Instructor: Konstadinos G. Goulias, 231P Sackett Building -- 863-7053, 205 TRB - PTI -- 863-7926

Goals: Gain familiarity with the systemic and analytical approaches used in transportation planning. Understand the use of models for description of demand and supply in transportation, land use, activity analysis, forecasting of travel demand, and decision making by public agencies. Become aware of GIS-based, statistical, and simulation tools and methods for transportation analysis.

Textbook/References:
3. Other research articles on as needed basis

A. TOPICS

TRANSPORTATION SYSTEMS AND NETWORKS – OVERVIEW (Week 1)

Transportation planning and modeling, systems analysis, attitudes, perceptions, and travel behavior, transportation policies and the need for scenario creation models and methods
OW Chapter 1 and Chapter 2
KG Chapter 1

TIME USE AND WAYFINDING (Week 2)

Time space prisms, data and analytical methods, rational economic behavior and satisficing behavior
KG – Chapter 2
KG – Chapter 3.

LAND USE, URBAN FORM, AND LIFESTYLES (Week 3)

Land use models, urban simulation models (URBANSIM, POLIS, METROPOLIS, DRAM/EMPAL models)Simulation models – advantages and disadvantages. Relationship between travel behavior and urban form.
KG – Chapter 5
KG – Chapter 6

GOODS MOVEMENT (Week 4)

Models, methods, issues, and potential solutions.
KG – Chapter 4

DATA ISSUES (Week 5)

Data types and methods
OW – Chapter 3
KG – Chapter 7
Other reports from KGG

URBAN TRANSPORTATION MODELS (Week 7, 8, 9, 10, 11, 12)

Urban Transportation Planning System, Aggregate Models, Disaggregate Models, Sequential and Simultaneous Equilibrium Methods, Direct Demand models
OW – Chapter 4
OW – Chapter 5
OW – Chapter 6, 7, 8
OW – Chapter 10, 11, 12

GUEST SPEAKERS (weeks 13, 14)

Telecommunications and travel – data analysis in Seattle
CentreSIM model system