# Traffic Cluster Analysis

Project Report for Dinas Perhubungan Kota Depok

# Problem

How can we leverage available information to inform public transport planning decisions?

# Solution

Conduct cluster analysis to identify traffic congestion patterns in the city as basis in developing traffic management strategies to alleviate congestion.

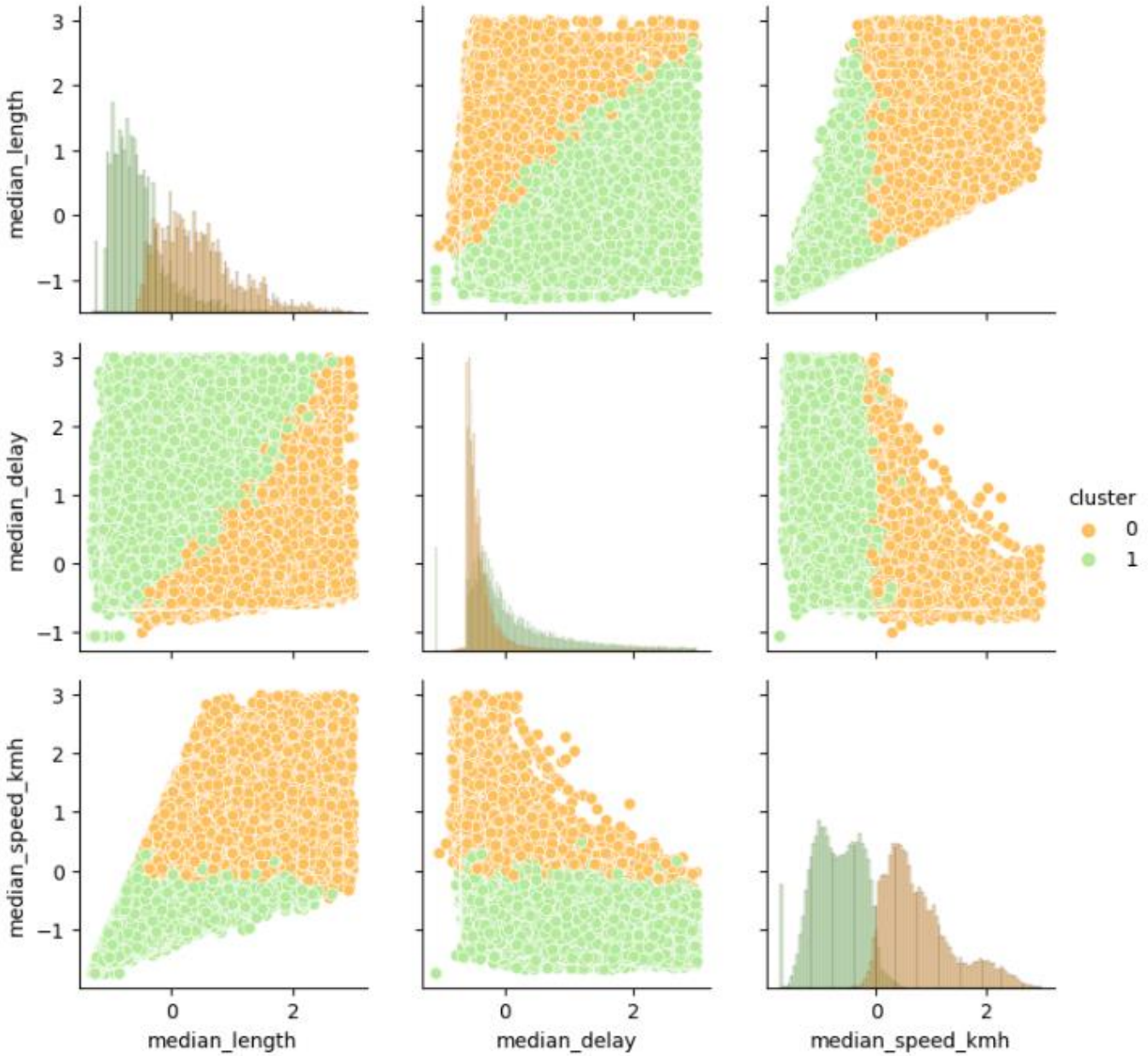
The dataset used in this project covers a timeframe of 6 July to 6 September 2022, and was sourced from the Waze for Cities crowdsourced data.

# Following steps are performed to meet modeling needs and enhance quality:

- Removing missing values, duplicates, and outliers
- Feature selection and scaling
- Encoding categorical variables
- Analyzing the optimal number of clusters
  (using Elbow method and Silhouette method)

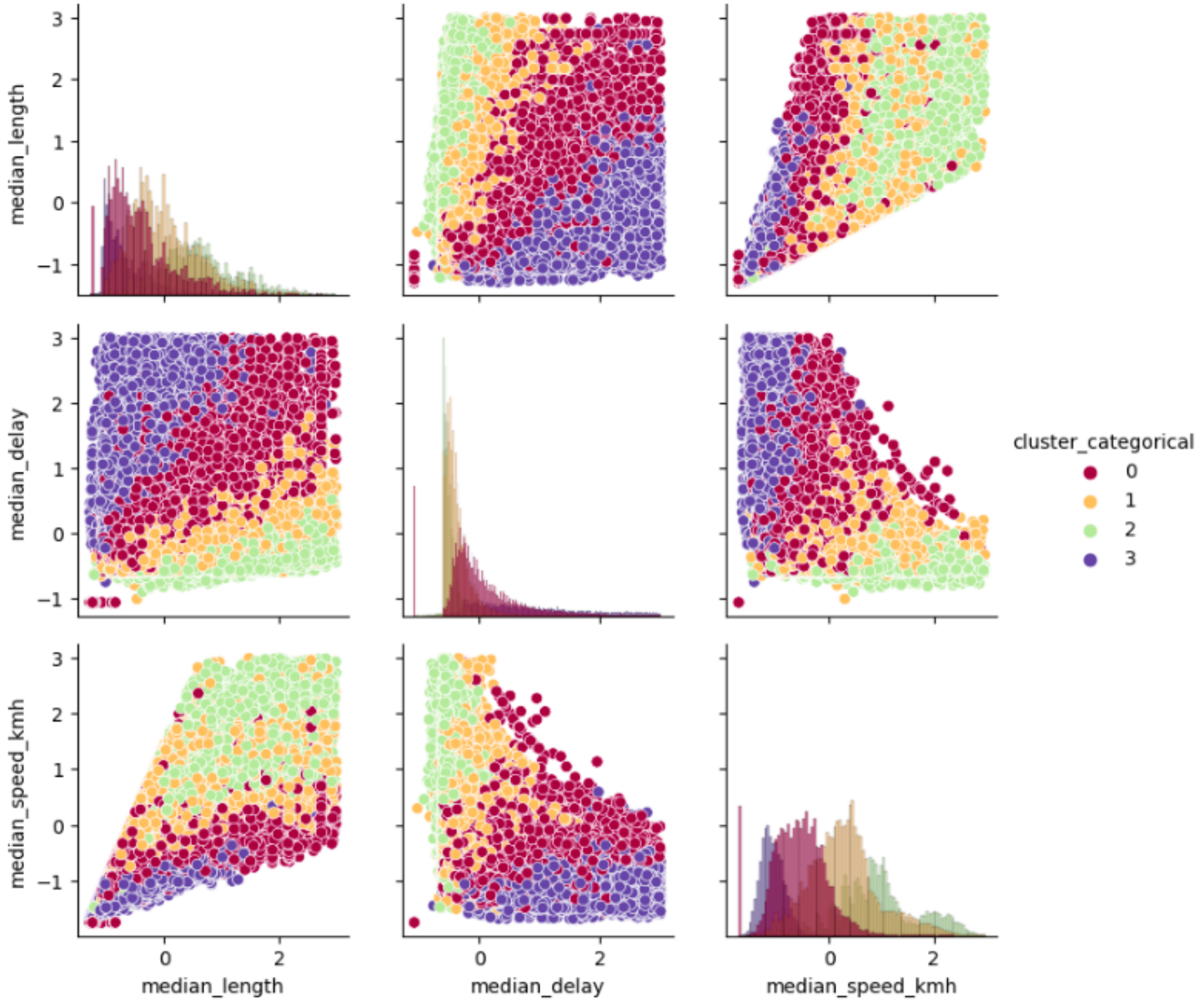
# The resulting clusters showed the following patterns:

(using K-Means algorithm)



# Additional clustering to help identify high-priority areas:

(using K-Means algorithm)



# Open for Discussion: Model Deployment

By deploying the clustering model in a real-time analytics dashboard, we can gain a better understanding of traffic patterns across the city and make data-driven decisions to reduce congestion. This tool can be used by government officials and other stakeholders to guide infrastructure investments and policy decisions.

# Thank you