

Panel Discussion – Impact of Travel Demand Forecasting



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Forecasting Urban Travel

Past, Present and Future

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- Forecasting Urban Travel presents in a non-mathematical way the evolution of methods, models and theories underpinning travel forecasts and policy analysis, from the early urban transportation studies of the 1950s to current applications throughout the urbanized world. From original documents, correspondence and interviews, especially from the United States and the United Kingdom, the authors seek to capture the **spirit and problems** faced in different eras, as changing information requirements, computing technology and planning objectives conditioned the nature of forecasts.

Three “Eras” of Regional Planning in Chicago

1985-1995: The Venerable CATS - 1995-2005: Conformity Wars - 2005-2015: Transparency and Innovation



- **the spirit and problems...**
 - information requirements
 - computing technology
 - planning objectives

1985-1995: The Venerable CATS



- Information requirements
 - ✦ One trend-based future land use scenario
 - ✦ Daily person trips
 - ✦ Total traffic volume on alternate paths
- Computing technology
 - ✦ Scientific calculator
 - ✦ Mainframe computer
 - ✦ Graph paper
- Planning objectives
 - ✦ New major capital projects: expressways and rail

1995-2005: Conformity Wars



- Information requirements
 - ✦ Multiple trend-based future land use scenarios
 - ✦ Time-of-Day person trips
 - ✦ Class-specific traffic volume on different networks
- Computing technology
 - ✦ Desktop applications
 - ✦ Unix Workstations
 - ✦ Computer-aided graphics
- Planning objectives
 - ✦ Produce inputs for air quality modeling
 - ✦ New major airport, expressways and rail

2005-2015: Transparency and Innovation



- Information requirements
 - ✦ Multiple policy-driven future land use scenarios
 - ✦ Activity-based person demand
 - ✦ Dynamic Traffic Assignment
- Computing technology
 - ✦ Open source applications
 - ✦ Clustered modeling servers
 - ✦ Geographic Information Systems (GIS)
- Planning objectives
 - ✦ Economic benefits of transportation investment

The coming decade?



- Information requirements
 - ✦ Daily activity patterns instead of traditional “land use”
 - ✦ Integrated activity-based and dynamic network models
 - ✦ Agent-based freight modeling
- Computing technology
 - ✦ Survey “apps”
 - ✦ Big data
 - ✦ Real-time information and autonomous operations
- Planning objectives
 - ✦ Performance-based programming and funding

Stay Tuned!