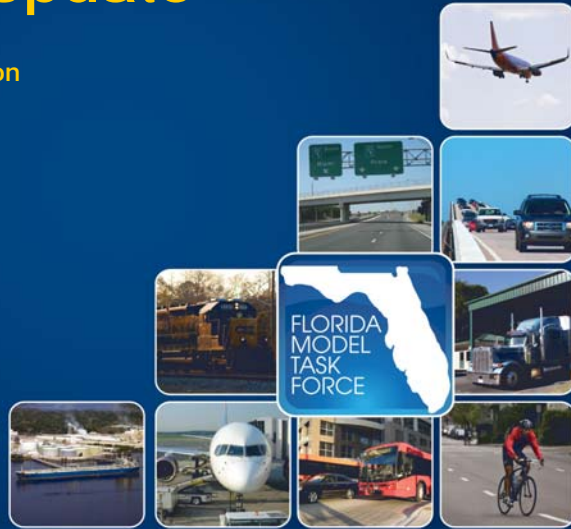


# Jacksonville and Tampa Bay Model Update

presented to  
Activity Based Model Session

presented by  
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## Overview

- NFTPO (Jacksonville) and FDOT District 7 (Tampa) are developing regional activity-based models
- Originated with the SHRP2 C10 Extension work
- Both models are based on the DaySim model framework
- Both models will be implemented in the Cube Voyager / FSUTMS modeling platforms now being used in both regions (NERPM and TBRPM)
- Data development has been completed
- Model structures and application software are in place
- Calibration of DaySim model parameters now underway
- “Pooled” estimation for certain model components using common NHTS survey data will be used for both regions
- Both regions are expecting to have calibrated and validated model systems in January 2013




## Model Geographic Scope

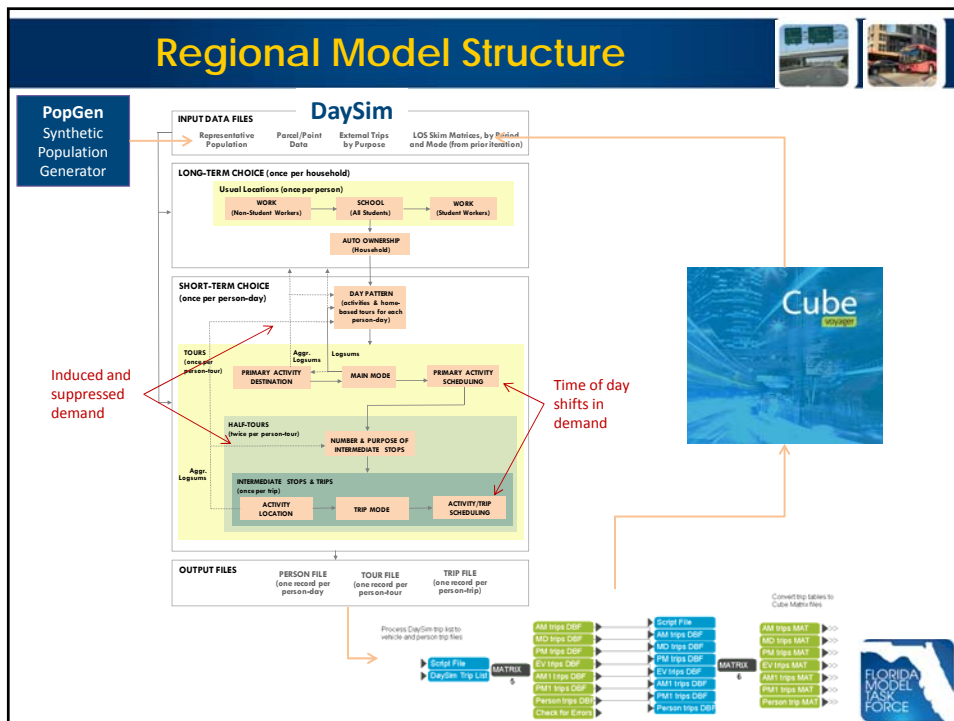
### Jacksonville Region

- Lead agency: NFTPO
- 2010 Base year
- Six counties
  - Baker
  - Clay
  - Duval
  - Nassau
  - Putnam
  - St. Johns
- Population
  - Permanent residents
    - 1,419,975
  - Group Quarters
    - 28,328
  - Seasonal residents
    - 77,757

### Tampa Bay Region

- Lead agency: FDOT District 7
- 2010 Base year
- Six counties
  - Citrus
  - Hernando
  - Hillsborough
  - Manatee (partial)
  - Pasco
  - Pinellas
- Population
  - Permanent residents
    - 2,882,353
  - Group Quarters
    - 52,579
  - Seasonal residents
    - 149,381





## What else is different ? ... Data



- Spatial unit of analysis is land use parcel
  - Households and employment coded to parcels
  - Overlaid TAZ system for network assignment and skims
- Variables include parcel-based accessibility to:
  - Employment, population, transit stops, paid parking supply, surrounding intersection connectivity, and open space
  - Similar to buffer variables, but a continuous form weighted by network level of service (“log sum” composite impedance)
- Raw outputs are disaggregate trip records with identifying attributes
  - Similar to household travel diary format
  - Activity/trip purpose, start/end times, travel mode, location IDs
  - Tour purpose, primary location, primary mode, start/end times
  - Household ID, Person ID, Tour ID, Trip/Activity ID
- User may summarize performance data by:
  - Household and person attributes
  - Time period of the day
  - Activity/trip/tour purposes
  - Geographic units and spatial clusters



## What is familiar?



- Same format for TAZs and highway and transit networks
  - Updated for 2010 by NFTPO and JTA; and by FDOT7
- Socio-economic inputs of households and employment are summarized and controlled at TAZ level
  - FSUTMS zdata file formats
- “Auxiliary” demand methods same as 4-step model
  - IE/EI/EE and Truck Model
  - \* Some special generators may go away (e.g., military base)
- Implemented in Cube Voyager
  - Network user equilibrium assignment
  - 4 periods (AM, Mid-day, PM, Night... covers 24 hrs.)
  - Speed-feedback of skims (... but to multiple model components)
    - Closure criteria (changes to link volumes, trip table interchanges)
- FSUTMS/HEVAL output and reporting capabilities
- Traffic counts and transit boardings used for validation



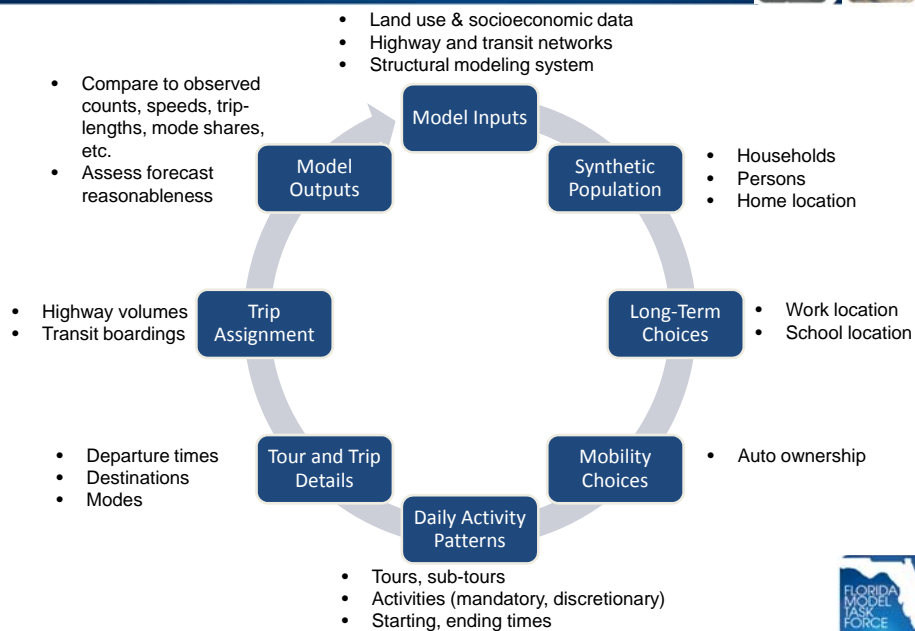
## Model Component Estimation



- NHTS Data with Florida Add-On
- Observations for Jacksonville and Tampa regions “pooled”
  - Jacksonville: 966 households sampled on weekdays
  - Tampa Bay: 1,774 households sampled on weekdays
- DaySim model components to estimate
  - Choice model structures:
    - Long-term: work, school locations, auto ownership
    - Day pattern: number of tours by type, primary stops on tours
    - Tour/trip details: activity duration/start/end times, tour modes and destinations, intermediate stop generation, trip destinations and modes
- Integrated application and estimation program make it easy to estimate models and test them in application
  - Custom software written in C#



## Iterative Calibration & Validation



## For more information...



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