Overview

• Where we are today
• Cube-Voyager integration and standardization
• Run times
• Handling the future
Where we are today

• Regional calibrated models have been delivered to NFTPO (Jacksonville) and to District Seven (Tampa Bay)

• NFTPO’s LRTP process is now underway
  – Introductory staff/stakeholder training
  – Refinement of Cube Catalog user interface
  – AB model ongoing validation and refined calibration
    • More than 2000 count locations, by 4 time periods
    • 41 screen lines

Where we are today

• Tampa Bay model support contract in works...
  – Adjust and augment auxiliary models
    • Trucks, IE/EI/EE, special gen., airport
  – Validation/refined calibration
  – Sensitivity testing on policy
  – Future land use/socioeconomic forecasts
  – Performance measure development (MAP 21)
  – Staff/stakeholder training
Cube Catalog User Interface

DaySim

DaySim Step

1. Build Highway Skims
2. Average Previous and Current Iterations Highway Skims
3a. Highway Skims to DaySim Format
3b. Peak Transit Skims to DaySim
3c. Off Peak Transit Skims to DaySim
4. Run DaySim (A MSDOS window will appear)
5a. DaySim Auto Trips to Vehicle Trip Tables
5b. DaySim Transit Trips to Transit Trip Tables
5c. Converted to Cube Matrix
6. Restart Cube Cluster
7. Close Cube Cluster
Configurable Keys

AB Model Run Time Dynamics

- Population-based microsimulation procedures loop over individual households, persons, tours and trips
- DaySim does NOT loop on combinations of zones/zone pairs, population segments, trip purposes, time of day periods
- Run time depends mainly on the number of households and is not very sensitive to the number of zones, demand time periods or population segments distinguished in the simulation
- More micro-processors for distributed processing provide faster run times
Example Run Times

- **Modeling workstation:**
  - 32 processing cores, Uses 16 GB RAM
  - Cube Cluster for network assignment

- **NFTPO (Jacksonville) -- 1.3 million pop.**
  - Each DaySim iteration: 55 minutes
  - Full iteration: 2 hours (4 periods highway assignment)
  - 4 feedback loop iterations = 8 hours total time

- **District Seven (Tampa Bay) -- 2.9 million pop.**
  - Each DaySim iteration: 2 hours, 10 minutes
  - Full iteration: 4 hours (4 periods highway assignment)
  - 3 feedback loop iterations = 12 hours total time

Handling the Future

- **Future land use scenarios need to be created for long-range transportation planning**
  - Land use and socioeconomic data
  - Future year networks

- **Update future population**
  - PopGen marginals
    - Assumptions on distributions of future household attributes
    - Aging? Household size? Income?
    - Auto ownership in an era of self-driving cars?!
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