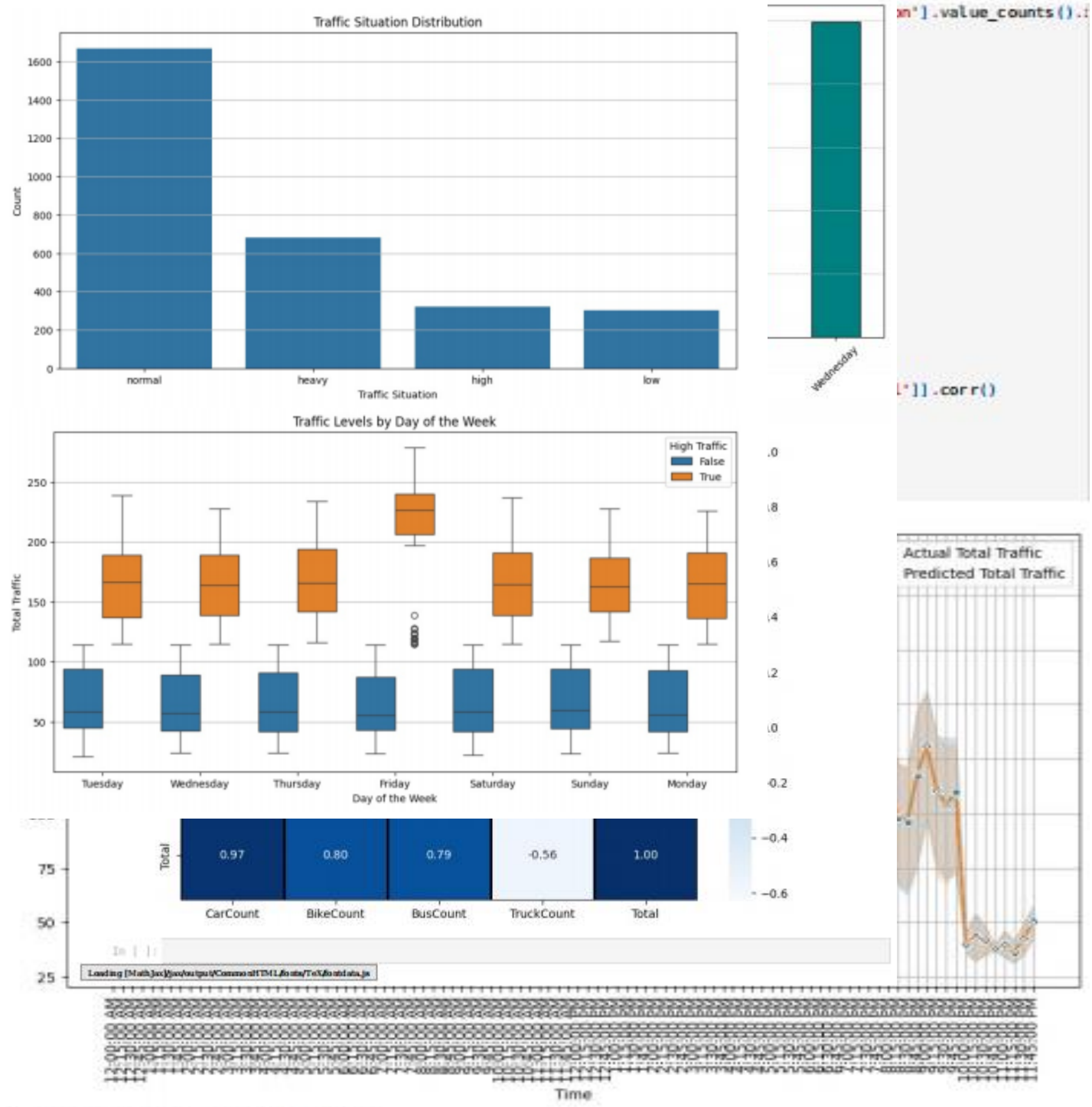
Settings

```
sns.countplot(data=traffic_data, x='Traffic Situation', order=traffic_data['Traffic Situation'].value_counts().i
plt.title('Traffic Situation Distribution')
plt.xlabel('Traffic Situation')
plt.ylabel('Count')
plt.grid(True, axis='y')
plt.show()

# Analyze High-Traffic Hours
traffic_data['High Traffic'] = traffic_data['Total'] > traffic_data['Total'].mean()

plt.figure(figsize=(12, 6))
sns.boxplot(data=traffic_data, x='Day of the week', y='Total', hue='High Traffic')
plt.title('Traffic Levels by Day of the Week')
plt.xlabel('Day of the Week')
plt.ylabel('Total Traffic')
plt.legend(title='High Traffic')
plt.grid(True, axis='y')
plt.show()

# Correlation Heatmap for Vehicle Counts
correlation_matrix = traffic_data[['CarCount', 'BikeCount', 'BusCount', 'TruckCount', 'Total']].corr()

plt.figure(figsize=(8, 6))
sns.heatmap(correlation_matrix, annot=True, cmap='coolwarm', fmt='.2f')
plt.title('Correlation Matrix for Vehicle Counts')
plt.show()
```

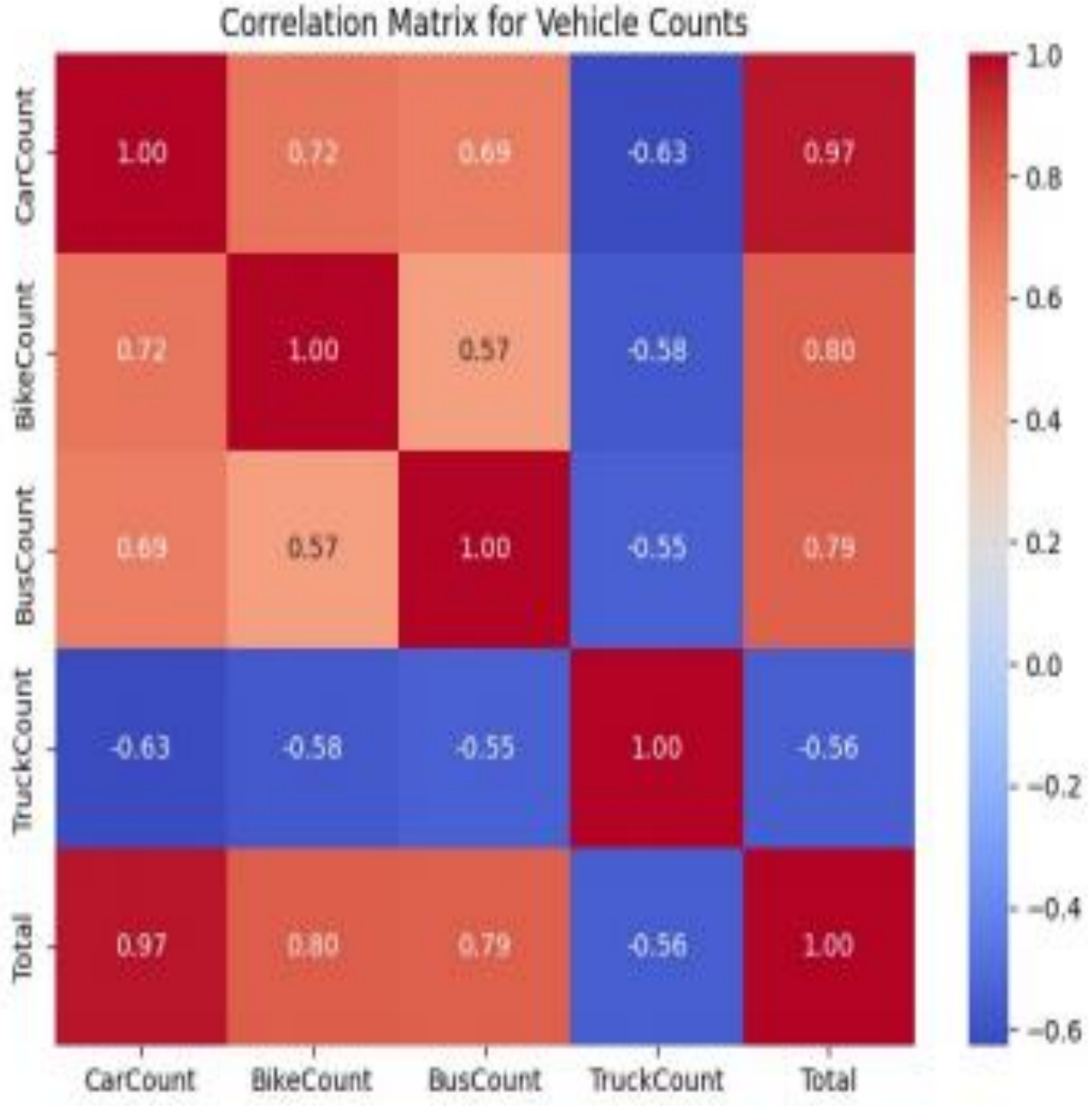



```
Mean Squared Error on Test Data: 12.63
```

Prediction vs Actual

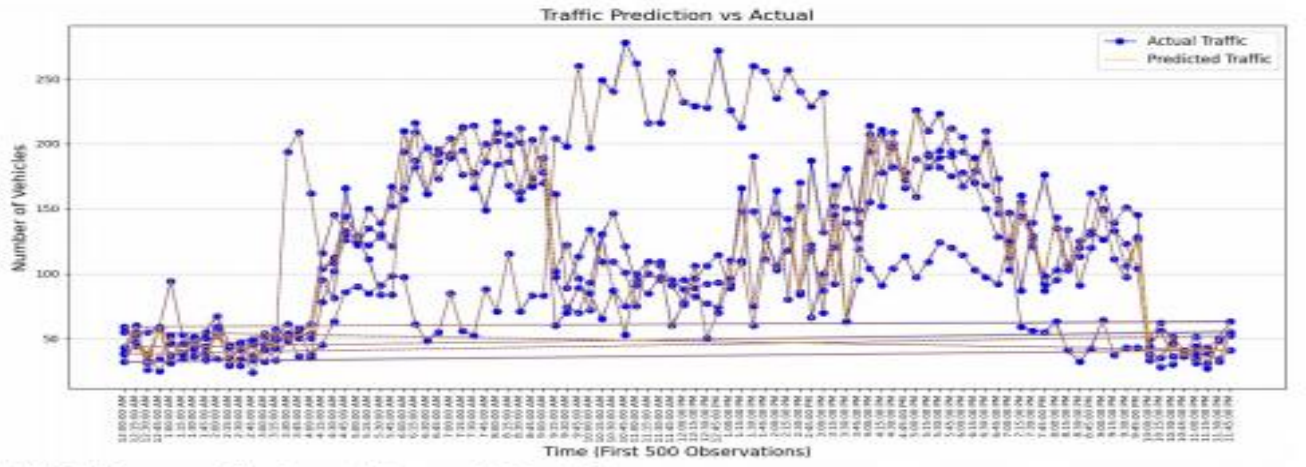


Distribution of Data

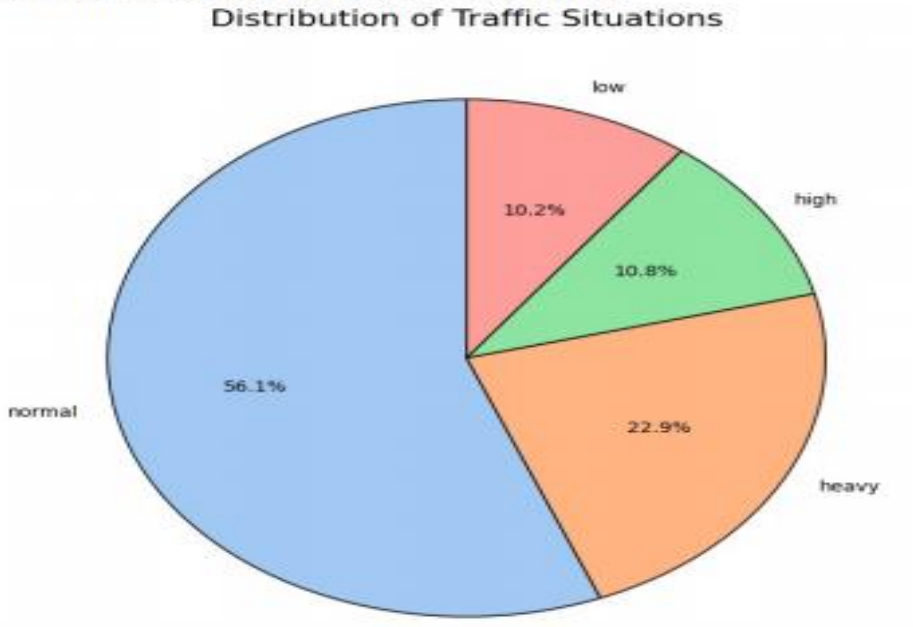


Correlations for Vehicle

```python
# 3. Correlation Heatmap for Vehicle Counts with Plain Language
correlation_matrix = traffic_data[['CarCount', 'BikeCount', 'BusCount', 'TruckCount', 'Total']].corr()

plt.figure(figsize=(10, 7))
sns.heatmap(
    correlation_matrix,
    annot=True,
    cmap='Blues',
    fmt='.2f',
    linewidths=1,
    linecolor='black'
)
plt.title('How Different Vehicle Counts Relate to Total Traffic', fontsize=16)
plt.show()
```




```
Model Performance: Mean Squared Error = 12.63 vehicles.
```



Distribution of Traffic

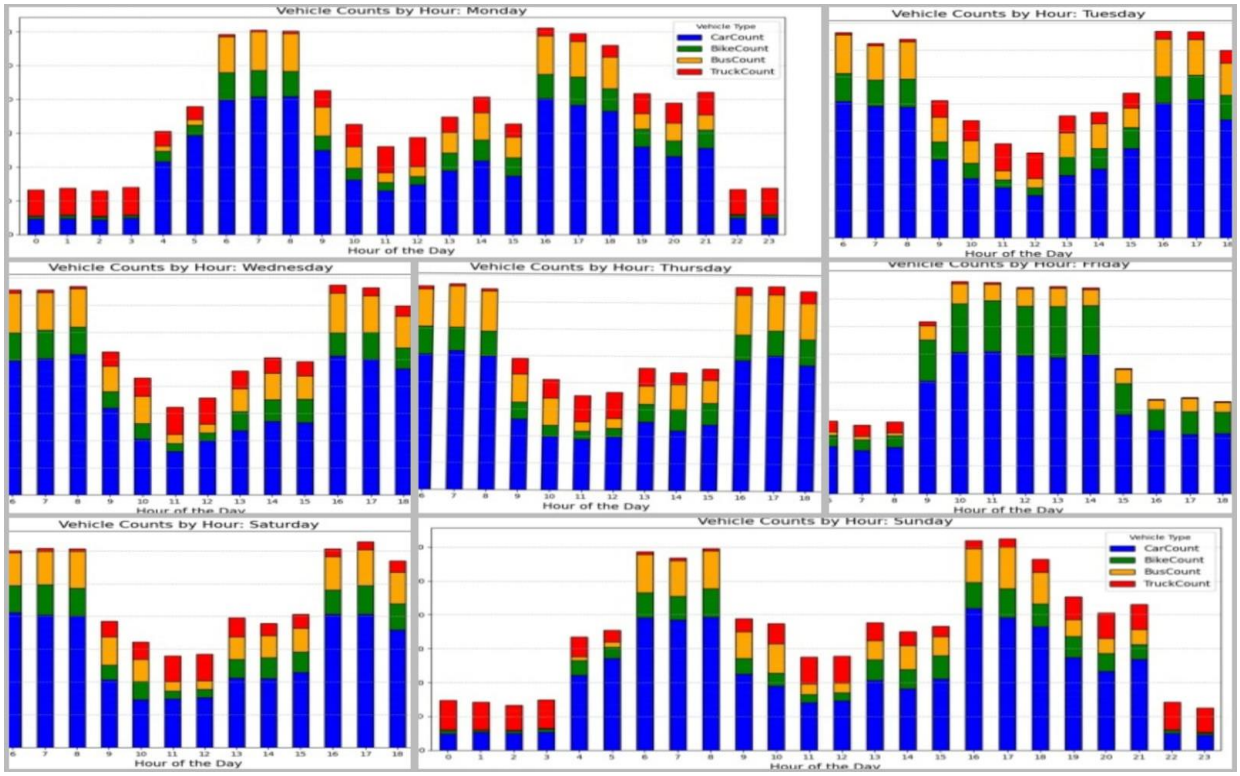
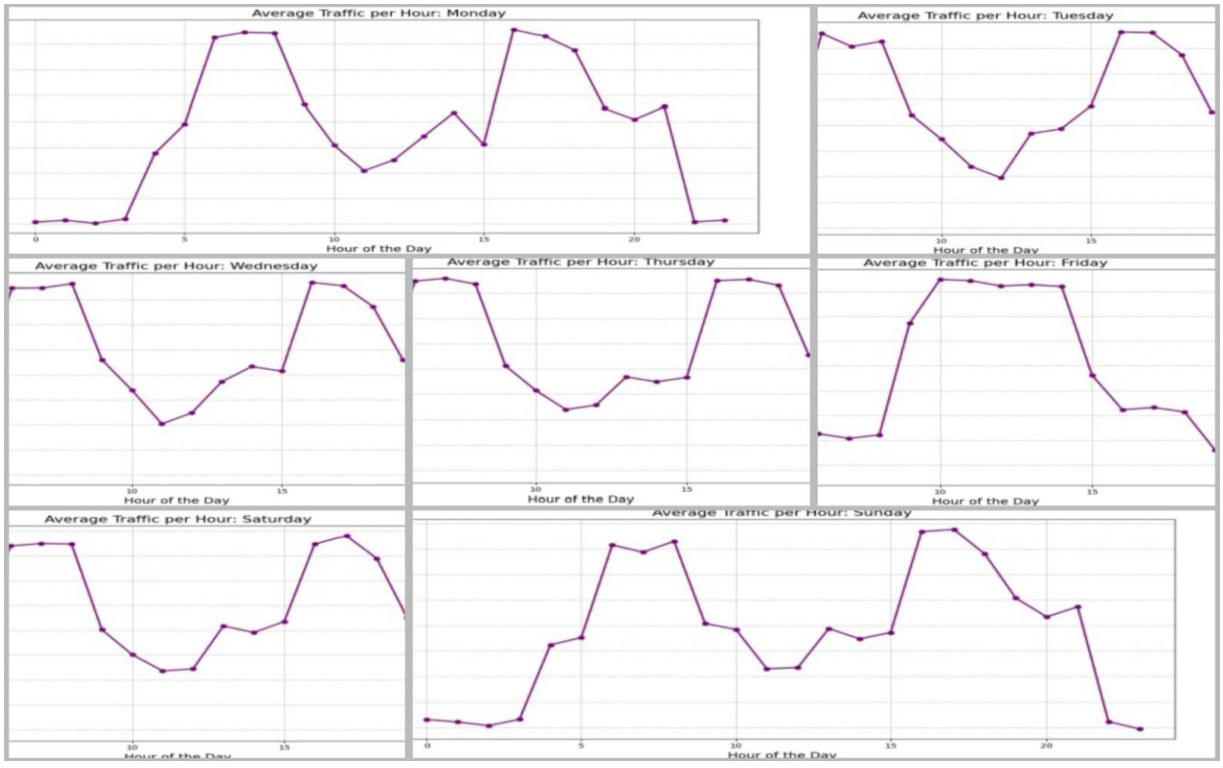


Figure.No.A.2.5 Vehicle Count per Hour



Average Traffic per Hour