

Midterm Presentation of Project

Traffic Control Modeling Project

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JHU AMS 2012 FALL

Last Compiled on October 17, 2012

Outline

Introduction

How to deal with it?

Tools

Arguments from Scale

Graphical Methods

Basic Optimization

Brief Intro about Sponsor and Background

The Shanghai Municipal Peoples Government
The Transportation and Highway Administration

1. SMPG is focusing on improving the quality of peoples' lives
2. THA is one of the departments in SMPG, is responsible for improving the quality of roads and highways facilities, as well as solving the traffic congests
3. Shanghai receives more and more attention from society and organizations for its worsening traffic condition
4. THA gathers rich intellectual resources and aims at developing health Transportation Flow Systems

Problem Statement

1. Current Condition:

- 1.1 traffic congest is now an urgent issue to tackle in the city of Shanghai
- 1.2 policy constitutor wants to know the suitability of Traffic Control Policy
- 1.3 only Beijing has relative experience of this kind of policy

2. Analysis of Problem:

- 2.1 average speed and single line traffic
- 2.2 combine the theoretical models and real-world statistical data
- 2.3 focusing on main roads and highways in main districts

3. Difficulties:

- 3.1 for sponsor: limited capability to conduct such statistical research and modeling with existing data

Basic Principles

1. Use average speed and single line traffic as the standard variables to evaluate clearness of the roads
2. Use the quantitative and qualitative review of Beijing's Traffic Control data as benchmark and base for prediction
3. Use theoretical models and real-world statistical data to find the function between average speed and single line traffic
4. Focusing on main roads and highways in main districts
5. Regard the difference between average daily data and holiday data as white noise
6. Refer to the public data as additional source

Creating Effective Tables

Example: Cost of Packaging

Example: The Nuclear Mission Arms Race

Example: Maintaining Inventory