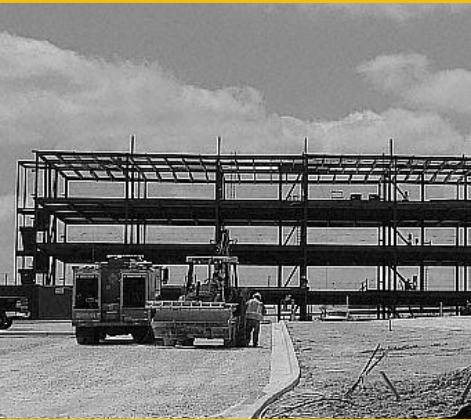


Presented to:
Land Use Model Working Committee

BUILDING AN INTEGRATED FSUTMS/LAND USE MODEL FRAMEWORK INTEGRATION AND FEEDBACK DISCUSSION



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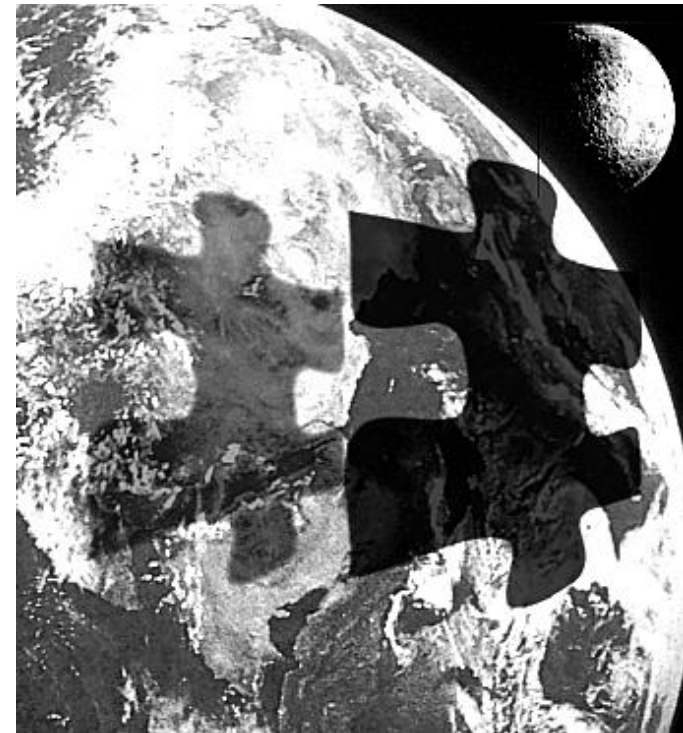
Reminder of the Last Webinar

Accessibility Considerations



- Accessible to what?
- By what means?
- Causality and order of operation
- Lags
- Data availability
- What measures?

Factors Impacting Location Choice



- Accessibility
- Quality
- Amenities
- Policy
- Services
- Price
- Cost
- Return on Investment (Price-Cost)
- Affinity

Ways to Think About These ...



- Exogenous- What is “static” in an alternative?
- Endogenous- What changes in the alternative that impacts its outcome/convergence?

Exogenous or Endogenous?



- Accessibility
- Quality
- Amenities
- Policy
- Services
- Price
- Cost
- Return on Investment (Price-Cost)
- Affinity

Accounting for Accessibility



- It is always considered to some degree in land use forecasts
- More complex policy questions demand a more nuanced consideration of land use / transport interactions
- Hence various feedback options

How is feedback accomplished now



- Land use planners pretty much know the major transportation projects either proposed
- Impacts and development potential areas are modified to reflect expected changes in land use
- Very short-term trends weigh heavily in the calculations
- Becomes self-fulfilling prophecy

More Detailed Considerations Require More



- What about development types not present in area (TOD, etc.)?
- When will the development occur?
- What types of uses and households will live in the area?
- What does the development do to the development potential elsewhere?

The short of it ...



- Tradeoffs are complex
- Occur at different times and at different rates
- Growth is incremental
- Redevelopment pressures increase as an area reaches “build out”
- Feedback provides the best mechanism to capture the interactions and demands of transport and land use

How Should Feedback Occur?



- **Integrated Models Use Differing Approaches**
 - Simple data passing
 - Convergent data passing
 - Evolution over time
- **More complex approaches increase model run times**

Consider



- Land use includes known accessibility (no feedback)
 - 1 year worth of data, 1 model “iteration”
- A single year transport/land use (convergent feedback)
 - 1 year worth of data, multiple model iterations between transport & land use models
- Evolution model (non-convergent or convergent)
 - Multiple years (1 or 5 yr increment) and multiple land use model runs

If the FSUMTS Model Runs in an Hour ...



- Land use includes known accessibility (no feedback)
 - 1 hour + land use model run time
- A single year transport/land use (convergent feedback)
 - (1 hour + land use) * iterations
- Evolution model (non-convergent or convergent)
 - (1 hour + land use) * iterations * step years

Open Discussion- Issues and Constraints



- Run time
- Model Convergence
- Comparison of Alternatives
- One Solution May Not Fit All Needs
- Framework Alternatives Each Provide Opportunities and Challenges