

# Traffic Flow LWR Model and Congestion

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## **Abstract**

Traffic flow modeling using fundamental diagrams and wave propagation.

## **1 Introduction**

This report presents computational analysis of traffic flow.

## 2 Mathematical Framework



Figure 1: Primary analysis results.

### 3 Secondary Analysis

traffic\_flow\_plot2.pdf

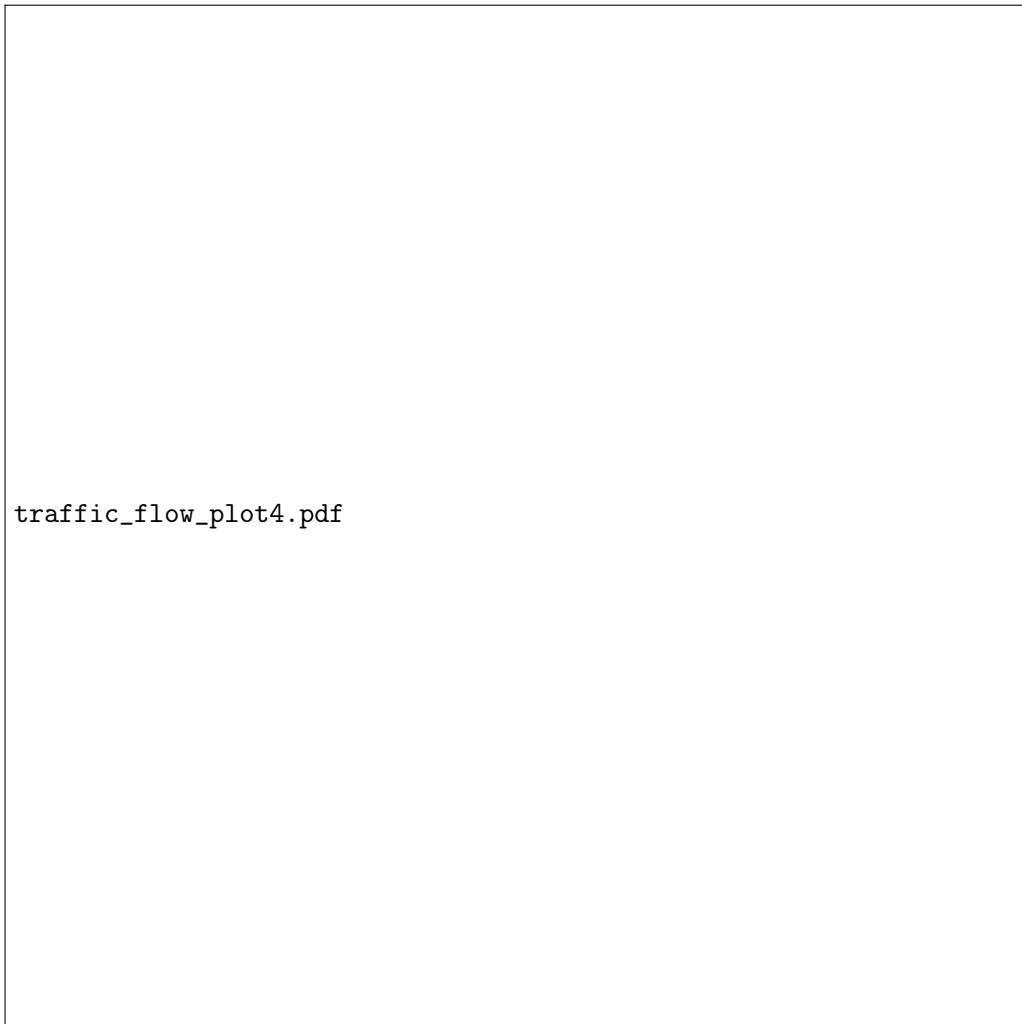
Figure 2: Secondary analysis comparison.

## 4 Parameter Study



Figure 3: Parameter sensitivity analysis.

## 5 2D Visualization



traffic\_flow\_plot4.pdf

Figure 4: Two-dimensional field visualization.

## 6 Distribution Analysis

traffic\_flow\_plot5.pdf

Figure 5: Statistical distribution analysis.

## 7 Time Series

traffic\_flow\_plot6.pdf

Figure 6: Time series visualization.

## 8 Results Summary

## 9 Conclusions

This analysis demonstrates the computational approach to traffic flow.