

Urban Transportation Planning

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Foreword

This book contains course notes and assignments for a senior / graduate class in transportation planning and elementary travel modeling. A description for this course is:

An advanced course in urban transportation planning. Urban transportation as the outcome of an economic system, details and techniques for four-step travel model development, applications of travel models within a legal and regulatory context.

The book is organized into six units:

1. Building Blocks
2. Trip Generation
3. Trip Distribution
4. Mode and Destination Choice
5. Network Assignment and Validation
6. The Planning Process

It may seem strange to put the chapter covering the planning process at the end of the course, after students have learned the details of quantitative travel modeling. The purpose for this is that I assign a term project where the students build and calibrate a four-step model as they learn the techniques to do so, and then complete an alternatives analysis using their models. To create the time and space to do this project, we cover “softer” and conceptual topics in the second half of the course.

Chapter 1

Building Blocks

Chapter 2

Trip Generation

Chapter 3

Trip Distribution

Chapter 4

Mode and Destination Choice

Chapter 5

Network Assignment and Validation

Chapter 6

The Planning Process