Jacksonville and Tampa Bay Regional Model Updates

session on
Status of ABM Development in Florida

presented by
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June 18, 2013

Overview

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

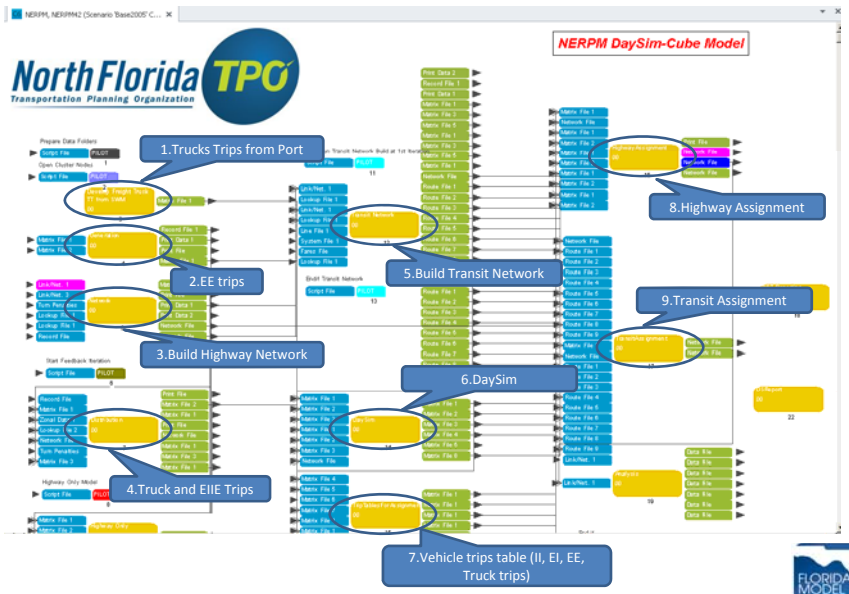
Where we are today


- 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

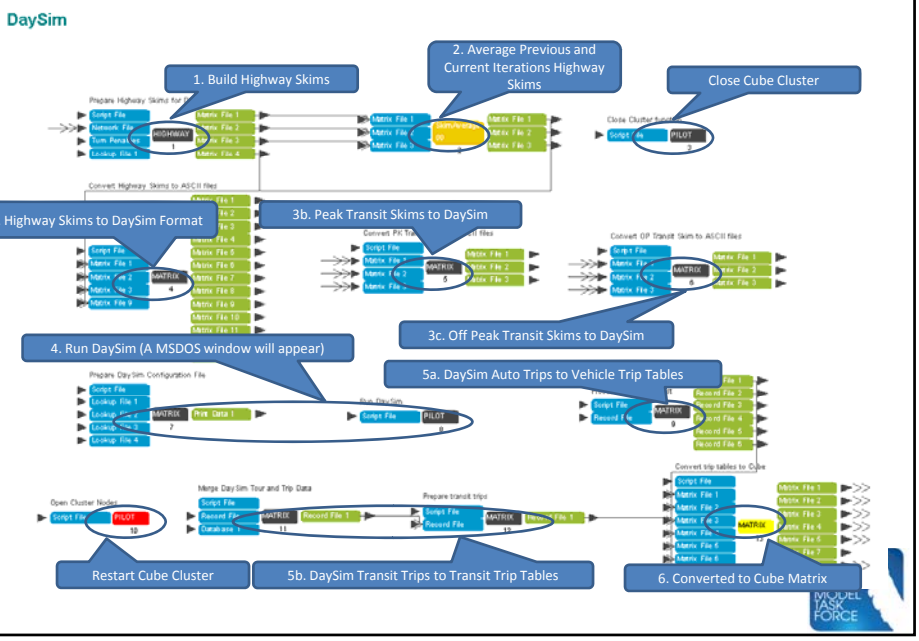
Where we are today


- 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

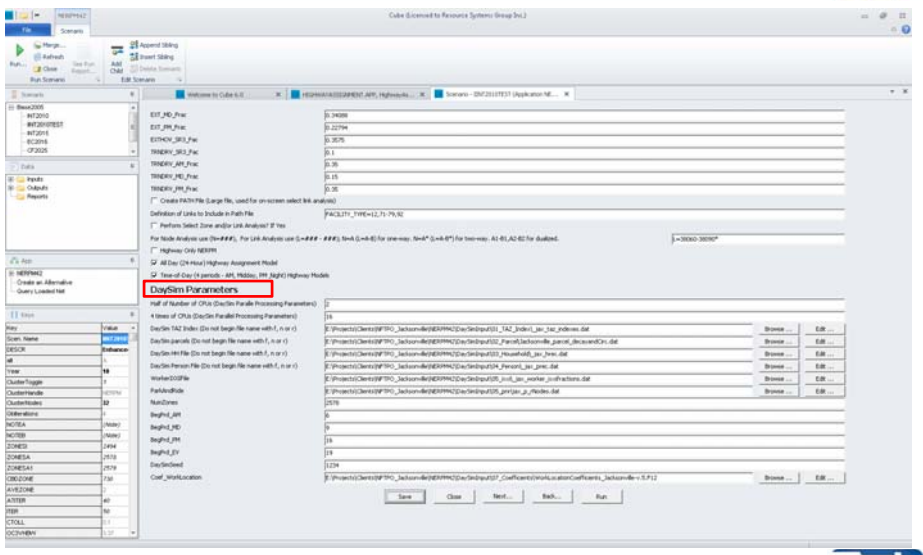
Cube Catalog User Interface



DaySim Step



Configurable Keys



AB Model Run Time Dynamics

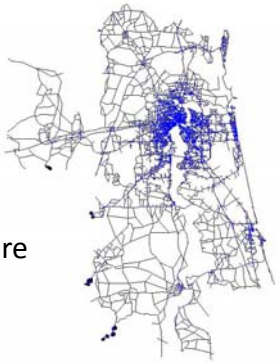
- Population-based microsimulation procedures loop over individual households, persons, tours and trips
- DaySim does NOT loop on combinations of zones/zone pairs, population segments, trip purposes, time of day periods
- Run time depends mainly on the number of households and is not very sensitive to 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?!



For more information…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