

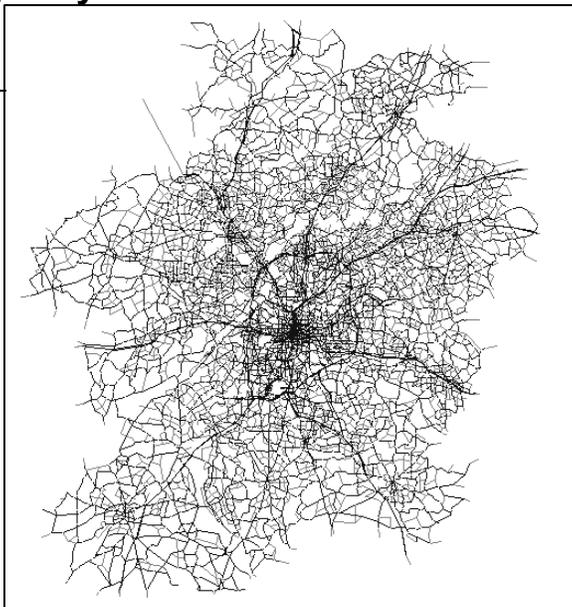
Atlanta Regional Commission Traffic Model



October 2004

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Input Highway Network



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Trip Generation Model

- **Production Model**
 - Set of Logit Models stratified by trip purpose and person types
- **Attraction Model**
 - Set of Cross-Classification Models
 - Trip Rates per Employee, or Person, or Household by Area Type
- **Input Files**
 - Trip Rates by Purpose
 - Socio-Economic Files
 - Auto Importance File
 - Accessibility File

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Trip Distribution Model

- **Standard Gravity Model**
- **Input Files**
 - Productions & Attractions File
 - Composite Time by Purpose for HBW
 - Friction Factors
- **Std TP+ Script**
- **Output Files**
 - Trip table by Purpose

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Mode Choice Model

- Input Files
 - Trip tables by Purpose
 - Transit Skims
 - Highway Skims
 - Socio-economic Data Files
 - Fare Matrices
 - Percent Transit
- Fortran Program
- Run Separately for each Purpose

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Truck Model (Trip Generation and Trip Distribution)

- Produces the I-I and I-E Triptables by Weight
- Input Files
 - Highway Skims
 - Socio-economic data files
 - I-E Production rates*
 - Percent of trucks by weight per external station
 - Skims, Trip ends and friction factors for trip distribution
- Fortran Program
- Output Files
 - I-I Light Duty Vehicle
 - I-I Heavy Duty Vehicle
 - I-E Light Duty Vehicle
 - I-E Heavy Duty Vehicle

**produced in spreadsheets, being converted to TP+*

43

Internal-External Passenger Cars (Generation-Distribution)

- **Produces I-E Trips by Purpose (work versus non-work) and by Facility Type of external station (interstate versus non-interstate)**
- **Input Files**
 - Highway Skims
 - Socio-economic data files
 - I-E Production rates
 - Percent of work versus non-work per external station
- **Fortran Program**
- **Output Files**
 - Report File
 - Trip Ends

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External-External (Trip Generation)

- **Produces the E-E trips for Trucks and Passenger Cars**
- **Base year frateded using growth factors**
- **Input Files**
 - Base Year triptables (1995)
 - Growth Factors*
- **Output Files**
 - Triptables

**produced in spreadsheets, being converted to TP+ scripts*

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Feedback Loop

- **Run AM Peak Assignment**
- **Input Files**
 - Skims
 - 1st loop – Built from Lookup Table of Congested Skims
 - 2-+ Loops – Built from Congested Highway Times from assignment
- **Check for Method of Successive Averages**
 - Check between iteration
 - Travel times within +/-5% for 95% of network
 - Link volumes within +/-5% of network

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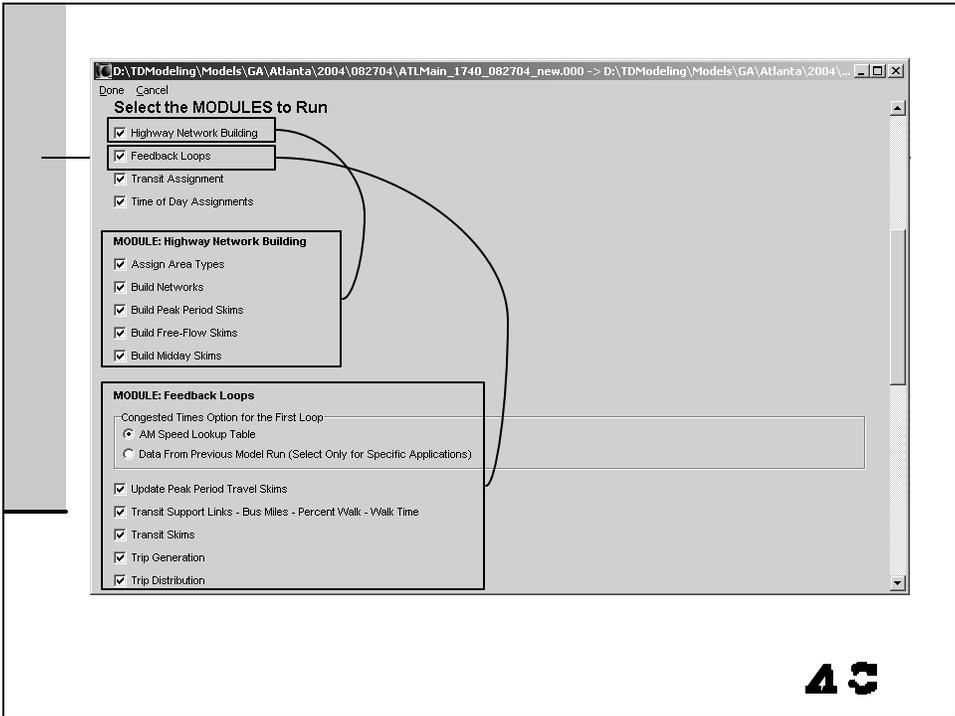
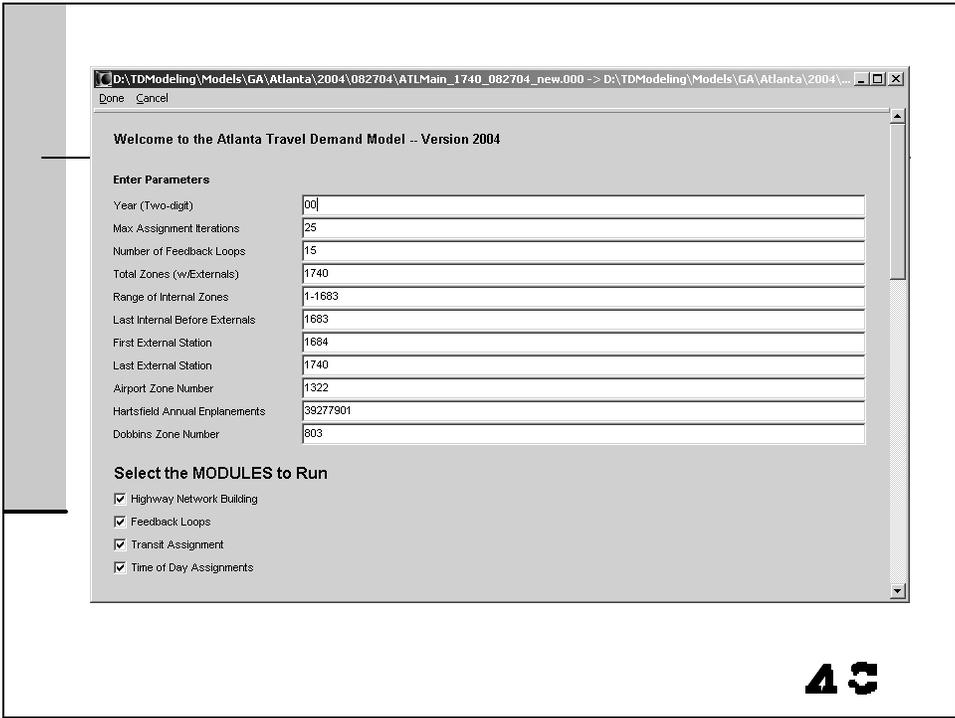
Time of Day Highway Assignments

Output Files -

- AM peak 6h00 – 10h00
- Mid-day 10h00 – 15h00
- PM peak 15h00 – 19h00
- Evening/night 19h00 – 6h00
- TOTAL daily network

Airport Special Generator: estimates average daily air passengers to & from the airport by purpose & residence

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D:\TDModeling\Models\GA\Atlanta\2004\082704\ATLMain_1740_082704_new.001 -> D:\TDModeling\Models\GA\Atlanta\2004...

Done Cancel

MODULE: Feedback Loops

- Congested Times Option for the First Loop

AM Speed Lookup Table

Data From Previous Model Run (Select Only for Specific Applications)

Update Peak Period Travel Skins

Transit Support Links - Bus Miles - Percent Walk - Walk Time

Transit Skins

Trip Generation

Trip Distribution

Mode Choice

Merge Trip Tables

AM Peak Period Assignment

MODULE: Transit Assignment

Transit Assignment

MODULE: Time-of-Day Assignments

Time-of-Day Matrix Setup

Update Speeds and Capacities

AM

MD

PM

NT

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D:\TDModeling\Models\GA\Atlanta\2004\082704\ATLMain_1740_082704_new.001 -> D:\TDModeling\Models\GA\Atlanta\2004...

Done Cancel

Trip Distribution

Mode Choice

Merge Trip Tables

AM Peak Period Assignment

MODULE: Transit Assignment

Transit Assignment

MODULE: Time-of-Day Assignments

Time-of-Day Matrix Setup

Update Speeds and Capacities

AM

MD

PM

NT

Merge and Summarize

PARK AND RIDE LOTS: Enter the premium PNR nodes by directional orientation
 (i.e. - major PNR lots that draw trips primarily from one particular direction)

Oriented to the NW:	0
Oriented to the N:	19081,19102,19105,19078
Oriented to the NE:	19099,19100
Oriented to the E:	19083
Oriented to the SE:	19082
Oriented to the S:	0
Oriented to the SW:	19094,19095
Oriented to the W:	19090
Oriented all directions:	19093,19098,19096

Not Premium !!

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Model "Dry Run"

Enter Parameters

Year (Two-digit)	00
Max Assignment Iterations	1
Number of Feedback Loops	1
Total Zones (w/Externals)	1740
Range of Internal Zones	1-1683
Last Internal Before Externals	1683
First External Station	1684
Last External Station	1740
Airport Zone Number	1322
Hartsfield Annual Enplanements	39277901
Dobbins Zone Number	803

Select the MODULES to Run

- Highway Network Building
- Feedback Loops
- Transit Assignment
- Time of Day Assignments

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Select Link & Desire Lines Analysis

- Compress Trip Tables to Desired Districts
- Add node attribute to network for storing district numbers
- Code district numbers in network (one node near the center of each district)
- Link district trip table to network using the district node attribute
- Post Desire Lines

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Procedures for Producing Summit Output – User Benefits

Must have Level Playing Field

- Run Model for Base Year Scenario
 - Must use the Mode Choice Executable that exports User Benefit Files
- Run Model for Alternative Scenario
- Merge highway links from Base that are not in the Alternative with the Alternative
- Rebuild Transit Skims using the Merged highway network

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Procedures for Producing Summit Output – User Benefits

Must have Level Playing Field

- Rerun Base Scenario using
 - Revised Highway and Transit Skims
 - Same Person Trip table
- Creates New User Benefit Files
- Run Summit
 - Produces Reports & Data files by District
 - Data files can be mapped

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