



NERPM-AB v1

Activity-Based Model User Training

North Florida TPO & Florida DOT District 2 – Jacksonville

June 4-5, 2015

At the End of These Two Days

We will have discussed ...

- The NERPM-AB capabilities
- How to setup and run the common modeling analyses
- How to analyze the model results

We will not have discussed ...

- The estimation or calibration of the model
(see calibration report)
- The detailed mathematical inner workings of the model
(another training if desired)

NERPM-AB Model Training Agenda: Day 1

Time	Activity
9:00 a.m. – 9:15 a.m.	Opening remarks and introductions
9:15 a.m. – 10:00 a.m.	Model Capabilities (Part 1)
10:00 a.m. – 10:15 a.m.	Break for coffee/refreshments
10:15 a.m. – 11:15 a.m.	Model Capabilities (Part 2)
11:15 a.m. – 12:00 p.m.	Disaggregate Modeling & Population Synthesis
12:00 p.m. – 1:00 p.m.	Lunch
1:00 p.m. – 2:00p.m.	NERPM-AB Setup in Cube
2:00 p.m. – 2:45 p.m.	Scenario Input Files
2:45 p.m. – 3:00 p.m.	Break for coffee/refreshments
3:00 p.m. – 3:30 p.m.	What's New with Highway Assignment
3:30 p.m. – 4:30 p.m.	Model Outputs and Visualization

NERPM-AB Model Training Agenda: Day 2

Time	Activity
8:30 a.m. – 8:45 a.m.	Summary of Day1 and Q & A
8:45 a.m. – 10:15 a.m.	Summarizing NERPM-AB Outputs
10:15 a.m. – 10:30 a.m.	Break for coffee/refreshments
10:30 a.m. – 11:15 a.m.	Creating New Scenarios
11:15 a.m. – 12:00 p.m.	Scenarios: Land Use Impacts
12:00 p.m. – 1:00 p.m.	Lunch
1:00 p.m. – 1:45 p.m.	Scenarios: Transit Systems Change
1:45 p.m. – 2:30 p.m.	Scenarios: Tolling and Managed Lanes
2:30 p.m. – 2:45 p.m.	Break for coffee/refreshments
2:45 p.m. – 4:00 p.m.	Wrap Up: Summary and Q & A



Model Capabilities

Comparing NERPM-AB with NERPM 4.2

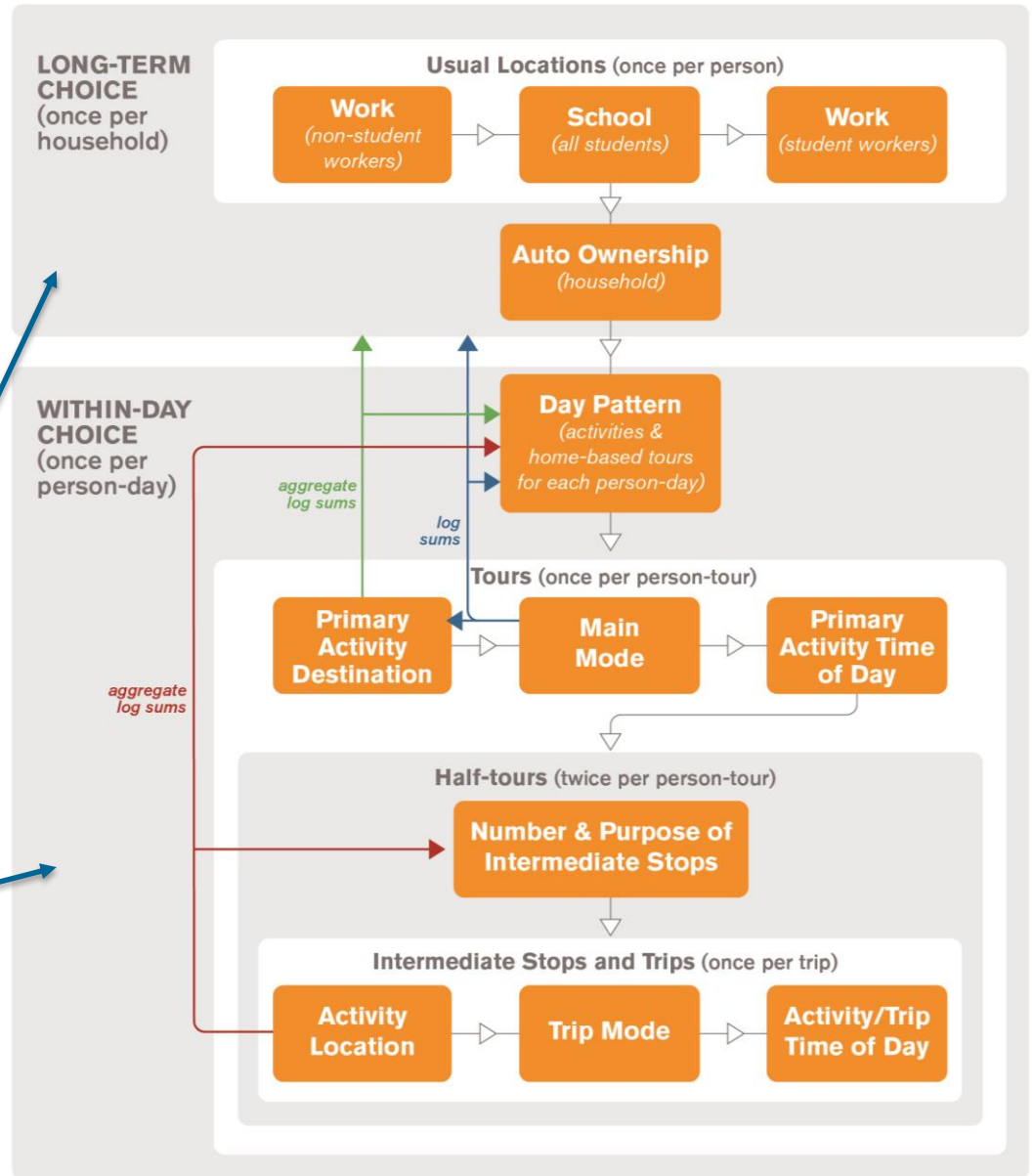
- **Similarities:** Assignment & Interface
 - Cube framework, tools and user interface
 - Network methods and assumptions (assignment, skims)
 - Port Freight trips, External-to-External, local Trucks Trips
- **Differences:** DaySim replaces trip generation, distribution, mode choice, and time of day models
 - Behavioral differences
 - Spatial differences
 - Temporal differences

Behavioral Sensitivity

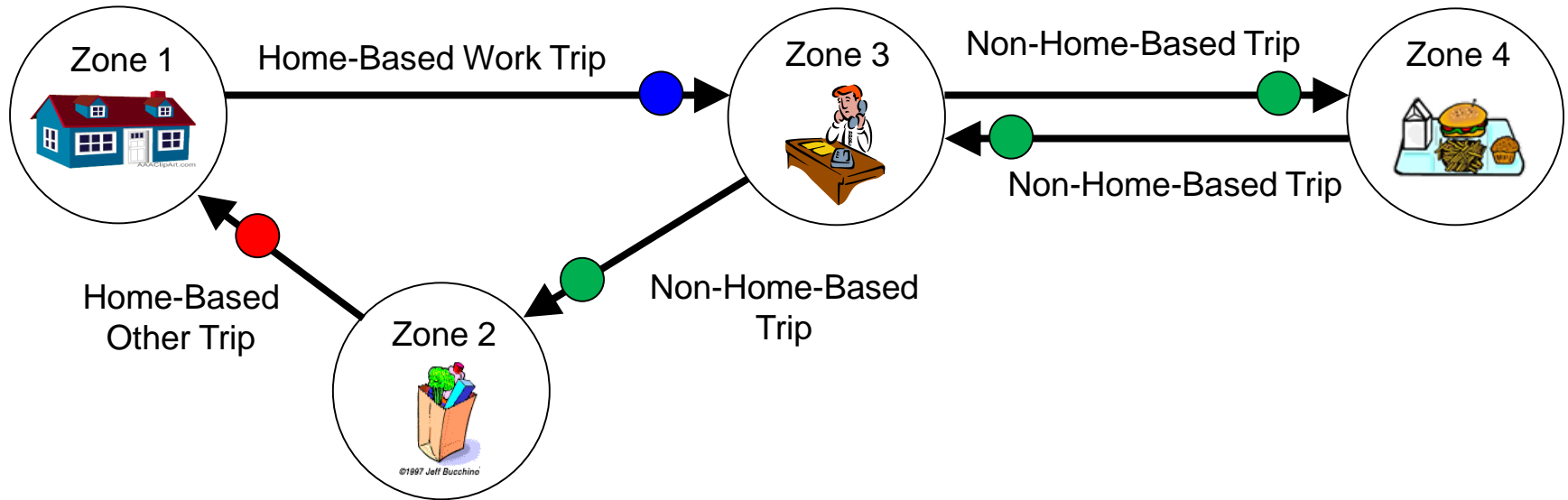
Travel choices are explicitly modeled

We start with long-term choices

Then model short-term choices

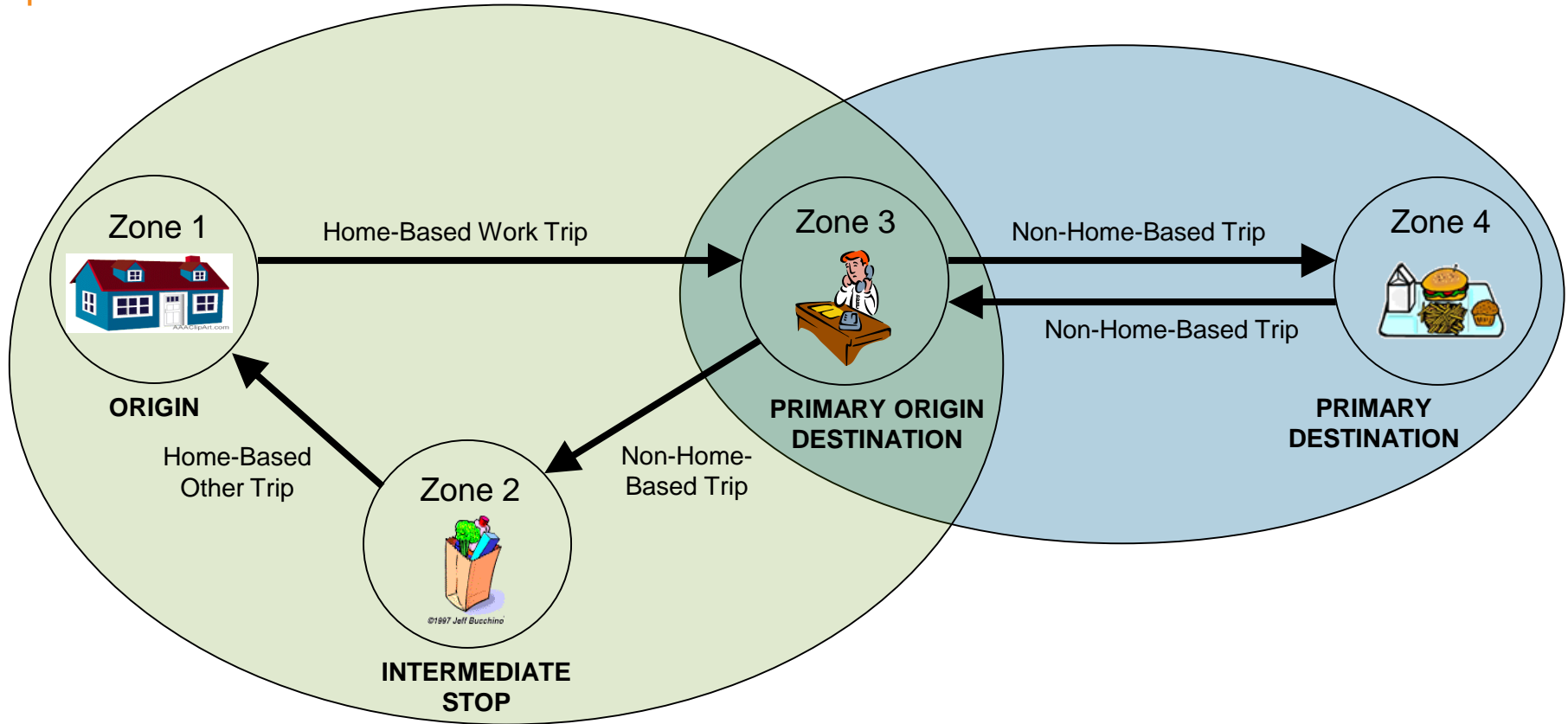


NERPM 4.2 Approach



Zone	● Home-Based Work (HBW)		● Home-Based Other (HBO)		● Non-Home-Based (NHB)	
	Prod.	Attract.	Prod.	Attract.	Prod.	Attract.
1	1		1			
2						1
3		1			2	1
4					1	1
Total	1	1	1	1	3	3

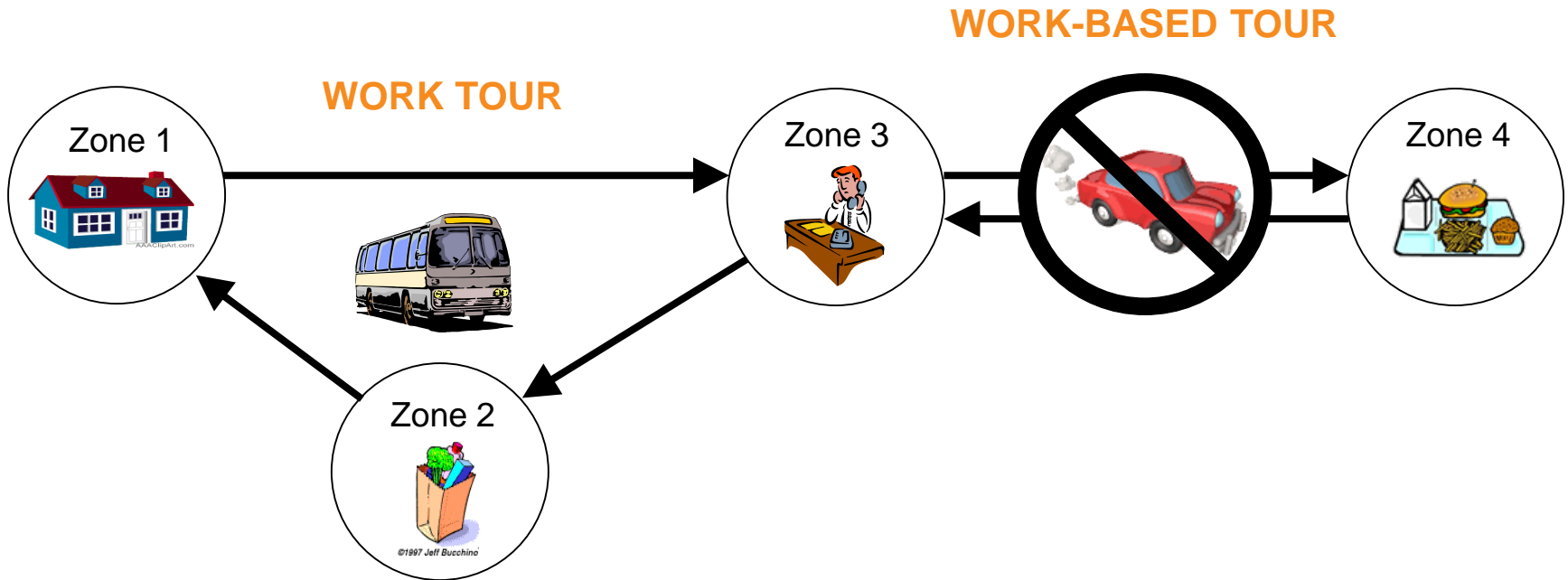
NERPM-AB Approach



Data View:

HH #	Per #	Tour #	Purp	Origin TAZ	Destin. TAZ	Outbound Stop1 TAZ	Return Stop1 TAZ	Mode	Sub-tour	Sub-Tour Destin.
1023	1	1	Work	1	3	0	2	Transit	Yes	4

Activity-Based Models: Mode Consistency



Bus to Work = Drive alone not available for lunch

Behavioral Sensitivity – Employment

DAYSIM SECTOR	2-DIGIT NAICS CODE
Industrial	22, 31-33, 42, 48-49
Retail Trade	44-45
Office	51-56
Educational Services	61
Health/Medical	62
Government	92
Food	72
Services	71, 81
Other	11, 21, 23

Behavioral Sensitivity – Households

DESCRIPTION
Household size
Vehicles available
Household workers
HH full time workers (type 1)
HH part time workers (type 2)
HH retired adults (type 3)
HH other adults (type 4)
HH college students (type 5)
HH high school students (type 6)
HH kids age 5-15 (type 7)
HH kids age 0-4 (type 8)
Household income (\$)
Household own or rent
Household residence type



Behavioral Sensitivity – Persons

DESCRIPTION
Age in years
Gender
Worker type
Usual work parcel ID
Student type
Usual school parcel ID

Behavioral Sensitivity – Conclusions

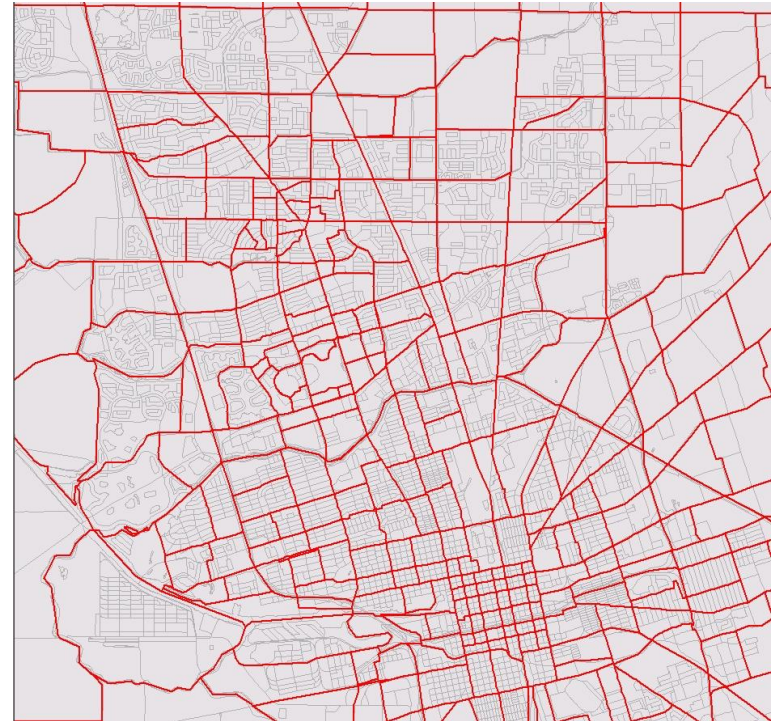
- No more non-home-based trips!!
- Individuals within each family are explicitly modeled
- All important socio-economic characteristics are tracked throughout the day
- Consistent daily activity patterns that replicate survey data
- All trips are internally consistent throughout the day



Break

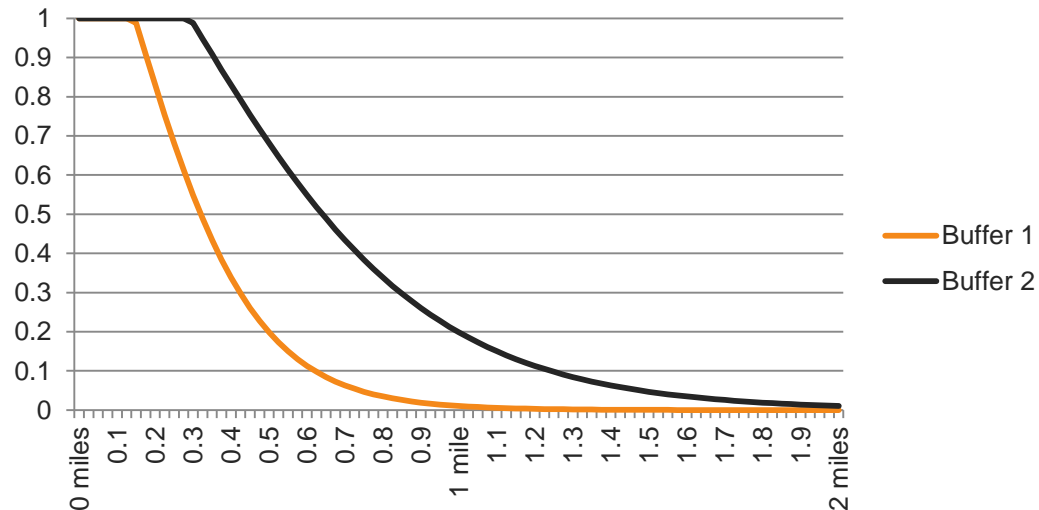
Spatial Sensitivity: Why the Activity Based Model Uses Parcels for Demand Estimation?

- Better representation of walk and bike modes
- Better representation of walk-to-transit distances
- Better representation of mixed use developments
- Easier to place DRI land uses accurately



Buffer Variables

- Land use surrounding a parcel matters in addition to that within the parcel
- Buffer variables created to support this concept
- Calculations performed for two “buffer zones” using distance decay weights



HMMMM

Spatial Sensitivity: Networks

- An “All Streets” network is used by DaySim to determine proximity to:
 - Transit stops
 - Parks & open space
 - The “walkability” of the area (road connectivity, etc.)
- Assignment continues to use a network similar to NERPM 4.2 and assigns trips at the TAZ level

Temporal Sensitivity

Demand

- Generates a list of trips (not a matrix)
- Simulates 24-hours of travel
- Trip start time estimated to 30-minute temporal resolution then distributed to the minute

Supply

- 24-hour assignment = sum of 4 time period volumes
- Time periods
 - AM Peak (6:00AM – 8:59AM)
 - Midday Off Peak (9:00AM – 3:59PM)
 - PM Peak (3:30PM – 6:29PM)
 - Evening Off Peak (6:30PM – 5:59AM)

Transit Assignment

- Same as NERPM 4.2
- Time Periods
 - Peak: based on AM Peak LOS
 - Off-Peak: based on Midday Off-peak LOS

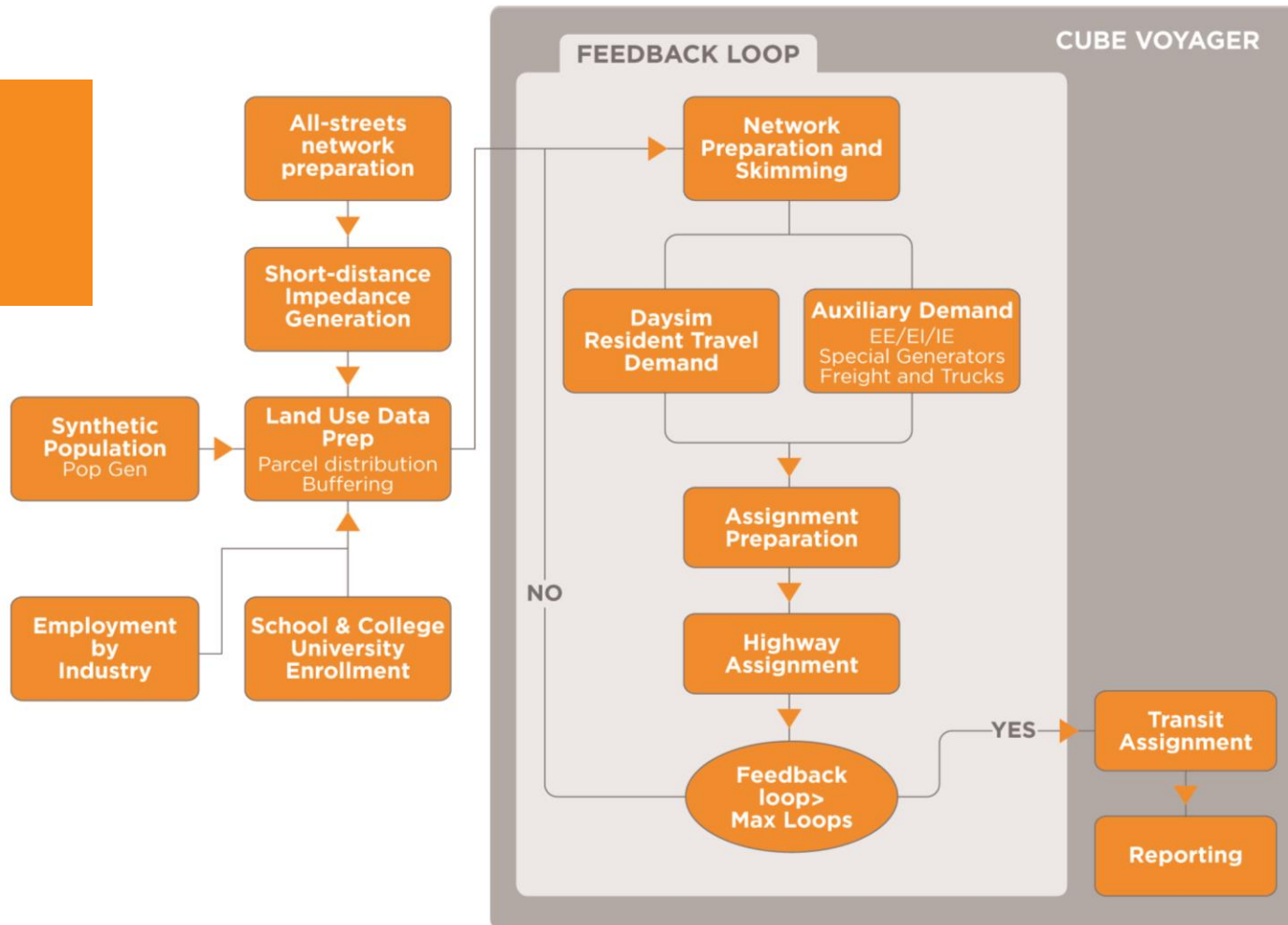
HMMMM

Spatial and Temporal Sensitivity – Conclusions

- Mixed use and walkable areas are better modeled providing policy options
- Peak shifting occurs within the model depending on congestion
- Time-of-day trip tables can be established for any desired period
- Output from demand easily used in microsimulation
- 4-period model better represents behavioral response to congestion than a daily model

NERPM-AB System Functional Relationships

HMMMM





Disaggregate Modeling Using a Synthetic Population

Aggregate vs. Disaggregate Travel Representation

Trip-Based Models

Household Cross-Tabulation

Daily Household Trip Rates

Aggregate Zonal Trips

Activity-Based Models

Disaggregate Population/
Synthetic Population

Individual Choices
Simulated

Individual Activity-Tour Patterns

What Exactly is a Synthetic Population?

- It is simply a list of households and persons with corresponding attributes

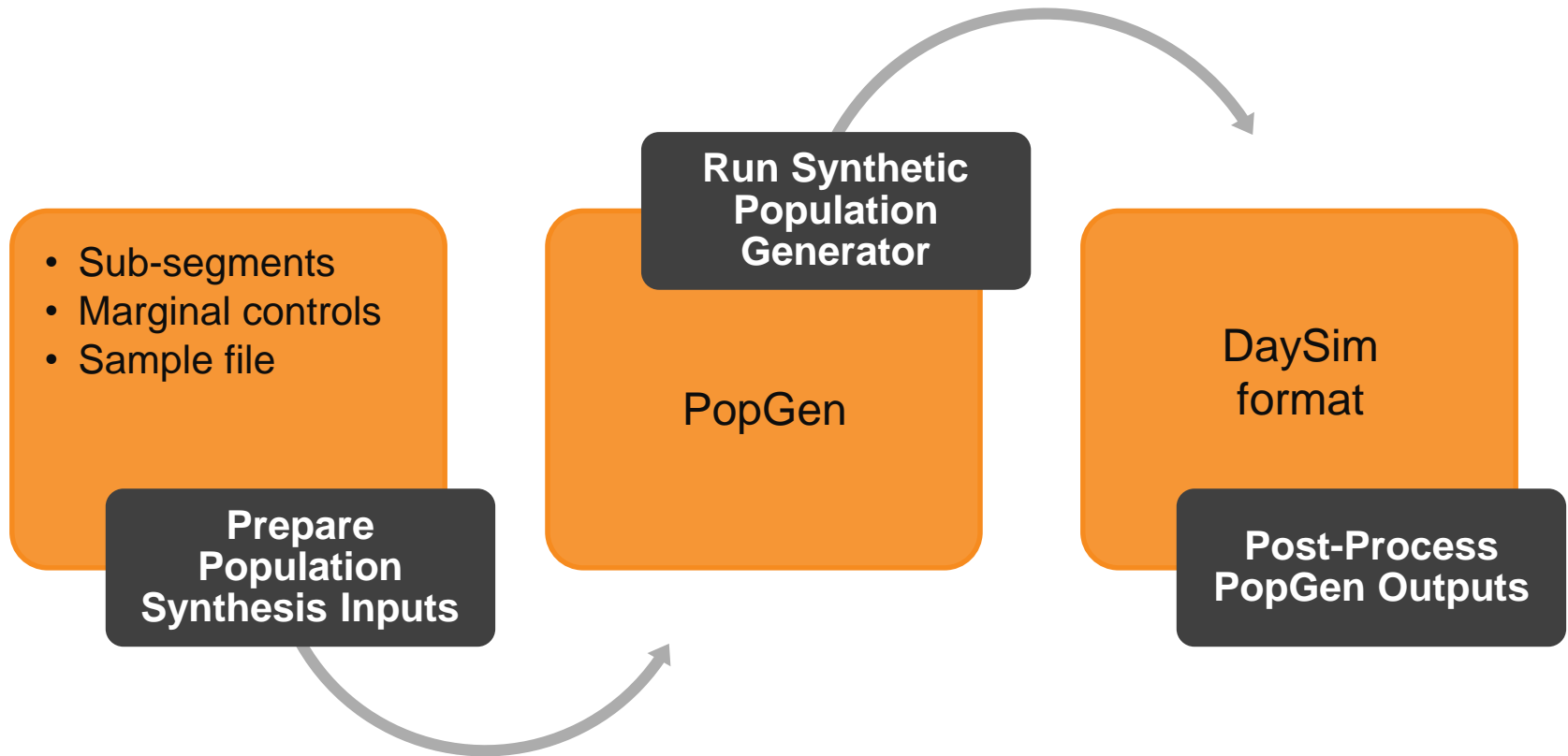
Household Records

TAZ	HHID	Age of Household Head	Number of Persons	Income Group	Presence of Children	Autos Owned	Number of Workers
1433	16670	1	2	1	1	0	1
1937	17392	1	2	2	1	0	1
77	232	1	3	3	1	2	2
18	5042	1	3	2	1	3	2

Person Records

TAZ	Household ID	Person ID	Age	Works From Home	Employment Status	Gender	Is Student	Hours Worked per Week
77	232	1	22	1	1	2	0	9
77	232	2	24	1	1	1	0	45
77	232	3	1	0	0	2	0	0

Steps in Creating a Synthetic Population



Synthetic Population Generator: PopGen

- Open source
- Supports use of person-level and HH-level controls
- Easy-to-use
 - Flexible
 - GUI
 - Output visualization
- Steps
 - Prepare Zonal (TAZ) control data
 - Prepare sample data from PUMS or Household Survey
 - Run PopGen to generate Synthetic population
 - Assign households to parcels



Population Sub-segments

Created to reflect differences in travel patterns

- Permanent
- Seasonal
 - Provides the ability to support seasonal analyses
 - Generally older and have lower workforce participation
- Non-institutional group quarters
 - College/university housing
 - Residential treatment facilities for adults
 - Religious group quarters

Marginal Control Data

- These are socio-demographic attribute totals that the synthetic population needs to match
- What are important HH and person characteristics for the model?

Household Marginals/Controls

TAZ	HHSize1	HHSize2	HHSize3+	Children Present	No Children
77	100	400	200	500	200

Person Marginals/Controls

TAZ	Age 0-17	Age 18-64	Age 65+	Male	Female
77	500	900	200	800	800

Sample Data

- This looks similar to synthetic population
- A synthetic population generator draws from this to match marginal control totals
- Data Sources
 - Permanent: 5-year ACS PUMS 2006-10 for FL
 - Seasonal: NHTS 2009 FL add-on sample
 - Group quarters: 5-year ACS PUMS 2006-10 for FL

Permanent Residents Control Attributes

- Household and person totals controlled by TAZ
 - Household Attribute Source: Census 2010 SF1 and ACS 2006-2010 5-year for income and number of workers

HH unit type (2)

- Single Family
- Multi-Family

Presence of children (2)

- Yes
- No

Householder age (5)

- 15-24 years
- 25-54 years
- 55-64 years
- 65-74 years
- 75+ years

HH income (5)

- Less than 20k
- [20k, 40k)
- [40k, 60k)
- [60k, 100k)
- 100k or more

Permanent Residents Control Attributes

- Household attributes (*continued*)

HH Size (7)

- 1 person
- 2 persons
- 3 persons
- 4 persons
- 5 persons
- 6 persons
- 7+ persons

Household Size and Number of Workers Joint Variable (13)

- 1 person, no worker
- 1 person, 1 worker
- 2 persons, no worker
- 2 persons, 1 worker
- 2 persons, 2 workers
- 3 persons, no worker
- 3 persons, 1 worker
- 3 persons, 2 workers
- 3 persons, 3 workers
- 4+ persons, no worker
- 4+ persons, 1 worker
- 4+ persons, 2 workers
- 4+ persons, 3+ workers



Permanent Residents Control Attributes

- Person attributes

Gender (2)

- Male
- Female

Age (9)

- Under 5 years
- 5-14 years
- 15-17 years
- 18-24 years
- 25-39 years
- 40-54 years
- 55-64 years
- 65-74 years
- 75 years and over

Seasonal Residents Control Attributes

- Household and person totals controlled by TAZ
 - Source: Identified part-year residents in the NHTS 2009 Florida add-on
 - Weighted to obtain percent distribution by household and person attributes
 - Applied to number of non-vacant seasonal housing units in each TAZ, as found in ZDATA
- All household attributes same as those in permanent population, except
 - Household Size (4 categories)
 - 1) One Person; 2) Two Persons; 3) Three Persons; 4) Four or more Persons

Seasonal Residents Control Attributes

Person Age (7)

- 0-17 years
- 18-24 years
- 25-39 years
- 40-54 years
- 55-64 years
- 65-74 years
- 75 years and over

Household Size and Number of Workers Joint Variable (12)

- 1 person, no worker
- 1 person, 1 worker
- 2 persons, no worker
- 2 persons, 1 worker
- 2 persons, 2 workers
- 3 persons, no worker
- 3 persons, 1 worker
- 3 persons, 2 workers
- 4+ persons, no worker
- 4+ persons, 1 worker
- 4+ persons, 2 workers
- 4+ persons, 3+ workers



Group Quarters Control Attributes

- Each person is considered as one household
- Person totals controlled by TAZ
- Control Attributes (Source: Census 2010 SF1)
 - Gender (2 categories)
 1. Male
 2. Female
 - Age (3 categories)
 1. Under 18 years
 2. 18 to 64 years
 3. 65 years and over



Lunch



NERPM-AB Setup in Cube

Cube Interface

NERPM-AB v1.0
North Florida TPO
 Transportation Planning Organization

Prepare Data Folders
 ▶ Prepare DaySim PILOT 1

Open Cluster Nodes
 ▶ Script File PILOT 2

Note: Inactive HOT lane links should be coded as HGT=1 and will be recoded to Facility_Type=69 so they are available for transit.

Develop Freight Truck TT from SWM 00 3

▶ EE TRIPS Generation Prods & Attrs
 ▶ Ext. AO Factors 00 Balancing Factor
 4 EE Trip Rpt
 EE Matrix

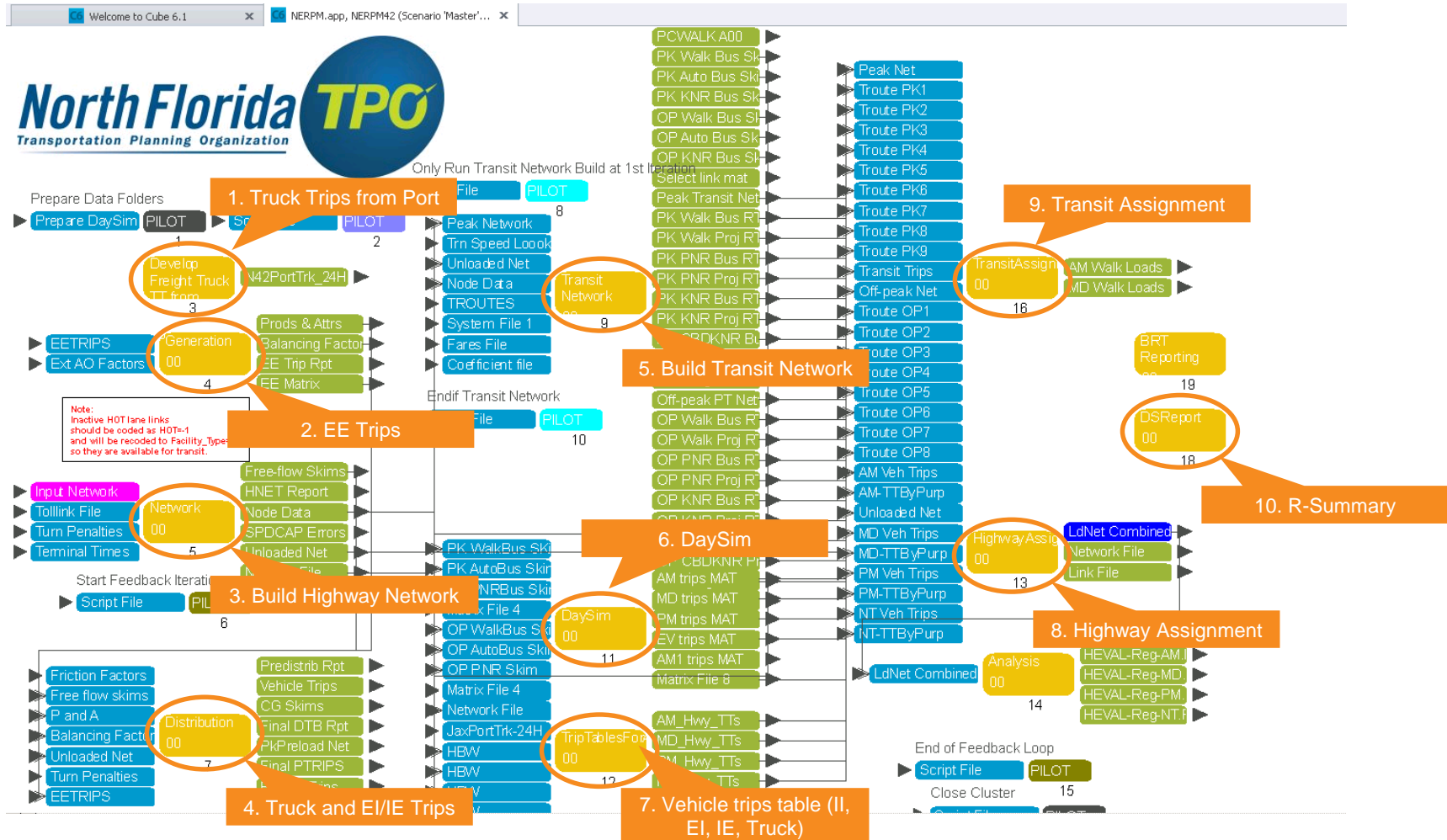
▶ Input Network Free-flow Skims
 ▶ Tollink File Network HNET Report
 ▶ Turn Penalties 00 Node Data
 ▶ Terminal Times SPDCAP Errors
 5 Unloaded Net
 Network File

Endif Transit Network
 Script File PILOT 10

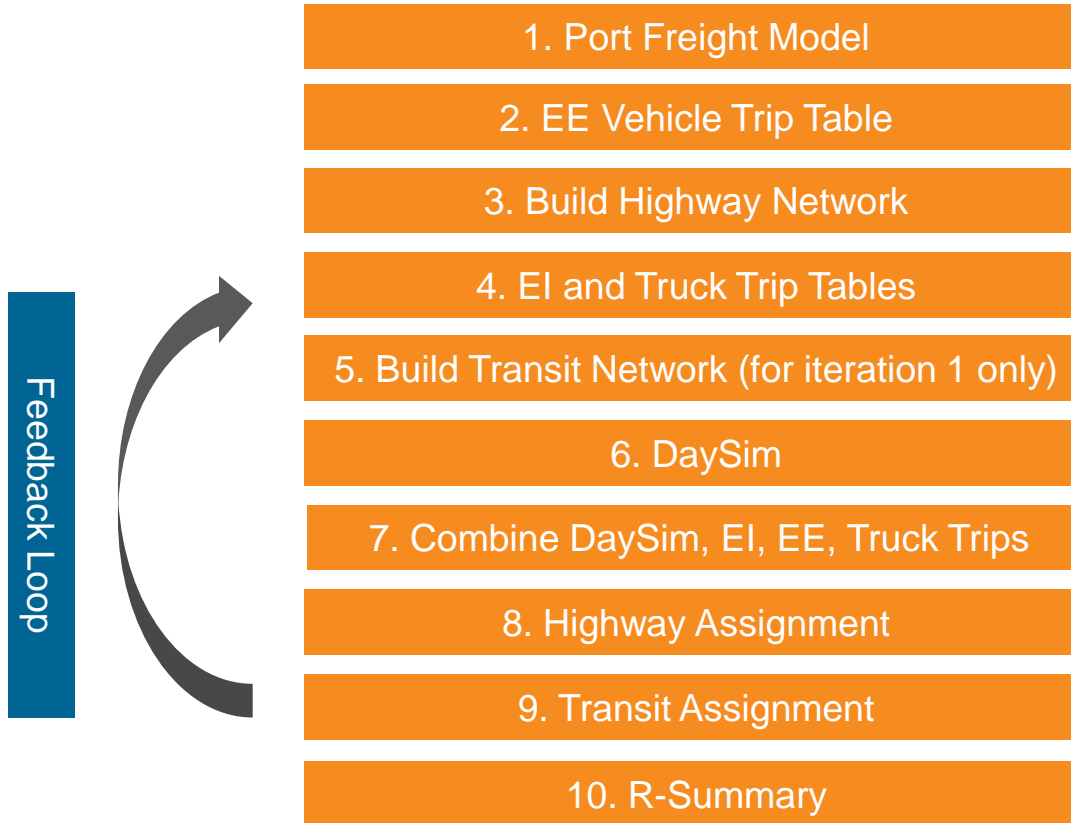
Output Files (Right Pane):
 OP Walk Bus Skim
 OP Auto Bus Skim
 OP KNR Bus Skim
 Select link mat
 Peak Transit Net
 PK Walk Bus RTE
 PK Walk Proj RTE
 PK PNR Bus RTE
 PK PNR Proj RTE
 PK KNR Bus RTE
 PK KNR Proj RTE
 PK CBDKNR Bus
 PK CBDKNR Prj
 PK Fringe PNR F
 PK Fringe PNR F
 Off-peak PT Net
 OP Walk Bus RT
 OP Walk Prj RT
 OP PNR Bus RTE
 OP PNR Proj RTE
 OP KNR Bus RTE
 OP KNR Proj RTE
 OP CBDKNR Bus
 OP CBDKNR Prj
 OP Fringe Cir RT
 ST 2 St Matrix
 AM trips MAT
 MD trips MAT
 PM trips MAT

Key	Value
Scen. Name	Master
DESCR	Enhanced Validation Run
alt	A
Year	10
ClusterToggle	1
ClusterHandle	NERPM
ClusterNodes	24
GBIterations	4
DaySim Param	(Note)
SMDP	16

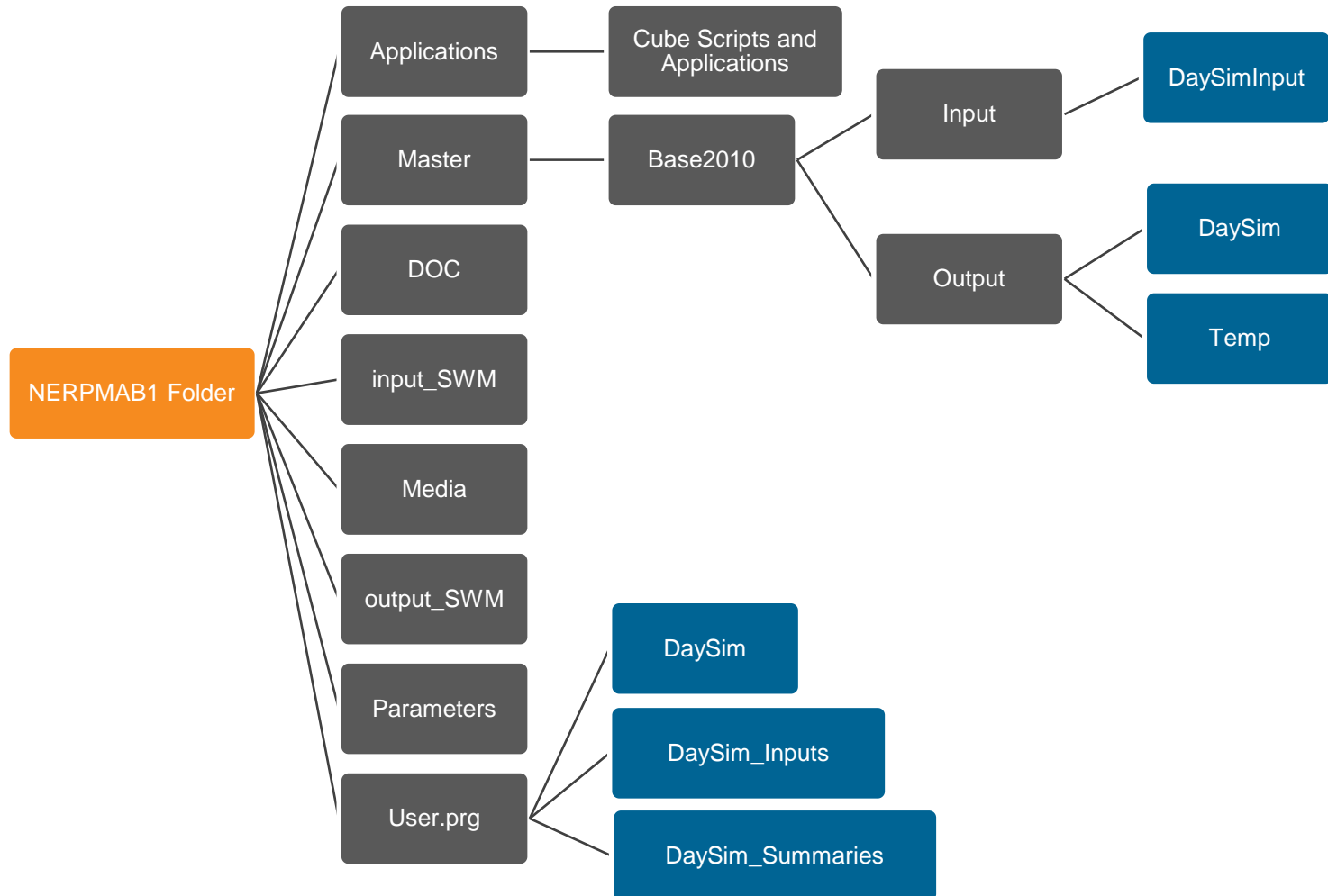
Cube Interface Main Sections



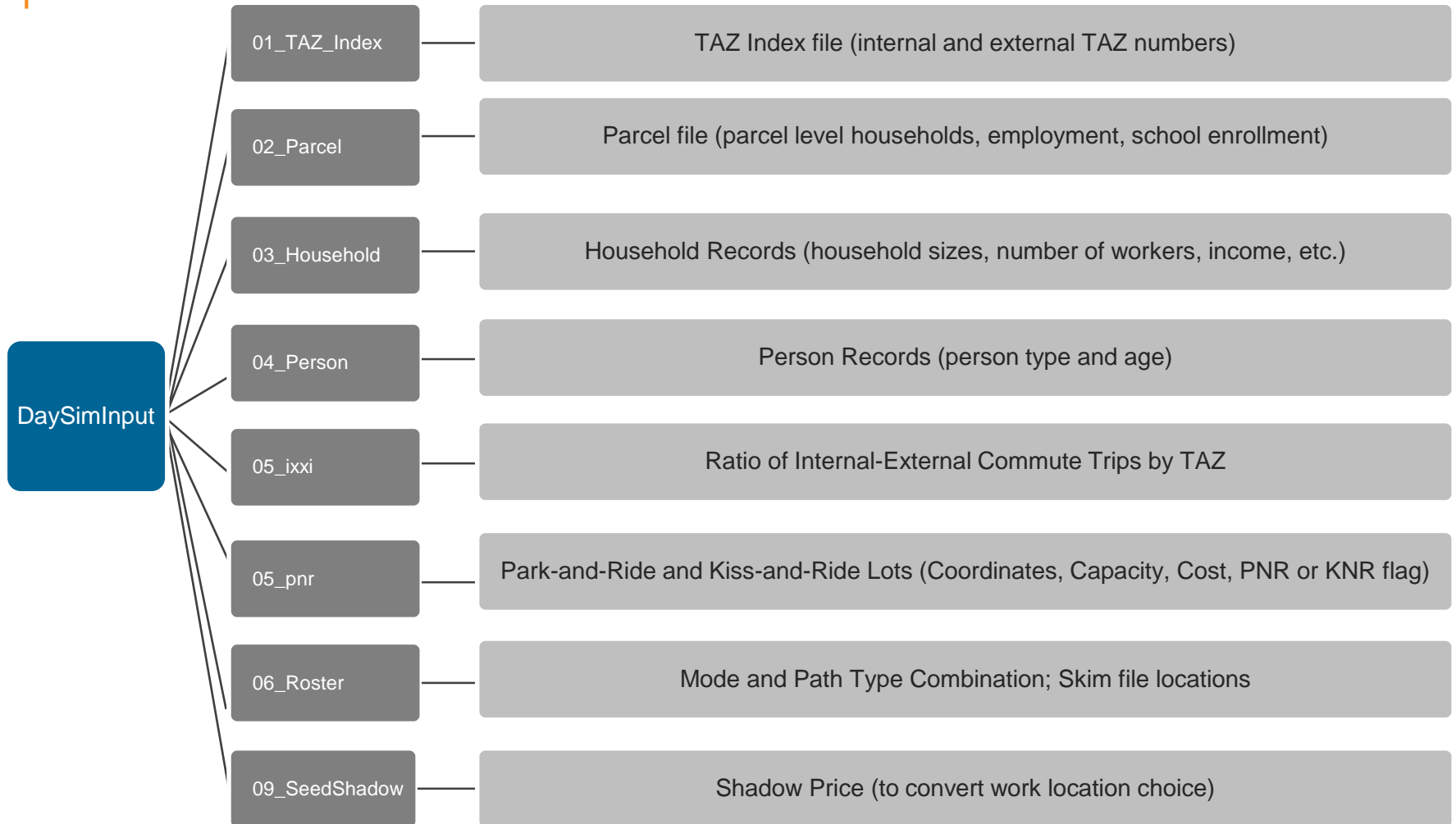
Cube Flow Chart and Feedback Loop



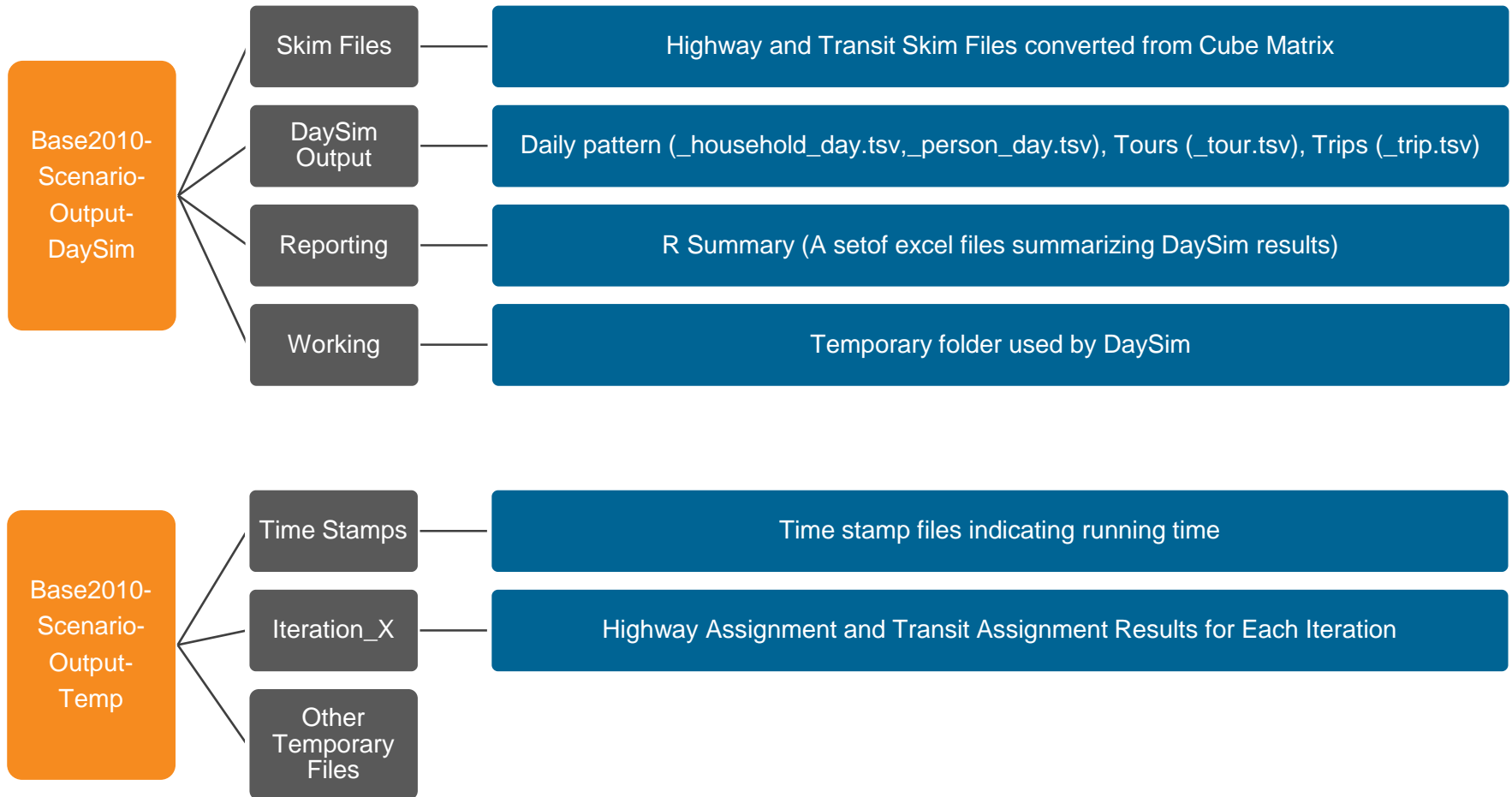
Folder Organization



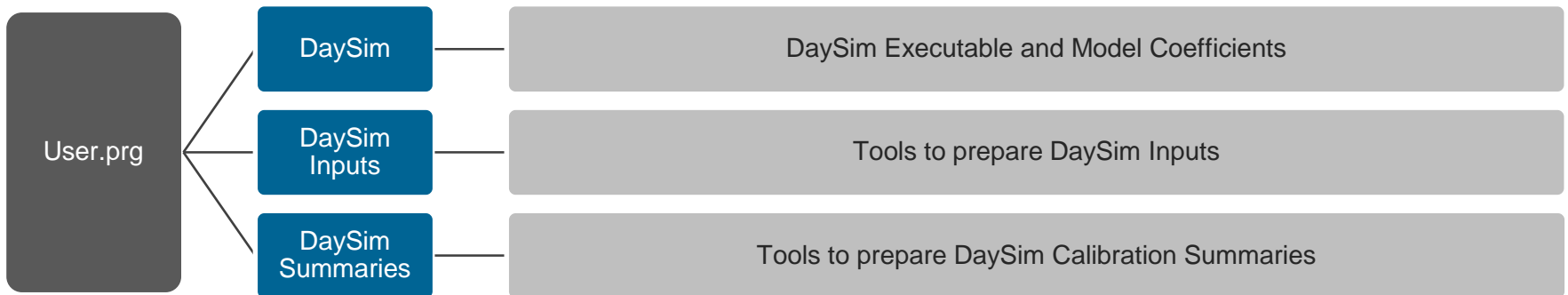
Folder Organization



Folder Organization



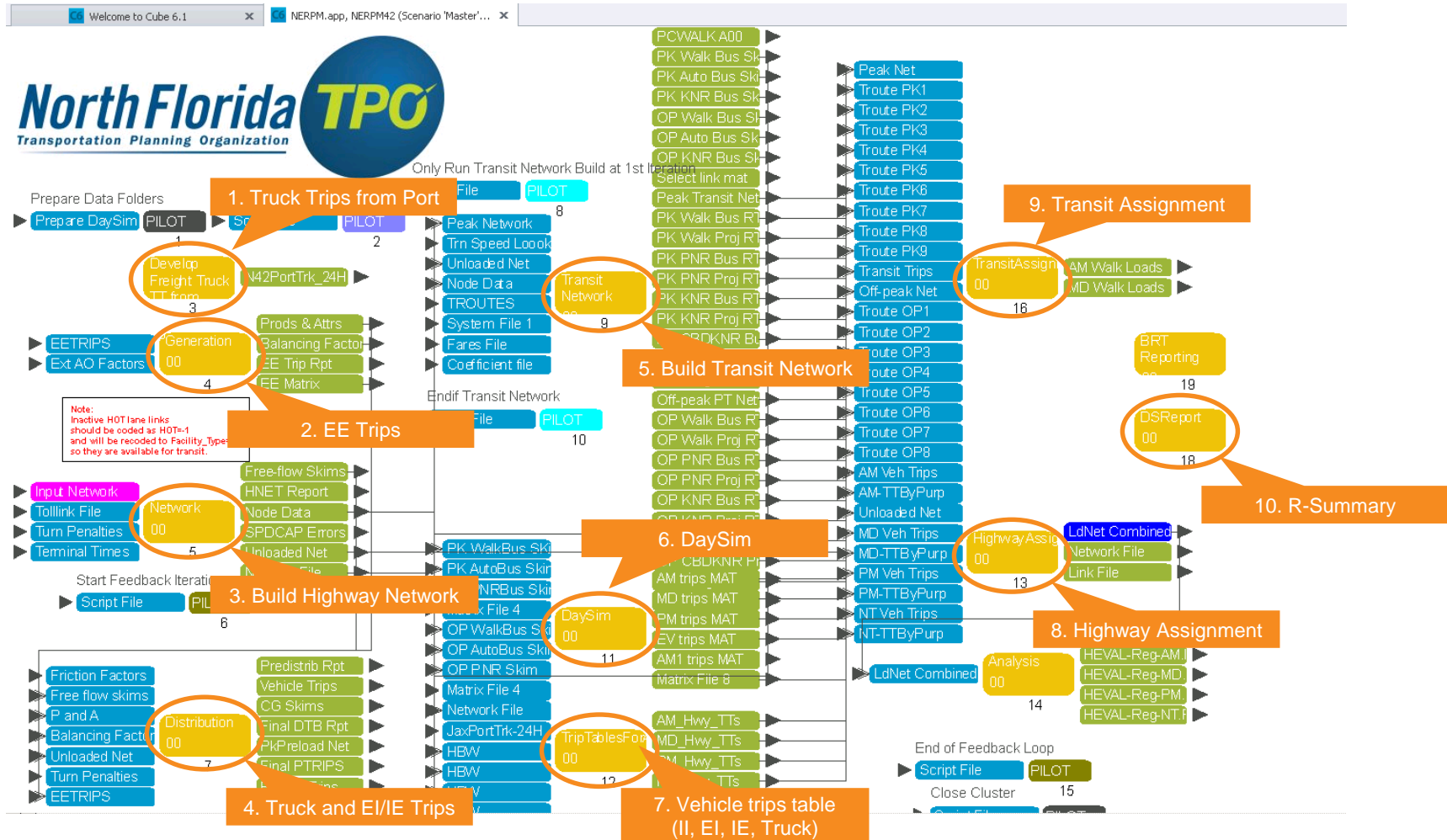
Folder Organization



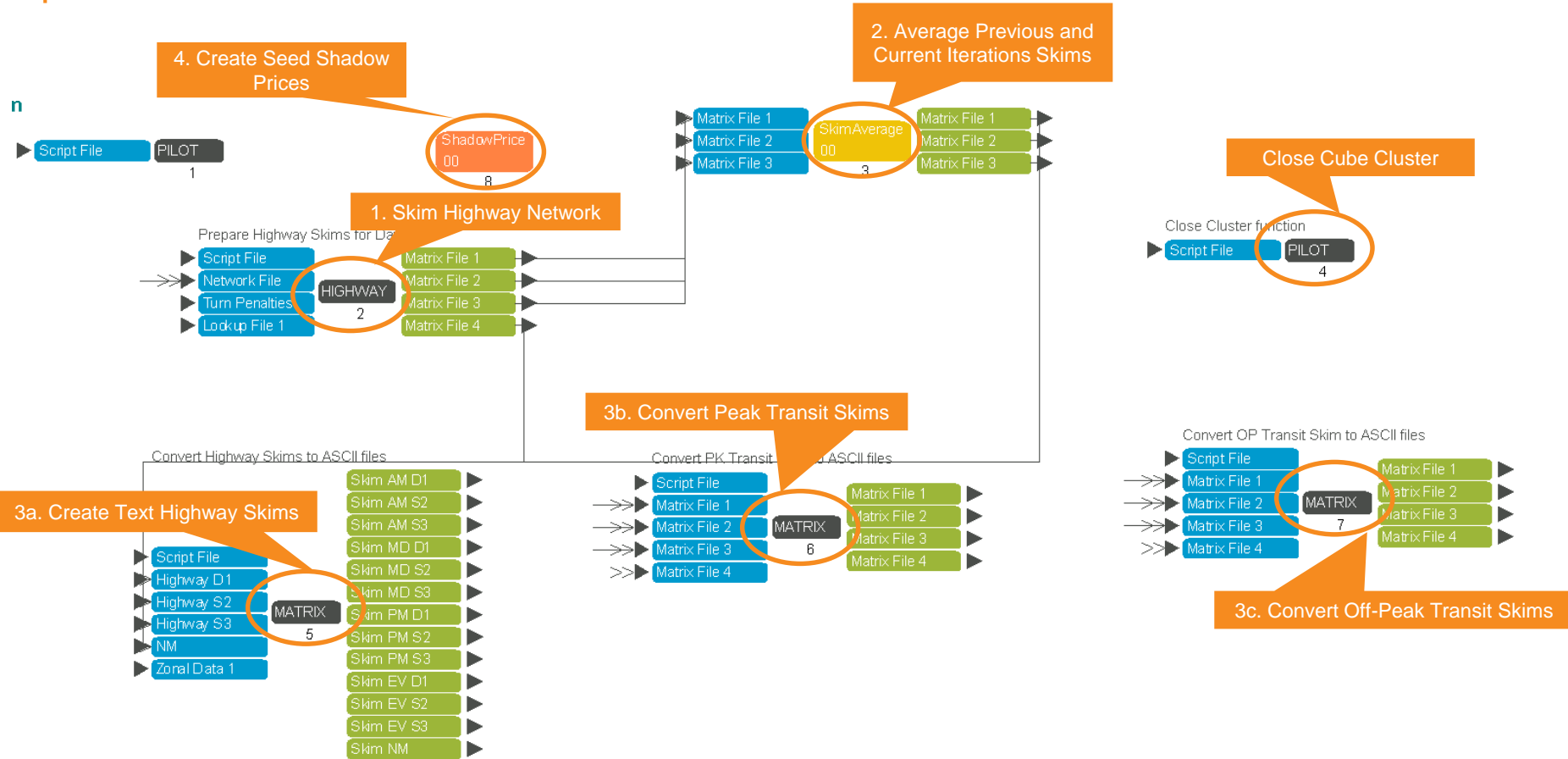
DaySim Executables Folder

COPYING	1/2/2013 3:31 PM
Daysim	3/13/2013 5:02 PM
Daysim.exe	1/2/2013 3:31 PM
Daysim.Framework.dll	3/13/2013 3:32 PM
Daysim.Framework.pdb	3/13/2013 3:32 PM
Daysim.pdb	3/13/2013 5:02 PM
Daysim.vshost	3/13/2013 4:11 PM
last-run	3/27/2013 2:26 AM
NDesk.Options.dll	1/2/2013 3:32 PM
Ninject.dll	1/2/2013 3:32 PM
Ninject.pdb	1/2/2013 3:32 PM
Ninject	1/2/2013 3:32 PM

Cube Interface Main Sections

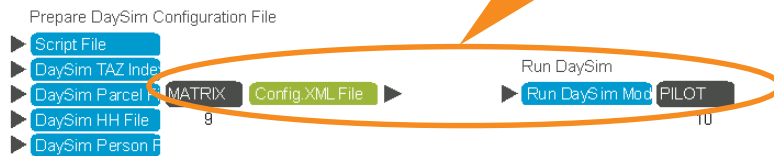


DaySim Application

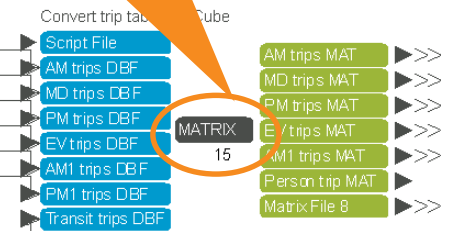


DaySim Application

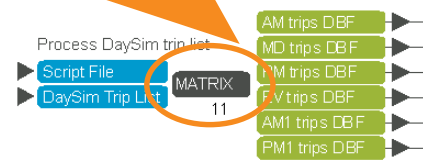
5. Run DaySim (A DOS window will appear)



7. Create Trip Tables for Assignment



6a. DaySim Auto Trips to Vehicle Trip Tables



6b. DaySim Transit Trips to Transit Trip Tables



Run Cube-DaySim Application for One Scenario

The screenshot displays the Cube-DaySim application interface. The 'Run' button in the top toolbar is circled in red. The 'Edit/Run Scenario' option in the context menu for the selected scenario is also circled in red. The 'Run' button at the bottom right of the main panel is circled in red.

Scenario

- File
- Scenario
- Run...
- Refresh
- Close
- Run Scenario
- Merge...
- Append Sibling
- Insert Sibling
- Add Child
- Delete Scenario
- Edit Scenario

Scenario

- Base2005
- INT2010
 - INT2
 - EC2
 - CF2

Data

- Input
- Outputs
- Reports

App

- NERPM42
 - Create an Alternative
 - Query Loaded Net

Keys

Key	Value
Scen.Name	INT2
DESCR	Enha
alt	A
Year	10
ClusterToggle	1
ClusterHandle	NERP
ClusterNodes	32
GblIterations	4
NOTEA	(Note)
NOTEB	(Note)
ZONESI	2494
ZONESA	2578
ZONESA1	2579
CBD.ZONE	730

Model Description

Enhanced Validation Run with 2010 Transit

Alternative Letter (1 Character): A

Model Year (2 digits): 10

Enable Cube Cluster Function?

ClusterHandle: NERPM

Number of CPUs (for Cube Cluster Function): 32

Global Feedback Iterations: 4

User-specified Values

PROFILE.MAS Entries (Not Normally Changed)

Maximum internal zone number	2494
Maximum external zone number	2578
ZONESA1	2579
CBD Zone for Reporting	730
Nearest Zones to Average for Intrazonal Time	2
Maximum Iterations In Gravity Model	40
Maximum Equilibrium Assignment Iterations	50
Coefficient of Toll	0.1
HBW- Avg 3+ Persons/Car	3.37
HBO- Avg 3+ Persons/Car	3.48
NHB- Avg 3+ Persons/Car	3.59
New Alternative Designation (1 character)	B
Validation Base Year:	2005
Minimum node number in the model	5000
Maximum distance (in miles) for transfer access connectors	0.6
Maximum number of walk access links per mode per zone	99
Average walk speed (in mph)	2.5
Maximum allowable walking distance (in miles)	0.6
Average walk (in miles) - distance around the transit stops used to calculate the percent walk	0.5
Minimum percent walk allowed (zone less than MINPCW are not considered for transit)	15

Buttons: Save, Close, Next..., Back..., Run

Scenario Editor #1: Keys to Change for Each Scenario

The screenshot displays the Scenario Editor interface for a scenario named 'NERPM42'. The main window shows a 'Model Description' section with fields for 'Alternative Letter' (A), 'Model Year' (10), and 'ClusterHandle' (NERPM). Below this is a section for 'DaySim Parameters' with a table of input files and their paths. A red circle highlights the 'Model Description' fields and the 'DaySim Parameters' table. Another red circle highlights a checkbox labeled 'Update Shadow Price' and the 'User-specified Values' section.

DaySim Parameters (Users should adjust these values correspondingly)

Parameter	Value	Browser	Edit
Half of Number of CPUs (DaySim Parallel Processing Parameters)	16		
4 times of CPUs (DaySim Parallel Processing Parameters)	128		
DaySim TAZ Index (Do not begin file name with f, n or r)	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\01_TAZ_Index\jax_taz_indexes.dat	Browse ...	Edit ...
DaySim parcels (Do not begin file name with f, n or r)	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\02_Parcel\Jacksonville_parcel_decayandCirc.dat	Browse ...	Edit ...
DaySim HH File (Do not begin file name with f, n or r)	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\03_Household\jax_hrec.dat	Browse ...	Edit ...
DaySim Person File (Do not begin file name with f, n or r)	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\04_Person\jax_prec.dat	Browse ...	Edit ...
WorkerDXXFile	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\05_ixxi\jax_worker_ixxfractions.dat	Browse ...	Edit ...
ParkAndRide	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\05_pnr\jax_p_Nodes.dat	Browse ...	Edit ...
Availability of Mode	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\06_Roster\roster_jax.csv	Browse ...	Edit ...
DispatcherCombinationFile	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\06_Roster\roster_combinations_jax.csv	Browse ...	Edit ...
Employment	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\02_Parcel\jax2010Emp.dbf	Browse ...	Edit ...
SeedShadowFile	E:\Projects\Clients\NF\TPO\NERPM42\Master\IINT2010Validated\Input\DaySimInput\09_SeedsShadow\shadow_prices.txt	Browse ...	Edit ...

Check box below if there are changes in employment distribution and you are running the scenario the first time

User-specified Values

PROFILE.MAS Entries (Not Normally Changed)

Parameter	Value
Maximum internal zone number	2494
Maximum external zone number	2578
ZONESA1	2579
CBD Zone for Reporting	730
Nearest Zones to Average for Intrazonal Time	2
Maximum Iterations In Gravity Model	40

Buttons at the bottom: Save, Close, Next..., Back..., Run

Scenario Editor Keys Likely to Need Updating

- Cube
 - Alternative letter
 - Model year
 - Number of CPUs to be used by Cube cluster (suggest use maximum)
 - Global feedback iterations (set as 4 by default)
- DaySim
 - DaySim parallel processing
 - “Half of CPUs” and “4 times of CPUs”
 - Beginning time of each period (24 hours format, BegPrd_AM, etc.)
 - DaySim Input files (if any changes)
 - TAZ Index
 - Parcel File
 - Household Records
 - Person Records
 - IXXI
 - PNR and KNR lots
 - Roster
 - Seed Shadow Price

Scenario Editor #2: No Changes in Most Cases

The screenshot shows the Scenario Editor interface with a list of parameters and their values. The parameters are listed on the left, and their corresponding values are shown in a table on the right. The values are mostly default or standard values, indicating no changes in most cases.

Parameter	Value
Maximum Equilibrium Assignment Iterations	50
Coefficient of Toll	0.1
HBW- Avg 3+ Persons/Car	3.37
HBO- Avg 3+ Persons/Car	3.48
NHB- Avg 3+ Persons/Car	3.59
New Alternative Designation (1 character)	B
Validation Base Year	2005
Minimum node number in the model	5000
Maximum distance (in miles) for transfer access connectors	0.6
Maximum number of walk access links per mode per zone	99
Average walk speed (in mph)	2.5
Maximum allowable walking distance (in miles)	0.6
Average walk (in miles) - distance around the transit stops used to calculate the percent walk	0.5
Minimum percent walk allowed (zone less than MINPCW are not considered for transit)	15
Auto operating cost (cents/mile)	9.5
User classes to run	1-9
List of zones for path tracing	501
List of destination zones for path tracing	690
Average occupancy rate for PNR access trips	1.2
Auto occupancy for KNR trips	1.2
Minimum time savings (in minutes) on HOV lanes before being accounted for in the mode choice equation	2
Zero out the drive alone and pnr-access trips for zero-car households	1
Debug Mode Choice (greater than 0 if yes, otherwise 0)	1
Selected origin zone for reporting purposes	501
Selected destination zone for reporting purposes	690
InflationFare	0.9487
InflationAOC	1
InflationParkCost	1.1976
InflationToll	1.1976
Mode Choice Calibration (1 if yes, 0 if not)	0

At the bottom of the interface, there are buttons for **Save**, **Close**, **Next...**, **Back...**, and **Run**. A checkbox labeled **RunUB** is checked.

Scenario Editor #3: No Changes in Most Cases

The screenshot displays the Scenario Editor application window. The interface includes a menu bar (File, Scenario), a toolbar with various action icons, and a main workspace. On the left, there are panels for 'Scenario' (showing a tree view with 'IINT2010Validated' selected), 'Data' (Inputs, Outputs, Reports), 'App' (NERPM42, Create an Alternative, Query Loaded Net), and 'Keys' (a table of key-value pairs). The main workspace contains a table of parameters and their values.

Parameter	Value
MinDistWalkAcc	0.6
MinDistAutoAcc	1.2
Is this a future year alternative? (1 if yes, 0 if no)	0
First BRT Station Node Number	80010
List of downtown nodes where KNR occurs	38041,37144,37203,37231
Mode-specific constant applied for drive-project trips that do not use bus	15
Mode-specific constant applied for all project trips not covered by MSC_C1	6
IVT Factor applied to project mode only	0.2
RunMSC	0
Project Mode Flag	0
External Starting Zone Number	2550
Sets HEVAL to run in analysis mode if "YES"	NO
Sets HEVAL to run in validate mode if "YES"	YES
HEVAL_TITLE	Enhanced Validation Run
Regionwide HBW Attraction Balance Factor	0.8354
Regionwide HBShopping Attraction Balance Factor	0.6464
Regionwide HBSocialRecreation Balance Factor	0.3988
Regionwide HBO Attraction Balance Factor	0.7968
Maximum V/C value in Volume-Delay Functions	5
HBW_AM_Frac	0.2405
HBW_MD_Frac	0.133
HBW_PM_Frac	0.3049
HBW_AM_PA_Frac	0.9886
HBW_MD_PA_Frac	0.565
HBW_PM_PA_Frac	0.1141
HBW_NT_PA_Frac	0.6351
HBW_AM_Frac	0.1576
HBW_MD_Frac	0.339
HBW_PM_Frac	0.2361
HBW_AM_PA_Frac	0.7547
HBW_MD_PA_Frac	0.5007

At the bottom of the main workspace, there are buttons for 'Save', 'Close', 'Next...', 'Back...', and 'Run'.

Scenario Editor #4: Most Relevant for Select Link and Zone Analysis

The screenshot displays the Scenario Editor interface with the following components:

- File Menu:** Merge..., Refresh, Properties..., Catalog.
- Scenario Menu:** Run Multiple..., Run Script..., See Run Report..., Append Sibling, Insert Sibling, Add Child, Delete Scenario, Add Report..., Edit Report..., Export Report...
- Scenario Tree:** Master > IINT2010\Validated > Test2040DemOnBase > EC2018SE2040 > N2040 > CF2040.
- Data Panel:** Inputs, Outputs, Reports.
- App Panel:** NERPMM42, Create an Alternative, Query Loaded Net.
- Keys Panel:** Table with Key and Value columns.
- Main Table:** List of links with values.
- Configuration Section:** Checkboxes for 'Perform Select Zone and/or Link Analysis?' and 'Perform AM/PM/MD/EV Select Zone and/or Link Analysis?'. Includes instructions for Node and Link analysis.
- Input Fields:** Text boxes for facility type and analysis parameters.
- Buttons:** Save, Close, Next..., Back..., Run.

Link Name	Value
HNW_PM_PA_Fac	0.3881
HNW_NT_PA_Fac	0.4293
NHB_AM_Frac	0.1057
NHB_MD_Frac	0.5074
NHB_PM_Frac	0.2209
LDTRK_AM_Frac	0.14956
LDTRK_MD_Frac	0.34506
LDTRK_PM_Frac	0.21462
HDTRK_AM_Frac	0.13955
HDTRK_MD_Frac	0.38367
HDTRK_PM_Frac	0.16385
EXT_AM_Frac	0.1535
EXT_MD_Frac	0.34088
EXT_PM_Frac	0.22794
EXTHOV_SR3_Fac	0.3575
TRNDRV_SR3_Fac	0.1
TRNDRV_AM_Frac	0.35
TRNDRV_MD_Frac	0.15
TRNDRV_PM_Frac	0.35

Configuration options and input fields:

- Create PATH File (Large file, used for on-screen select link analysis)
- Definition of Links to Include in Path File: FACILITY_TYPE=12,71-79,92
- Perform Select Zone and/or Link Analysis? If Yes
- Perform AM Select Zone and/or Link Analysis? If Yes
- Perform PM Select Zone and/or Link Analysis? If Yes
- Perform MD Select Zone and/or Link Analysis? If Yes
- Perform EV Select Zone and/or Link Analysis? If Yes

Input fields for analysis parameters:

- N=1 | L=60915-60764
- L=24004-24003,24059-24060,6058-6000,6007-6053,26154-26440,26430-
- L=37006-74146
- L=37006-74146
- L=37006-74146

Scenario Editor #5: DaySim Model Coefficient Files

typically no changes needed

DaySim Parameter (Typically No Change Needed)

Parameter Name	File Path	Action
Coef_WorkLocation	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\WorkLocationCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_SchoolLocation	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\SchoolLocationCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_PayToPark	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\PayToParkAtWorkplaceCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_TransitPassOwnership	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\TransitPassOwnershipCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_AutoOwn	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\AutoOwnershipCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_IndivPersonDayPattern	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\IndividualPersonDayPatternCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_PersExactNumTours	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\PersonExactNumberOfToursCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_WorkTourDestination	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\WorkTourDestinationCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_OtherTourDestination	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\OtherTourDestinationCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_WBSubtourGeneration	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\WorkbasedSubtourGenerationCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_WorkTourMode	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\WorkTourModeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_SchoolTourMode	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\SchoolTourModeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_WBSubtourMode	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\WorkbasedSubtourModeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_EscortTourMode	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\EscortTourModeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_OtherHBTourMode	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\OtherHomeBasedTourModeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_WorkTourTime	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\WorkTourTimeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_SchoolTourTime	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\SchoolTourTimeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_OtherHBTourTime	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\OtherHomeBasedTourTimeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_WBSubtourTime	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\WorkbasedSubtourTimeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_InterStopGeneration	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\IntermediateStopGenerationCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_InterStopLocation	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\IntermediateStopLocationCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_TripMode	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\TripModeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Coef_TripTime	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\TripTimeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Currently Not Implemented	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\SchoolTourModeCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
Currently Not Implemented	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim\07_Coefficients\IndividualPersonDayPatternCoefficients_Jacksonville-v.5.F12	Browse ... Edit ...
NumZones	2578	
BegPrd_AM_HWY	6	
BegPrd_MD_HWY	9	
BegPrd_PM_HWY	15.5	
BegPrd_EV_HWY	18.5	

Buttons: Save, Close, Next..., Back..., Run

Scenario Editor #6: DaySim File Templates – do not change unless file path-name is missing

The screenshot shows the Scenario Editor interface with a configuration table. The table lists various parameters and their values. An orange oval highlights the file path columns for several rows, indicating that these paths should not be changed unless the file path-name is missing.

Parameter	Value
BegPrd_AM_PT	5
BegPrd_MD_PT	9
BegPrd_PM_PT	15.5
BegPrd_EV_PT	19
DaySimSeed	1234
Speed_Bike	10
Speed_Walk	3
MaxBikeDist	100
MaxWalkDist	60
Value of Time of Low Income Household	3.57
Value of Time for Medium Income Household	7.13
Value of Time for High Income Household	10.7
HouseholdDayFile	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim_Summaries\WHTS\jax_nhts_hdayx7.dat
PersonDayFile	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim_Summaries\WHTS\jax_nhts_pdayx7.dat
TourPathFile	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim_Summaries\WHTS\jax_nhts_tourx7.dat
TripPathFile	E:\Projects\Clients\NFTPO\NERPM42\User.prg\DaySim_Summaries\WHTS\jax_nhts_tripx7.dat
VR_PATH	C:\Program Files\VR-3.0.3\bin\vr4\VR.exe
AutoOperatingCost	0.12
TransitInVehicleTimeWeight	1
TransitFirstWalkTimeWeight	2
TransitTransferWalkTimeWeight	2
TransitNumberBoardingsWeight	4
TransitDriveAccessTimeWeight	2
TransitWalkAccessTimeWeight	2
WalkTimeWeight	2
BikeTimeWeight	2
TransitWalkAccessDistanceLimit	20
AvailablePathUpperTimeLimit	180
<input type="checkbox"/> Run Model Without DaySim Run	
IntrCity_Baker	0.3
IntrCity_Clay	0.65



Scenario Inputs and Configurations

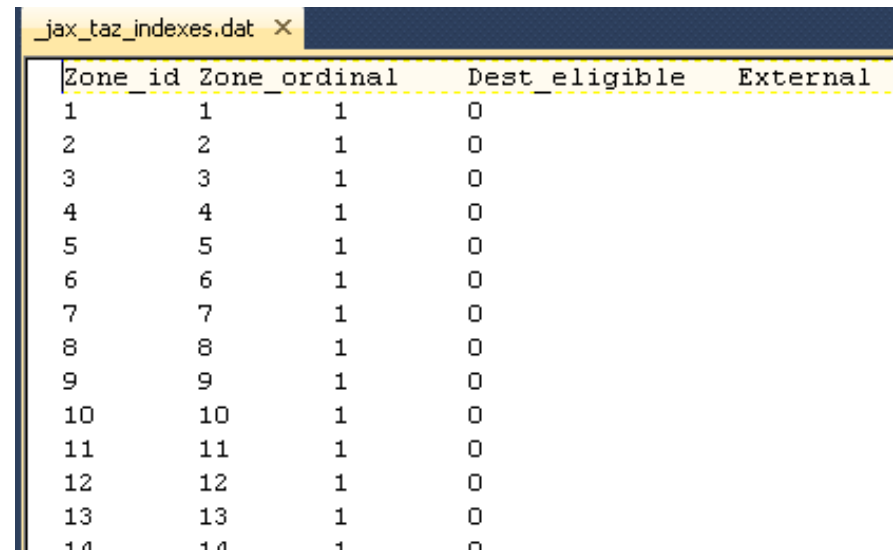
Data Needs and Preparation

- DaySim Input
 - Zone Index
 - Parcel
 - Household Records
 - Person Records
 - PNR and KNR Stations
 - Roster and Roster Combination
 - Coefficients and Seed Shadow Price
- Cube Input
 - Zdata1

I. Zone Index

{CATALOG_DIR}\DaySimInput\01_TAZ_Index_jax_taz_indexes.dat

- No change required unless zone structure is changed
- Four Fields:
 - Zone_id: The TAZ index used in the NERPM network system
 - Zone_ordinal: A zone index number starting at 1 with no gaps
 - Dest_eligible: 0/1 - 1 indicates an internal zone that is eligible as a destination in DaySim
 - External: 0/1 - 1 indicates an external zone, not eligible as a destination in DaySim
- Space-delimited

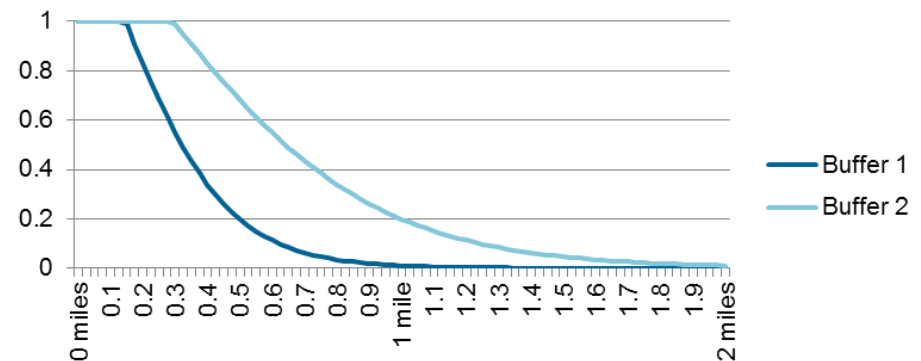


Zone_id	Zone_ordinal	Dest_eligible	External
1	1	0	0
2	2	0	0
3	3	0	0
4	4	0	0
5	5	0	0
6	6	0	0
7	7	0	0
8	8	0	0
9	9	0	0
10	10	0	0
11	11	0	0
12	12	0	0
13	13	0	0

II. Parcel

{CATALOG_DIR}\DaySimInput\02_Parcel\Jacksonville_parcel_decayandCirc.dat

- Parcel level land use details, ASCII format text file
- Generated through a multi-step “**buffering**” process
- All data preparation tools are under {CATALOG_DIR}\User.prg\DaySim_Inputs\1_Parcel
- Parcel files contain a fair amount of information
 - Parcel coordinates
 - Parking price and capacity information
 - Distance to nearest transit stop by mode
 - Housing units
 - Employment by industry
 - Enrollment by grade
 - Buffer variables



Parcel File Snapshot

```
parcelid xcoord_p ycoord_p sqft_p taz_p lutype_p hh_p stugrd_p stuhgh_p stuuni_p empedu_p empfoo_p empgov_p
1 257049 2263439 3243348 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.
2 216768 2264485 545066 2401 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
3 218203 2264013 1255433 2401 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
4 241482 2262946 8733812 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
5 237554 2262613 10481813 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
6 198630 2264188 384170 2401 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
7 197011 2274988 181149 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 9.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
8 211882 2273487 5924288 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
9 254093 2259714 633494 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
10 196974 2273630 375603 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 5.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
11 207548 2136312 25736 2404 1200304020 3.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
12 216507 2273106 6429848 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
13 221208 2272704 6153759 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
14 225808 2272298 6244229 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
15 230379 2271909 6163220 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
16 201960 2138743 106544 2429 1200304020 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
17 254309 2152516 29405 2426 1200304020 2.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
18 254450 2152567 41138 2426 1200304020 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
19 234952 2271555 5684006 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
20 211367 2272235 4489596 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
21 239511 2271209 5229843 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
22 215709 2272022 5049194 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
23 244083 2270869 4743857 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
24 220929 2271749 3168589 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
25 248656 2270531 4048326 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
26 225632 2271495 1167069 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
27 253221 2270200 3348306 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
28 226494 2268997 25033276 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
29 231822 2268987 22430154 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
30 199345 2271880 2488915 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
31 221813 2270131 6806510 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
32 219617 2270380 5149550 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
33 215867 2268913 26471740 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
34 257785 2269869 2661067 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
35 237083 2268794 21196734 2411 1200304020 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
```

Parcel File Field Definitions

FIELD	DESCRIPTION
id	Parcel/Microzone ID number
xcoord_p	X coordinate – state plane feet
ycoord_p	Y coordinate – state plane feet
sqft_p	Area – square feet
taz_p	TAZ number
lotype_p	land use type
hh_p	households on parcel
stugrd_p	grade school enrollment on parcel
stuhgh_p	high school enrollment on parcel
stuuni_p	university enrollment on parcel
empedu_p	educational employment on parcel
empfoo_p	food employment on parcel
empgov_p	government employment on parcel

FIELD	DESCRIPTION
empind_p	industrial employment on parcel
empmed_p	medical employment on parcel
empofc_p	office employment on parcel
empret_p	retail employment on parcel
empsvc_p	service employment on parcel
empoth_p	other employment on parcel
emptot_p	total employment on parcel
parkdy_p	offstreet daily parking on parcel
parkhr_p	offstreet hourly parking on parcel
ppricdyp	offstreet daily parking price
pprichrp	offstreet hourly parking price



Household Records File

{CATALOG_DIR}\DaySimInput\03_Household_jax_hrec.dat

FIELD	DESCRIPTION
HHNO	Household id
HHSIZE	Household size
HHVEHS	Vehicles available
HHWKRS	Household workers
HHFTW	HH full time workers (type 1)
HHPTW	HH part time workers (type 2)
HHRET	HH retired adults (type 3)
HHOAD	HH other adults (type 4)
HHUNI	HH college students (type 5)
HHHSC	HH high school students (type 6)
HH515	HH kids age 5-15 (type 7)
HHCU5	HH kids age 0-4 (type 8)
HHINCOME	Household income (\$)
HOWNRENT	Household own or rent
HRESTYPE	Household residence type
HHPARCEL	Residence parcel id
HHTAZ	Residence TAZ index number
HHEXPFAC	HH expansion factor
SAMPTYPE	Sample type (permanent, seasonal, groupquarter)

Person Records File

{CATALOG_DIR}\DaySimInput\04_Person_jax_prec.dat

FIELD	DESCRIPTION
HHNO	Household id
PNO	person sequential id number on file
PPTYP	person type
PAGEY	age in years
PGEND	gender
PWTYP	worker type
PWPCL	usual work parcel id
PWTAZ	usual work TAZ
PWAUTIME	auto time to usual work
PWAUDIST	auto distance to usual work
PSTYP	student type
PSPCL	usual school parcel id
PSTAZ	usual school TAZ
PSAUTIME	auto time to usual work
PSAUDIST	auto distance to usual work
PUWMODE	usual mode to work
PUWARRP	Usual arrival period to work
PUWDEPP	Usual depart period from work
PTPASS	0/1 - 1 indicates an transit pass
PPAIDPRK	0/1 - 1 indicates paid parking available at workplace
PDIARY	0/1 - 1 indicates Person used paper diary
PProxy	0/1 - 1 indicates an proxy response
PSEXPFAC	Person expansion factor



DaySim: IXXI File

{CATALOG_DIR}\DaySimInput\05_ixxi_jax_worker_ixxifractions.dat

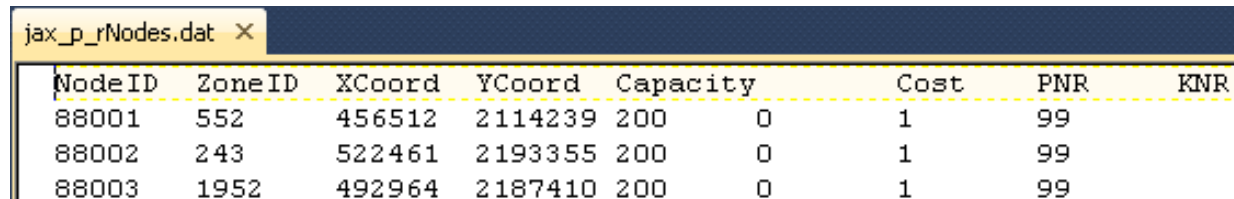
- Represents commute between internal and external TAZs
- Developed based on 2000 CTPP, need to be updated when 2010 CTPP at Census Tract/TAZ Level is available
- Three fields:
 - TAZ_ID
 - IE Ratio, fraction of internal workers chosen to work outside of region
 - EI Ratio, fraction of jobs set aside for external workers
- No change required unless there is reason to believe ratios would change
- EI ratio affects the number of jobs available for internal workers, which affects shadow pricing

TAZ_ID	IE Ratio	EI Ratio
1	0.1058	0.0413
2	0.1058	0.0413
3	0.1058	0.0413
4	0.1058	0.0413
5	0.1058	0.0413
6	0.1058	0.0413
7	0.1058	0.0413
8	0.1058	0.0413
9	0.1058	0.0413
10	0.1148	0.0249
11	0.1148	0.0249
12	0.1058	0.0413
...	-	-

DaySim: PNR & KNR File

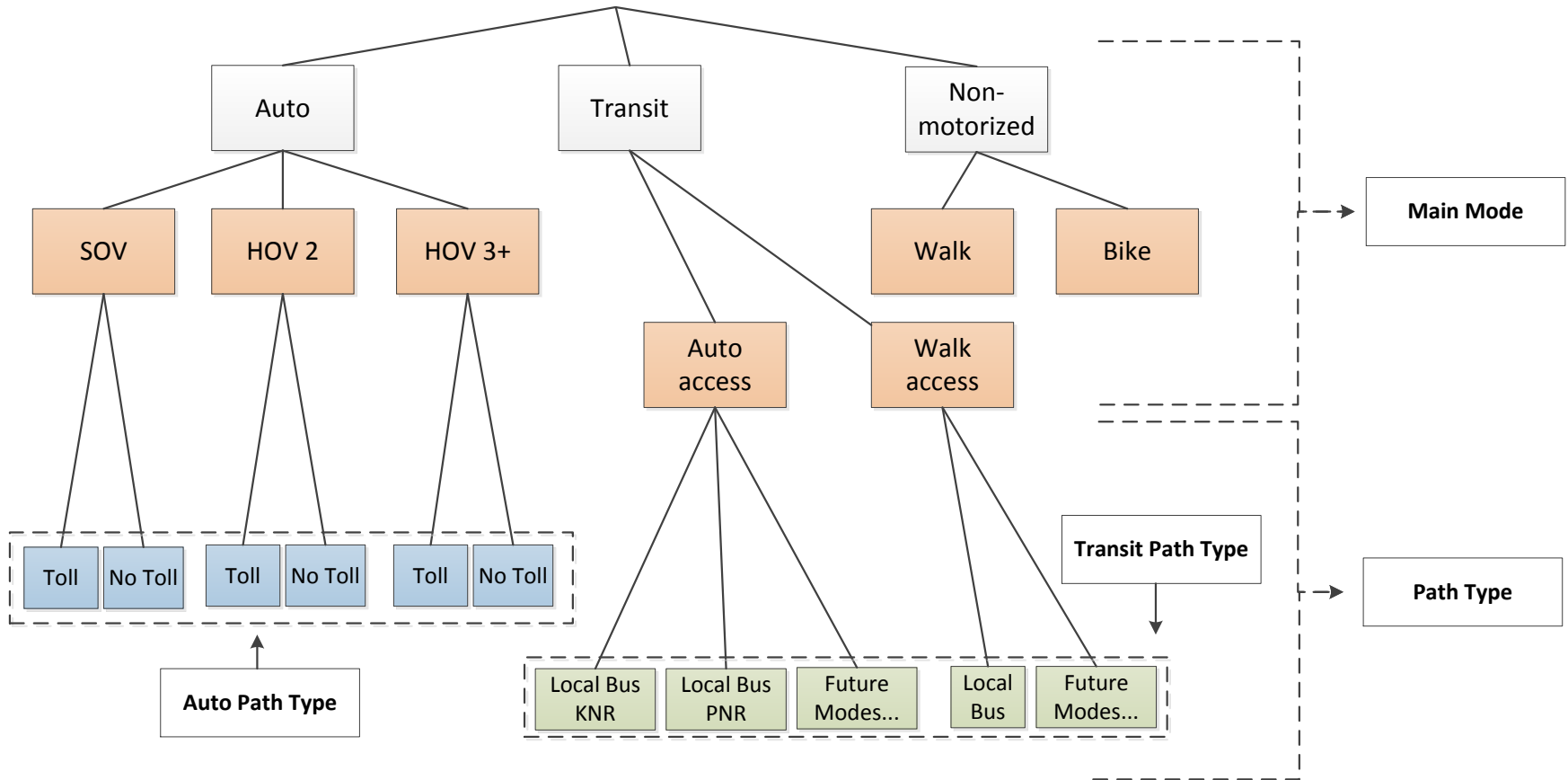
{CATALOG_DIR}\DaySimInput\05_pnr\jax_p_rNodes.dat

- List of Park and Ride and Kiss and Ride lots
- Eight fields:
 - NodeID: Lots index coded in network (currently not used by DaySim)
 - ZoneID: TAZ Index
 - Xcoord, Ycoord: Station Centroid Coordinate (State Plane FL-North, Feet)
 - Capacity: Available parking spaces
 - Cost: Parking cost in cents (if any)
 - PNR: Park and Ride dummy, 99/1, 1 if park and ride station, 99 if not a park and ride station
 - KNR: Kiss and Ride dummy, 99/1, 1 if kiss and ride station, 99 if not a kiss and ride station
- Needs to be updated if a scenario involved PNR/KNR changes



NodeID	ZoneID	XCoord	YCoord	Capacity	Cost	PNR	KNR
88001	552	456512	2114239	200	0	1	99
88002	243	522461	2193355	200	0	1	99
88003	1952	492964	2187410	200	0	1	99

Mode Choice Structure



DaySim: Roster Combination File

{CATALOG_DIR}\DaySimInput\06_Roster\roster.combinations_Jax.csv
 “2010 Base Year”

Mode → Path ↓	walk	bike	sov	hov2	hov3	transit	park & ride	school bus	other
full-network	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
no-tolls	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
bus	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
project	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
pnr-bus	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
pnr-project	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
knr-bus	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
knr-project	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE

- Combination of Mode Choice (columns) and Path Choice (rows)
- The cells are **TRUE** for valid combinations within DaySim
- If there is no school-bus skim provided, DaySim uses HOV3 skim
- Need to be consistent with Roster file
- No change required unless a new path added
- A copy should be saved to the scenario’s “DaySim” folder automatically

DaySim: Roster File

{CATALOG_DIR}\DaySimInput\06_Roster\roster_jax.csv

#variable	mode	path-type	vot-group	start-minute	end-minute	length	file-type	name	field	transpose	blend-variable	blend-path-type	factor	scaling
time	bike	full-network	medium	0	1439	maxzone	Text_IJ	SKM_NM.TXT	3	FALSE	distance	null	null	TRUE
distance	bike	full-network	medium	0	1439	maxzone	Text_IJ	SKM_NM.TXT	4	FALSE	distance	null	null	TRUE
time	walk	full-network	medium	0	1439	maxzone	Text_IJ	SKM_NM.TXT	5	FALSE	distance	null	null	TRUE
distance	walk	full-network	medium	0	1439	maxzone	Text_IJ	SKM_NM.TXT	6	FALSE	distance	null	null	TRUE
ivtime	sov	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_D1.TXT	3	FALSE	distance	null	null	TRUE
distance	sov	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_D1.TXT	4	FALSE	distance	null	null	TRUE
ivtime	hov2	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_S2.TXT	3	FALSE	distance	null	null	TRUE
distance	hov2	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_S2.TXT	4	FALSE	distance	null	null	TRUE
ivtime	hov3	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_S3.TXT	3	FALSE	distance	null	null	TRUE
distance	hov3	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_S3.TXT	4	FALSE	distance	null	null	TRUE
ivtime	sov	full-network	medium	540	959	maxzone	Text_IJ	SKM_MD_D1.TXT	3	FALSE	distance	null	null	TRUE
distance	sov	full-network	medium	540	959	maxzone	Text_IJ	SKM_MD_D1.TXT	4	FALSE	distance	null	null	TRUE
ivtime	hov2	full-network	medium	540	959	maxzone	Text_IJ	SKM_MD_S2.TXT	3	FALSE	distance	null	null	TRUE
distance	hov2	full-network	medium	540	959	maxzone	Text_IJ	SKM_MD_S2.TXT	4	FALSE	distance	null	null	TRUE
ivtime	hov3	full-network	medium	540	959	maxzone	Text_IJ	SKM_MD_S3.TXT	3	FALSE	distance	null	null	TRUE

- ASCII comma-delimited with header (.csv)
- Provide travel cost to DaySim
 - Highway – distance, time, and toll
 - Transit – in-vehicle time, initial wait time, transfer wait time, fare, and number of transfer
- No change required unless a new path added
- A copy should be saved to the scenario’s “DaySim” folder automatically

Understanding the Roster File

- **Mode:** Skim mode, valid values are walk, bike, sov, hov2, hov3, transit (walk-to-transit), and park-and-ride (drive-to-transit)
- **Path-type:** Path type, valid values are full-network, no-toll, bus, PNR bus, KNR bus
- **Vot-group:** Value of time range, valid values are very-low, low, medium, high, and very-high (if only one group is provided, DaySim will assume the same skims are used for all groups)
- **Start-minute:** First minute for which skim applies, in minutes past midnight (mpm)
- **End-minute:** Last minute for which skim applies, in minutes past midnight (if lower than start-minute, then period spans midnight)
- **Name:** Skim file name (assumes same directory as roster file, error would occur if not in same directory). Null is assumed for file type “null.”



DaySim Roster File: Highway Example

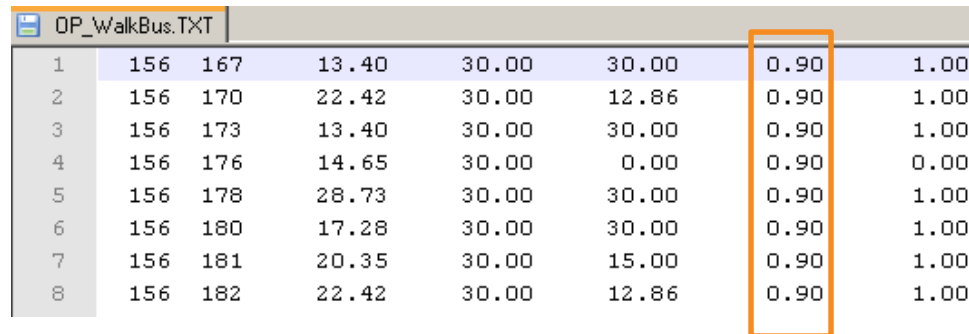
ivtime	sov	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_D1.TXT	3	FALSE	distance	null	null	TRUE
distance	sov	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_D1.TXT	4	FALSE	distance	null	null	TRUE
ivtime	hov2	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_S2.TXT	3	FALSE	distance	null	null	TRUE
distance	hov2	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_S2.TXT	4	FALSE	distance	null	null	TRUE

SKM_AM_D1.TXT				
1	1	2.74	1.11	0.00
1	2	7.20	3.01	0.00
1	3	6.04	2.44	0.00
1	4	5.47	2.22	0.00
1	5	8.32	3.89	0.00
1	6	7.16	3.08	0.00
1	7	8.39	3.80	0.00
1	8	8.05	3.70	0.00
.

- Mode SOV in-vehicle time should read from file “SKM_AM_D1.TXT”, Column 3 (IVT)
- The roster file specifies this for period 6:00AM (360 mpm) to 8:59AM (539 mpm).

DaySim Roster File: Transit Example

ivtime	transit	bus	medium	540	959	maxzone	Text_IJ	OP_WalkBus.TXT	3	FALSE	null	null	null	TRUE
iwaittime	transit	bus	medium	540	959	maxzone	Text_IJ	OP_WalkBus.TXT	4	FALSE	null	null	null	TRUE
xwaittime	transit	bus	medium	540	959	maxzone	Text_IJ	OP_WalkBus.TXT	5	FALSE	null	null	null	TRUE
fare	transit	bus	medium	540	959	maxzone	Text_IJ	OP_WalkBus.TXT	6	FALSE	null	null	null	TRUE
nboard	transit	bus	medium	540	959	maxzone	Text_IJ	OP_WalkBus.TXT	7	FALSE	null	null	null	TRUE



	156	167	13.40	30.00	30.00	0.90	1.00
2	156	170	22.42	30.00	12.86	0.90	1.00
3	156	173	13.40	30.00	30.00	0.90	1.00
4	156	176	14.65	30.00	0.00	0.90	0.00
5	156	178	28.73	30.00	30.00	0.90	1.00
6	156	180	17.28	30.00	30.00	0.90	1.00
7	156	181	20.35	30.00	15.00	0.90	1.00
8	156	182	22.42	30.00	12.86	0.90	1.00

- Mode walk to bus fare should read from file “OP_WalkBus,” Column 6 (fare).
- The roster file specifies this for period 9:00AM (540 mpm) to 3:59PM (959 mpm).

DaySim Roster File Tips

Keep time period consistent:
























Time Period	Roster	Cube Keys
AM	360-539 => 6:00AM – 8:59AM	BegPrd_AM=6
MD	540-959 => 9:00AM – 3:59PM	BegPrd_MD=9
PM	960-1139 => 4:00PM – 6:59PM	BegPrd_PM=16
EV	1140-359 => 7:00PM – 6:00AM	BegPrd_EV=19

- Measurement units
 - Time is in minutes
 - Distance is in miles
 - Fare is in \$ in DaySim skim text files (stored as cents in Cube)
- Specify walk-to-bus (and walk-to-project) skims for PNR and KNR path types
 - DaySim chooses the PNR/KNR station for drive-to-transit trips
 - DaySim obtains the auto portion of a drive-to-transit skim from highway skims

DaySim: Coefficients

{CATALOG_DIR}\User.prg\DaySim\07_Coefficients

- Typically no change required for any scenarios

 AutoOwnershipCoefficients_Jacksonville-...	4/3/2012 2:16 PM	F12 File
 EscortTourModeCoefficients_Jacksonville...	3/21/2013 4:00 PM	F12 File
 IndividualPersonDayPatternCoefficients_J...	3/20/2013 5:27 PM	F12 File
 IntermediateStopGenerationCoefficients_...	1/17/2013 2:22 PM	F12 File
 IntermediateStopLocationCoefficients_Ja...	4/7/2012 8:05 PM	F12 File
 OtherHomeBasedTourModeCoefficients_...	3/21/2013 5:29 PM	F12 File
 OtherHomeBasedTourTimeCoefficients_J...	1/4/2013 11:41 AM	F12 File
 OtherTourDestinationCoefficients_Jackso...	3/22/2013 4:46 PM	F12 File
 PayToParkAtWorkplaceCoefficients_Jacks...	4/7/2012 7:34 PM	F12 File
 PersonExactNumberOfToursCoefficients_...	1/17/2013 2:18 PM	F12 File
 SchoolLocationCoefficients_Jacksonville-...	4/5/2012 7:37 PM	F12 File
 SchoolTourModeCoefficients_Jacksonvill...	3/21/2013 4:20 PM	F12 File
 SchoolTourTimeCoefficients_Jacksonville...	1/9/2013 4:23 PM	F12 File
 TransitPassOwnershipCoefficients_Jackso...	4/7/2012 7:48 PM	F12 File
 TripModeCoefficients_Jacksonville-v.5.F12	1/17/2013 3:08 PM	F12 File
 TripTimeCoefficients_Jacksonville-v.5.F12	4/3/2012 8:36 PM	F12 File
 WorkbasedSubtourGenerationCoefficient...	3/20/2013 5:28 PM	F12 File
 WorkBasedSubtourModeCoefficients_Jac...	3/21/2013 5:29 PM	F12 File
 WorkbasedSubtourTimeCoefficients_Jack...	1/16/2013 9:33 AM	F12 File
 WorkLocationCoefficients_Jacksonville-v....	1/17/2013 12:03 PM	F12 File
 WorkTourDestinationCoefficients_Jackso...	4/5/2012 7:37 PM	F12 File
 WorkTourModeCoefficients_Jacksonville-...	3/21/2013 5:29 PM	F12 File
 WorkTourTimeCoefficients_Jacksonville-v...	1/17/2013 3:10 PM	F12 File

Example Coefficient File: “Other” Home-based Tour Mode Choice Model (partial file)

	Label	Constraint	Coeff.	Alternative	Description
1	costutil	F	0.379106	All	Parking cost utility
2	timeutil	F	2.018691	All	Path type model logsum
20	wt-const	F	-4.42008	walk to transit	Constant
21	wt-nocars	F	4.945792	walk to transit	No cars in HH
30	s3-const	F	-0.8113	hov3	Constant
31	sr-hhcu5	F	0.598188	hov3,hov2	# HH children under age 5
32	sr-hh515	F	0.126346	hov3,hov2	#HH children age 5-15
34	sr-hhnwa	F	0.182457	hov3,hov2	#HH non-working adults
35	sr-Indist	F	0.225107	hov3,hov2	LN(hov path auto distance)
38	s3-onephh	F	-3.64495	hov3	One person HH
39	s3-twophh	F	-2.04564	hov3	Two person HH
40	s2-const	F	...	hov2	...

DaySim: Shadow Price

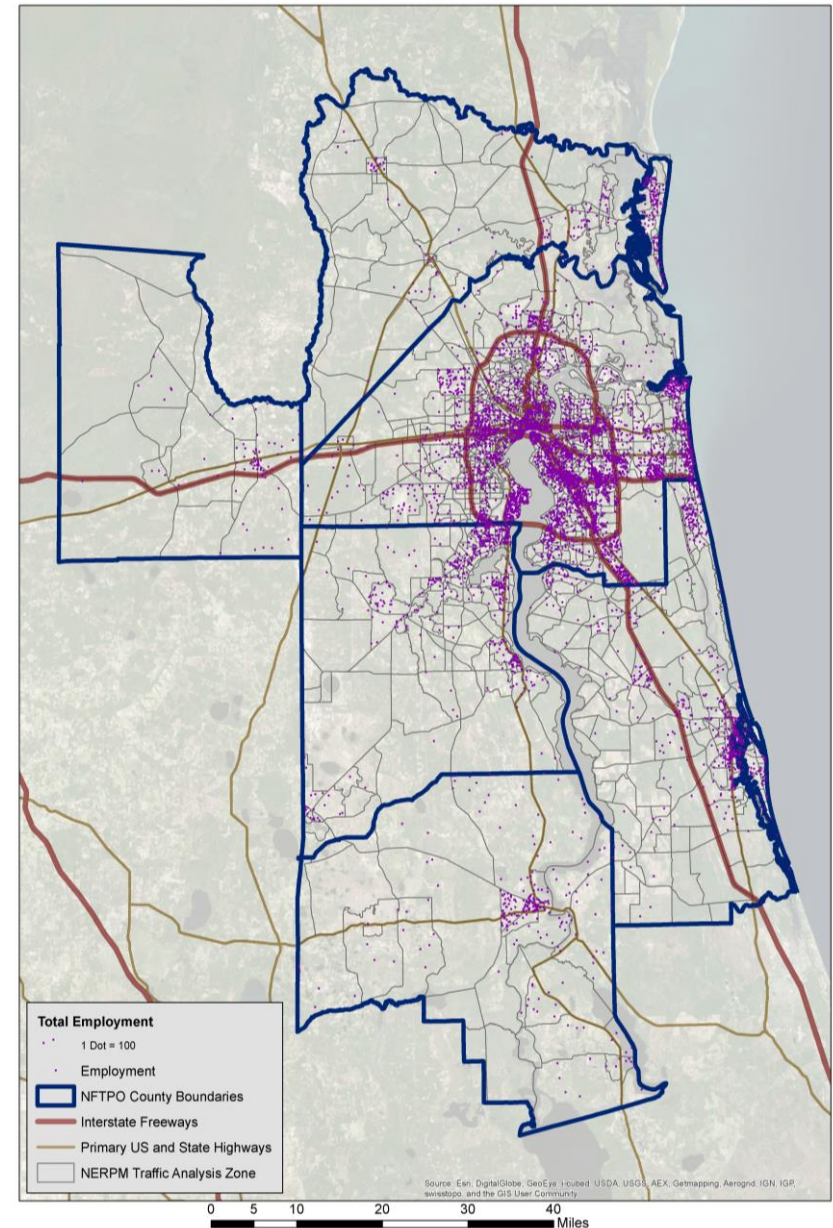
{CATALOG_DIR}\DaySimInput\09_SeedShadow

- What does it do?
 - Same effect as doubly-constraining a gravity model
 - Adds constants to parcels so result in a good match between:
 - Work location choices and employment
 - School location choices and enrollment
- Shadow price file need to be updated whenever there is change in employment or school enrollment
 - There is a major land use change in base year scenario
 - Future base scenario (e.g., 2040EC)
- How to update?
 - Check “Update shadow price” option in scenario editor

Cube Input: Zdata1

Zdata1 will be automatically updated from DaySim input

- **Total population** (TOTAL_POP, update from household records _jax_hrec.dat)
- **School enrollment** (SCHENR, update from parcel file Jacksonville_parcel_decayandCirc.dat)
- **Employment** by industry categories (update from DaySimInput\02_Parcel\Jax2010Emp.dbf)



Locations of Auxiliary Demand Files: EE/EI, Hotels/Motels, Special Generators, ZDATA

Name	Date modified	Type	Size
DaySimInput	3/6/2015 1:44 PM	File folder	
BRTREP_10A.DAT	12/6/2013 9:21 AM	DAT File	4 KB
DEFAULT.VPR	12/6/2013 9:21 AM	VPR File	1 KB
EETRIPS.DBF	2/3/2014 2:46 PM	DBF File	21 KB
EITRIPS_10A.DBF	11/11/2014 3:54 PM	DBF File	11 KB
EXTAOFAC.DBF	12/6/2013 9:21 AM	DBF File	54 KB
FF.DBF	12/6/2013 9:21 AM	DBF File	18 KB
FF_RURAL.DBF	12/6/2013 9:21 AM	DBF File	18 KB
HOTEL_MOTEL_TAZ_SUMMARY	12/6/2013 9:21 AM	Text Document	2 KB
MVFACTORS.10A	12/6/2013 9:21 AM	10A File	15 KB
MVFACTORSADJ.10A	12/6/2013 9:21 AM	10A File	15 KB
PCWALK_10A.DAT	2/26/2015 12:40 PM	DAT File	77 KB
RIVERCROSS	12/6/2013 9:21 AM	Microsoft Excel C...	18 KB
SCH_10A.DBF	3/8/2015 12:38 PM	DBF File	37 KB
SPDCAP.10A	1/27/2015 5:51 PM	10A File	268 KB
SPGEN_10A.DBF	12/6/2013 9:21 AM	DBF File	12 KB
STATREP_10A.DAT	12/6/2013 9:21 AM	DAT File	3 KB
TCARDS_10A.PEN	1/23/2015 5:02 PM	PEN File	20 KB
TERMTIME	12/6/2013 9:21 AM	Microsoft Excel C...	2 KB
TFARES_10A.FAR	12/6/2013 9:21 AM	FAR File	2 KB
TLINKS.DBF	12/6/2013 9:21 AM	DBF File	1 KB
TOLLINK.10A	12/6/2013 9:21 AM	10A File	1 KB
TROUTE_10A.LIN	7/22/2014 4:40 PM	LIN File	239 KB
TSPDS	12/6/2013 9:21 AM	Microsoft Excel C...	0 KB
VFACTORS.10A	12/6/2013 9:21 AM	10A File	8 KB
ZDATA_10A.DBF	11/21/2014 7:25 PM	DBF File	2,181 KB
ZDATA1_10A1.DBF	3/8/2015 12:38 PM	DBF File	416 KB
ZDATA1_10A2.DBF	3/8/2015 12:38 PM	DBF File	489 KB
ZDATA1UPDATE_10A.DBF	3/8/2015 12:37 PM	DBF File	37 KB

Locations of Auxiliary Demand Files: Trucks

The screenshot displays a Windows Explorer window showing a directory structure. The top window shows a list of folders: applications, input_SWM, Master, media, output_SWM, parameters, User.prg, and NERPMAB1. A blue arrow points from the 'input_SWM' folder to a sub-window showing two folders: Y2010_SWM and Y2040_SWM. Another blue arrow points from the 'Y2010_SWM' folder to a third window showing a list of files:

Name	Date modified	Type	Size
FREIGHT.B10	12/6/2013 9:20 AM	B10 File	5,865 KB
JAXPORT.DBF	7/9/2014 11:19 AM	DBF File	2 KB
N4EXTRACT_EQ.DBF	7/2/2014 12:35 PM	DBF File	48 KB
Nerpm4 Extract.net	12/6/2013 9:20 AM	NET File	2,796 KB
Nerpm4 Extract.VPR	3/6/2015 2:03 PM	VPR File	5 KB
Nerpm4 Extractx.net	3/7/2015 4:19 PM	NET File	2,796 KB
Nerpm4 Extractx.VPR	7/2/2014 1:23 PM	VPR File	6 KB
TRUCKS-OD.B10	12/6/2013 9:20 AM	B10 File	29,509 KB
TURN_10B.PEN	12/6/2013 9:20 AM	PEN File	1 KB
UNLOADED_B10.NET	12/6/2013 9:20 AM	NET File	51,351 KB
UNLOADED_B10.VPR	3/6/2015 2:03 PM	VPR File	9 KB
XTT_OD_10B	12/6/2013 9:20 AM	Microsoft Access ...	22,968 KB



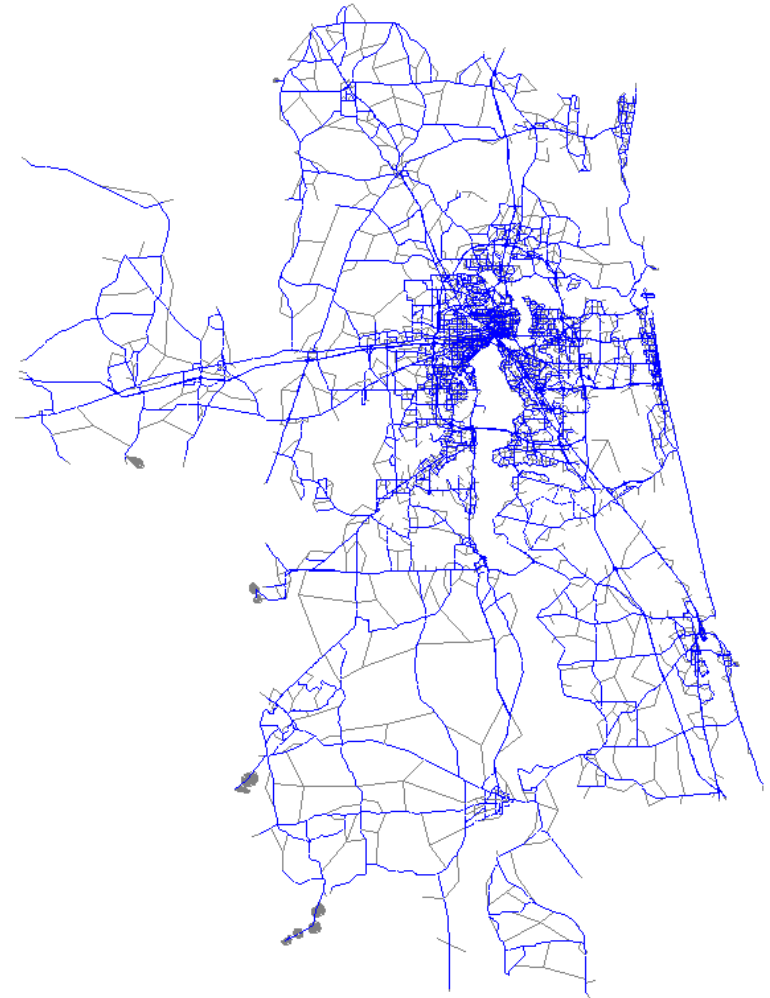
Break



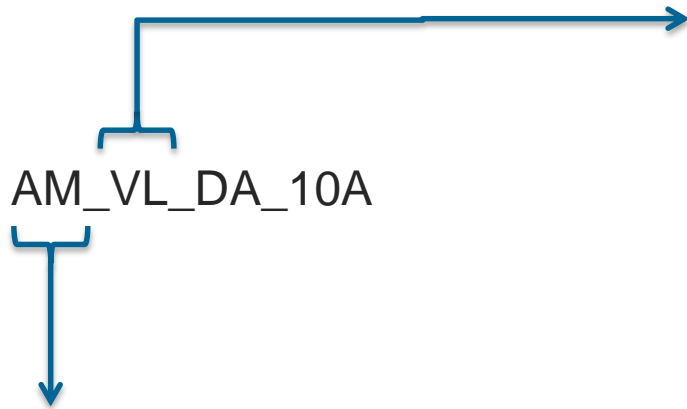
Highway Network

Important Highway Network Changes

- Additional fields have been added to links to represent **four different time periods + the combined all-day** assignment
- New scenario labeling for future-years
- HEVAL remains the main tool for producing output summaries—no changes



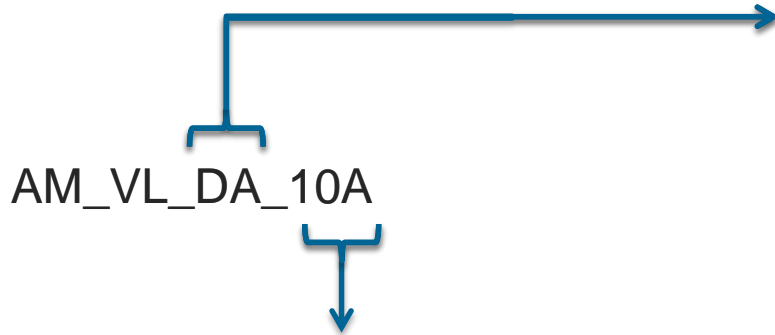
Combined Loaded Network Link Attribute Labeling



Time Period	Label
AM Peak (6:00AM – 8:59AM)	AM
Midday Off Peak (9:00AM – 3:59PM)	MD
PM Peak (3:30PM – 6:29PM)	PM
Evening Off Peak (6:29PM – 5:59AM)	NT
All Day (sum of 4 periods)	AL

Measure	Label
Volume (vehicles)	VL
Flow (vehicles)	F
Time (not used)	T
Congested Time (min.)	CGTIME
Congested Speed (mph)	CGSPEED
Vehicle Miles Traveled	VMT
Vehicle Hours Traveled	VHT
Volume-to-Capacity Ratio	VCCAPRTO
Volume-to-Count Ratio	VOLCNTRTO

Combined Loaded Network Link Attribute Labeling



Scenario	Label
Base Year 2010 Networks and SE data	10A
Interim 2030 networks and data	30A
2018 E+C Network with 2040 SE data	40A
Cost Feasible 2040	40C
2040 Needs Plan	40N
2040 Needs network with alternate land use (employment)	40M

Mode Group	Label
Total	TOT
Drive Alone	DA
External Drive Alone	EDA
Shared Ride 2	SR2
External Shared Ride 2	ESR2
Shared Ride 3	SR3
External Shared Ride 3	ESR3
Trucks	TRK
Port-generated Trucks	PRTTK
All Externals	EXT

Highway Assignment Interface

The screenshot displays the Highway Assignment Interface software. The interface includes a menu bar (File, Home, Scenario, Settings), a toolbar with various tools like 'Run...', 'Add', 'Copy Group Files...', 'Loop', 'Branch', 'Delete', 'Network', 'Highway', 'Public Transport', 'Voyager', 'Generation', 'Distribution', 'Fratar', 'Trnbuild', 'Analyst', 'Analyst Drive', 'Avenue', 'Land', 'Cluster', 'Cargo', 'Utilities', 'User Programs', 'Legacy', 'Order Check', 'Process Templates...', 'File Boxes', 'Refresh', and 'Snap All'. The main workspace shows the 'North Florida TPO Transportation Planning Organization' logo and a workflow diagram titled 'Time of Day (4-periods) Highway Assignments'. The workflow starts with a list of input files: AM Veh Trips, AM-TTByPurp, Unloaded Net, MD Veh Trips, MD-TTByPurp, PM Veh Trips, PM-TTByPurp, NT Veh Trips, and NT-TTByPurp. These feed into a 'PeriodAssignments' box (value 00) and a 'LoNet Combined' box. The output flows through four stages: 1. Script File, Link/Net. 1, NETWORK, Network File; 2. Export Validation Table, Script File, Link/Net. 1, NETWORK, Link File; 3. Export Validation Table, Script File, Link/Net. 1, NETWORK, Link File; 4. Script File, Link/Net. 1, NETWORK, Link File. The left sidebar shows a 'Scenario' tree with 'Base2010' selected, and a 'Keys' table below it.

Key	Value
Scen. Name	Base2010
DESCR	2010 Networks and SE Data
alt	A
Year	10
ClusterToggle	J
ClusterHandle	NERPM
ClusterNodes	24
GbIterations	4
DaySim Param	(Note)
SMDP	16

Highway Assignment Interface

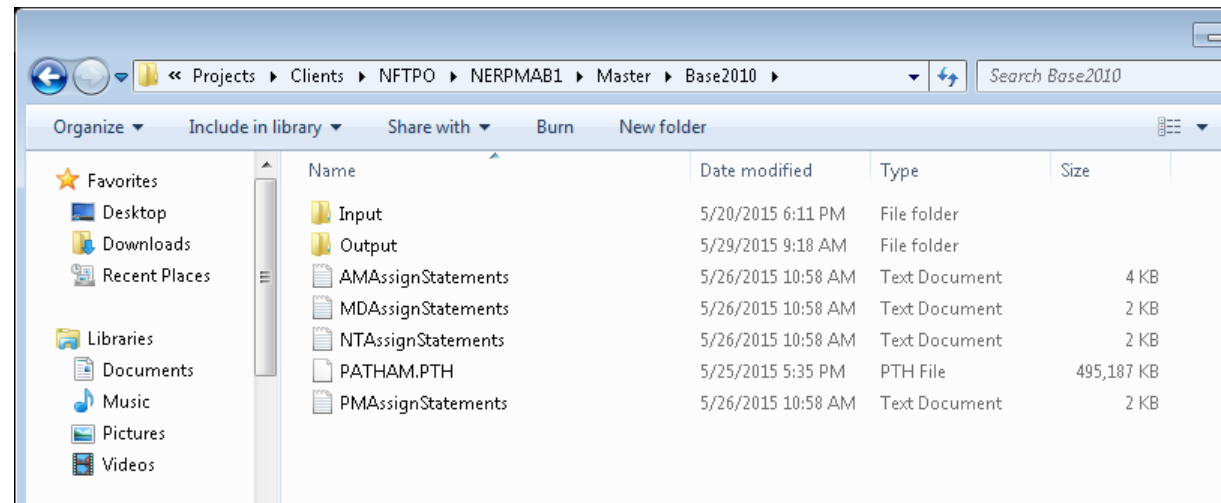
The screenshot displays the Highway Assignment Interface for the North Florida Transportation Planning Organization. The software window shows a scenario named 'NERPMAB1' and a project file 'LOADED_CombinedPeriods.NET'. The main workspace contains a workflow diagram with the following components:

- Scenario Tree (Left):**
 - Master
 - Base2010
 - EC2018SE2040
 - N2040
 - CF2040
 - INT2030
 - ALT2040M
 - Data
 - Inputs
 - Outputs
 - Reports
 - App
 - NERPMAB1
 - Create an Alternative
 - Query Loaded Net
 - Keys

Key	Value
Scen. Name	Base2010
DESCR	-2010 Networks and SE Data
alt	A
Year	10
ClusterToggle	J
ClusterHandle	NERPM
ClusterNodes	24
GbIterations	4
DaySim Param	(Note)
SMDDP	16
- Workflow Diagram (Center):**
 - AM Period Hwy Assignment (Highway 2):**
 - Script File
 - AM Veh Trips
 - AM-TTByPurp
 - Unloaded Net
 - Turn Penalties
 - Toll Choice Parm
 - HOT Toll Rates
 - Matrix File 1
 - HwyLoads AM
 - Turn Volumes 1
 - Path File 1
 - Print Data 1
 - Mid_Day Period Hwy Assignment (Highway 3):**
 - Script File
 - MD Veh Trips
 - MD-TTByPurp
 - Unloaded Net
 - Turn Penalties
 - Toll Choice Parm
 - HOT Toll Rates
 - Matrix File 1
 - HwyLoads MD
 - Turn Volumes 1
 - Path File 1
 - Print Data 1
 - PM Period Hwy Assignment (Highway 4):**
 - Script File
 - PM Veh Trips
 - PM-TTByPurp
 - Unloaded Net
 - Turn Penalties
 - Toll Choice Parm
 - HOT Toll Rates
 - Matrix File 1
 - HwyLoads PM
 - Turn Volumes 1
 - Path File 1
 - Print Data 1
 - Night Period Hwy Assignment (Highway 5):**
 - Script File
 - NT Veh Trips
 - NT-TTByPurp
 - Unloaded Net
 - Turn Penalties
 - Toll Choice Parm
 - Matrix File 1
 - HwyLoads NT
 - Turn Volumes 1
 - Path File 1
 - AM Period - Rename Loaded Netw Attributes & Minor Calc (Network 6):**
 - Script File
 - LinkNet. 1
 - Print File
 - Loaded Net AM
 - Mid_Day Period - Rename Loaded Netw Attributes & Minor Calc (Network 7):**
 - Script File
 - LinkNet. 1
 - Print File
 - Loaded Net MD
 - PM Period - Rename Loaded Netw Attributes & Minor Calc (Network 8):**
 - Script File
 - LinkNet. 1
 - Print File
 - Loaded Net PM
 - Night Period - Rename Loaded Netw Attributes & Minor Calc (Network 9):**
 - Script File
 - LinkNet. 1
 - Print File
 - Loaded Net NT
 - Final Output (Network 10):**
 - Script File
 - LinkNet. 1
 - LinkNet. 2
 - LinkNet. 3
 - LinkNet. 4
 - Print File
 - LdNet Combined

Select Link and Zone Analysis

- Run just for time period of interest, or all 4 periods
- Lengthy run times (e.g. 1 hour per assignment period when saving paths)
- Separate assignment statements and path files for each period



Select Link and Zone Analysis

1. Run **NERPM-AB** to completion first, without **Select Link and Zone Analysis** checked, using Cube Cluster if available
2. When this has completed, check **Select Link and Zone Analysis** and run **only the Highway Assignment period(s)** of interest

Only the time period-specific check boxes are operational and will run **Select Zone and/or Link Analysis**

TRNDK_V_P11_F101 [U..35]

Create PATH File (Large file, used for on-screen select link analysis)

Definition of Links to Include in Path File

Perform Select Zone and/or Link Analysis? If Yes

For Node Analysis use (N=###), For Link Analysis use (L=### - ###); N=A (L=A-B) for one-way, N=A* (L=A-B*) for two-way, A1-B1,A2-B2 for dualized.

Perform AM Select Zone and/or Link Analysis? If Yes

For Node Analysis use (N=###), For Link Analysis use (L=### - ###); N=A (L=A-B) for one-way, N=A* (L=A-B*) for two-way, A1-B1,A2-B2 for dualized.

Perform MD Select Zone and/or Link Analysis? If Yes

For Node Analysis use (N=###), For Link Analysis use (L=### - ###); N=A (L=A-B) for one-way, N=A* (L=A-B*) for two-way, A1-B1,A2-B2 for dualized.



Model Output Files

DaySim Outputs

- Household output (vehicle choice)
- Person output (work and school location choice)
- Household day output
- Person day output (number of tours and stops by purpose)
- Tour output
- Trip output

DaySim Outputs: _household.tsv

HHNO	Household id
Fraction_with_jobs_outside	Residence zone worker IX fraction
HHSIZE	Household size
HHVEHS	Vehicles available
HHWKRS	Household workers
HHFTW	HH full time workers (type 1)
HHPTW	HH part time workers (type 2)
HHRET	HH retired adults (type 3)
HHOAD	HH other adults (type 4)
HHUNI	HH college students (type 5)
HHHSC	HH high school students (type 6)
HH515	HH kids age 5-15 (type 7)
HHCU5	HH kids age 0-4 (type 8)
HHINCOME	Household income (\$)
HOWNRENT	Household own or rent
HRESTYPE	Household residence type
HHPARCEL	Residence parcel id
ZONE_ID	Internal id based on parcel id
HHTAZ	Based on parcel id
HHEXPFAC	HH expansion factor
SAMPTYPE	Sample type



DaySim Outputs: _household.tsv

hhno	fraction	hsize	hhvehs	hhwkrs	hhftw	hhptw	hhret	hhoad	hhuni
249500	0	1	0	1	-1	-1	-1	-1	-1

hhsc	hh515	hhcu5	hhincor	hownre	hrestyp	hhparce	zone_ic	hhtaz	hhexpfa	sampty
-1	-1	-1	37550	-1	2	107201	944	945	100	11

- Household # 249500 has 1 person and 0 vehicles (vehicle ownership model) and 1 worker.
- Household income is \$37,550
- Household type is re-computed by DaySim (shown as -1)
- Home TAZ 945

_person.tsv

- Most of person file variables are from input person records
- DaySim updates work location/school location, travel time for work/school, transit pass ownership, paid parking at work place

PPTYP	
	1 Full time worker
	2 Part time worker
	3 Non working adult age 65+
	4 Non working adult age<65
	5 University student
	6 High school student age 16+
	7 Child age 5-15
	8 Child age 0-4

ID	internal daysim record ID
HHNO	hh id
PNO	person seq no on file
PPTYP	person type
PAGEY	age in years
PGEND	gender
PWTYP	worker type
PWPCL	usual work parcel id
PWTAZ	usual work TAZ
PWAUTIME	auto time to usual work
PWAUDIST	auto distance to usual work
PSTYP	student type
PSPCL	usual school parcel id
PSTAZ	usual school TAZ
PSAUTIME	auto time to usual work
PSAUDIST	auto distance to usual work
PUWMODE	usual mode to work
PUWARRP	Usual arrival period to work
PUWDEPP	Usual depart period from work
PTPASS	transit pass?
PPAIDPRK	paid parking at workplace?
PDIARY	Person used paper diary?
PPROXY	proxy response?
PSEXPFAC	Person expansion factor

_person.tsv

id	hhno	pno	pptyp	pagey	pgend	pwtyp	pwpl	pwtaz	pwautir	pwaudis	pstyp	pspcl	pstaz	psautim	psaudis	puwmo	puwarr	puwdep	ptpass	ppaidpr
608453	249500	1	1	29	2	1	153775	688	5.916139	2.938001	0	-1	-1	-1	-1	-1	-1	-1	1	1

The person in household # 249500 is:

- Full-time worker
- 29 years old
- Female
- Work location is Parcel # 153775, TAZ 688 (work location choice)
- Commute time is 5.9 minutes (from SOV skim)
- Not a student, no school location (from school location choice)
- Has a transit pass

_person_day.tsv

id	person_	househ	hhno	pno	day	beghom	endhom
608453	608453	249500	249500		1	1	0
hbtours	wbtours	uwtours	wktours	sctours	estours	pbtours	shtours
2	1	1	1	0	1	0	0
mltours	sotours	retours	metour	wkstop	scstops	esstops	pbstops
0	0	0	0	0	0	1	0
shstops	mlstops	sostops	restops	mestop	wkatho	pdexpfa	
1	1	0	0	0	0	100	

The person made:

- Two home-based tours
- One work tour (to usually work place)
- One escort tour
- One work-based sub-tour
- One escort stop
- One meal stop

_tours.tsv

id	person	person	hhno	pno	day	tour	jtindex	parent	subtrs
6084532	608453	608453	249500	1	1	2	0	0	0
6084531	608453	608453	249500	1	1	1	0	0	1
60845303	608453	608453	249500	1	1	3	0	1	0

pdpurp	tlvorig	tarest	tlvdest	tarorig	toadtyp	tdadtyp	topcl	totaz	tdpcl
3	782	786	809	813	1	4	107201	945	346735
1	822	849	1404	1431	1	2	107201	945	153775
6	897	904	1015	1022	2	4	153775	688	90085

tdtaz	tmodet	tpathtp	tautotir	tautocc	tautodi	tripsh1	tripsh2	phtindx	phtindx
952	1	1	0.580162	0.02188	0.182337	1	1	0	0
688	6	3	5.92116	0.35256	2.938001	1	1	0	0
268	5	1	7.87	0.6066	5.055	1	1	0	0

1. Escort tour (pdpurp 3), left home (toadtyp 1, totaz 945) at 1:02 PM (tlvorig 782), arrived at destination (tdtaz 952) by 1:06 PM (tarest 786); left destination at 1:29 PM (tlvdest 809), and arrived at home by 1:33 PM (tarorig 813). Tour mode is walk (tmodetyp 1).
2. Work tour (pdpurp 1), left home (toadtyp 1, totaz 945) at 1:42 PM (tlvorig 822), heading to usual work place (tdadtyp 2, tdtaz 688), arriving at 2:09 p.m. (tarest 849). Left work place by 11:24 PM (tlvdest 1404). Tour mode is walk-to-transit (tmodetyp 6) and path type bus (tpathtp 3).
3. A work-based sub-tour (tour 3, parent id 1), meal purpose (pdpurp 6), from work place to TAZ 268, left work place at around 3:00PM (tlvorig 897) and got back to work by 4:55PM (tlvdest 1015). Tour mode is shared ride 3+ (tmodetyp 5)

Trip and Tour Event Codes

OPURP DPURP

0 'none/home'
1 'work'
2 'school'
3 'escort'
4 'pers.bus'
5 'shop'
6 'meal'
7 'social'
8 'recreational' (currently combined with sc
9 'medical' (currently combined with pers.b
10 'change mode inserted purpose'

DORP

1 Driver
2 Passenger
3 N/A
9 Missing

MODE

1 'walk'
2 'bike'
3 'sov'
4 hov2
5 hov3+
6 transit
{ drive-transit not a trip mode}
8 'school bus'
9 other

OADTYP DADTYP

1 Home
2 Usual workplace
3 Usual School
4 Other
5 Missing
6 Change mode inserted location

_trips.tsv

id	tour_id	hhno	pno	day	tour	half	tseg	tsvid	opurp
6.08E+08	6084532	249500	1	1	2	1	1	1	0
6.08E+08	6084532	249500			2	2	1	1	0
6.08E+08	6084531	249500			1	1	1	1	0
6.08E+08	6084531	249500	1	1	1	2	1	1	0
1.79E+09	60845303	249500	1	1	3	1	1	1	0
1.79E+09	60845303	249500	1	1	3	2	1	1	0

Work-based sub-tour

dpurp	oadtyp	dadtyp	opcl	otaz	dpcl	dtaz	mode	pathtyp	dorp
3	1	4	107201	945	346735	952	1	1	0
0	4	1	346735	952	107201	945	1	1	0
1	1	2	107201	945	153775	688	6	3	0
0	2	1	153775	688	107201	945	6	3	0
6	2	4	153775	688	90085	268	5	1	2
1	4	2	90085	268	153775	688	5	1	2

deptm	aritm	endactt	travtim	travcos	travdist	vot	trexpfa
782	786	809	4.293199	0	0.182337	6.907367	100
809	813	822	4.293199	0	0.182337	6.907367	100
822	849	1404	27.41	0	2.964001	7.173965	100
1404	1431	179	27.41	0	2.964001	7.173965	100
897	904	1015	7.76	0.5952	4.96	0	100
1015	1022	179	7.73	0.5952	4.96	0	100

Passenger

Tour Example #1

Tour Half: 1
Dep: 9:09 AM
Arr: 9:35 AM
Purp: Work
Mode: SOV

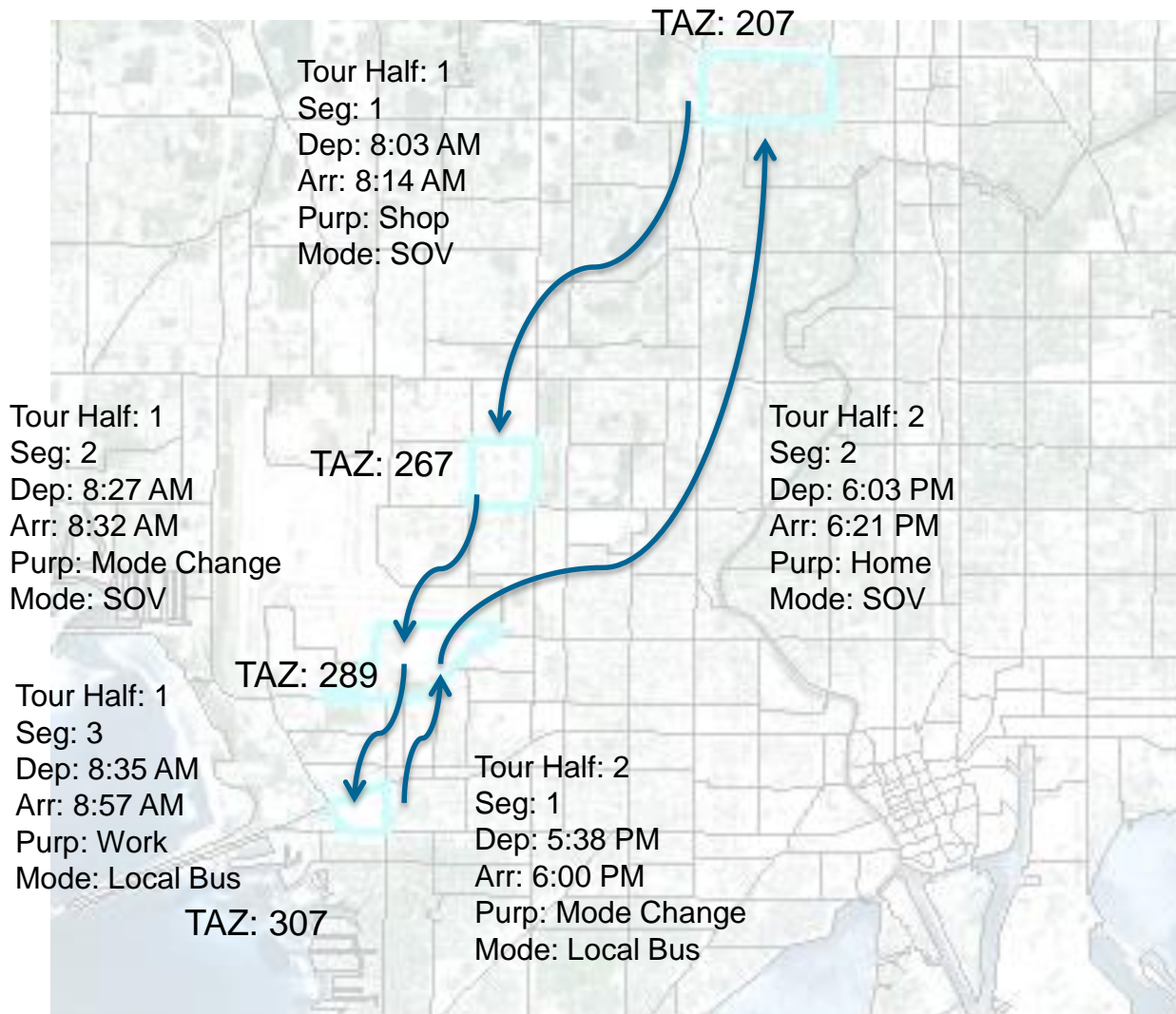
TAZ: 33

TAZ: 1100



Tour Half: 2
Dep: 3:41 PM
Arr: 4:07 PM
Purp: Home
Mode: SOV

Tour Example #2





Summary of Day 1 and Q & A

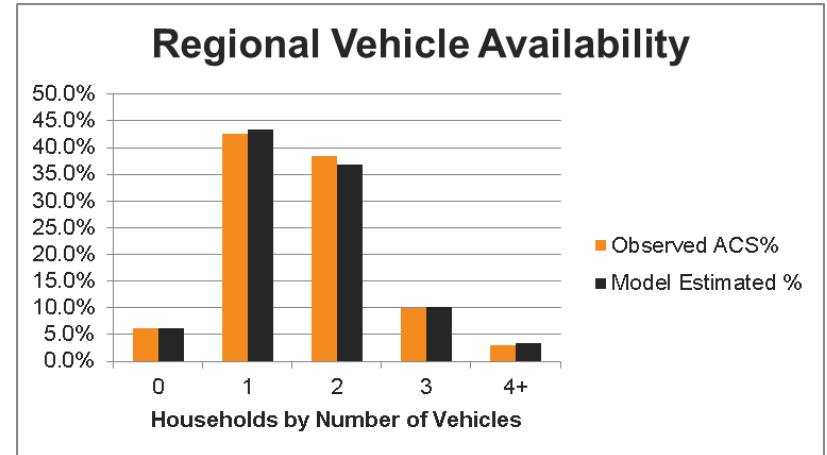


Summarizing Results

Auto Ownership Model

HOUSEHOLDS BY COUNTY AND VEHICLES: EST-OBS

	0	1	2	3	4+	Total
Citrus	-0.6%	1.8%	-0.6%	-0.6%	0.1%	0.0%
Hernando	-1.1%	-0.3%	0.7%	0.1%	0.6%	0.0%
Hillsborough	-0.6%	1.8%	-2.2%	0.2%	0.8%	0.0%
Manatee	-0.3%	4.4%	-3.5%	-0.8%	0.2%	0.0%
Pasco	-0.4%	-1.2%	-0.3%	0.9%	1.1%	0.0%
Pinellas	0.7%	1.3%	-1.9%	-0.3%	0.2%	0.0%
Total	0.0%	0.9%	-1.6%	0.1%	0.6%	0.0%



NUMBER OF VEHICLES

HH Income	0	1	2	3	4+	Total
\$0K-\$15K	-1.1%	0.5%	0.7%	-0.1%	0.1%	0.0%
\$15K-\$50K	-1.5%	0.8%	-1.9%	1.1%	1.5%	0.0%
\$50K-\$75K	0.0%	-1.0%	0.7%	0.1%	0.1%	0.0%
>\$75K	0.1%	0.0%	-0.3%	0.0%	0.1%	0.0%
Total	0.0%	0.9%	-1.6%	0.1%	0.6%	0.0%

Day Pattern Model

Tour Rates by Purpose

Purpose	Survey	DaySim	Diff	% Diff
work	0.35	0.35	0.00	-1%
school	0.14	0.14	0.00	2%
escort	0.13	0.11	-0.01	-10%
pers.bus	0.16	0.17	0.00	1%
shop	0.20	0.18	-0.02	-9%
meal	0.07	0.07	0.00	1%
soc/rec	0.26	0.27	0.01	3%
workbased	0.05	0.05	0.00	-2%
Total	1.36	1.34	-0.02	-2%

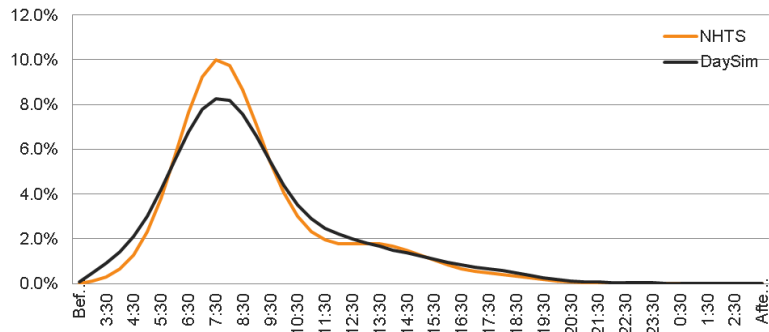
Person Level Tours/Stops

Work			
Tours/Stops	NHTS	Model	% Difference
0/0	67.22%	67.22%	0.00%
0/1+	0.07%	0.29%	0.23%
1+/0	29.88%	14.85%	-15.03%
1+/1+	2.83%	17.64%	14.80%
School			
Tours/Stops	NHTS	Model	% Difference
0/0	86.86%	86.46%	-0.40%
0/1+	0.31%	0.53%	0.22%
1+/0	12.25%	11.29%	-0.96%
1+/1+	0.58%	1.72%	1.14%
Escort			
Tours/Stops	NHTS	Model	% Difference
0/0	85.59%	88.31%	2.72%
0/1+	5.10%	3.10%	-2.00%
1+/0	6.69%	6.94%	0.26%
1+/1+	2.62%	1.65%	-0.98%
Personal Business			
Tours/Stops	NHTS	Model	% Difference
0/0	79.59%	80.46%	0.86%
0/1+	5.74%	4.57%	-1.17%
1+/0	12.64%	14.01%	1.37%
1+/1+	2.03%	0.97%	-1.06%

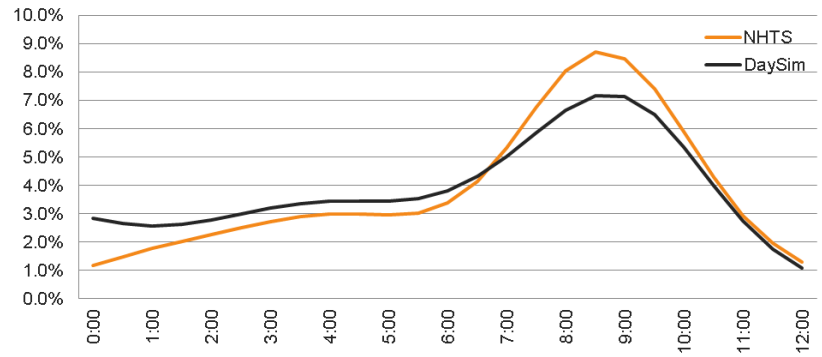


Tour Time of Day

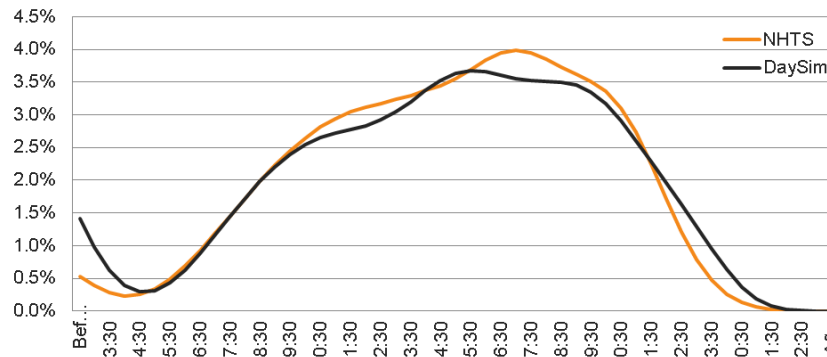
Work Arrival Times



Work Durations



Other Departure Times

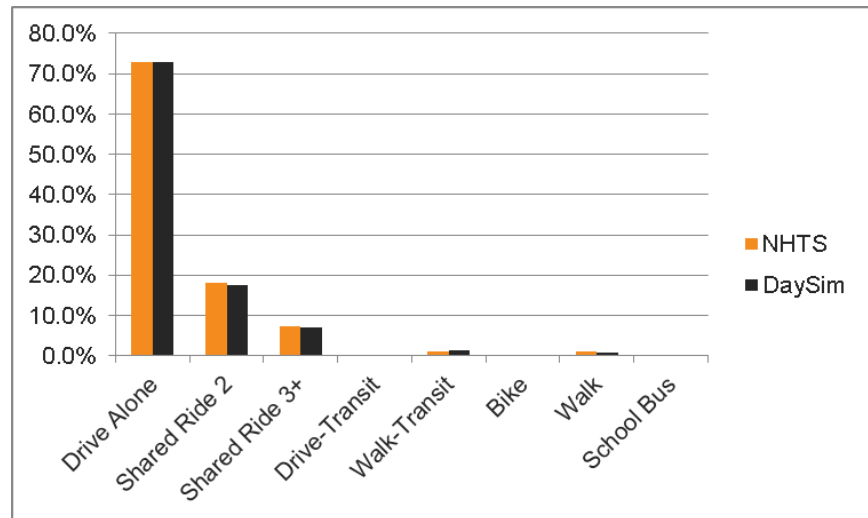


Tour Mode Choice

Tour Mode: All Purposes

Mode	NHTS	DaySim	Diff
Drive Alone	41.6%	42.6%	1.0%
Shared Ride 2	23.1%	23.7%	0.6%
Shared Ride 3+	18.7%	19.5%	0.8%
Drive-Transit	0.0%	0.1%	0.1%
Walk-Transit	0.5%	0.7%	0.2%
Bike	1.8%	1.6%	-0.3%
Walk	11.4%	8.8%	-2.5%
School Bus	2.8%	3.0%	0.2%
Total	100.0%	100.0%	0.0%


Work Tour Mode Choice



DaySim Visualizer

- A tool to visualize DaySim outputs
- Upload outputs from multiple scenarios
- Select or create travel characteristic measures
- Chart or map measures for one scenario or compare among two scenarios

Please select between the tools below




MANAGE SCENARIOS

- Upload and define model outputs
- Edit or delete existing scenario data.




MEASURES

- Create new SQL views for your analysis.
- Edit or delete existing SQL views.



ANALYSIS


- Graphically view and compare up to two models.
- Store maps, tables and charts for reports.




REPORTING

- Start a new report template.
- Apply existing templates to new modeling scenarios.

Dashboard

 DaySim : Travel Model Visualizer

Please select between the tools below




MANAGE SCENARIOS

- Upload and define model outputs.
- Edit or delete existing scenario data.

SQL


MEASURES

- Create new SQL views for your analysis.
- Edit or delete existing SQL views.



ANALYSIS

- Graphically view and compare up to two models.
- Store maps, tables and charts for reports.



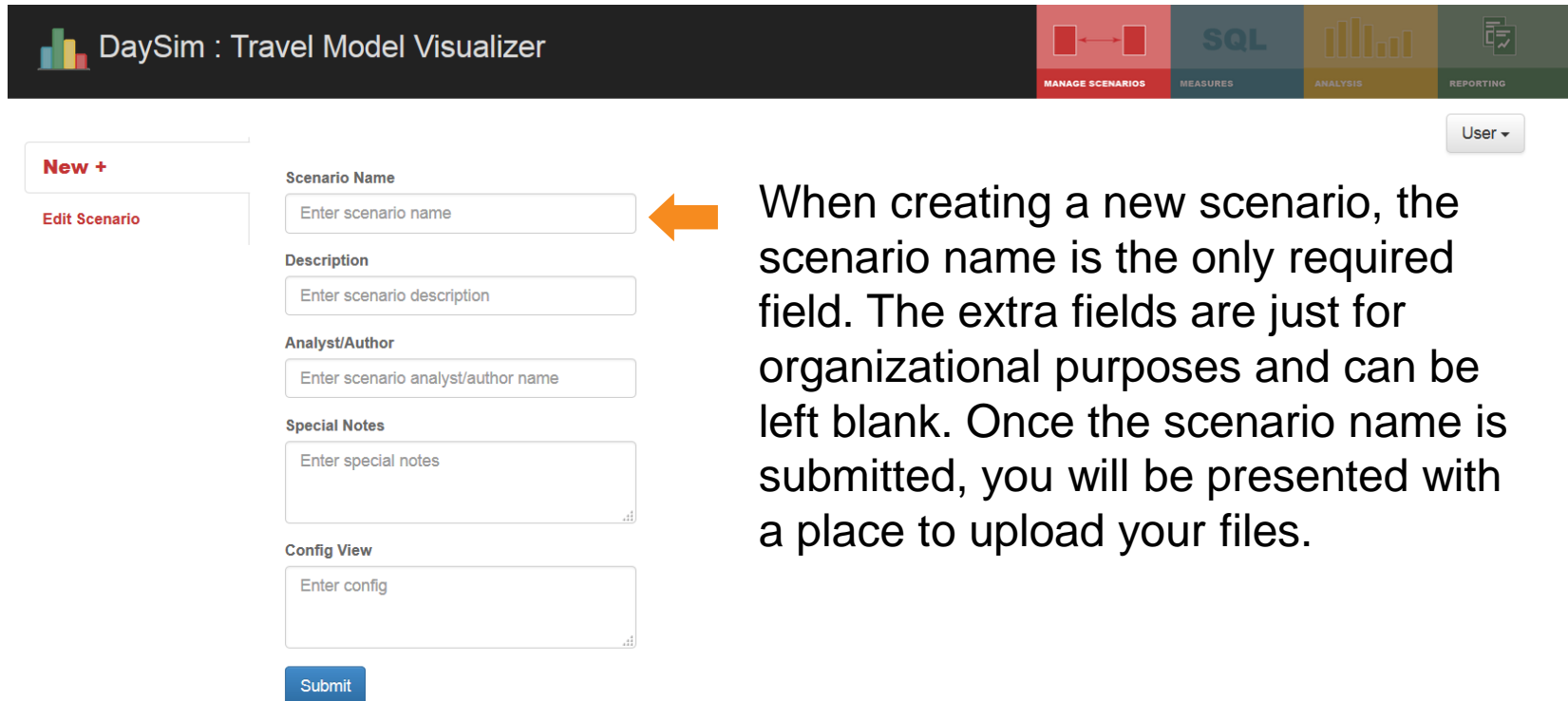
REPORTING

- Start a new report template.
- Apply existing templates to new modeling scenarios.



The dashboard allows you to select any one of the four main sections of the visualizer.

Scenario Creation



The screenshot shows the 'DaySim : Travel Model Visualizer' interface. At the top, there is a navigation bar with a logo on the left and four menu items: 'MANAGE SCENARIOS' (highlighted in red), 'MEASURES', 'ANALYSIS', and 'REPORTING'. On the right side of the navigation bar, there is a 'User' dropdown menu. Below the navigation bar, on the left, there are two buttons: 'New +' and 'Edit Scenario'. The main content area contains a form for creating a new scenario. The form has five input fields: 'Scenario Name', 'Description', 'Analyst/Author', 'Special Notes', and 'Config View'. Each field has a placeholder text: 'Enter scenario name', 'Enter scenario description', 'Enter scenario analyst/author name', 'Enter special notes', and 'Enter config'. Below the 'Config View' field is a blue 'Submit' button. An orange arrow points from the 'Scenario Name' field to the text on the right.

New +
Edit Scenario

Scenario Name
Enter scenario name

Description
Enter scenario description

Analyst/Author
Enter scenario analyst/author name

Special Notes
Enter special notes

Config View
Enter config

Submit

MANAGE SCENARIOS MEASURES ANALYSIS REPORTING

SQL

User ▾

When creating a new scenario, the scenario name is the only required field. The extra fields are just for organizational purposes and can be left blank. Once the scenario name is submitted, you will be presented with a place to upload your files.

Scenario Creation

The screenshot shows the 'DaySim : Travel Model Visualizer' interface. At the top, there is a navigation bar with a logo on the left and four menu items: 'MANAGE SCENARIOS' (red), 'MEASURES' (blue), 'ANALYSIS' (yellow), and 'REPORTING' (green). A 'User' dropdown menu is located in the top right corner. On the left side, there is a sidebar with a 'New +' button and an 'Edit Scenario' button. The main area contains a form for creating a scenario with the following fields:

- Scenario Name:** Base Scenario
- Description:** Enter scenario description
- Analyst/Author:** Enter scenario analyst/author name
- Special Notes:** Enter special notes
- Config View:** Enter config

To the right of the form is a large grey area for file upload. It contains a black arrow pointing to the text: 'Drop Zip file here' followed by 'Containing _household.tsv, _household_day_person_day.tsv, _tour.tsv and _trip.tsv'. An orange arrow points upwards from the text below towards this upload area.

You will need to create a zip file containing the files specified above. You can either drag the zip file into the area or click on the area and browse to the file. It will take a while for the file to upload and the scenario and measures to be calculated.

User Setup



User ▾

Accounts

Name	Username	Safe		Dangerous	
		View Data	Create & Delete own queries	Delete all data & upload new Models	Create/manage users
Tony Hanberg	tony	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	john	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bhargava	bhargava	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add User



The permissions allow you to limit the functionality for specific users.

Measures

DaySim : Travel Model Visualizer

MANAGE SCENARIOS MEASURES ANALYSIS REPORTING

User ▾

Table & Charts Measures

Map Measures

Add Measure

Check the measures you would like to have available throughout the site.

Auto

- Home-to-school distance distribution by student type
- Home-to-work distance distribution, by income group
- Home-to-work distance distribution, by worker type
- Number of autos per household, by income group
- Number of autos per household, by number of HH persons age 16+
- Number of autos per household, by number of HH workers
- Number of tours per household-day, by tour purpose
- Total VMT per household-day, by auto availability level
- Total VMT per household-day, by income group
- Total VMT per person-day, by person type

Custom measures:

- mode

Trips

- Activity time of day distribution, by activity purpose
- Number of activities per household-day, by activity purpose
- Number of activities per person-day, by activity purpose and person type
- Number of trips per household-day, by trip purpose type
- Number of trips per tour, by tour purpose
- Trip departure time distribution, by trip purpose type
- Trip distance distribution, by trip purpose type
- Trip mode shares, by trip purpose type
- Trips per household-day by residence location

Measures (aggregations of data) are defined by SQL expressions. They are grouped into two categories “Table & Charts” and “Map” dependent on how you view the measure.

Click on the pen to edit and the trash to delete.

Check the checkbox if you would like the measure to show up on the analysis page.

New Measure

The screenshot displays the 'Add/Edit Measure' dialog box in the DaySim software. The dialog is titled 'Add/Edit Measure' and contains the following elements:

- Name:** A text input field with the placeholder 'Enter a name for the measure'.
- Spatial:** A checkbox labeled 'Spatial'.
- Category:** A dropdown menu currently set to 'Select'.
- Advanced/Novice:** Two tabs, 'Advanced' and 'Novice'. The 'Novice' tab is selected and highlighted in blue. An orange arrow points to this tab.
- Alternate variable 1 text:** A text input field.
- Alternate variable 2 text:** A text input field.
- SQL Expression:** A large text area with the placeholder 'Enter SQL Expression'.
- Buttons:** 'Close' and 'Save' buttons at the bottom right.

The background shows the DaySim interface with a sidebar on the left containing 'Table & Charts Measures' and 'Map Measures' sections, and a main area with 'Auto' and 'Trips' categories of measures.

A measure can be defined either through the advanced or novice screen. The measure expression is explained on the next pages. The variable text refers to the variable text on the analysis page.

New Measure

Add/Edit Measure

Name
Enter a name for the measure

Spatial

Category Select

Advanced Novice

View (defines which tables are going to be joined)

household household day person
 person day trip tour

Columns

First
Select

Second (optional - ignored for mapping)
Select

Aggregation

group count
 Average Select

Conditions

Copy to advanced

The novice mode allows you to create measures without much knowledge of the underlying data model.

New Measure

Advanced Novice

View (defines which tables are going to be joined)

household household day person
 person day trip tour

Columns

First
Household residence type

Second (optional - ignored for mapping)
Household workers

Aggregation

group count
 Average Select

Conditions

AND OR + Add rule + Add group

↑↓ Household own or rent equal Owned Delete

Copy to advanced

Save Close



When creating a new measure in the novice mode, you start by selecting the view containing the data you need in your query. The household view only contains elements from the household table, whereas the trip view contain data from all tables in the database (because of it's dependencies).

The Columns selected will be used for the grouping of data and the Aggregation settings for the values.

You can limit the selection with an unlimited number of conditions.

Analysis: Tables

DaySim : Travel Model Visualizer

MANAGE SCENARIOS MEASURES ANALYSIS REPORTING

Scenario 1
2010 Base

Scenario 2 (Optional)
Please Select

Maps

Charts

Tables

By value By percent

Activity time of day distribution, by activity purpose

Home-to-school distance distribution by student type

Home-to-work distance distribution, by worker type

Number of activities per person-day, by activity purpose and person type

Home-to-work distance distribution, by income group

Distance		5	10	15	20	25	30	35	40
Income	75K or more	300620	60787	53002	37785	23821	14260	8447	11347
	50K-75K	181000	32896	27289	18826	10966	6625	3987	5504
	15K-50K	352610	46529	33244	20945	11334	6401	3822	5087
	0-15K	130382	9157	4887	2771	1255	661	386	509

[Add to report template](#)

Number of autos per household, by number of HH workers

Number of autos per household, by income group

User

Table & chart measures can be viewed in a generic table



Analysis: Charts

DaySim : Travel Model Visualizer

MANAGE SCENARIOS | MEASURES | ANALYSIS | REPORTING

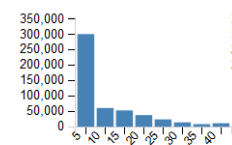
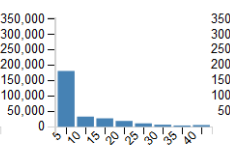
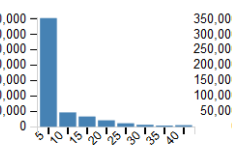
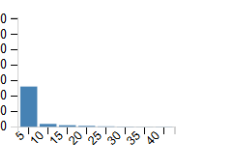
Scenario 1: 2010 Base
Scenario 2 (Optional): Please Select

Maps | **Charts** | Tables

By value (selected) | By percent

- Activity time of day distribution, by activity purpose
- Home-to-school distance distribution by student type
- Home-to-work distance distribution, by worker type
- Number of activities per person-day, by activity purpose and person type
- Home-to-work distance distribution, by income group

[Add to report template](#)

Income = 75K or more	Income = 50K-75K	Income = 15K-50K	Income = 0-15K
			

- Number of autos per household, by number of HH workers
- Number of autos per household, by income group

Table & chart measures can be viewed in a generic chart



Analysis: Side by Side – Chart

DaySim : Travel Model Visualizer

MANAGE SCENARIOS MEASURES ANALYSIS REPORTING

SQL

User ▾

Scenario 1

2010 Base ▾

Scenario 2 (Optional)

2040 E & C ▾

Side by side

Maps

Charts

Tables

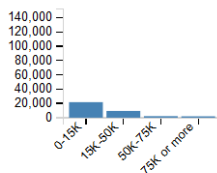
By value By percent

Activity time of day distribution, by activity purpose

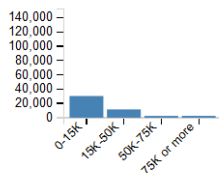
Number of autos per household, by income group

Vehicles available = 0

2010 Base

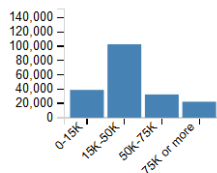


2040 E & C

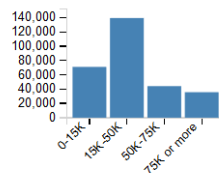


Vehicles available = 1

2010 Base



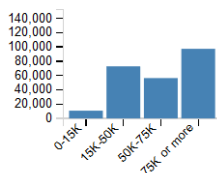
2040 E & C



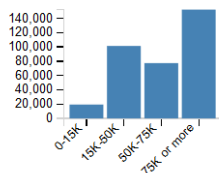
[Add to report template](#)

Vehicles available = 2

2010 Base

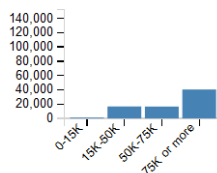


2040 E & C

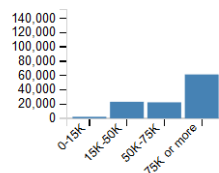


Vehicles available = 3

2010 Base



2040 E & C



Scenario data can be viewed by itself, in comparison to other scenarios or side by side with other scenarios using the selection in the upper left.

Mapping

DaySim : Travel Model Visualizer

MANAGE SCENARIOS MEASURES ANALYSIS REPORTING

Scenario 1
2010 Base
Scenario 2 (Optional)
Please Select

full screen toggle

Measure Category
Autos per household by residence loc | quantiles | Split 5 | Color Greens | N/A Color Grey

Add to report template

Maps
Charts
Tables

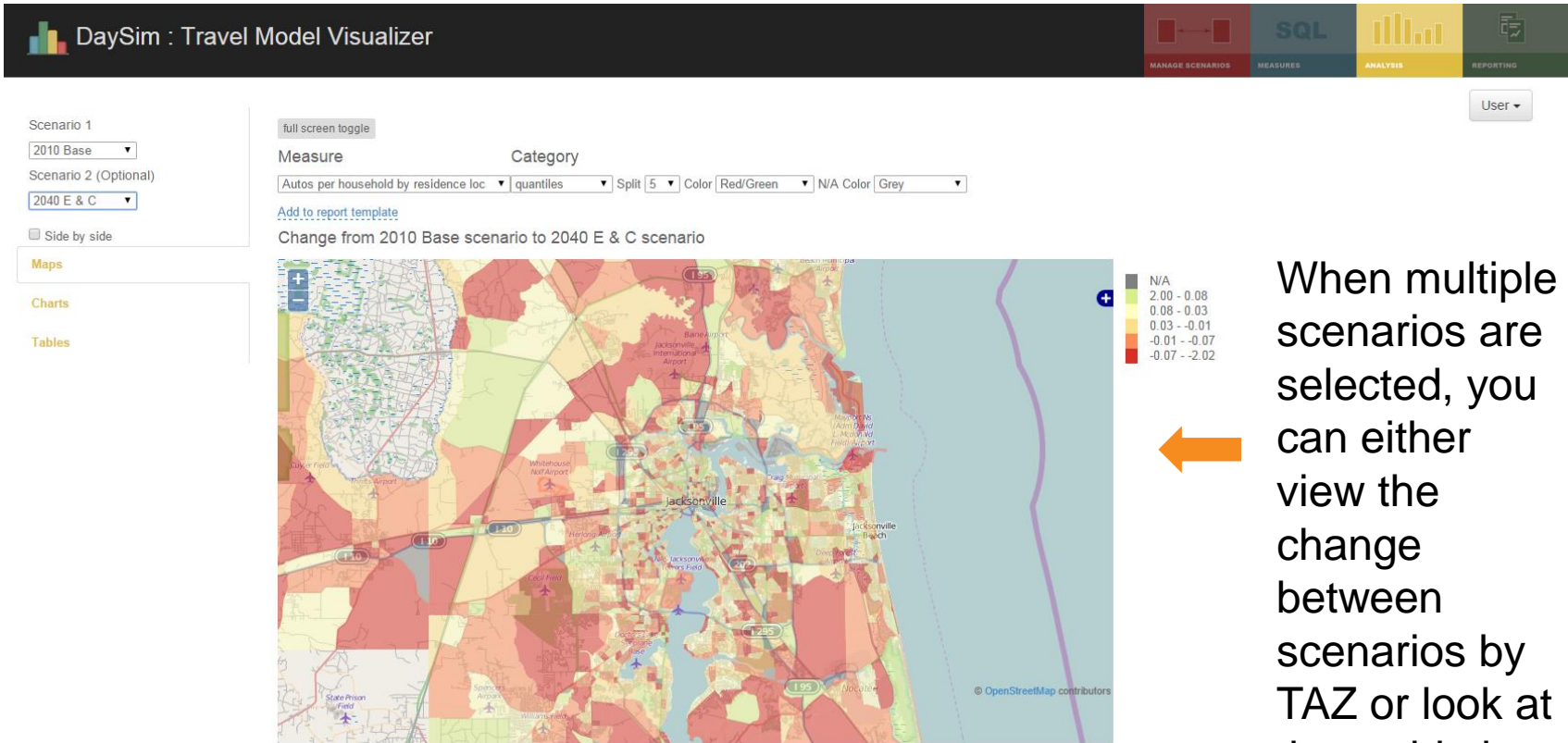
N/A
4.00 - 1.98
1.98 - 1.80
1.80 - 1.64
1.64 - 1.42
1.42 - 0.00

© OpenStreetMap contributors

localhost:10869/home/analysis#charts tab

The map measures can be found in the Maps tab. You can select the measure, the color categorization, colors and how many categories you want the data split into.

Mapping: Change



Mapping: Side by Side – Full Screen

full screen toggle

Measure

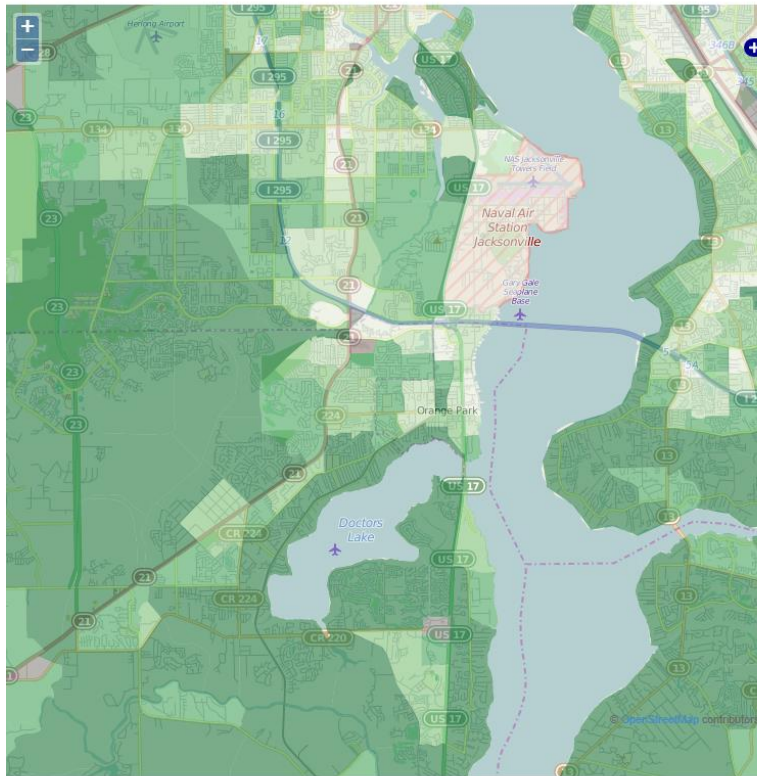
Category

Autos per household by residence loc | quantiles | Split 5 | Color Greens | N/A Color Grey

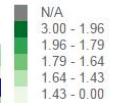
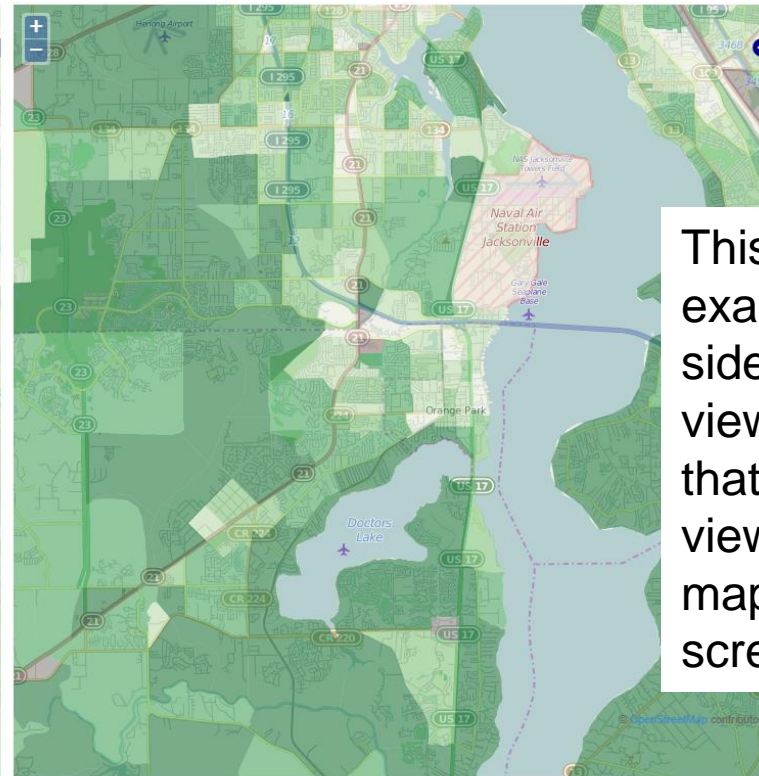
Mirrored maps

[Add to report template](#)

2010 Base



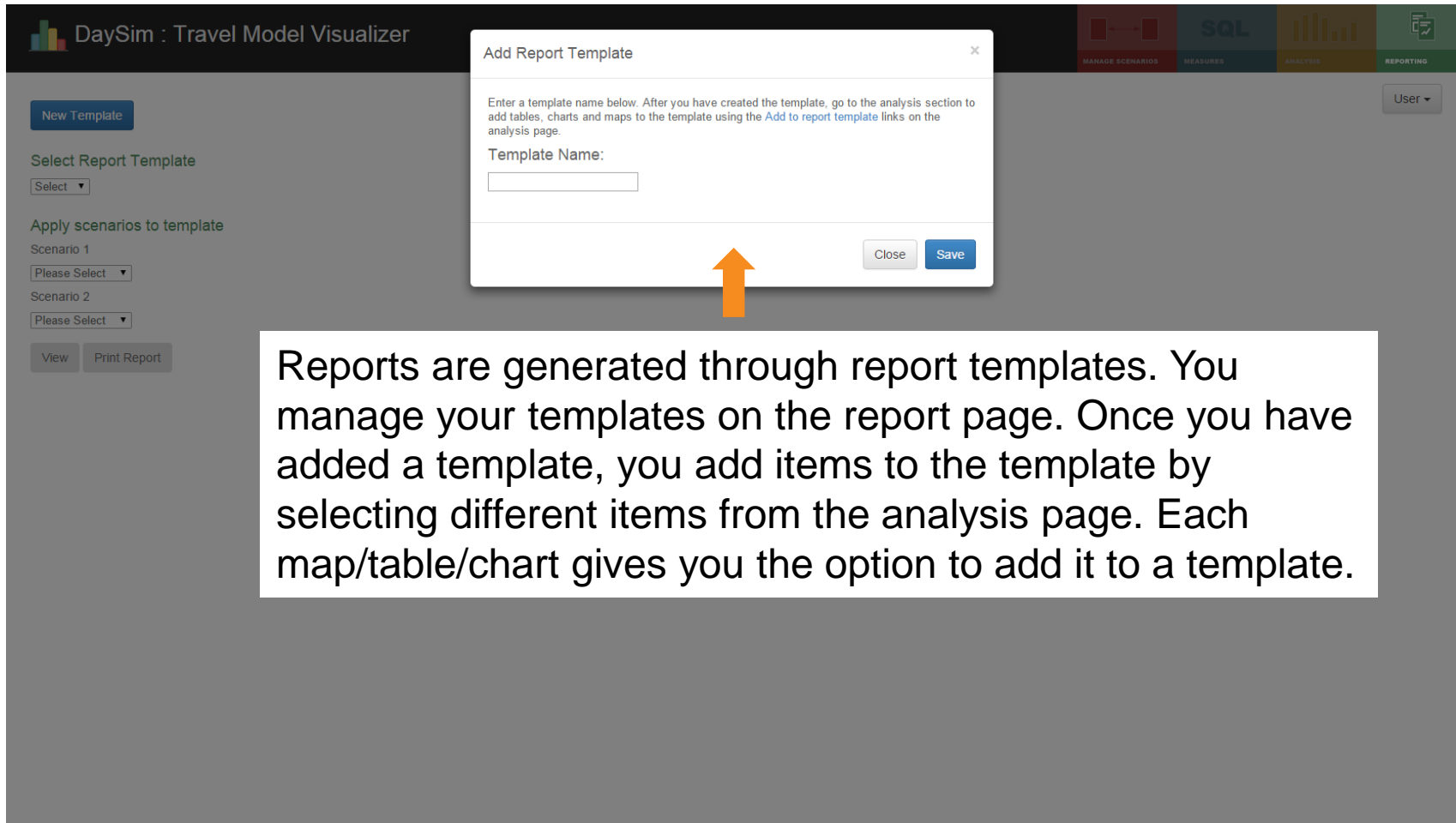
2040 E & C



This is an example of a side by side view. Note that you can view the maps in full screen.



Reporting: Adding a Template



The screenshot displays the 'DaySim : Travel Model Visualizer' interface. A modal dialog titled 'Add Report Template' is open, containing the following text: 'Enter a template name below. After you have created the template, go to the analysis section to add tables, charts and maps to the template using the [Add to report template](#) links on the analysis page.' Below this text is a text input field labeled 'Template Name:'. At the bottom of the dialog are 'Close' and 'Save' buttons. An orange arrow points to the 'Save' button. The background interface shows a sidebar with a 'New Template' button, a 'Select Report Template' dropdown, and sections for applying scenarios to a template. The top navigation bar includes 'MANAGE SCENARIOS', 'MEASURES', 'ANALYSIS', and 'REPORTING'.

Reports are generated through report templates. You manage your templates on the report page. Once you have added a template, you add items to the template by selecting different items from the analysis page. Each map/table/chart gives you the option to add it to a template.

Reporting: Adding a Table

Number of autos per household, by income group

	HH income				
	0-15K	15K-50K	50K-75K	75K or more	
Vehicles available	0	21680	9426	2127	1893
1	38841	102632	32454	22335	
2	10823	72837	56391	97311	
3	1181	16697	16558	40462	
4	497	6085	5015	15856	

Here is an example of a table being added to the "Report 1" template.

[Add to report template](#)

Select report

Report 1



Number of autos per household, by number of HH persons age 16+

Number of tours per household-day, by tour purpose



Reporting: Adding a Map

Here is an example of a map being added to a template. Not that the map center, zoom level and color choices are preserved.



full screen toggle

Measure Category

Autos per household by Select report Split 5 Color Greens N/A Color Grey

Add to report template

Report 1 [checkmark] [x]

Reporting: Editing the Template

The screenshot shows the DaySim Travel Model Visualizer interface. At the top, there is a navigation bar with tabs for 'MANAGE SCENARIOS', 'SQL', 'MEASURES', 'ANALYSIS', and 'REPORTING'. The 'REPORTING' tab is active. Below the navigation bar, there is a 'New Template' button and a 'Select Report Template' dropdown menu set to 'Report 1'. To the right, there is a 'Delete Report' button. Below the dropdown, there are options to 'Apply scenarios to template' with two scenario dropdowns (set to '2010 Base' and 'Please Select') and 'View' and 'Print Report' buttons. The main content area is titled 'Report information (header in the export)' and shows 'Name: Report 1' with a 'Delete Report' button. Below this is a 'Description' field containing placeholder text. Underneath is the 'Report Elements' section, which includes an 'Element Header' (Table header) with a 'Delete' button and an 'Element Text' field with placeholder text. Below the text is a table with the following data:

HH income		0-15K	15K-50K	50K-75K	75K or more
0	Vehicles available	21680	9426	2127	1893
1		38841	102632	32454	22335
2		10823	72837	56391	97311
3		1181	16697	16558	40462
4		497	6085	5015	15856

Below the table is another 'Element Header' (Map header) with a 'Delete' button and an 'Element Text' field with placeholder text. At the bottom of the interface, there is a map view.

Once you are done adding elements to your template, you can apply any of the scenarios to it. You can also choose to add headers and text to the different sections.

Reporting: Exporting a Document

The screenshot shows the Microsoft Word interface with a document titled "report (13) [Compatibility Mode]". The ribbon includes tabs for Insert, Page Layout, References, Mailings, Review, and View. The Font, Paragraph, and Styles groups are visible. The document content includes:

- Report 1**: A section header followed by a paragraph of Lorem Ipsum text.
- Table header**: A section header followed by a paragraph of Lorem Ipsum text.
- Table**: A table with "HH income" as the main header and "Vehicles available" as the row header. The columns represent income brackets: 0-15K, 15K-50K, 50K-75K, and 75K or more.
- Map header**: A section header followed by a paragraph of Lorem Ipsum text and a small map image.

The Styles group in the ribbon shows "Heading 2" selected, which is highlighted with a yellow box. A red arrow points from the text box on the right towards the "Heading 2" style in the ribbon.

You can export the resulting report in Word format. You can edit the report text, but not the tables/charts/maps.



Break

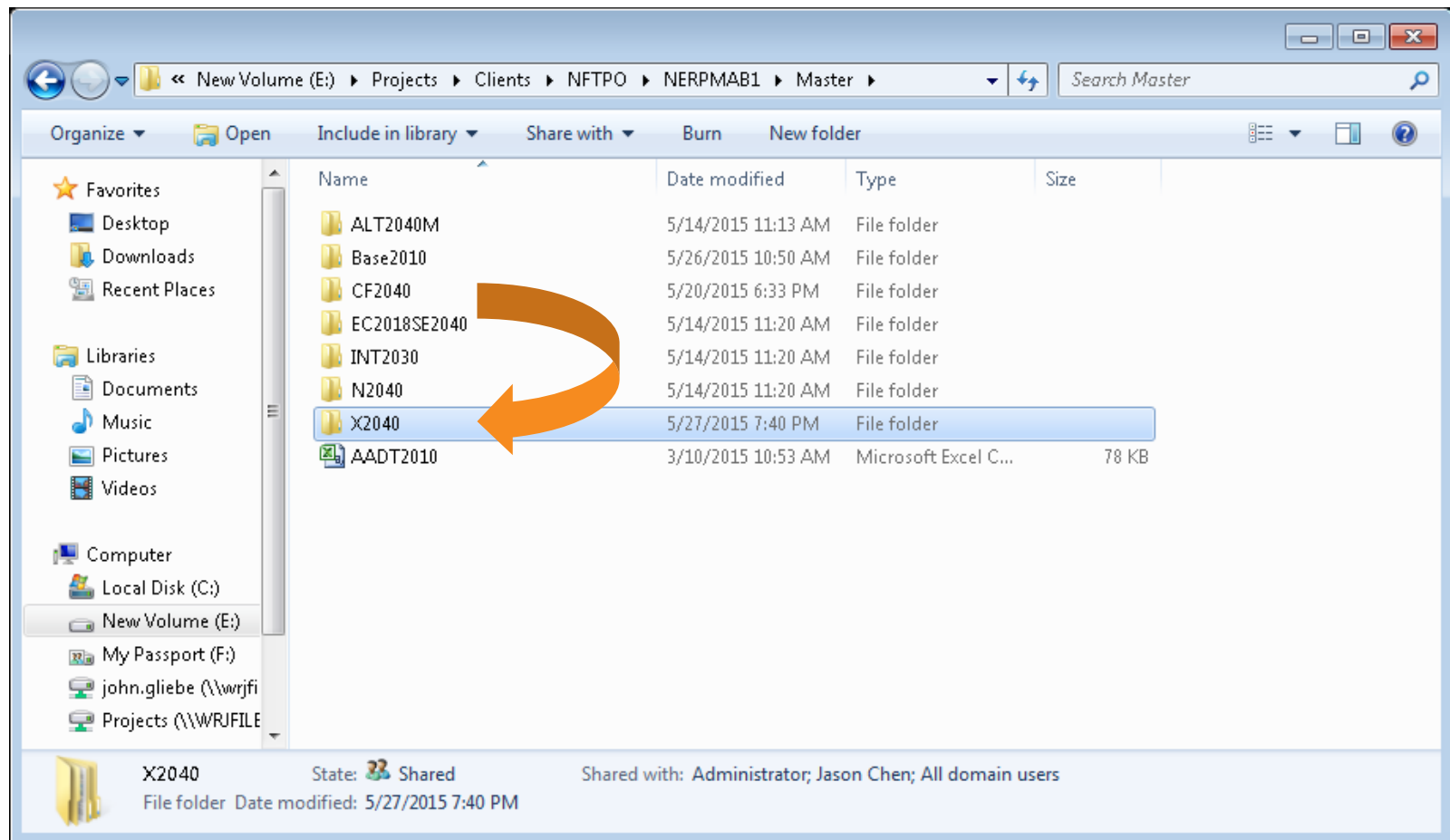


Creating New Scenarios

Basic Steps in Creating New Scenarios

1. Identify the analysis year and the baseline scenario (e.g., 2010, 2030EC, 2040CF)
2. Create a new folder in the Master directory to represent your new scenario by copying a baseline scenario as a starter
3. Insert/replace any inputs to the scenario that you have created to represent your new scenario
4. In Cube, create a new “child” under Master or “sibling” from the baseline scenario you have chosen to copy
5. Update the key fields in the Cube catalog to point to the proper input files/paths (first screen in editor)

Create a New Folder in the Master Directory to Represent Your New Scenario by Copying a Baseline Scenario as a Starter



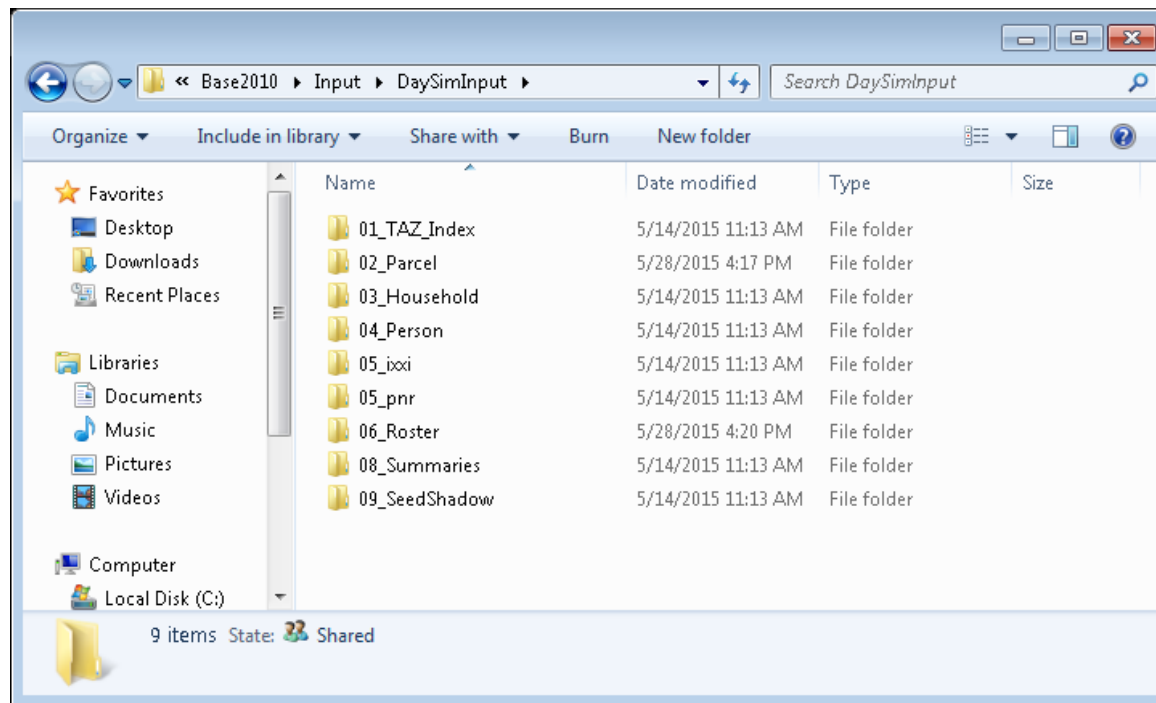
Insert/Replace any Inputs to the Scenario that you to Represent your new Scenario

- Depends on what is different from baseline
- Likely candidates for change:
 - SocEc & Land-use inputs
 - Parcel file with updated...
 - households, employment, transit distances
 - Zonal employment
 - Synthetic households
 - Highway and/or transit networks with coded changes
 - Mode-path rosters specifying which skims to use



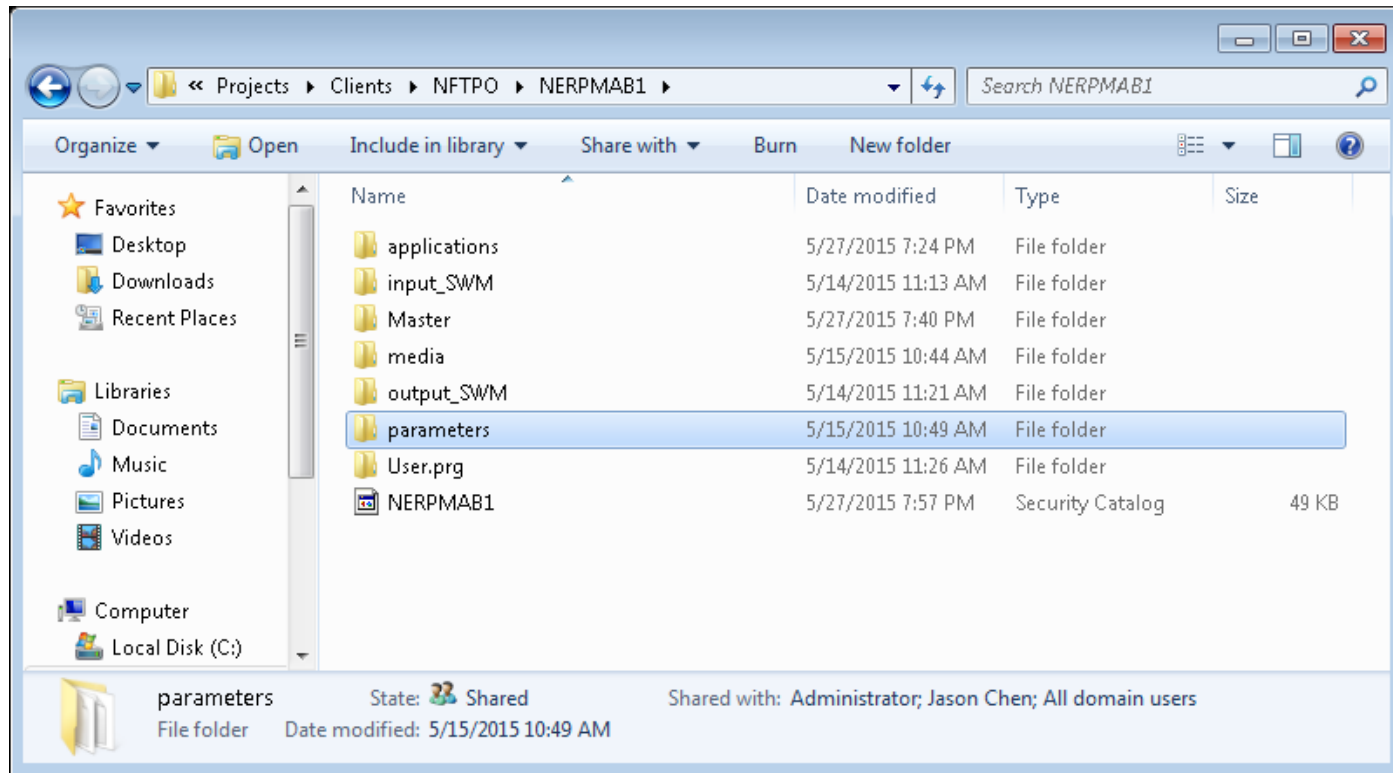
DaySim Input File Folders

- Copy from a baseline scenario, choosing the appropriate year and network assumption (base-year, existing & committed, cost-feasible, etc.)



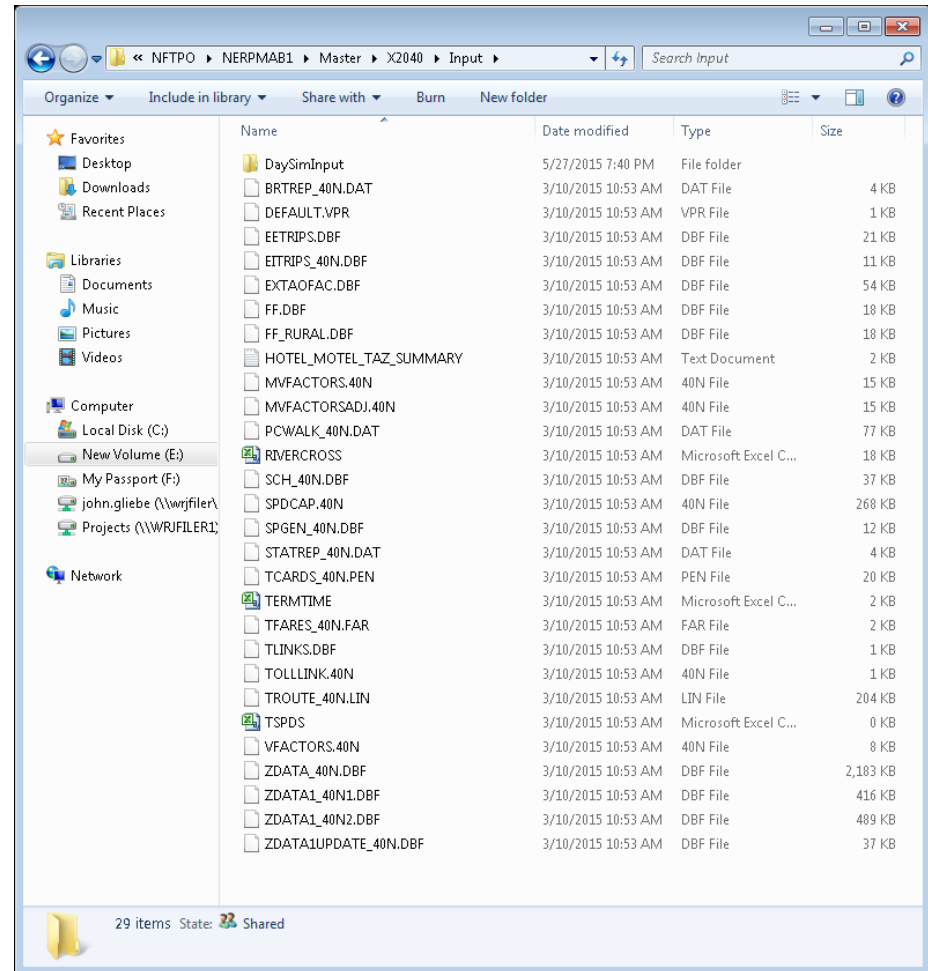
Generic Inputs

- Master micro-coded network and other files used by multiple scenarios are in familiar folders (NERPM 4.2)



Non-DaySim Inputs Specific to Scenarios

- Make sure other inputs copied from baseline scenario are relevant to the analysis



Update Key Fields in the Cube Catalog to Point to the Proper Input Files/Paths

The screenshot displays the Cube Catalog software interface for configuring a scenario. The main window is titled "NERPMB1" and "Cube (Licensed to Resource Systems Group Inc.)". The interface is divided into several panes:

- Scenario Pane:** Shows a tree view of scenarios including Base2010, EC2018SE2040, N2040, N2040, CF2040, INT2030, and ALT2040M.
- Data Pane:** Shows a tree view of data sources including Inputs, Outputs, and Reports.
- App Pane:** Shows application settings like "NERPMB1", "Create an Alternative", and "Query Loaded Net".
- Keys Pane:** Shows a table of keys and values.

The main configuration area is titled "Scenario - Master (App...)". It contains the following fields and sections:

- Model Description:** Experiment from N2040
- Alternative Letter (1 Character):** N
- Model Year (2 digits):** 40
- Enable Cube Cluster Function?**
- ClusterHandle:** NERPMB
- Number of CPUs (for Cube Cluster Function):** 24
- Global Feedback Iterations:** 1
- DaySim Parameters (Users should adjust these values correspondingly):**
 - Half of Number of CPUs (DaySim Parallel Processing Parameters): 16
 - 4 times of CPUs (DaySim Parallel Processing Parameters): 128
 - DaySim TAZ Index (Do not begin file name with f, n or r): E:\Projects\Clients\NFTPO\NERPMB1\Master\N2040\input\DaySimInput\01_TAZ_Index\jax_taz_indexes.dat
 - DaySim parcels (Do not begin file name with f, n or r): E:\Projects\Clients\NFTPO\NERPMB1\Master\N2040\input\DaySimInput\02_Parcel\Jacksonville_parcel_decayandCirc2040.dat
 - DaySim HH File (Do not begin file name with f, n or r):
 - DaySim Person File (Do not begin file name with f, n or r):
 - WorkerIDFile:
 - ParkAndRide:
 - Availability of Mode:
 - DSRosterCombinationFile:
 - Employment:
 - SeedShadow:
- Check box below if there are changes in employment distribution and you are running the scenario the first time**
- Update Shadow Price**
- User-specified values**
- PROFILE.MAS Entries (Not Normally Changed)**
 - Maximum internal zone number: 2494
 - Maximum external zone number: 2576
 - ZONESA1: 2579
 - CBD Zone for Reporting: 730
 - Nearest Zones to Average for Intrazonal Time: 2

At the bottom of the configuration area, there are buttons for "Save", "Close", "Next...", "Back...", and "Run".

Update Key Fields in the Cube Catalog to Point to the Proper Input Files/Paths

The screenshot shows the NERPMAB1 software interface with the 'DaySim Parameters' section highlighted by an orange oval. A handwritten note in orange says "Users should adjust these values correspondingly".

DaySim Parameters (Users should adjust these values correspondingly)

Parameter	Value	Action
Half of Number of CPUs (DaySim Parallel Processing Parameters)	16	
4 times of CPUs (DaySim Parallel Processing Parameters)	128	
DaySim TAZ Index (Do not begin file name with f, n or r)	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\01_TAZ_Index\jax_taz_indexes.dat	Browse ... Edit ...
DaySim parcels (Do not begin file name with f, n or r)	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\02_Parcel\Jacksonville_parcel_decayandCirc2040.dat	Browse ... Edit ...
DaySim HH File (Do not begin file name with f, n or r)	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\03_Household\jax_hrec2040.dat	Browse ... Edit ...
DaySim Person File (Do not begin file name with f, n or r)	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\04_Person\jax_prec2040.dat	Browse ... Edit ...
WorkerDXXFile	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\05_bco\jax_worker_bcofractions.dat	Browse ... Edit ...
ParkAndRide	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\05_pnr\jax_p_Nodes2040N.dat	Browse ... Edit ...
Availability of Mode	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\06_Roster\roster_jax.csv	Browse ... Edit ...
DSRosterCombinationFile	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\06_Roster\roster_combinations_2040.csv	Browse ... Edit ...
Employment	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\06_Parcel\jax2040Emp.DBF	Browse ... Edit ...
SeedShadowFile	E:\Projects\Clients\NFTPO\NERPMAB1\Master\N2040\Input\DaySimInput\09_SeedShadow\shadow_prices_40N.txt	Browse ... Edit ...

Check box below if there are changes in employment distribution and you are running the scenario the first time

Update Shadow Price

User-specified Values

PROFILE.MAS Entries (Not Normally Changed)

Parameter	Value
Maximum internal zone number	2494
Maximum external zone number	2578
ZONESA1	2579
CBD Zone for Reporting	730
Nearest Zones to Average for Intrazonal Time	2

Buttons: Save, Close, Next..., Back..., Run

General Time Saving Tips

- Do **not** need to run the **population synthesizer** unless introducing a region-wide alternative land use scenario
- Do **not** need to update employment and enrollment **shadow prices** unless introducing an region-wide alternative land use scenario, or a very large commercial development that would be expected to have a regional impact on commuting patterns
- Do **not** need to run **buffering tools** to update parcel buffer variables unless an analysis objective is to evaluate walkability, bikeability, or transit access
- Cube **Cluster is recommended** for faster highway assignment with multi-processing. Currently, Cluster seems to have problems with select link/zone path saving, so use these features only when needed



Scenarios: Land Use Impacts

How is **Land Use Impact Analysis** different with NERPM-AB?

- Use of **parcel files** for direct input of proposed developments—more precise local impacts
- Network assigned volumes created for **four time periods**—more precise estimates
- New procedures:
 - Use baseline land use-parcel file for year(s) of analysis
 - Update of parcel file to add households and employment
 - If new households, update synthetic population

What to Consider

- What to do if you don't have a future base run?
- What is the base year of your analysis?
- How many employees and in what categories are in the proposed project?
- What is the assumed population change and demographic assumptions
- What parcel(s) are impacted by the development?
- Are there any roadway changes?

If Adding Households...

1. Identify affected parcels (or nearest parcel) in the DaySim parcel file
 - For 2010: `Jacksonville_parcel_decayandCirc.dat`
 - For 2040: `Jacksonville_parcel_decayandCirc2040`
 - Interim years to be made available
 - Add number of *households* based on the expected *occupied* housing units
2. Update the **Synthetic Population**
 - Use baseline household and person files for the year of analysis. Currently, 2010 and 2040 files for:
 - `_jax_hrec.dat`
 - `_jax_prec.dat`
 - Interim years to be made available

Parcel File

Jacksonville_parcel_decayandCirc_BASE.sav [DataSet1] - PASW Statistics: Data Editor

File Edit View Data Transform Analyze Graphs Utilities Add-ons Window Help

288 : parcelid 288 Visible: 102 of 102 Variables

	parcelid	xcoord_p	ycoord_p	sqft_p	taz_p	lutype_p	hh_p	stugrd_p	stuhgh_p	stuuni_p	empedu_p	empfoo_p	empgov_p	empind_p	empmi
287	287	297258	2189272	42001	2414	1200304020	2.00	.0	.0	.0	.0	.0	.0	.0	.0
288	288	294424	2189232	74789	2414	1200304020	3.00	.0	.0	.0	.0	.0	.0	.0	.0
289	289	294167	2189322	42930	2414	1200304020	1.00	.0	.0	.0	.0	.0	.0	.0	.0
290	290	301480	2163718	7167	2419	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
291	291	303418	2163614	19706	2407	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
292	292	302421	2163663	19948	2407	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
293	293	295770	2163847	21754	2416	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
294	294	301388	2163664	14334	2419	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
295	295	302788	2163648	19706	2407	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
296	296	303320	2163596	19706	2407	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
297	297	301767	2163694	4651	2418	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
298	298	304729	2163551	21385	2407	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
299	299	304438	2163522	39412	2407	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
300	300	301290	2163646	14326	2419	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
301	301	303213	2163627	9853	2407	1200304010	3.00	.0	.0	.0	.0	.0	.0	.0	.0
302	302	302182	2163589	36586	2407	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
303	303	295541	2163829	21856	2416	1200304010	1.00	.0	.0	.0	.0	.0	.0	.0	.0
304	304	273637	2161241	122651	2402	1200304020	1.00	.0	.0	.0	.0	.0	.0	.0	.0
305	305	273475	2161357	17174	2402	1200304020	1.00	.0	.0	.0	.0	.0	.0	.0	.0

Data View Variable View

Windows Explorer: Master > Base2010 > Input > DaySimInput

Name	Date modified	Type	Size
01_TAZ_Index	5/14/2015 11:13 AM	File folder	
02_Parcel	5/28/2015 4:17 PM	File folder	
03_Household	5/14/2015 11:13 AM	File folder	
04_Person	5/14/2015 11:13 AM	File folder	
05_ooi	5/14/2015 11:13 AM	File folder	
05_pnr	5/14/2015 11:13 AM	File folder	
06_Roster	5/28/2015 4:20 PM	File folder	
08_Summaries	5/14/2015 11:13 AM	File folder	
09_SeedShadow	5/14/2015 11:13 AM	File folder	

02_Parcel State: Shared Shared with: Administrator; Jason Chen; All domain users
File folder Date modified: 5/28/2015 4:17 PM

TAZ Employment File

Update total employment and employment by industry group (2-digit NAICS)

The screenshot shows an Excel spreadsheet with the following columns: A (TAZ), B (TOTALEMP), C (EMP11), D (EMP21), E (EMP22), F (EMP23), G (EMP31_33), H (EMP42), I (EMP44), J (EMP48), K (EMP51), L (EMP52), M (EMP53), N (EMP54), O (EMP55), P (EMP56), Q (EMP61), R (EMP62). The data is organized into rows representing different TAZ values from 1 to 13.

DAYSIM SECTOR	2-DIGIT NAICS CODE
Industrial	22,31-33, 42, 48-49
Retail Trade	44-45
Office	51-56
Educational Services	61
Health / Medical	62
Government	92
Food	72
Services	71, 81
Other	11, 21, 23

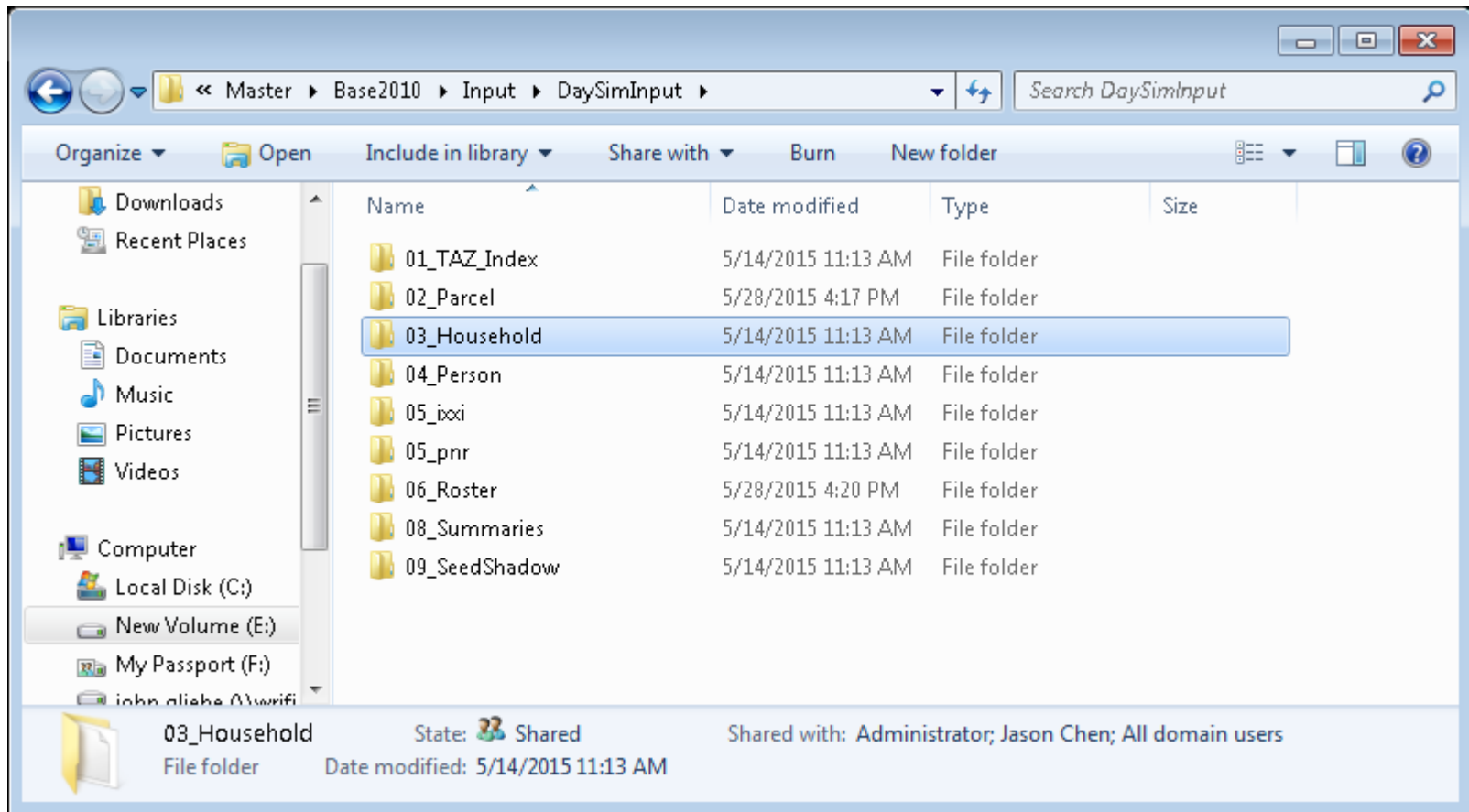
Adding Synthetic Households and Persons to Represent the Proposed Development

- Do you know what the demographic characteristics of the households should be? (e.g., retirement community)
 - **YES** → create synthetic household records using a representative household type (age, number of persons, workers, students, and income); add person records based on this type for each household
 - **NO** → sample households that are assigned to other parcels in the same TAZ or adjacent TAZs; select the person records that belong to each sampled household
 - Add household records to `_jax_hrec.dat`
 - For each household, add person records to `_jax_prec.dat`

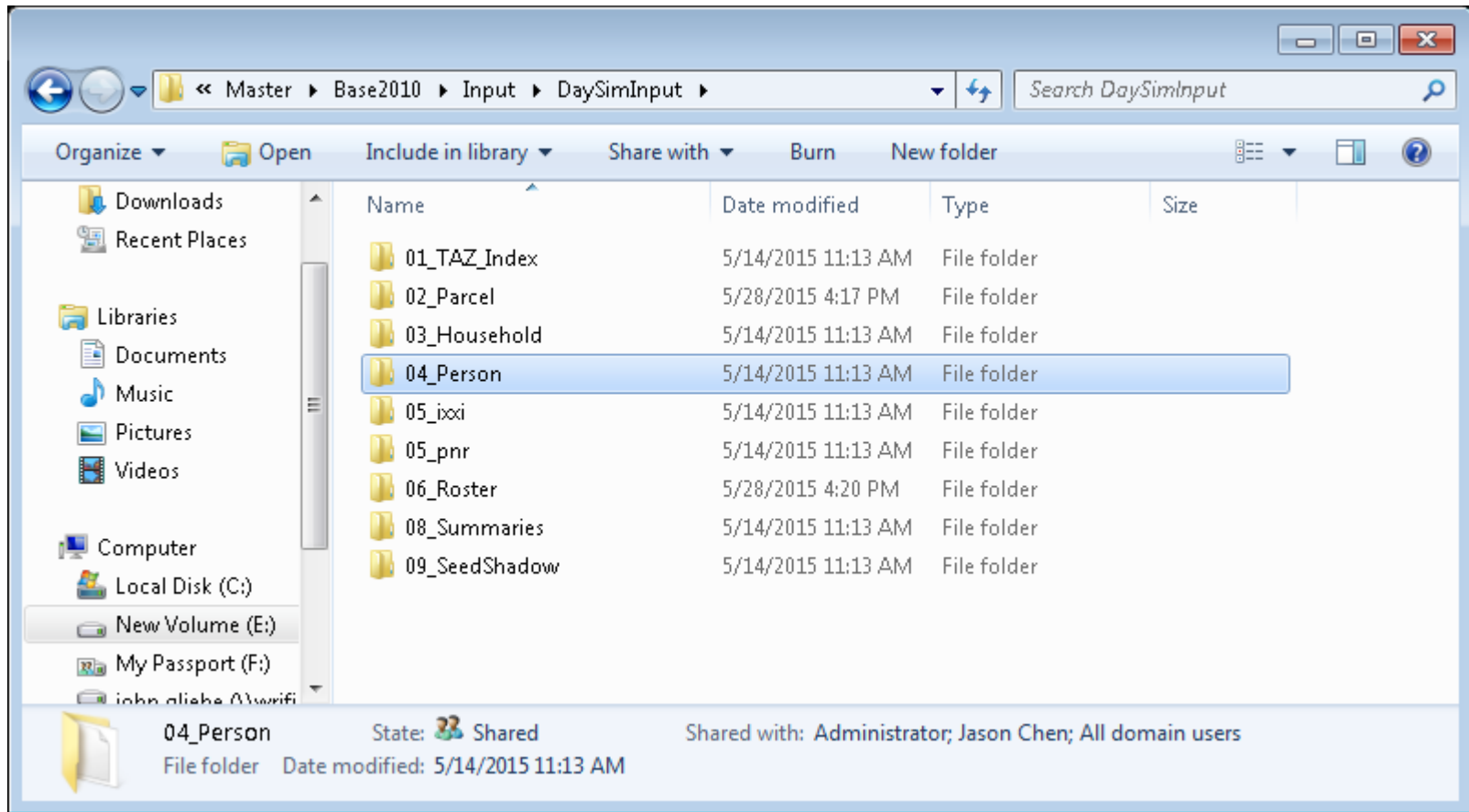
If Adding Non-Residential Development...

- Identify affected parcels (or the nearest parcel) in the DaySim parcel file
- Add employment to parcel files
 - Determine how many employees there will be based on land use type (e.g., retail, service, manufacturing, etc.)
 - Add the number of jobs by industry group to the parcel records
 - For 2010: [Jacksonville_parcel_decayandCirc.dat](#)
 - For 2040: [Jacksonville_parcel_decayandCirc2040.dat](#)
- Update the TAZ employment file
 - For 2010: [Jax2010Emp.dbf](#)
 - For 2040: [Jax2040Emp.dbf](#)
 - Interim years to be made available

Household File



Person File



What can one expect from the model?

- Trips are generated from households and attracted to TAZs and parcels based on destination employment and/or households
 - Synthetic households generate trips
 - Parcel values used for destination choice (attractions)
 - Zone data files still used for external and truck trip ends
- Highway network loading at the TAZ level, similar to NERPM 4.2
- Analysis methods for highway assignment results and trip distributions should be the same as with NERPM 4.2
 - Now have AM, MD, PM, and NT periods
 - Also have daily assignment—sum of each period

What's special about this?

- NERPM-AB may respond to heavy congestion by...
 - Shifting routes
 - Shifting destinations
 - Shifting trips by time period of day
 - Longer trip chains
 - Suppressing demand
- The trips list (**_trips.tsv**) produced by DaySim will include trips produced and attracted to the project site with every synthetic person/household identified
 - Use to link back to person and household attributes and home origins—**even for non-home based trips!**
 - Use to show **non-auto modes**, and time of day—useful if a development is supposed to be transit-oriented



Lunch



Scenarios: Transit System Change

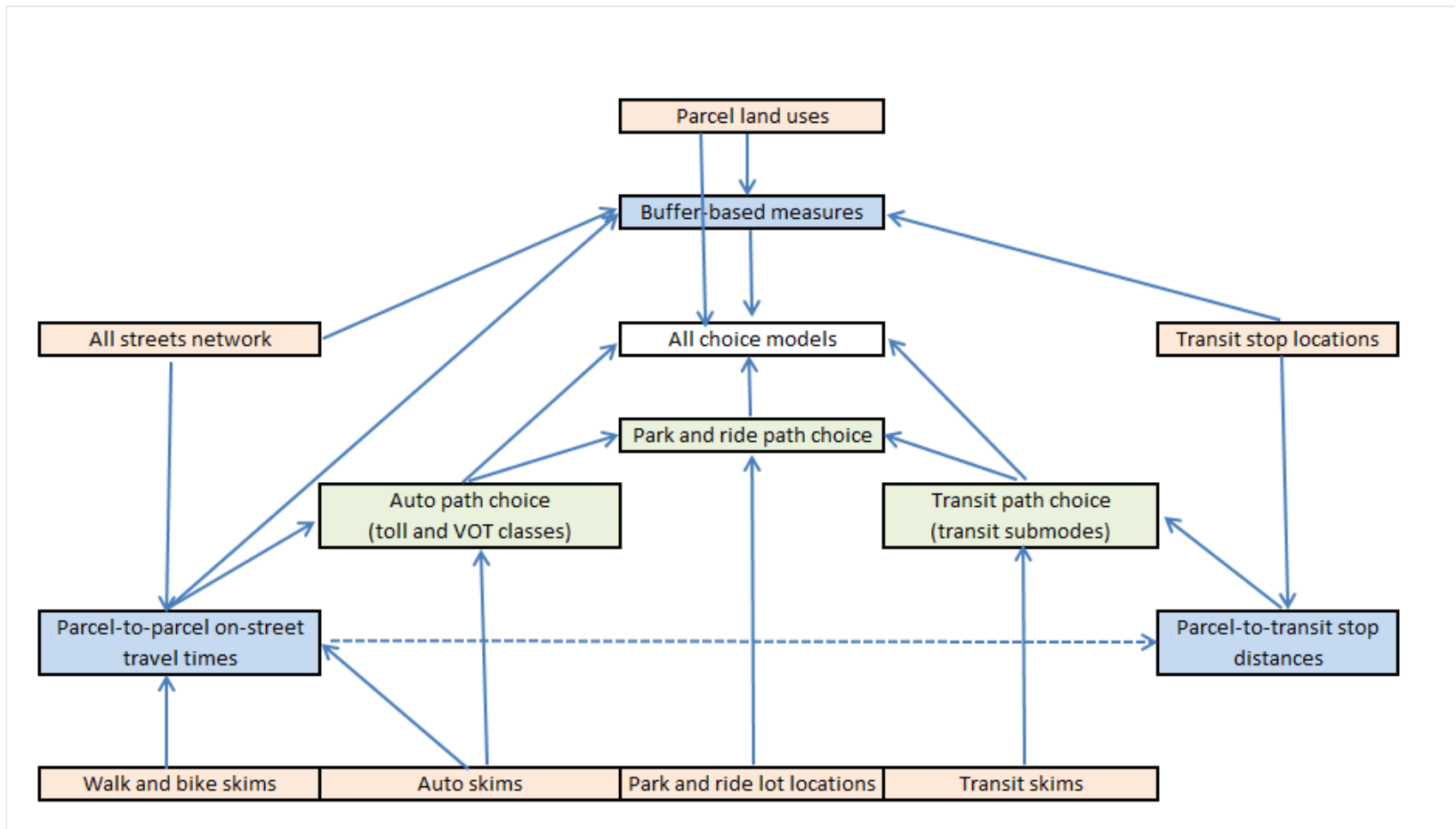
How is Transit System Change Analysis different with NERPM-AB?

- Walk access distances calculated from parcel to transit stop-more precise estimates of accessibility
- PNR lots are chosen by DaySim
 - Capacity constrained by hour of day (shadow pricing)
- New procedures:
 - Update or changed transit stop locations
 - Requires running buffering tools to create parcel attributes, or **careful** manual manipulation of distances to nearest stop
 - If new PNR lot, updating lot file
 - If this is a new service (e.g. BRT, Commuter rail)
 - Update mode roster file
 - Update roster combinations file

What to Consider

- Does the new transit service require changes or additions to stop locations, or just changes to route and line files?
- Is this a new mode for the region?
- What times of day are affected?
- Is a new park-and-ride lot being considered?

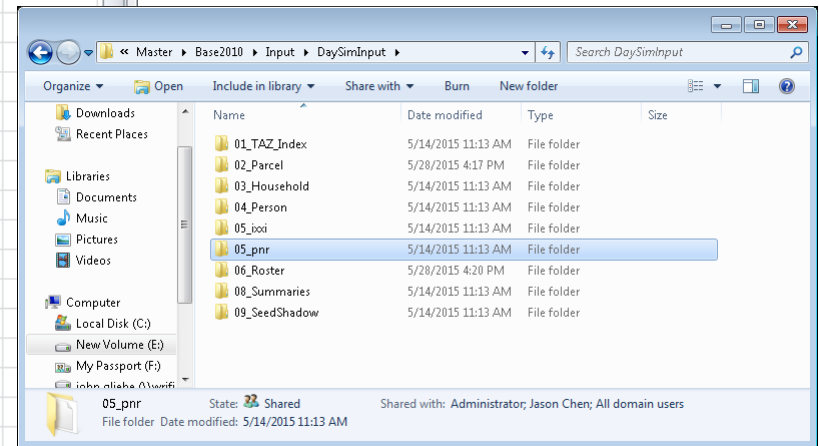
Relationship between Land Use, Buffer Variables, and Mode-Paths in DaySim



Park-and-Ride Lots File

jax_p_rNodes - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J
1	NodeID	ZoneID	XCoord	YCoord	Capacity	Cost	PNR	KNR		
2	88001	552	456512	2114239	200	0	1	99		
3	88002	243	522461	2193355	200	0	1	99		
4	88003	1952	492964	2187410	200	0	1	99		
5	88004	470	466179	2149755	100	0	1	99		
6	88001	552	456512	2114239	9999	0	99	1		
7	88002	243	522461	2193355	9999	0	99	1		
8	88003	1952	492964	2187410	9999	0	99	1		
9	88004	470	466179	2149755	9999	0	99	1		
10	80025	716	452890	2179355	200	0	1	99		
11	87001	700	444330	2180227	900	164	1	99		
12	87002	726	445709	2179834	100	258	1	99		
13	87003	767	450136	2175356	1900	138	1	99		
14	87004	766	447699	2175975	224	154	1	99		
15	37203	739	446984	2179548	9999	0	99	1		
16	37231	719	447051	2179844	9999	0	99	1		
17	38041	663	448298	2181559	9999	0	99	1		
18	64141	348	518030	2164912	50	0	1	99		
19	68036	340	533107	2161192	50	0	1	99		
20	87015	916	502574	2164748	50	0	1	99		
21										
22										



Updating Distance to Nearest Stop without Running Buffering Tool

- For scenarios with few new stops
- For each new stop (**by mode**), determine whether it is closer to any parcels than existing stops. In other words, for these parcels, does it decrease the distance to the nearest transit stop for that **mode**?
- **If so, update the distance for that parcel**

Transit Stop Distances in Parcel File

Local Bus

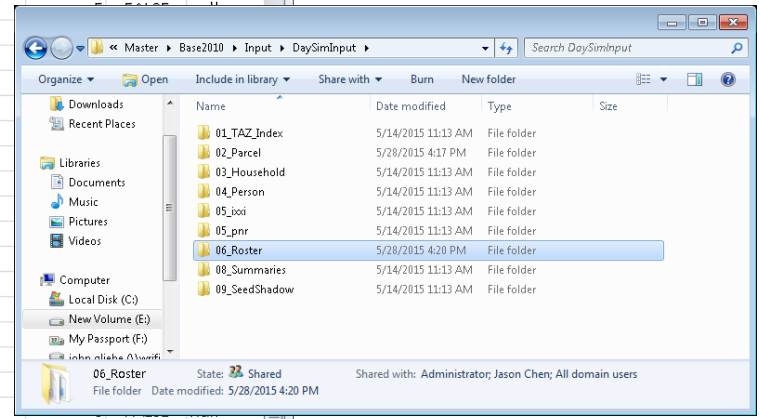
The screenshot displays the PASW Statistics Data Editor interface. The main window shows a data table with the following columns: pprichr2, nodes1_2, nodes3_2, nodes4_2, tstops_2, nparks_2, aparks_2, dist_bus, dist_ebus, dist_crt, dist_fry, and dist_lrt. The 'dist_bus' column is highlighted with an orange oval, and an orange arrow labeled 'Local Bus' points to it. The data table contains 11 rows of data, with the first row (row 287) having a 'dist_bus' value of 9.32. An inset window in the bottom right shows a file explorer view of the '02_Parcel' folder, which contains several subfolders including '01_TAZ_Index', '02_Parcel', '03_Household', '04_Person', '05_bod', '05_pnr', '06_Roster', '08_Summaries', and '09_SeedShadow'.

	pprichr2	nodes1_2	nodes3_2	nodes4_2	tstops_2	nparks_2	aparks_2	dist_bus	dist_ebus	dist_crt	dist_fry	dist_lrt
287	0	.0	6.38	8.40	.60	.0	.0	9.32	999.00	999.00	999.0	999.00
288	0	.0	8.70	18.40	1.32	.0	.0	8.11	999.00	999.00	999.0	999.00
289	0	.0	9.59	19.74	1.35	.0	.0	8.22	999.00	999.00	999.0	999.00
290	0	.0	32.68	103.74	55.03	.49	.0	.92	999.00	999.00	999.0	999.00
291	0	.0	17.19	67.92	47.24	.12	.0	1.41	999.00	999.00	999.0	999.00
292	0	.0	26.81	93.87	56.85	.46	.0	.94	999.00	999.00	999.0	999.00
293	0	.0	19.87	35.61	5.81	.02	.0	2.06	999.00	999.00	999.0	999.00
294	0	.0	28.04	87.82	48.26	.36	.0	1.04	999.00	999.00	999.0	999.00
295	0	.0	22.18	84.34	54.90	.38	.0	1.02	999.00	999.00	999.0	999.00
296	0	.0	17.90	70.81	48.73	.13	.0	1.38	999.00	999.00	999.0	999.00
297	0	.0	31.02	100.79	56.34	.43	.0	.97	999.00	999.00	999.0	999.00
298	0	.0	11.54	49.56	32.98	.10	.0	1.50	999.00	999.00	999.0	999.00
299	0	.0	14.26	60.22	39.09	.14	.0					
300	0	.0	29.28	90.70	48.09	.35	.0					
301	0	.0	18.51	72.87	50.00	.13	.0					
302	0	.0	30.00	101.97	58.01	.57	.0					
303	0	.0	26.16	49.45	8.33	.02	.0					
304	0	.0	11.37	17.26	3.21	.0	.0					
305	0	.0	11.75	17.46	3.36	.0	.0					
306	0	.0	2.37	6.71	.18	.0	.0					
307	0	.0	2.46	4.57	.38	.0	.0					
308	0	.0	6.73	13.93	.84	.0	.0					

Mode-Path Roster File

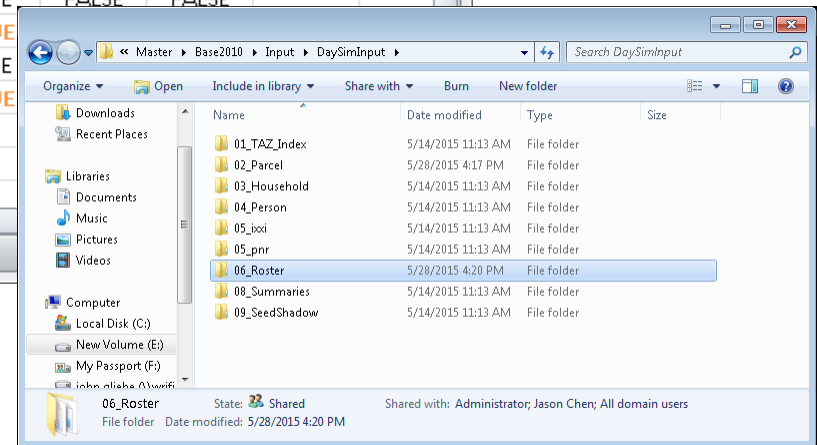
roster_jax - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J	K	L
1	#variable	mode	path-type	vot-group	start-minu	end-minu	length	file-type	name	field	transpose	blend-var
122	iwaittime	transit	project	medium	300	539	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
123	xwaittime	transit	project	medium	300	539	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
124	fare	transit	project	medium	300	539	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
125	nboard	transit	project	medium	300	539	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
126	ivtime	transit	project	medium	540	929	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
127	iwaittime	transit	project	medium	540	929	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
128	xwaittime	transit	project	medium	540	929	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
129	fare	transit	project	medium	540	929	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
130	nboard	transit	project	medium	540	929	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
131	ivtime	transit	project	medium	930	1109	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
132	iwaittime	transit	project	medium	930	1109	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
133	xwaittime	transit	project	medium	930	1109	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
134	fare	transit	project	medium	930	1109	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
135	nboard	transit	project	medium	930	1109	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
136	ivtime	transit	project	medium	1110	1379	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
137	iwaittime	transit	project	medium	1110	1379	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
138	xwaittime	transit	project	medium	1110	1379	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
139	fare	transit	project	medium	1110	1379	maxzone	Text_IJ	OP_WalkCR.TXT	4	FALSE	null
140	nboard	transit	project	medium	1110	1379	maxzone	Text_IJ	OP_WalkCR.TXT	7	FALSE	null
141	ivtime	transit	project	medium	1380	299	maxzone	null	null	3	FALSE	null
142	iwaittime	transit	project	medium	1380	299	maxzone	null	null	4	FALSE	null
143	xwaittime	transit	project	medium	1380	299	maxzone	null	null	5	FALSE	null
144	fare	transit	project	medium	1380	299	maxzone	null	null	6	FALSE	null
145	nboard	transit	project	medium	1380	299	maxzone	null	null	7	FALSE	null
146	ivtime	park-and-	pnr-proje	medium	300	539	maxzone	Text_IJ	PK_WalkCR.TXT	3	FALSE	null
147	iwaittime	park-and-	pnr-proje	medium	300	539	maxzone	Text_IJ	PK_WalkCR.TXT	4	FALSE	null
148	xwaittime	park-and-	pnr-proje	medium	300	539	maxzone	Text_IJ	PK_WalkCR.TXT	5	FALSE	null



Roster Combinations File

	A	B	C	D	E	F	G	H	I	J	K	L
1	#	walk	bike	sov	hov2	hov3	transit	park-and	school-bu	other		
2	full-network	TRUE	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE		
3	no-tolls	FALSE	FALSE	TRUE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE		
4	bus	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE		
5	project	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE		
6	pnr-bus	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE		
7	pnr-project	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE		
8	knr-bus	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE		
9	knr-project	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE		
10												
11												
12												



What can one expect from the model?

- DaySim will use the distance to the nearest transit stop as calculated from parcel-to-stop for walk access time when evaluating mode choices
- DaySim will choose drive-transit paths by choosing PnR and KnR lots (mode change purpose)
 - Drive skims + Transit-walk access skims
- Analysis methods for transit assignment results and trip distributions should be the same as with NERPM 4.2 for Peak and Off-Peak periods
 - Transit skims are created for all four time periods for use in DaySim

What's special about this?

- NERPM-AB may respond to a change in transit service by...
 - Changes in mode usage in the affected corridor
 - Some changes in trip chaining and daily tour patterns may occur
 - Some changes in destinations may occur
- The trips list ([_trips.tsv](#)) produced by DaySim will include transit trips, with every synthetic person/household identified
 - Use to link back to person and household attributes and home origins—[even for non-home based trips!](#)
 - This can be summarized to show [user benefits](#) by any available socio-economic group, by time of day and purpose

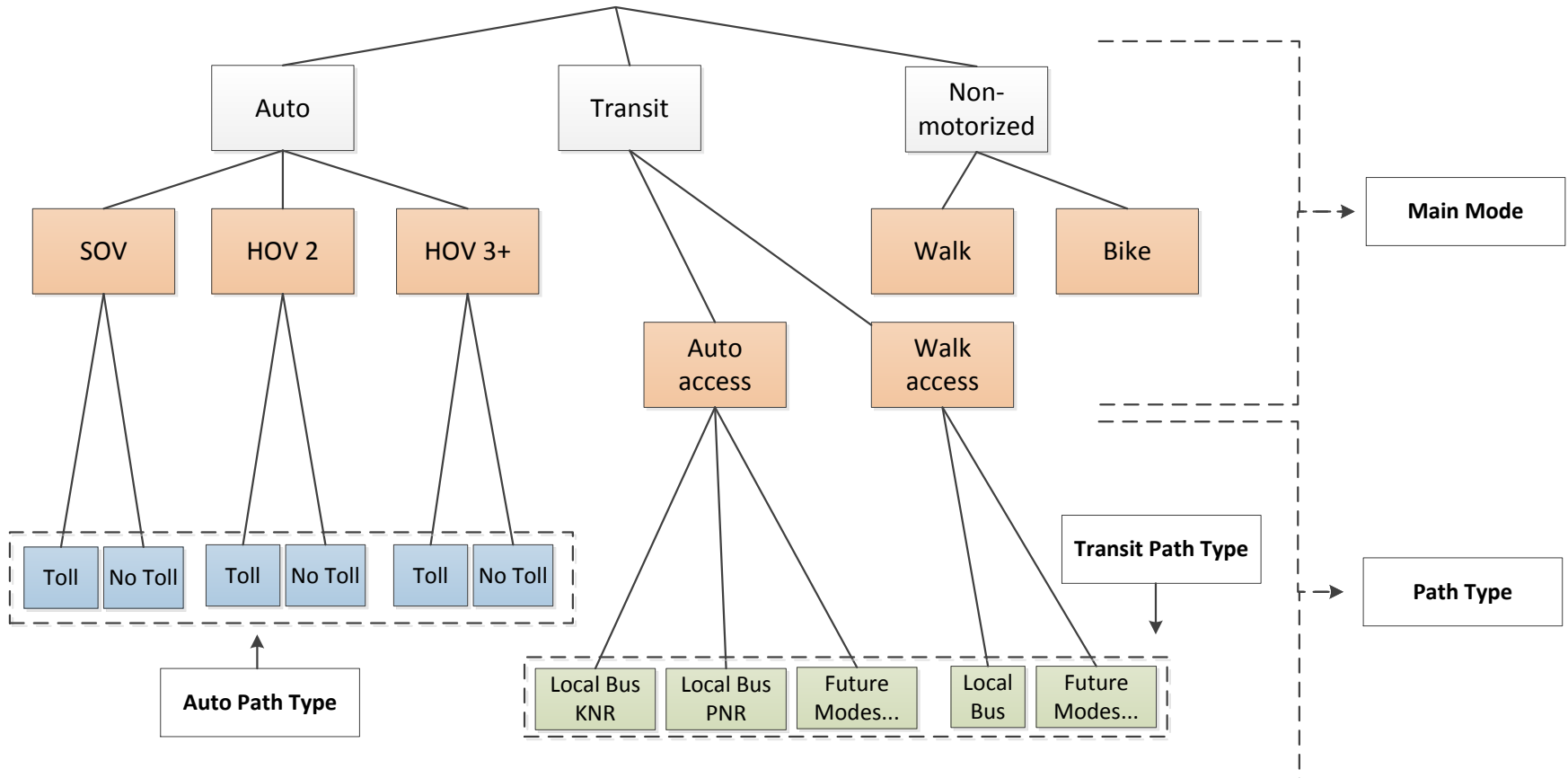


Scenarios: Tolling and Managed Lanes

How is Tolling and Managed Lane Analysis different with NERPM-AB?

- Toll vs. No-Toll Choice handled in mode-path choice models
- Ability to vary by time of day
- Distributed values of time by individual
- New procedures:
 - Need to add separate skimming procedures to exclude tolled links for non-toll users
 - Need to add Separate skimming procedures for managed lanes that vary by time of day
 - Specification of skims in DaySim roster files

Mode and Path Choice Structure



What to Consider

- Coding links on the network in Cube (same as before)
- Will there be managed lanes that function differently at different times of day?
- Will there be different tolls for different time of day?
- If managed lanes and/or tolls will vary by time of day, may require special network coding (toggle links on/off) in the Micro-coded network (MicroCodedHnet42.net)
- Managed lane and tolled facilities have already been coded as part of the LRTP analysis

DaySim Roster File: Tolling Example

- Objective: charge tolls from 7:30AM to 9:30AM (wherever they are coded on network links)
- Generate Skims according to toll plan, Skm_Toll_D1, Skm_Toll_HOV
- Adjust Roster File to used these skims for the time periods of the toll (450 to 570 mpm)

#variable	mode	path-type	vot-group	start-minute	end-minute	length	file-type	name	field	transpose	blend-variable	blend-path-type	factor	scaling
toll	sov	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	sov	full-network	medium	540	959	maxzone	Text_IJ	SKM_MD_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	sov	full-network	medium	960	1139	maxzone	Text_IJ	SKM_PM_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	sov	full-network	medium	1140	359	maxzone	Text_IJ	SKM_EV_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_S2.TXT	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	540	959	maxzone	Text_IJ	SKM_MD_S2.TXT	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	960	1139	maxzone	Text_IJ	SKM_PM_S2.TXT	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	1140	359	maxzone	Text_IJ	SKM_EV_S2.TXT	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	360	539	maxzone	Text_IJ	SKM_AM_S3.TXT	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	540	959	maxzone	Text_IJ	SKM_MD_S3.TXT	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	960	1139	maxzone	Text_IJ	SKM_PM_S3.TXT	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	1140	359	maxzone	Text_IJ	SKM_EV_S3.TXT	5	FALSE	distance	null	null	TRUE

#variable	mode	path-type	vot-group	start-minute	end-minute	length	file-type	name	field	transpose	blend-variable	blend-path-type	factor	scaling
toll	sov	full-network	medium	360	449	maxzone	Text_IJ	SKM_AM_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	sov	full-network	medium	450	569	maxzone	Text_IJ	Skm_Toll_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	sov	full-network	medium	570	959	maxzone	Text_IJ	SKM_MD_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	sov	full-network	medium	960	1139	maxzone	Text_IJ	SKM_PM_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	sov	full-network	medium	1140	359	maxzone	Text_IJ	SKM_EV_D1.TXT	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	360	449	maxzone	Text_IJ	SKM_AM_S2.TXT	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	450	569	maxzone	Text_IJ	Skm_Toll_HOV.TX	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	570	959	maxzone	Text_IJ	SKM_MD_S2.TXT	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	960	1139	maxzone	Text_IJ	SKM_PM_S2.TXT	5	FALSE	distance	null	null	TRUE
toll	hov2	full-network	medium	1140	359	maxzone	Text_IJ	SKM_EV_S2.TXT	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	360	449	maxzone	Text_IJ	SKM_AM_S3.TXT	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	450	569	maxzone	Text_IJ	Skm_Toll_HOV.TX	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	570	959	maxzone	Text_IJ	SKM_MD_S3.TXT	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	960	1139	maxzone	Text_IJ	SKM_PM_S3.TXT	5	FALSE	distance	null	null	TRUE
toll	hov3	full-network	medium	1140	359	maxzone	Text_IJ	SKM_EV_S3.TXT	5	FALSE	distance	null	null	TRUE



Distributed Values of Time

- Calculated for each tour as a function of...
 - Household income
 - Auto occupancy
 - Main stop purpose (work vs. non-work)
 - Random component

What can one expect from the model?

- DaySim will choose DA vs SR and Toll vs. Non-Toll in Tour and Trip Mode Choice Models
 - Drivers who choose a non-toll path option will only use network facilities without tolls
 - Drivers who choose the toll path option will have the entire network available, but may or may not select tolled paths depending on the generalized cost of competing paths (user equilibrium assignment)
- Analysis methods for highway assignment results and trip distributions should be the same as with NERPM 4.2
 - Now have AM, MD, PM and NT periods
 - Also have daily assignment—sum of all four periods

What's special about this?

- NERPM-AB may respond to managed lanes and tolling by...
 - Allocating between toll and non-tolled, between DA and SR
 - Shifting routes
 - Shifting trips by time period of day
 - Some shifting of destinations may occur
- The trips list (`_trips.tsv`) produced by DaySim will include the modeled **value of time** group for each trip
 - Use to link back to person and household attributes and home origins—**even for non-home based trips!**
 - Ability to evaluate equity questions based on income, or identifying **who toll and managed lane users** are likely to be



Break



**Wrap up:
Q & A and Open Discussion**



Contacts

www.rsginc.com

JOHN GLIEBE

RSG

John.Gliebe@rsginc.com

240.283.0633

STEPHEN LAWE

RSG

Stephen.Lawe@rsginc.com

802.359.6452