# 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, des-

tination 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_FORMAT[1] | Opt | Text | TAB_DELIMITED | P |
| TIME_OF_DAY_FORMAT[1] | 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       |
|                                         |
*******************************************

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

```
*********************************************
|                                           |
|        ConvertTrips - Version 5.0.0       |
|    Copyright 2010 by TRANSIMS Open-Source |
|          Fri Jan 21 09:26:20 2011         |
|                                           |
*********************************************

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 1  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 | 3 | 3 | 4 | 3 | 12 | 2 | 0 | 19 | 21 | 3 |

**Tour Conversion Outputs**

The trip table (tours converted to trips) is as follows (Table 2):

**Table 2  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        |
|   Copyright 2012 by TRANSIMS Open-Source   |
|          Fri Mar 30 14:16:57 2012          |
|                                            |
**********************************************

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)
```