ConvertTrips

Version 5.0.9

Revision History

March 2012 - Created by Volpe Center

The **ConvertTrips** program converts traditional zone-to-zone trip tables to TRANSIMS trips by

activity location and time of day. The **ConvertTrips** program is used to:

*1. Convert multiple trip or tour tables to Trip, Vehicle, and Household files*

*2. Assign each trip table to a different trip purpose and vehicle type*

*3. Apply different diurnal distribution curves to each trip table or zone range.*

*4. Apply district-to-district correction factors to the input trips by trip purpose.*

*5. Append additional trips to existing Trip, Vehicle, and Household files.*

*6. A period field can be included in the input trip tables to limit the time-of-day distribution*

*of the trips.*

Similar to version 4, ConvertTrips distributes aggregate trip table data to individual travelers at specific locations and trip start times. Zones are assigned to activity locations, and time periods are assigned to a second of the day.

Syntax is ConvertTrips [-flag] [control\_file]

The control file is the file name of an ASCII file that contains the control strings expected by the program. The control file is optional. If a file name is not provided, the program will prompt the user to enter a file name. The flag parameters are also optional. Any combination of the following flag parameters can be included on the command line:

Optional Flags:

-Q[uiet] = execute without screen messages

-H[elp] = show program syntax and control keys

-C[ontrol] = create/update a default control file

-K[eyCheck] = list unrecognized control file keys

-P[ause] = pause before exiting

-N[oPause] = never pause before exiting

-D[etail] = execute with detailed status messages

-X[ML] = write an XML file with control keys

The program automatically creates a printout file based on the control file name. If the filename includes an extension (e.g., “.ctl”), the extension is replaced with “.prn”. The printout file will be created in the current working directory and will overwrite an existing file with the same name.

# Version 5 Features

1. TRAVELER\_TYPE\_SCRIPT key was added to provide a user program that can manipulate traveler attributes (mode, purpose, duration, constraint, priority, vehicle type, passengers and traveler type) based on group, origin zone, destination zone, and trip start time or random number logic. TRAVELER\_TYPE\_CODE key was added to provide a default value for the traveler type.
2. The tour processing logic from the Version 4 ConvertTours program was integrated into the Version 5 trip processing program. The tour processing keys include TOUR\_DATA\_FILE, TOUR\_DATA\_FORMAT, TOUR\_HOUSEHOLD\_FIELD, TOUR\_PERSON\_FIELD, TOUR\_NUMBER\_FIELD, TOUR\_PURPOSE\_FIELD, TOUR\_MODE\_FIELD, TOUR\_ORIGIN\_FIELD, TOUR\_DESTINATION\_FIELD, TOUR\_STOP\_OUT\_FIELD, TOUR\_STOP\_IN\_FIELD, TOUR\_START\_FIELD, TOUR\_RETURN\_FIELD, TOUR\_GROUP\_FIELD, TOUR\_GROUP\_SCRIPT, STOP\_WEIGHT\_FIELD, and TRIP\_STOP\_DURATION. New report options include TOUR\_GROUP\_SCRIPT and TOUR\_GROUP\_STACK and a new output file is generated by the NEW\_TIME\_DISTRIBUTION\_FILE key. This file writes the diurnal distribution shares and resulting trips by minute of the day.
3. Time periods were made mutually exclusive to avoid spikes in the time distribution at period transition points. TIME\_EQUIVALENCE\_FILE was added as an alternative to the hourly time periods assumed by default. Random seed control was expanded to include the intermediate stop location. NEW\_PROBLEM\_FILE key was added along with problem summary reports. Tour related warning messages are replaced by problem records and summaries.

# Control Key List

The list of control file keys appears in the table below:

* Req / Opt indicates whether the key is **req**uired or **opt**ional
* The types include **Text**, Input **File**name, **New** file, **Bool**ean, **Path** (to a file), **Time**, **Int**eger, **Dec**imal, and **List** of items
* The Default is the default value, used if the key does not appear in the control file.
* I/O/P indicates Input, Output or Parameter.

For a more detailed description of the Parameter control keys, refer to the Parameter Reference. For a more detailed description of the Input or Output control keys, refer to the File Reference. These two documents also provide the possible values or range of values allowed for each control key listed below. For instance, files can usually be output to numerous formats beyond TAB\_DELIMITED for additional post-processing / file manipulation actions.

## Configuration Keys

| **Control File Keys:** | **Req/Opt** | **Type** | **Default** | **I/O/P** |
| --- | --- | --- | --- | --- |
| TITLE | Opt | Text |  | P |
| REPORT\_FILE | Opt | File |  | O |
| REPORT\_FLAG | Opt | Bool | FALSE | P |
| PROJECT\_DIRECTORY | Opt | Path |  | P |
| DEFAULT\_FILE\_FORMAT1 | Opt | Text | TAB\_DELIMITED | P |
| TIME\_OF\_DAY\_FORMAT1 | Opt | Text | DAY\_TIME | P |
| MODEL\_START\_TIME | Opt | Time | 0:00 | P |
| MODEL\_END\_TIME | Opt | Time | 24:00:00 | P |
| MODEL\_TIME\_INCREMENT | Opt | Time | 15 minutes | P |
| UNITS\_OF\_MEASURE | Opt | Text | METRIC | P |
| RANDOM\_NUMBER\_SEED | Opt | Int. | 0 | P |
| MAX\_WARNING\_MESSAGES | Opt | Int. | 100000 | P |
| MAX\_WARNING\_EXIT\_FLAG | Opt | Bool | TRUE | P |
| MAX\_PROBLEM\_COUNT | Opt | Int. | 0 | P |
| NUMBER\_OF\_THREADS | Opt | Int. | 1 | P |

## System File Keys

| **Control File Keys:** | **Req/Opt** | **Type** | **Default** | **I/O/P** |
| --- | --- | --- | --- | --- |
| NODE\_FILE | Req | File |  | I |
| NODE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| ZONE\_FILE | Req | File |  | I |
| ZONE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| LINK\_FILE | Req | File |  | I |
| LINK\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| PARKING\_FILE | Req | File |  | I |
| PARKING\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| LOCATION\_FILE | Req | File |  | I |
| LOCATION\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| VEHICLE\_TYPE\_FILE | Req | File |  | I |
| VEHICLE\_TYPE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NEW\_TRIP\_FILE | Req | New |  | O |
| NEW\_TRIP\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NEW\_HOUSEHOLD\_FILE | Req | New |  | O |
| NEW\_HOUSEHOLD\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NEW\_VEHICLE\_FILE | Req | New |  | O |
| NEW\_VEHICLE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| SHAPE\_FILE | Opt | File |  | I |
| SHAPE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| ACCESS\_FILE | Opt | File |  | I |
| ACCESS\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| SKIM\_FILE | Opt | File |  | I |
| SKIM\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| TRIP\_FILE | Opt | File |  | I |
| TRIP\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| HOUSEHOLD\_FILE | Opt | File |  | I |
| HOUSEHOLD\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| VEHICLE\_FILE | Opt | File |  | I |
| VEHICLE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NEW\_PROBLEM\_FILE | Opt | New |  | O |
| NEW\_PROBLEM\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NOTES\_AND\_NAME\_FIELDS | Opt | Bool | FALSE | P |
| ZONE\_EQUIVALENCE\_FILE | Opt | File |  | I |
| ZONE\_LOCATION\_MAP\_FILE | Opt | File |  | I |

## Control Keys

| **Control File Keys:** | **Req/Opt** | **Type** | **Default** | **I/O/P** |
| --- | --- | --- | --- | --- |
| SELECT\_HOUSEHOLDS | Opt | List | ALL | P |
| SELECT\_MODES | Opt | List | ALL | P |
| SELECT\_PURPOSES | Opt | List | ALL | P |
| SELECT\_START\_TIMES | Opt | List | ALL | P |
| SELECT\_END\_TIMES | Opt | List | ALL | P |
| SELECT\_ORIGIN\_ZONES | Opt | List | ALL | P |
| SELECT\_DESTINATION\_ZONES | Opt | List | ALL | P |
| FIRST\_HOUSEHOLD\_NUMBER | Opt | Int. | 1 | P |
| ADDITIONAL\_TRAVEL\_TIME | Opt | Time | 0 minutes | P |
| TOUR\_DATA\_FILE | Opt | File |  |  |
| TOUR\_DATA\_FORMAT | Opt | Text | TAB\_DELIMITED |  |
| TOUR\_HOUSEHOLD\_FIELD | Opt | Text |  |  |
| TOUR\_PERSON\_FIELD | Opt | Text |  |  |
| TOUR\_NUMBER\_FIELD | Opt | Text |  |  |
| TOUR\_PURPOSE\_FIELD | Opt | Text |  |  |
| TOUR\_MODE\_FIELD | Opt | Text |  |  |
| TOUR\_ORIGIN\_FIELD | Opt | Text |  |  |
| TOUR\_DESTINATION\_FIELD | Opt | Text |  |  |
| TOUR\_STOP\_OUT\_FIELD | Opt | Text |  |  |
| TOUR\_STOP\_IN\_FIELD | Opt | Text |  |  |
| TOUR\_START\_FIELD | Opt | Text |  |  |
| TOUR\_RETURN\_FIELD | Opt | Text |  |  |
| TOUR\_GROUP\_FIELD | Opt | Text |  |  |
| TOUR\_GROUP\_SCRIPT | Opt | File |  |  |
| TRIP\_TABLE\_FILE\_1 | Req | File |  | O |
| TRIP\_TABLE\_FORMAT\_1 | Opt | Text | TAB\_DELIMITED | P |
| TRIP\_SCALING\_FACTOR\_1 | Opt | Int. | 1 | P |
| TIME\_DISTRIBUTION\_FILE\_1 | Req | File |  | O |
| TIME\_DISTRIBUTION\_FORMAT\_1 | Opt | Text | TAB\_DELIMITED | P |
| TIME\_DISTRIBUTION\_SCRIPT\_1 | Opt | File |  | I |
| TIME\_DISTRIBUTION\_FIELD\_1 | Opt | Text |  | P |
| TIME\_DISTRIBUTION\_TYPE\_1 | Opt | Text | TRIP\_START | P |
| TIME\_PERIOD\_RANGE\_1 | Opt | Text | ALL | P |
| TIME\_SCHEDULE\_CONSTRAINT\_1 | Opt | Text | START\_TIME | P |
| ORIGIN\_WEIGHT\_FIELD\_1 | Opt | Text |  | P |
| DESTINATION\_WEIGHT\_FIELD\_1 | Opt | Text |  | P |
| DISTANCE\_WEIGHT\_FLAG\_1 | Opt | Bool | TRUE | P |
| STOP\_WEIGHT\_FIELD\_1 | Opt | Text |  |  |
| TRAVELER\_TYPE\_SCRIPT\_1 | Opt | File |  | I |
| TRAVELER\_TYPE\_CODE\_1 | Opt | Int. | 0 | P |
| TRIP\_PURPOSE\_CODE\_1 | Opt | Int. | 0 | P |
| TRAVEL\_MODE\_CODE\_1 | Opt | Text | DRIVE | P |
| RETURN\_TRIP\_FLAG\_1 | Opt | Bool | FALSE | P |
| ACTIVITY\_DURATION\_1 | Opt | Dec. | 0.0 hours | P |
| TRIP\_PRIORITY\_CODE\_1 | Opt | Text | MEDIUM | P |
| VEHICLE\_TYPE\_CODE\_1 | Opt | Int. | 1 | P |
| VEHICLE\_PASSENGERS\_1 | Opt | Int. | 0 | P |
| AVERAGE\_TRAVEL\_SPEED\_1 | Opt | Dec. | 30.0 kph | P |
| TRIP\_FACTOR\_FILE\_1 | Opt | File |  | I |
| TRIP\_FACTOR\_FORMAT\_1 | Opt | Text | TAB\_DELIMITED | P |
| NEW\_TIME\_DISTRIBUTION\_FILE | Opt | New |  | O |
| CONVERTTRIPS\_REPORT\_1 | Opt | File |  | P |

|  |
| --- |
| Report Options: |
| TOUR\_GROUP\_SCRIPT |
| TOUR\_GROUP\_STACK |
| TIME\_DISTRIBUTION\_SCRIPT |
| TIME\_DISTRIBUTION\_STACK |
| TIME\_EQUIVALENCE |
| ZONE\_EQUIVALENCE |
| TRAVELER\_TYPE\_SCRIPT |
| TRAVELER\_TYPE\_STACK |

#### Notes

Each '\_FILE' key has a corresponding '\_FORMAT' key. The following file formats can be used for input and ouput files:

TEXT, BINARY, FIXED\_COLUMN, COMMA\_DELIMITED, SPACE\_DELIMITED, TAB\_DELIMITED, CSV\_DELIMITED, DBASE, SQLITE3, VERSION3

# Control Key Changes in ConvertTrips Version 5

A number of network keys have changed from V4 to V5. Refer to the File Reference and Parameter Reference documents for additional details. Some specific examples include the following control key and file name changes (V4 🡪 V5):

* NET\_NODE\_TABLE 🡪 NODE\_FILE
* NET\_ZONE\_TABLE 🡪 ZONE\_FILE
* NET\_SHAPE\_TABLE 🡪 SHAPE\_FILE
* NET\_LINK\_TABLE 🡪 LINK\_FILE
* NET\_PARKING\_TABLE 🡪 PARKING\_FILE
* NET\_PROCESS\_LINK\_TABLE -> ACCESS\_FILE
* NET\_ACTIVITY\_LOCATION\_TABLE -> ACTIVITY\_FILE
* STARTING\_HOUSEHOLD\_ID -> FIRST\_HOUSEHOLD\_NUMBER
* TRIP\_TIME\_\* -> TIME\_DISTRIBUTION\_\*
* VEHICLE\_TYPE -> VEHICLE\_TYPE\_CODE
* TRAVEL\_TIME\_FILE -> SKIM\_FILE
* TIME\_CONTROL\_POINT (e.g., DESTINATION) -> TIME\_DISTRIBUTION\_TYPE\_\* (e.g., TRIP\_END)
* TRIP\_ADJUSTMENT\_FACTORS\_\* -> TRIP\_FACTOR\_FILE

The following keys, not required in version 4, are required in version 5:

ACCESS\_FILE

PARKING\_FILE

ZONE\_FILE

The following keys, used in version 4, are not used in version 5:

NET\_DIRECTORY

NEW\_POPULATION\_FILE - in version 5, population information is part of the household file

STARTING\_VEHICLE\_ID – in version 5, vehicle id is based on the household id

VEHICLE\_SUBTYPE\_\* - included in Vehicle Type

# Examples

## ConvertTrips Input Control File with Required Keys Only\*

NODE\_FILE ../network/Node.txt

ZONE\_FILE ../network/Zone.txt

LINK\_FILE ../network/Link.txt

PARKING\_FILE ../network/Parking.txt

LOCATION\_FILE ../network/Location2.txt

VEHICLE\_TYPE\_FILE ../../input/Vehicle\_Type.txt

NEW\_TRIP\_FILE ../demand/Trip.txt

NEW\_HOUSEHOLD\_FILE ../demand/Household.txt

NEW\_VEHICLE\_FILE ../demand/Vehicle.txt

TRIP\_TABLE\_FILE\_1 ../../input/TripTable.txt

TIME\_DISTRIBUTION\_FILE\_1 ../../input/TripTime.txt

### Resulting .prn file from the above control file

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

| |

| ConvertTrips - Version 5.0.9 |

| Copyright 2012 by TRANSIMS Open-Source |

| Mon Mar 26 07:59:26 2012 |

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\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Control File = ConvertTrips.ctl

Report File = ConvertTrips.prn (Create)

Project Directory = ./

Default File Format = TAB\_DELIMITED

Time of Day Format = HOUR\_CLOCK

Model Start Time = 0:00

Model End Time = 27:00

Units of Measure = METRIC

Random Number Seed = 1332763166

Number of Threads = 1

Input System Network Files:

Node File = ./../network/Node.txt

Zone File = ./../network/Zone.txt

Link File = ./../network/Link.txt

Parking File = ./../network/Parking.txt

Location File = ./../network/Location2.txt

Input System Demand Files:

Vehicle Type File = ./../../input/Vehicle\_Type.txt

Output System Demand Files:

New Household File = ./../demand/Household.txt

New Vehicle File = ./../demand/Vehicle.txt

New Trip File = ./../demand/Trip.txt

Notes And Name Fields = TRUE

Data Service Controls:

Select Service Controls:

ConvertTrips Control Keys:

Trip Table File #1 = ./../../input/TripTable.txt

Time Distribution File #1 = ./../../input/TripTime.txt

No Origin Weight Field --> Equal Weights

No Destination Weight Field --> Equal Weights

Highest Trip Group Number = 1

Number of Trip Table Groups = 1

Number of Node File Records = 23

Number of Zone File Records = 8

Highest Zone Number = 14

Number of Link File Records = 24

Number of Directional Links = 37

Number of Vehicle Type File Records = 15

Number of Parking File Records = 60

Number of Location File Records = 60

Trip Table File #1 has 20 Records and 9700 Trips

Total Number of Tours Read = 0

Total Number of Trips Read = 9700

Total Number of Trips Written = 9700

Number of Trips Not Allocated = 0

Number of Households Generated = 0

Number of Persons Generated = 0

Number of Vehicles Generated = 9700

Mon Mar 26 07:59:27 2012 -- Process Complete (0:00:01)

## ConvertTrips Realistic Control File (taken from Alexandria)

TITLE Convert Trip Tables to TRANSIMS Format

DEFAULT\_FILE\_FORMAT TAB\_DELIMITED

PROJECT\_DIRECTORY ../

LOCATION\_FILE network/Location\_3

ACCESS\_FILE network/Access\_Link

PARKING\_FILE network/Parking

NODE\_FILE network/Node

LINK\_FILE network/Link

ZONE\_FILE network/Zone

VEHICLE\_TYPE\_FILE inputs/vehicle\_type.txt

ZONE\_EQUIVALENCE\_FILE inputs/Zone\_Equiv.txt

#---- Output ----

NEW\_TRIP\_FILE demand/Alex.2005.Trip.Trips

NEW\_HOUSEHOLD\_FILE demand/Alex.2005.Trip.Households

NEW\_VEHICLE\_FILE demand/Alex.2005.Trip.Vehicles

CONVERTTRIPS\_REPORT\_1 ZONE\_EQUIVALENCE

FIRST\_HOUSEHOLD\_NUMBER 1

TIME\_OF\_DAY\_FORMAT HOUR\_CLOCK

ADDITIONAL\_TRAVEL\_TIME 15 minutes

RANDOM\_NUMBER\_SEED 122005345

#---- auto HBW SOV trips ----

TRIP\_TABLE\_FILE\_1 inputs/HBW\_SOV\_PA.txt

TRIP\_SCALING\_FACTOR\_1 1.0

TIME\_DISTRIBUTION\_FILE\_1 inputs/HBW\_SOV\_PA\_Diurnal.txt

TIME\_DISTRIBUTION\_TYPE\_1 END\_TIME

ORIGIN\_WEIGHT\_FIELD\_1 AUTO1

DESTINATION\_WEIGHT\_FIELD\_1 AUTO2

TRIP\_PURPOSE\_CODE\_1 1 //---- work ----

TRAVEL\_MODE\_CODE\_1 DRIVE

AVERAGE\_TRAVEL\_SPEED\_1 12 mps

VEHICLE\_TYPE\_CODE\_1 1 //---- assuming 4.0 vehicle type file ----

VEHICLE\_PASSENGERS\_1 0

TRIP\_FACTOR\_FILE inputs/Trip\_Factors.txt

TRIP\_TABLE\_FILE\_2 inputs/HBW\_SOV\_AP.txt

TRIP\_SCALING\_FACTOR\_2 1.0

TIME\_DISTRIBUTION\_FILE\_2 inputs/HBW\_SOV\_AP\_Diurnal.txt

TIME\_DISTRIBUTION\_TYPE\_2 START\_TIME

ORIGIN\_WEIGHT\_FIELD\_2 AUTO1

DESTINATION\_WEIGHT\_FIELD\_2 AUTO2

TRIP\_PURPOSE\_CODE\_2 1 //---- work ----

TRAVEL\_MODE\_CODE\_2 DRIVE

AVERAGE\_TRAVEL\_SPEED\_1 12 mps

VEHICLE\_TYPE\_CODE\_2 1 //---- assuming 4.0 vehicle type file ----

VEHICLE\_PASSENGERS\_2 0

TRIP\_FACTOR\_FILE\_2 inputs/Trip\_Factors.txt

#---- auto HBW HOV trips ----

TRIP\_TABLE\_FILE\_3 inputs/HBW\_HOV3\_PA.txt

TRIP\_SCALING\_FACTOR\_3 1.0

TIME\_DISTRIBUTION\_FILE\_3 inputs/HBW\_HOV\_PA\_Diurnal.txt

TIME\_DISTRIBUTION\_TYPE\_3 END\_TIME

ORIGIN\_WEIGHT\_FIELD\_3 AUTO1

DESTINATION\_WEIGHT\_FIELD\_3 AUTO2

TRIP\_PURPOSE\_CODE\_3 1 //---- work ----

TRAVEL\_MODE\_CODE\_3 HOV3 //--- was 11 in Version 4

AVERAGE\_TRAVEL\_SPEED\_3 12 mps

VEHICLE\_TYPE\_CODE\_3 11 //---- assuming 4.0 vehicle type file ----

VEHICLE\_PASSENGERS\_3 2

TRIP\_FACTOR\_FILE\_3 inputs/Trip\_Factors.txt

TRIP\_TABLE\_FILE\_4 inputs/HBW\_HOV3\_AP.txt

TRIP\_SCALING\_FACTOR\_4 1.0

TIME\_DISTRIBUTION\_FILE\_4 inputs/HBW\_HOV\_AP\_Diurnal.txt

TIME\_DISTRIBUTION\_TYPE\_4 START\_TIME

ORIGIN\_WEIGHT\_FIELD\_4 AUTO1

DESTINATION\_WEIGHT\_FIELD\_4 AUTO2

TRIP\_PURPOSE\_CODE\_4 1 //---- work ----

TRAVEL\_MODE\_CODE\_4 HOV3

AVERAGE\_TRAVEL\_SPEED\_4 12 mps

VEHICLE\_TYPE\_CODE\_4 11 //---- assuming 4.0 vehicle type file ----

VEHICLE\_PASSENGERS\_4 2

TRIP\_FACTOR\_FILE\_4 inputs/Trip\_Factors.txt

#---- auto HBO SOV trips ----

TRIP\_TABLE\_FILE\_5 inputs/HBO\_SOV\_PA.txt

TRIP\_SCALING\_FACTOR\_5 1.0

TIME\_DISTRIBUTION\_FILE\_5 inputs/HBO\_SOV\_PA\_Diurnal.txt

TIME\_DISTRIBUTION\_TYPE\_5 START\_TIME

ORIGIN\_WEIGHT\_FIELD\_5 AUTO1

DESTINATION\_WEIGHT\_FIELD\_5 AUTO2

TRIP\_PURPOSE\_CODE\_5 2 //---- other ----

TRAVEL\_MODE\_CODE\_5 DRIVE

AVERAGE\_TRAVEL\_SPEED\_5 12 mps

VEHICLE\_TYPE\_CODE\_5 1 //---- assuming 4.0 vehicle type file ----

VEHICLE\_PASSENGERS\_5 0

TRIP\_FACTOR\_FILE\_5 inputs/Trip\_Factors.txt

TRIP\_TABLE\_FILE\_6 inputs/HBO\_SOV\_AP.txt

TRIP\_SCALING\_FACTOR\_6 1.0

TIME\_DISTRIBUTION\_FILE\_6 inputs/HBO\_SOV\_AP\_Diurnal.txt

TIME\_DISTRIBUTION\_TYPE\_6 START\_TIME

ORIGIN\_WEIGHT\_FIELD\_6 AUTO1

DESTINATION\_WEIGHT\_FIELD\_6 AUTO2

TRIP\_PURPOSE\_CODE\_6 2 //---- other ----

TRAVEL\_MODE\_CODE\_6 DRIVE

AVERAGE\_TRAVEL\_SPEED\_6 12 mps

VEHICLE\_TYPE\_CODE\_6 1 //---- assuming 4.0 vehicle type file ----

VEHICLE\_PASSENGERS\_6 0

TRIP\_FACTOR\_FILE\_6 inputs/Trip\_Factors.txt

#---- Truck trips ----

TRIP\_TABLE\_FILE\_7 inputs/Trucks.txt

TRIP\_SCALING\_FACTOR\_7 1.0

TIME\_DISTRIBUTION\_FILE\_7 inputs/Truck\_Diurnal.txt

TIME\_DISTRIBUTION\_TYPE\_7 START\_TIME

ORIGIN\_WEIGHT\_FIELD\_7 TRUCK1

DESTINATION\_WEIGHT\_FIELD\_7 TRUCK2

TRIP\_PURPOSE\_CODE\_7 5 //---- other ----

TRAVEL\_MODE\_CODE\_7 DRIVE

AVERAGE\_TRAVEL\_SPEED\_7 10 mps

VEHICLE\_TYPE\_CODE\_7 2 //---- assuming 4.0 vehicle type file ----

VEHICLE\_PASSENGERS\_7 0

TRIP\_FACTOR\_FILE\_7 inputs/Trip\_Factors.txt

### Resulting .prn file from the above control file

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| ConvertTrips - Version 5.0.0 |

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| Fri Jan 21 09:26:20 2011 |

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Control\_File = ../control/Alex.2005.Trip.ConvertTrips.ctl

Report\_File = ../control/Alex.2005.Trip.ConvertTrips.prn (Create)

Convert Trip Tables to TRANSIMS Format

Project Directory = ../

Default File Format = TAB\_DELIMITED

Time of Day Format = HOUR\_CLOCK

Model Start Time = 0:00

Model End Time = 27:00

Units of Measure = METRIC

Random Number Seed = 122005345

Number of Threads = 2

Warning: ConvertTrips is Not Thread Enabled

Input System Network Files:

Node File = ../network/Node

Zone File = ../network/Zone

Link File = ../network/Link

Parking File = ../network/Parking

Location File = ../network/Location\_3

Access File = ../network/Access\_Link

Input System Demand Files:

Vehicle Type File = ../inputs/vehicle\_type.txt

Output System Demand Files:

New Household File = ../demand/Alex.2005.Trip.Households

New Vehicle File = ../demand/Alex.2005.Trip.Vehicles

New Trip File = ../demand/Alex.2005.Trip.Trips

Data Service Controls:

ConvertTrips Control Keys:

First Household Number = 1

Additional Travel Time = 15.00 minutes

Zone Equivalance File = ../inputs/Zone\_Equiv.txt

ConvertTrips Reports: 1. ZONE\_EQUIVALENCE

Trip Table File #1 = ../inputs/HBW\_SOV\_PA.txt

Trip Scaling Factor #1 = 1

Time Distribution File #1 = ../inputs/HBW\_SOV\_PA\_Diurnal.txt

Time Distribution Type #1 = END\_TIME

Origin Weight Field #1 = AUTO1, Number = 7

Destination Weight Field #1 = AUTO2, Number = 8

Trip Purpose Code #1 = 1

Travel Mode Code #1 = DRIVE

Average Travel Speed #1 = 12.00 mps

Vehicle Type Code #1 = 1

Vehicle Passengers #1 = 0

Trip Factor File #1 = ../inputs/Trip\_Factors.txt

Trip Table File #2 = ../inputs/HBW\_SOV\_AP.txt

Trip Scaling Factor #2 = 1

Time Distribution File #2 = ../inputs/HBW\_SOV\_AP\_Diurnal.txt

Time Distribution Type #2 = START\_TIME

Origin Weight Field #2 = AUTO1, Number = 7

Destination Weight Field #2 = AUTO2, Number = 8

Trip Purpose Code #2 = 1

Travel Mode Code #2 = DRIVE

Vehicle Type Code #2 = 1

Vehicle Passengers #2 = 0

Trip Factor File #2 = ../inputs/Trip\_Factors.txt

Trip Table File #3 = ../inputs/HBW\_HOV3\_PA.txt

Trip Scaling Factor #3 = 1

Time Distribution File #3 = ../inputs/HBW\_HOV\_PA\_Diurnal.txt

Time Distribution Type #3 = END\_TIME

Origin Weight Field #3 = AUTO1, Number = 7

Destination Weight Field #3 = AUTO2, Number = 8

Trip Purpose Code #3 = 1

Travel Mode Code #3 = HOV3

Average Travel Speed #3 = 12.00 mps

Vehicle Type Code #3 = 11

Vehicle Passengers #3 = 2

Trip Factor File #3 = ../inputs/Trip\_Factors.txt

Trip Table File #4 = ../inputs/HBW\_HOV3\_AP.txt

Trip Scaling Factor #4 = 1

Time Distribution File #4 = ../inputs/HBW\_HOV\_AP\_Diurnal.txt

Time Distribution Type #4 = START\_TIME

Origin Weight Field #4 = AUTO1, Number = 7

Destination Weight Field #4 = AUTO2, Number = 8

Trip Purpose Code #4 = 1

Travel Mode Code #4 = HOV3

Average Travel Speed #4 = 12.00 mps

Vehicle Type Code #4 = 11

Vehicle Passengers #4 = 2

Trip Factor File #4 = ../inputs/Trip\_Factors.txt

Trip Table File #5 = ../inputs/HBO\_SOV\_PA.txt

Trip Scaling Factor #5 = 1

Time Distribution File #5 = ../inputs/HBO\_SOV\_PA\_Diurnal.txt

Time Distribution Type #5 = START\_TIME

Origin Weight Field #5 = AUTO1, Number = 7

Destination Weight Field #5 = AUTO2, Number = 8

Trip Purpose Code #5 = 2

Travel Mode Code #5 = DRIVE

Average Travel Speed #5 = 12.00 mps

Vehicle Type Code #5 = 1

Vehicle Passengers #5 = 0

Trip Factor File #5 = ../inputs/Trip\_Factors.txt

Trip Table File #6 = ../inputs/HBO\_SOV\_AP.txt

Trip Scaling Factor #6 = 1

Time Distribution File #6 = ../inputs/HBO\_SOV\_AP\_Diurnal.txt

Time Distribution Type #6 = START\_TIME

Origin Weight Field #6 = AUTO1, Number = 7

Destination Weight Field #6 = AUTO2, Number = 8

Trip Purpose Code #6 = 2

Travel Mode Code #6 = DRIVE

Average Travel Speed #6 = 12.00 mps

Vehicle Type Code #6 = 1

Vehicle Passengers #6 = 0

Trip Factor File #6 = ../inputs/Trip\_Factors.txt

Trip Table File #7 = ../inputs/Trucks.txt

Trip Scaling Factor #7 = 1

Time Distribution File #7 = ../inputs/Truck\_Diurnal.txt

Time Distribution Type #7 = START\_TIME

Origin Weight Field #7 = TRUCK1, Number = 9

Destination Weight Field #7 = TRUCK2, Number = 10

Trip Purpose Code #7 = 5

Travel Mode Code #7 = DRIVE

Average Travel Speed #7 = 10.00 mps

Vehicle Type Code #7 = 2

Vehicle Passengers #7 = 0

Trip Factor File #7 = ../inputs/Trip\_Factors.txt

Highest Trip Group Number = 7

Number of Trip Table Groups = 7

Number of Unique Activity Location Weight Fields = 4

Zone Equivalence

[Internal ] 1 = 1..62

[Zone 70 ] 2 = 70

[Zone 71 ] 3 = 71

[Zone 72 ] 4 = 72

[Zone 73 ] 5 = 73

[Zone 74 ] 6 = 74

[Zone 75 ] 7 = 75

[Zone 76 ] 8 = 76

[Zone 77 ] 9 = 77

[Zone 78 ] 10 = 78

[Zone 79 ] 11 = 79

[Zone 80 ] 12 = 80

[Zone 81 ] 13 = 81

[Zone 82 ] 14 = 82

[Zone 83 ] 15 = 83

[Zone 84 ] 16 = 84

[Zone 85 ] 17 = 85

[Zone 86 ] 18 = 86

[Zone 87 ] 19 = 87

[Zone 88 ] 20 = 88

[Zone 89 ] 21 = 89

[Zone 90 ] 22 = 90

[Zone 91 ] 23 = 91

[Zone 92 ] 24 = 92

Number of Node File Records = 2572

Number of Zone File Records = 85

Highest Zone Number = 92

Number of Link File Records = 3606

Number of Directional Links = 6773

Number of Parking File Records = 7734

Number of Location File Records = 7750

Number of Access File Records = 0

Number of Vehicle Type File Records = 14

No Parking Lot for Activity Locations...

7735 7736 7737 7738 7739 7740 7741 7742 7743 7744

7745 7746 7747 7748 7749 7750

Warning: 16 Activity Locations have No Parking Lot

Processing Trip Table File #1

Trip Table File #1 has 4252 Records and 105181 Trips

Trip Adjustments: 9591 trips added, 27629 trips deleted

Processing Trip Table File #2

Trip Table File #2 has 4254 Records and 105180 Trips

Trip Adjustments: 9588 trips added, 27621 trips deleted

Processing Trip Table File #3

Trip Table File #3 has 612 Records and 4126 Trips

Trip Adjustments: 463 trips added, 673 trips deleted

Processing Trip Table File #4

Trip Table File #4 has 618 Records and 4121 Trips

Trip Adjustments: 465 trips added, 678 trips deleted

Processing Trip Table File #5

Trip Table File #5 has 5147 Records and 114361 Trips

Trip Adjustments: 5221 trips added, 29738 trips deleted

Processing Trip Table File #6

Trip Table File #6 has 5153 Records and 114365 Trips

Trip Adjustments: 5241 trips added, 29696 trips deleted

Processing Trip Table File #7

Trip Table File #7 has 3102 Records and 19164 Trips

Trip Adjustments: 3417 trips added, 5552 trips deleted

Total Number of Trips Read = 466498

Total Number of Trips Written = 378810

Total Number of Trips Added = 33986

Total Number of Trips Deleted = 121587

Number of Trips Not Allocated = 0

Number of Households Generated = 378810

Number of Vehicles Generated = 378810

Fri Jan 21 09:27:15 2011 -- Process Complete with 2 Warnings (0:00:55)

## ConvertTrips Simple Tour Conversion

The convertTrips.ctl file is as follows:

TITLE TestBed Trip Table Conversion

PROJECT\_DIRECTORY ../

LOCATION\_FILE network/Location2.txt

PROCESS\_LINK\_FILE network/Process\_Link.txt

NODE\_FILE network/Node.txt

LINK\_FILE network/Link.txt

ZONE\_FILE network/Zone.txt

PARKING\_FILE network/Parking.txt

DEMAND\_FILE\_FORMAT TAB\_DELIMITED

VEHICLE\_TYPE\_FILE ../Input/Vehicle\_type\_V5.txt

#---- Output ----

NEW\_TRIP\_FILE demand/Trip.txt

TRIP\_FORMAT TAB\_DELIMITED

NEW\_HOUSEHOLD\_FILE demand/Household.txt

HOUSEHOLD\_FORMAT TAB\_DELIMITED

NEW\_VEHICLE\_FILE demand/Vehicle.txt

VEHICLE\_FORMAT TAB\_DELIMITED

STARTING\_HOUSEHOLD\_ID 1

STARTING\_VEHICLE\_ID 1

RANDOM\_NUMBER\_SEED 0

ADDITIONAL\_TRAVEL\_TIME 10 minutes

#----Tours----

TOUR\_DATA\_FILE ../Input/Input\_Tour.txt

TOUR\_HOUSEHOLD\_FILE HHOLD

TOUR\_PERSON\_FIELD PERSON

TOUR\_NUMBER\_FIELD TOUR

TOUR\_PURPOSE\_FIELD PURPOSE

TOUR\_MODE\_FIELD MODE

TOUR\_ORIGIN\_FIELD ORIG\_TAZ

TOUR\_DESTINATION\_FIELD DEST\_TAZ

TOUR\_STOP\_OUT\_FIELD OB\_STOP

TOUR\_STOP\_IN\_FIELD IB\_STOP

TOUR\_START\_FIELD START\_HR

TOUR\_RETURN\_FIELD END\_HR

TOUR\_GROUP\_FIELD PURPOSE

TOUR\_GROUP\_SCRIPT control/Tour\_Script.txt

NEW\_PROBLEM\_FILE Tour\_Problem.txt

#----AM demand ----

TIME\_DISTRIBUTION\_FILE\_1 ../Input/TripTime.txt

TRIP\_DISTRIBUTION\_FORMAT\_1 TAB\_DELIMITED

ORIGIN\_WEIGHT\_FIELD\_1 ORIG\_WGT

DESTINATION\_WEIGHT\_FIELD\_1 DEST\_WGT

TRIP\_PURPOSE\_CODE\_1 1

TRAVEL\_MODE\_CODE\_1 DRIVE

AVERAGE\_TRAVEL\_SPEED\_1 15

VEHICLE\_TYPE\_CODE\_1 1

The Tour\_Script.txt file is as follows:

##--- tourCategory: 1-mandatory 2-joint 3-individual non-mandatory 4-at work tour

##---- SOV Trips ----

Group.Diurnal\_Out = 1

Group.Diurnal\_In = 1

Group.MODE\_IN = 3

Group.MODE\_OUT = 3

Group.GROUP\_IN = 1

Group.GROUP\_OUT = 1

IF (Tour.Category == 4) THEN

Group.Work\_Code = 2

Group.Group\_Out = 1

Group.Group\_In = 1

Group.MODE\_IN = 3

Group.MODE\_OUT = 3

ENDIF

RETURN (1)

The input tours are contained in a tab-delimited text file, and are as follows (Table 1):

Table Input Tours

| HHOLD | PERSON | TOUR | CATEGORY | PURPOSE | ORIG\_TAZ | DEST\_TAZ | OB\_STOP | IB\_STOP | START\_HR | END\_HR | MODE |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 1 | 3 | 1 | 3 | 11 | 0 | 3 | 7 | 17 | 3 |
| 1 | 1 | 11 | 4 | 3 | 11 | 1 | 0 | 0 | 12 | 13 | 3 |
| 1 | 1 | 2 | 3 | 4 | 3 | 12 | 2 | 0 | 19 | 21 | 3 |

### Tour Conversion Outputs

The trip table (tours converted to trips) is as follows ():

Table Output Trips

| HHOLD | PERSON | TOUR | TRIP | START | END | DURATION | ORIGIN | DESTINATION | PURPOSE | MODE | CONSTRAINT | PRIORITY | VEHICLE | PASSENGERS | TYPE |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 1 | 1 | 7:08:37 | 7:23:25 | 5:29:11 | 47 | 54 | 1 | DRIVE |  | MEDIUM | 1 | 0 |  |
| 1 | 1 | 1 | 2 | 12:52:36 | 13:11:34 | 0:23:49 | 54 | 12 | 1 | DRIVE |  | MEDIUM | 1 | 0 |  |
| 1 | 1 | 1 | 3 | 13:35:23 | 13:54:21 | 3:09:27 | 12 | 54 | 1 | DRIVE |  | MEDIUM | 1 | 0 |  |
| 1 | 1 | 1 | 4 | 17:03:48 | 17:12:19 | 0:05 | 54 | 32 | 1 | DRIVE |  | MEDIUM | 1 | 0 |  |
| 1 | 1 | 1 | 5 | 17:17:19 | 17:23:36 | 1:49:13 | 32 | 47 | 1 | DRIVE |  | MEDIUM | 1 | 0 |  |
| 1 | 1 | 2 | 1 | 19:12:48 | 19:19:16 | 0:05:01 | 47 | 18 | 1 | DRIVE |  | MEDIUM | 1 | 0 |  |
| 1 | 1 | 2 | 2 | 19:24:16 | 19:33:30 | 2:08:27 | 18 | 56 | 1 | DRIVE |  | MEDIUM | 1 | 0 |  |
| 1 | 1 | 2 | 3 | 21:41:57 | 21:57:27 | 0:00 | 56 | 47 | 1 | DRIVE |  | MEDIUM | 1 | 0 |  |

The output .prn file is as follows:

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

| |

| ConvertTrips - Version 5.0.9 |

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| Fri Mar 30 14:16:57 2012 |

| |

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Control File = ConvertTrips.ctl

Report File = ConvertTrips.prn (Create)

TestBed Trip Table Conversion

Project Directory = ../

Default File Format = TAB\_DELIMITED

Time of Day Format = HOUR\_CLOCK

Model Start Time = 0:00

Model End Time = 27:00

Units of Measure = METRIC

Random Number Seed = 1333131417

Number of Threads = 1

Input System Network Files:

Node File = ../network/Node.txt

Zone File = ../network/Zone.txt

Link File = ../network/Link.txt

Parking File = ../network/Parking.txt

Location File = ../network/Location2.txt

Input System Demand Files:

Vehicle Type File = ../../Input/Vehicle\_type\_V5.txt

Output System Demand Files:

New Household File = ../demand/Household.txt

New Vehicle File = ../demand/Vehicle.txt

New Trip File = ../demand/Trip.txt

New Problem File = ../Tour\_Problem.txt

Notes And Name Fields = TRUE

Data Service Controls:

Select Service Controls:

ConvertTrips Control Keys:

Additional Travel Time = 10.00 minutes

Tour File = ../../Input/Input\_Tour.txt

Tour Household Field = HHOLD, Number = 0

Tour Person Field = PERSON, Number = 1

Tour Number Field = TOUR, Number = 2

Tour Purpose Field = PURPOSE, Number = 3

Tour Mode Field = MODE, Number = 10

Tour Origin Field = ORIG\_TAZ, Number = 4

Tour Destination Field = DEST\_TAZ, Number = 5

Tour Stop Out Field = OB\_STOP, Number = 6

Tour Stop In Field = IB\_STOP, Number = 7

Tour Start Field = START\_HR, Number = 8

Tour Return Field = END\_HR, Number = 9

Tour Group Field = PURPOSE, Number = 3

Tour Group Script = ../control/Tour\_Script.txt

Time Distribution File #1 = ../../Input/TripTime.txt

Origin Weight Field = ORIG\_WGT, Number = 7

Destination Weight Field = DEST\_WGT, Number = 8

No Stop Weight Field --> Equal Weights

Trip Purpose Code = 1

Travel Mode Code = DRIVE

Vehicle Type Code = 1

Average Travel Speed = 15.00 kph

Highest Trip Group Number = 1

Number of Trip Table Groups = 1

Number of Unique Activity Location Weight Fields = 2

Tour Periods are Hour-Based

Number of Node File Records = 23

Number of Zone File Records = 8

Highest Zone Number = 14

Number of Link File Records = 24

Number of Directional Links = 37

Number of Vehicle Type File Records = 16

Number of VehType Data Records = 15

Number of Parking File Records = 60

Number of Location File Records = 60

Total Number of Tours Read = 2

Total Number of Trips Read = 6

Total Number of Trips Written = 6

Number of Trips Not Allocated = 0

Number of Households Generated = 1

Number of Persons Generated = 1

Number of Vehicles Generated = 1

Fri Mar 30 14:16:57 2012 -- Process Complete (0:00:00)