PathSkim

Version 5.0.23

Revision History

May 2013 - Created by Volpe Center

The **PathSkim** program is used to:

1. Generate skims from a link delay file
2. Generate skims from link travel time information

Syntax is PathSkim [-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

PathSkim is a new program that did not exist in version 4 TRANSIMS. It offers

* + Multiple methods for automatically selecting origins and destinations
  + Multiple or merged variable length time periods
    - Start or end time points
  + One-to-many path building and save only skim data
    - No need to write/read plans
  + Location/zone/district skims
  + Multi-threading and time-period based partitioning

As such, it can simplify the router stabilization process. In version 4, router stabilization involves two steps. First, the router is used to generate a set of travel plans. Then, PlanSum is used to summarize those plans and provide zone skims. PathSkim, however, generates skims directly from the link delay file.

# Control Key List

The list of control file keys appears in the tables 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 |
| PAGE\_LENGTH | Opt | Int | 65 | P |
| PROJECT\_DIRECTORY | Opt | Path |  | P |
| DEFAULT\_FILE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| TIME\_OF\_DAY\_FORMAT | 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 |
| LINK\_FILE | Req | File |  | I |
| LINK\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| CONNECTION\_FILE | Req | File |  | I |
| CONNECTION\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| LOCATION\_FILE | Req | File |  | I |
| LOCATION\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| POCKET\_FILE | Opt | File |  | I |
| POCKET\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| LANE\_USE\_FILE | Opt | File |  | I |
| LANE\_USE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| TURN\_PENALTY\_FILE | Opt | File |  | I |
| TURN\_PENALTY\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| PARKING\_FILE | Opt | File |  | I |
| PARKING\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| ACCESS\_FILE | Opt | File |  | I |
| ACCESS\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| TRANSIT\_STOP\_FILE | Opt | File |  | I |
| TRANSIT\_STOP\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| TRANSIT\_FARE\_FILE | Opt | File |  | I |
| TRANSIT\_FARE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| TRANSIT\_ROUTE\_FILE | Opt | File |  | I |
| TRANSIT\_ROUTE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| TRANSIT\_SCHEDULE\_FILE | Opt | File |  | I |
| TRANSIT\_SCHEDULE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| TRANSIT\_DRIVER\_FILE | Opt | File |  | I |
| TRANSIT\_DRIVER\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| HOUSEHOLD\_FILE | Opt | File |  | I |
| HOUSEHOLD\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| SELECTION\_FILE | Opt | File |  | I |
| SELECTION\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| LINK\_DELAY\_FILE | Opt | File |  | I |
| LINK\_DELAY\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| VEHICLE\_FILE | Opt | File |  | I |
| VEHICLE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| VEHICLE\_TYPE\_FILE | Opt | File |  | I |
| VEHICLE\_TYPE\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NEW\_SKIM\_FILE | Opt | New |  | O |
| NEW\_SKIM\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NEW\_PLAN\_FILE | Opt | New |  | O |
| NEW\_PLAN\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NEW\_PROBLEM\_FILE | Opt | New |  | O |
| NEW\_PROBLEM\_FORMAT | Opt | Text | TAB\_DELIMITED | P |
| NEW\_LINK\_DELAY\_FILE | Opt | New |  | O |
| NEW\_LINK\_DELAY\_FORMAT | Opt | Text | TAB\_DELIMITED | P |

## File Service Keys

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Control File Keys:** | **Req/Opt** | **Type** | **Default** | **I/O/P** |
| NOTES\_AND\_NAME\_FIELDS | Opt | Bool | FALSE | P |
| SKIM\_OD\_UNITS | Opt | Text | ZONES | P |
| SKIM\_TIME\_PERIODS | Opt | List | ALL | P |
| SKIM\_TIME\_INCREMENT | Opt | Time | 0 minutes | P |
| SKIM\_TOTAL\_TIME\_FLAG | Opt | Bool | FALSE | P |
| SKIM\_TRAVEL\_TIME\_FORMAT | Opt | Text | SECONDS | P |
| SKIM\_TRIP\_LENGTH\_FORMAT | Opt | Text | METERS | P |
| NEAREST\_NEIGHBOR\_FACTOR | Opt | Dec | 0 percent | P |
| MERGE\_TIME\_PERIODS | Opt | Bool | FALSE | P |
| SKIM\_FILE\_HEADERS | Opt | Bool | TRUE | P |
| ZONE\_EQUIVALENCE\_FILE | Opt | File |  | I |
| ZONE\_LOCATION\_MAP\_FILE | Opt | File |  | I |

## Path Building Service Keys

| **Control File Keys:** | **Req/Opt** | **Type** | **Default** | **I/O/P** |
| --- | --- | --- | --- | --- |
| IMPEDANCE\_SORT\_METHOD | Opt | Bool | FALSE | P |
| SAVE\_ONLY\_SKIMS | Opt | Bool | FALSE | P |
| WALK\_PATH\_DETAILS | Opt | Bool | FALSE | P |
| IGNORE\_VEHICLE\_ID | Opt | Bool | FALSE | P |
| LIMIT\_PARKING\_ACCESS | Opt | Bool | TRUE | P |
| ADJUST\_ACTIVITY\_SCHEDULE | Opt | Bool | TRUE | P |
| IGNORE\_ACTIVITY\_DURATIONS | Opt | Bool | FALSE | P |
| IGNORE\_TIME\_CONSTRAINTS | Opt | Bool | FALSE | P |
| END\_TIME\_CONSTRAINT | Opt | Time | 0 minutes | P |
| IGNORE\_ROUTING\_PROBLEMS | Opt | Bool | FALSE | P |
| PERCENT\_RANDOM\_IMPEDANCE | Opt | Dec | 0 percent | P |
| TRAVELER\_TYPE\_SCRIPT | Opt | File |  | I |
| TRAVELER\_PARAMETER\_FILE | Opt | File |  | I |
| WALK\_SPEED | Opt | Dec | 1.0 mps | P |
| BICYCLE\_SPEED | Opt | Dec | 4.0 mps | P |
| WALK\_TIME\_VALUES\_\* | Opt | List | 20.0 impedance/second | P |
| BICYCLE\_TIME\_VALUES\_\* | Opt | List | 15.0 impedance/second | P |
| FIRST\_WAIT\_VALUES\_\* | Opt | List | 20.0 impedance/second | P |
| TRANSFER\_WAIT\_VALUES\_\* | Opt | List | 20.0 impedance/second | P |
| PARKING\_TIME\_VALUES\_\* | Opt | List | 0.0 impedance/second | P |
| VEHICLE\_TIME\_VALUES\_\* | Opt | List | 10.0 impedance/second | P |
| DISTANCE\_VALUES\_\* | Opt | List | 0.0 impedance/meter | P |
| COST\_VALUES\_\* | Opt | List | 0.0 impedance/cent | P |
| FREEWAY\_BIAS\_FACTORS\_\* | Opt | List | 1 | P |
| EXPRESSWAY\_BIAS\_FACTORS\_\* | Opt | List | 1 | P |
| LEFT\_TURN\_PENALTIES\_\* | Opt | List | 0 impedance | P |
| RIGHT\_TURN\_PENALTIES\_\* | Opt | List | 0 impedance | P |
| U\_TURN\_PENALTIES\_\* | Opt | List | 0 impedance | P |
| TRANSFER\_PENALTIES\_\* | Opt | List | 0 impedance | P |
| STOP\_WAITING\_PENALTIES\_\* | Opt | List | 0 impedance | P |
| STATION\_WAITING\_PENALTIES\_\* | Opt | List | 0 impedance | P |
| BUS\_BIAS\_FACTORS\_\* | Opt | List | 1 | P |
| BUS\_BIAS\_CONSTANTS\_\* | Opt | List | 0 impedance | P |
| RAIL\_BIAS\_FACTORS\_\* | Opt | List | 1 | P |
| RAIL\_BIAS\_CONSTANTS\_\* | Opt | List | 0 impedance | P |
| MAX\_WALK\_DISTANCES\_\* | Opt | List | 2000 meters | P |
| WALK\_PENALTY\_DISTANCES\_\* | Opt | List | 2000 meters | P |
| WALK\_PENALTY\_FACTORS\_\* | Opt | List | 0 | P |
| MIN\_WAIT\_TIMES\_\* | Opt | List | 0 seconds | P |
| MAX\_NUMBER\_OF\_TRANSFERS\_\* | Opt | List | 3 | P |
| MAX\_PARK\_RIDE\_PERCENTS\_\* | Opt | List | 50 percent | P |
| MAX\_KISS\_RIDE\_PERCENTS\_\* | Opt | List | 35 percent | P |
| KISS\_RIDE\_TIME\_FACTORS\_\* | Opt | List | 2.5 | P |
| KISS\_RIDE\_STOP\_TYPES | Opt | Text | EXTERNAL | P |
| MAX\_KISS\_RIDE\_DROPOFF\_WALK | Opt | Dec | 100 meters | P |
| TRANSIT\_PENALTY\_FILE | Opt | File |  | I |
| PARKING\_PENALTY\_FILE | Opt | File |  | I |
| DEFAULT\_PARKING\_DURATION | Opt | Time | 0.0 hours | P |
| MAX\_NUMBER\_OF\_PATHS | Opt | Int | 4 | P |
| MAX\_LEGS\_PER\_PATH | Opt | Int | 1000 | P |
| FARE\_CLASS\_DISTRIBUTION | Opt | List | 0 | P |
| LOCAL\_ACCESS\_DISTANCE | Opt | Dec | 2000 meters | P |
| LOCAL\_FACILITY\_TYPE | Opt | Text | EXTERNAL | P |
| LOCAL\_IMPEDANCE\_FACTOR | Opt | Dec | 0 | P |
| MAX\_CIRCUITY\_RATIO | Opt | Dec | 0 | P |
| MIN\_CIRCUITY\_DISTANCE | Opt | Dec | 2000 meters | P |
| MAX\_CIRCUITY\_DISTANCE | Opt | Dec | 20000 meters | P |
| MIN\_DURATION\_FACTORS | Opt | List | 0.1, 0.5, 0.8, 1.0 | P |

## Flow-Time Service Keys

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Control File Keys:** | **Req/Opt** | **Type** | **Default** | **I/O/P** |
| UPDATE\_FLOW\_RATES | Opt | Bool | FALSE | P |
| CLEAR\_INPUT\_FLOW\_RATES | Opt | Bool | FALSE | P |
| UPDATE\_TURNING\_MOVEMENTS | Opt | Bool | FALSE | P |
| UPDATE\_TRAVEL\_TIMES | Opt | Bool | FALSE | P |
| LINK\_DELAY\_UPDATE\_RATE | Opt | Int | 0 | P |
| LINK\_DELAY\_FLOW\_FACTOR | Opt | Dec | 1 | P |
| EQUATION\_PARAMETERS\_\* | Opt | List | BPR, 0.15, 4.0, 0.75 | P |

## PathSkim Control Keys

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Control File Keys:** | **Req/Opt** | **Type** | **Default** | **I/O/P** |
| ROUTE\_FROM\_SPECIFIED\_LOCATIONS | Opt | List | ALL | P |
| ROUTE\_TO\_SPECIFIED\_LOCATIONS | Opt | List | ALL | P |
| ROUTE\_AT\_SPECIFIED\_TIMES | Opt | List | ALL | P |
| ROUTE\_BY\_TIME\_INCREMENT | Opt | Time | 0 minutes | P |
| ROUTE\_WITH\_TIME\_CONSTRAINT | Opt | Text | START\_TIME | P |
| ROUTE\_WITH\_SPECIFIED\_MODE | Opt | Text | DRIVE | P |
| ROUTE\_WITH\_USE\_RESTRICTION | Opt | Text | CAR | P |
| ROUTE\_USING\_VEHICLE\_TYPE | Opt | Int | 1 | P |
| ROUTE\_USING\_TRAVELER\_TYPE | Opt | Int | 0 | P |
| ROUTE\_FROM\_SPECIFIED\_ZONES | Opt | List | ALL | P |
| ROUTE\_TO\_SPECIFIED\_ZONES | Opt | List | ALL | P |
| ORIGIN\_LOCATIONS\_PER\_ZONE | Opt | Int | 0 | P |
| DESTINATION\_LOCATIONS\_PER\_ZONE | Opt | Int | 0 | P |
| LOCATION\_SELECTION\_METHOD | Opt | Text | RANDOM | P |
| ORIGIN\_ZONE\_FILE | Opt | File |  | I |
| DESTINATION\_ZONE\_FILE | Opt | File |  | I |
| ORIGIN\_LOCATION\_FILE | Opt | File |  | I |
| DESTINATION\_LOCATION\_FILE | Opt | File |  | I |
| NEW\_ORIGIN\_LOCATION\_FILE | Opt | File |  | O |
| NEW\_DESTINATION\_LOCATION\_FILE | Opt | File |  | O |
| PATHSKIM\_REPORT\_\* | Opt | Text |  | P |

Report Options:

ZONE\_EQUIVALENCE

#### Notes

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

TEXT, BINARY, FIXED\_COLUMN, COMMA\_DELIMITED, SPACE\_DELIMITED, TAB\_DELIMITED, CSV\_DELIMITED, DBASE, SQLITE3, VERSION3. The default format is TAB\_DELIMITED.

# New Control Keys

## DESTINATION\_LOCATION\_FILE

When the LOCATION\_SELECTION\_METHOD is “USER”, specifies the locations that will be used for each destination zone.

## DESTINATION\_LOCATIONS\_PER\_ZONE

The number of destination locations per zone can range from 0 to 100. The default is 0, and it indicates that all locations should be used. TRANSIMS actually calculates Location – Location travel times, and this determines the number of locations that should be used to determine an average travel time to a zone.

## LOCATION\_SELECTION\_METHOD

RANDOM: USER, RANDOM, CENTROID, DISTRIBUTED

For zone-zone paths, the actual paths are selected from locations within the zone. The number of locations selected per zone is given by DESTINATION\_LOCATIONS\_PER\_ZONE and ORIGIN\_LOCATIONS\_PER\_ZONE. This parameter determines how the locations are selected within the zone

RANDOM (the default): random locations are selected

CENTROID: locations are selected near the zone centroid

DISTRIBUTED: locations are spatially distributed around the zone.

USER: user specified

## MERGE\_TIME\_PERIODS

Indicates whether the time periods uses in a skim are to be merged, or reported separately. Default value is FALSE. Valid values include TRUE/FALSE, YES/NO, 1/0, T/F, Y/N

## NEAREST\_NEIGHBOR\_FACTOR

Adjusts skim values for intra-zonal skims. Default value is 0.5. Valid values range from 0.0 to 1.0. (See output\_skims.cpp)

## NEW\_ORIGIN\_LOCATION\_FILE

Zone to zone paths are based on certain locations chosen within each zone. These locations might be all of the locations in a zone, or a subset. The NEW\_ORIGIN\_LOCATION\_FILE lists, for each zone, the origin locations that were used for path building.

## NEW\_DESTINATION\_LOCATION\_FILE

Zone to zone paths are based on certain locations chosen within each zone. These locations might be all of the locations in a zone, or a subset. The NEW\_DESTINATION\_LOCATION\_FILE lists, for each zone, the destination locations that were used for path building.

## NEW\_SKIM\_FILE

The output file for the skims. Its columns are defined as follows:

ORIGIN - The origin location index (zone, location or district)

DESTINATION - The destination location index (zone, location or district)

PERIOD - Time period for this skim (an integer that corresponds to SKIM\_TIME\_PERIODS, or SKIM\_TIME\_INCREMENT)

COUNT - Number of location/time period pairs considered for this origin-destination pair

WALK - Walking time, typically in seconds

DRIVE - Driving time, typically in seconds

OTHER - Other time, typically in seconds

LENGTH - Length of the trip, typically in meters

COST - Out of pocket cost of the trip in cents

IMPEDANCE – Total impedance for the trip

## ORIGIN\_LOCATION\_FILE

When the LOCATION\_SELECTION\_METHOD is “USER”, specifies the locations that will be used for each origin zone.

## ORIGIN\_LOCATIONS\_PER\_ZONE

The number of origin locations per zone can range from 0 to 100. The default is 0, and it indicates that all locations should be used. TRANSIMS actually calculates Location – Location travel times, and this determines the number of locations that should be used to determine an average travel time from a zone.

## ROUTE\_AT\_SPECIFIED\_TIMES

Either this key or the ROUTE\_BY\_TIME\_INCREMENT key is used to determine the time intervals for which PathSkim should calculate skims. The default is ALL, but this may be any time interval, or set of multiple time intervals. Examples of valid values might be

ALL

0..97200 seconds

0.0..27.0 hours

0:00..27:00

6:00..6:30, 8:00..8:15, 8:15..8:30

## ROUTE\_BY\_TIME\_INCREMENT

Either this key or the ROUTE\_AT\_SPECIFIED\_TIMES key is used to determine the time intervals for which PathSkim should calculate skims. The default is 0 (e.g., look at ROUTE\_AT\_SPECIFIED TIMES). Valid non-zero values range from 2 to 240 minutes. For example, if 15 minutes is used, it will calculate skims for 0:00..0:15, 0:15..0:30, 0:30..0:45, 0:45..1:00, 1:00..1:15, and so on.

## ROUTE\_FROM\_SPECIFIED\_LOCATIONS

Limits routing to a specified list of origin locations. The default is ALL locations.

## ROUTE\_FROM\_SPECIFIED\_ZONES

Limits routing to a specified list of origin zones. The default is ALL zones.

## ROUTE\_TO\_SPECIFIED\_LOCATIONS

Limits routing to a specified list of destination locations. The default is ALL locations.

## ROUTE\_TO\_SPECIFIED\_ZONES

Limits routing to a specified list of destination zones. The default is ALL zones.

## ROUTE\_WITH\_SPECIFIED\_MODE

Routes with a specific travel mode. The default is DRIVE, and valid values include WALK, BIKE, DRIVE, RIDE, TRANSIT, PNR\_OUT, PNR\_IN, KNR\_OUT, KNR\_IN, TAXI, OTHER, HOV2, HOV3, HOV4.

## ROUTE\_USING\_VEHICLE\_TYPE

Indicates a particular vehicle type to be used for routing.

## ROUTE\_USING\_TRAVELER\_TYPE

Indicates a particular traveler type to be used for routing.

## ROUTE\_WITH\_USE\_RESTRICTION

Indicates a particular use to be used for routing. The default is “CAR”, and valid values include ANY, WALK, BIKE, CAR, TRUCK, BUS, RAIL, SOV, HOV2, HOV3, HOV4, LIGHTTRUCK, HEAVYTRUCK, TAXI, RESTRICTED, NONE.

In earlier versions of PathSkim (prior to 5.0.13) this parameter was named “ROUTE\_WITH\_SPECIFIED\_USE\_TYPE.”

## ROUTE\_WITH\_TIME\_CONSTRAINT

Indicates the time constraint to be used for routing. The default is START\_TIME, and valid values include NONE, START, ARRIVE, FIXED, DURATION, PASSENGER

## SKIM\_FILE\_HEADERS

Default value is TRUE. Valid values include TRUE/FALSE, YES/NO, 1/0, T/F, Y/N

## SKIM\_OD\_UNITS

The type of origin or destination. The default is ZONE, and valid values include DISTRICT, ZONE, LOCATION

## SKIM\_TIME\_INCREMENT

Either this key or the SKIM\_TIME\_PERIODS key is used to determine the time intervals for which PathSkim should output skims. The default is 0 (i.e., look at SKIM\_TIME\_PERIODS). Valid non-zero values range from 5 to 240 minutes. For example, if 15 minutes is used, it will output skims for 0:00..0:15, 0:15..0:30, 0:30..0:45, 0:45..1:00, 1:00..1:15, and so on.

## SKIM\_TIME\_PERIODS

Either this key or the SKIM\_TIME\_INCREMENT key is used to determine the time intervals for which PathSkim should output skims. The default is ALL, but this may be any time interval, or set of multiple time intervals. Examples of valid values might be

ALL

0..97200 seconds

0.0..27.0 hours

0:00..27:00

6:00..6:30, 8:00..8:15, 8:15..8:30

## SKIM\_TOTAL\_TIME\_FLAG

Default value is FALSE. Valid values include TRUE/FALSE, YES/NO, 1/0, T/F, Y/N

## SKIM\_TRAVEL\_TIME\_FORMAT

Default value is SECONDS. Valid values include SECONDS, MINUTES, HOURS, HOUR\_CLOCK, DAY\_TIME, TIME\_CODE

## SKIM\_TRIP\_LENGTH\_FORMAT

Default value is METERS. Valid values include FEET, MILES, METERS, KILOMETERS

# Examples

These examples use the following network. In this network, the large numbers are zones, and the small numbers represent locations within internal zone 1 and external zone 11.

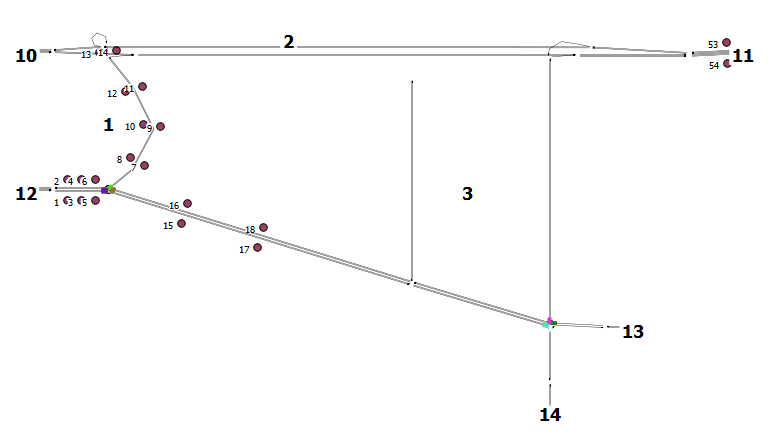


Figure 1 Network used for the examples

## Example 1: Skims using free flow times

The first example simply uses information from the node, link, zone and location files to calculate zone-to-zone travel times.

### Control File

PROJECT\_DIRECTORY ../

CONNECTION\_FILE network/connection.txt

LINK\_FILE network/link.txt

LOCATION\_FILE network/Location.txt

NEW\_SKIM\_FILE results/Skim\_NoLinkDelay.txt

NODE\_FILE network/Node.txt

PARKING\_FILE Network/parking.txt

TITLE PathSkim for SOV Skims

ZONE\_FILE network/zone.txt

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

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

| |

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Control File = PathSkimToyNoLinkDelay.ctl

Report File = PathSkimToyNoLinkDelay.prn (Create)

PathSkim for SOV Skims

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 = 1365770727

Number of Threads = 1

Input System Network Files:

Node File = ../network/Node.txt

Zone File = ../network/zone.txt

Link File = ../network/link.txt

Connection File = ../network/connection.txt

Parking File = ../Network/parking.txt

Location File = ../network/Location.txt

Output System Demand Files:

New Skim File = ../results/Skim\_NoLinkDelay.txt

Data Service Controls:

Number of Time Periods = 108

Flow-Time Service Controls:

Path Building Parameters:

PathSkim Control Keys:

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 Connection File Records = 49

Number of Parking File Records = 60

Number of Location File Records = 60

Number of Selected Origin Zones = 7

Number of Selected Destinations = 7

Number of Specified Time Periods = 1

Number of Potential Skim Cells = 49

New Skim File Period 0 Records = 39

Number of Output Origin Zones = 7 (100.0%)

Number of Output Destinations = 7 (100.0%)

Number of Output Time Periods = 1 (100.0%)

Number of Output Skim Cells = 39 (79.6%)

Total Number of Problems = 392

Number of Path Building (#1) Problems = 392 (100.0%)

Fri Apr 12 08:45:27 2013 -- Process Complete (0:00:00)

### Output Skim File (Skim\_NoLinkDelay.txt)

In this file with one time period, the origins and destinations are zone numbers. The columns are defined as follows:

ORIGIN - The origin zone or location number

DESTINATION - The destination zone or location number

PERIOD - Time period for this skim

COUNT - Number of location pairs considered for this zone pair

WALK - Walking time in seconds

DRIVE - Driving time in seconds

OTHER - Other time in seconds

LENGTH - Length of the trip in meters

COST - Out of pocket cost of the trip in cents

IMPEDANCE – Total impedance for the trip

NUM\_ORG=7; NUM\_DES=7; PERIODS=0:00..27:00

| ORIGIN | DESTINATION | PERIOD | COUNT | WALK | DRIVE | OTHER | LENGTH | COST | IMPEDANCE |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 0 | 274 | 30 | 44 | 0 | 584 | 0 | 1051 |
| 1 | 3 | 0 | 576 | 30 | 140 | 0 | 1889 | 0 | 2006 |
| 1 | 11 | 0 | 36 | 45 | 152 | 0 | 2988 | 0 | 2424 |
| 1 | 12 | 0 | 36 | 45 | 47 | 0 | 642 | 0 | 1378 |
| 1 | 13 | 0 | 36 | 45 | 157 | 0 | 2171 | 0 | 2472 |
| 1 | 14 | 0 | 36 | 45 | 160 | 0 | 2171 | 0 | 2505 |
| 3 | 1 | 0 | 512 | 30 | 132 | 0 | 1787 | 0 | 1924 |
| 3 | 3 | 0 | 992 | 30 | 48 | 0 | 642 | 0 | 1091 |
| 3 | 11 | 0 | 64 | 45 | 122 | 0 | 1821 | 0 | 2125 |
| 3 | 12 | 0 | 64 | 45 | 140 | 0 | 1953 | 0 | 2304 |
| 3 | 13 | 0 | 64 | 45 | 48 | 0 | 661 | 0 | 1380 |
| 3 | 14 | 0 | 64 | 45 | 50 | 0 | 661 | 0 | 1408 |
| 10 | 10 | 0 | 2 | 60 | 0 | 0 | 30 | 0 | 1200 |
| 10 | 11 | 0 | 4 | 60 | 94 | 0 | 2525 | 0 | 2138 |
| 11 | 1 | 0 | 36 | 45 | 163 | 0 | 3226 | 0 | 2534 |
| 11 | 3 | 0 | 64 | 45 | 137 | 0 | 2147 | 0 | 2275 |
| 11 | 10 | 0 | 4 | 60 | 101 | 0 | 2725 | 0 | 2212 |
| 11 | 11 | 0 | 2 | 60 | 0 | 0 | 30 | 0 | 1200 |
| 11 | 12 | 0 | 4 | 60 | 199 | 0 | 3780 | 0 | 3190 |
| 11 | 13 | 0 | 4 | 60 | 142 | 0 | 2220 | 0 | 2615 |
| 11 | 14 | 0 | 4 | 60 | 145 | 0 | 2220 | 0 | 2648 |
| 12 | 1 | 0 | 32 | 45 | 40 | 0 | 541 | 0 | 1302 |
| 12 | 3 | 0 | 64 | 45 | 140 | 0 | 1938 | 0 | 2305 |
| 12 | 11 | 0 | 4 | 60 | 188 | 0 | 3530 | 0 | 3082 |
| 12 | 12 | 0 | 2 | 60 | 0 | 0 | 30 | 0 | 1200 |
| 12 | 13 | 0 | 4 | 60 | 157 | 0 | 2220 | 0 | 2772 |
| 12 | 14 | 0 | 4 | 60 | 160 | 0 | 2220 | 0 | 2805 |
| 13 | 1 | 0 | 32 | 45 | 148 | 0 | 2055 | 0 | 2388 |
| 13 | 3 | 0 | 64 | 45 | 48 | 0 | 647 | 0 | 1381 |
| 13 | 11 | 0 | 4 | 60 | 127 | 0 | 1880 | 0 | 2465 |
| 13 | 12 | 0 | 4 | 60 | 157 | 0 | 2220 | 0 | 2772 |
| 13 | 13 | 0 | 2 | 60 | 0 | 0 | 30 | 0 | 1200 |
| 13 | 14 | 0 | 4 | 60 | 42 | 0 | 570 | 0 | 1625 |
| 14 | 1 | 0 | 32 | 45 | 152 | 0 | 2055 | 0 | 2420 |
| 14 | 3 | 0 | 64 | 45 | 50 | 0 | 646 | 0 | 1406 |
| 14 | 11 | 0 | 4 | 60 | 130 | 0 | 1880 | 0 | 2497 |
| 14 | 12 | 0 | 4 | 60 | 160 | 0 | 2220 | 0 | 2804 |
| 14 | 13 | 0 | 4 | 60 | 42 | 0 | 570 | 0 | 1624 |
| 14 | 14 | 0 | 2 | 60 | 0 | 0 | 30 | 0 | 1200 |

## Example 2: Skims using simulated travel times from a Link Delay file

In this example, the origins and destinations are zone numbers. We choose four time periods, and to produce skims only from zone 1.

### Control File

PROJECT\_DIRECTORY ../

CONNECTION\_FILE network/connection.txt

LINK\_DELAY\_FILE Results/3.Trip.Performance

LINK\_FILE network/link.txt

LOCATION\_FILE network/Location.txt

NEW\_DESTINATION\_LOCATION\_FILE results/New\_SOV\_Des\_Loc\_File.txt

NEW\_ORIGIN\_LOCATION\_FILE results/New\_SOV\_Ori\_Loc\_File.txt

NEW\_SKIM\_FILE results/Skim.txt

NODE\_FILE network/Node.txt

PARKING\_FILE network/parking.txt

ROUTE\_FROM\_SPECIFIED\_ZONES 1

ROUTE\_BY\_TIME\_INCREMENT 15 minutes SKIM\_TIME\_INCREMENT 0 minutes //---- 0, 5..240 minutes

SKIM\_TIME\_PERIODS 6.0..6.25, 8.0..8.25, 8.25..8.5, 8.5..9.0

TITLE PathSkim for SOV Skims

ZONE\_FILE network/zone.txt

### Resulting .prn file

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

| |

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| Fri Apr 12 08:55:04 2013 |

| |

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

Control File = PathSkimToy1.ctl

Report File = PathSkimToy1.prn (Create)

PathSkim for SOV Skims

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 = 1365771304

Number of Threads = 1

Input System Network Files:

Node File = ../network/Node.txt

Zone File = ../network/zone.txt

Link File = ../network/link.txt

Connection File = ../network/connection.txt

Parking File = ../network/parking.txt

Location File = ../network/Location.txt

Input System Demand Files:

Link Delay File = ../Results/3.Trip.Performance

Output System Demand Files:

New Skim File = ../results/Skim.txt

Skim Time Periods = 6.0..6.25, 8.0..8.25, 8.25..8.5, 8.5..9.0

Skim Time Increment = 0.00 minutes

Data Service Controls:

Number of Time Periods = 108

Flow-Time Service Controls:

Path Building Parameters:

PathSkim Control Keys:

Route By Time Increment = 15.00 minutes

Route From Specified Zones = 1

New Origin Location File = ../results/New\_SOV\_Ori\_Loc\_File.txt

New Destination Location File = ../results/New\_SOV\_Des\_Loc\_File.txt

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 Connection File Records = 49

Number of Parking File Records = 60

Number of Location File Records = 60

Number of Link Delay File Records = 7207

Number of Link Direction Records = 3302

Number of Link Connection Records = 3905

Number of Summary Time Periods = 108

Percent of Link Periods with Travel Time Data = 82.6%

Percent of Time Periods with Link Delay Data = 88.9%

Percent of Connection Periods with Travel Time Data = 73.8%

Percent of Time Periods with Connection Delay Data = 88.9%

Number of Selected Origin Zones = 1

Number of Selected Destinations = 7

Number of Specified Time Periods = 4

Number of Potential Skim Cells = 28

New Skim File Period 0 Records = 6

New Skim File Period 1 Records = 6

New Skim File Period 2 Records = 6

New Skim File Period 3 Records = 6

Number of Output Origin Zones = 1 (100.0%)

Number of Output Destinations = 6 (85.7%)

Number of Output Time Periods = 4 (100.0%)

Number of Output Skim Cells = 24 (85.7%)

Total Number of Problems = 430

Number of Path Building (#1) Problems = 430 (100.0%)

Fri Apr 12 08:55:04 2013 -- Process Complete (0:00:00)

### Output Location File (New\_SOV\_Des\_Loc\_File.txt)

This is an output file, listing the locations that were used for each zone. Files can be produced listing both origin and destination locations.

ZONE LOCATIONS

1 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18

3 19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50

10 51, 52

11 53, 54

12 55, 56

13 57, 58

14 59, 60

### Output SkimFile (Skim.txt)

This table shows the skims from zone 1 to all of the other zones. It includes 4 time periods, as specified in the SKIM\_TIME\_PERIODS parameter in the control file.

NUM\_ORG=1; NUM\_DES=7; PERIODS=6:00..6:15, 8:00..8:15, 8:15..8:30, 8:30..9:00

| ORIGIN | DESTINATION | PERIOD | COUNT | WALK | DRIVE | OTHER | LENGTH | COST | IMPEDANCE |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1 | 0 | 274 | 30 | 45 | 0 | 584 | 0 | 1062 |
| 1 | 3 | 0 | 576 | 30 | 143 | 0 | 1889 | 0 | 2039 |
| 1 | 11 | 0 | 36 | 45 | 142 | 0 | 2988 | 0 | 2319 |
| 1 | 12 | 0 | 36 | 45 | 45 | 0 | 642 | 0 | 1355 |
| 1 | 13 | 0 | 36 | 45 | 167 | 0 | 2171 | 0 | 2576 |
| 1 | 14 | 0 | 36 | 45 | 168 | 0 | 2171 | 0 | 2580 |
| 1 | 1 | 1 | 274 | 30 | 47 | 0 | 584 | 0 | 1080 |
| 1 | 3 | 1 | 576 | 30 | 151 | 0 | 1889 | 0 | 2116 |
| 1 | 11 | 1 | 36 | 45 | 146 | 0 | 2988 | 0 | 2362 |
| 1 | 12 | 1 | 36 | 45 | 45 | 0 | 642 | 0 | 1357 |
| 1 | 13 | 1 | 36 | 45 | 176 | 0 | 2171 | 0 | 2665 |
| 1 | 14 | 1 | 36 | 45 | 176 | 0 | 2171 | 0 | 2665 |
| 1 | 1 | 2 | 274 | 30 | 49 | 0 | 584 | 0 | 1098 |
| 1 | 3 | 2 | 576 | 30 | 152 | 0 | 1889 | 0 | 2129 |
| 1 | 11 | 2 | 36 | 45 | 147 | 0 | 2988 | 0 | 2375 |
| 1 | 12 | 2 | 36 | 45 | 46 | 0 | 642 | 0 | 1363 |
| 1 | 13 | 2 | 36 | 45 | 177 | 0 | 2171 | 0 | 2675 |
| 1 | 14 | 2 | 36 | 45 | 177 | 0 | 2171 | 0 | 2673 |
| 1 | 1 | 3 | 548 | 30 | 48 | 0 | 584 | 0 | 1090 |
| 1 | 3 | 3 | 1152 | 30 | 151 | 0 | 1888 | 0 | 2120 |
| 1 | 11 | 3 | 72 | 45 | 147 | 0 | 2988 | 0 | 2371 |
| 1 | 12 | 3 | 72 | 45 | 45 | 0 | 642 | 0 | 1355 |
| 1 | 13 | 3 | 72 | 45 | 176 | 0 | 2171 | 0 | 2659 |
| 1 | 14 | 3 | 72 | 45 | 175 | 0 | 2171 | 0 | 2657 |

## Example 3: Skims using specific activity locations

Here we generate skims from a few specified locations (in zone 1) to location 54 (the external zone 11)

### Control File

PROJECT\_DIRECTORY ../

CONNECTION\_FILE Network/connection.txt

LINK\_DELAY\_FILE Results/3.Trip.Performance

LINK\_FILE Network/link.txt

LOCATION\_FILE Network/Location.txt

NEW\_DESTINATION\_LOCATION\_FILE results/New\_Des\_Loc\_File.txt

NEW\_ORIGIN\_LOCATION\_FILE results/New\_Ori\_Loc\_File.txt

NEW\_SKIM\_FILE results/Loc\_Skim.txt

NODE\_FILE Network/Node.txt

PARKING\_FILE Network/parking.txt

ROUTE\_BY\_TIME\_INCREMENT 15 minutes //---- 0, 5..240 minutes

ROUTE\_FROM\_SPECIFIED\_LOCATIONS 3..4,9..10,17..18

ROUTE\_TO\_SPECIFIED\_LOCATIONS 54

SKIM\_OD\_UNITS LOCATIONS //---- DISTRICT, ZONE, LOCATION

SKIM\_TIME\_INCREMENT 0 minutes //---- 0, 5..240 minutes

SKIM\_TIME\_PERIODS 6.0..6.25, 8.0..8.25, 8.25..8.5, 8.5..9.0

TITLE PathSkim for SOV Skims

ZONE\_FILE Network/zone.txt

### Resulting .prn file

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

| |

| PathSkim - Version 5.0.23 |

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| Fri Apr 12 09:22:26 2013 |

| |

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

Control File = PathSkimToy2.ctl

Report File = PathSkimToy2.prn (Create)

PathSkim for SOV Skims

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 = 1365772946

Number of Threads = 1

Input System Network Files:

Node File = ../Network/Node.txt

Zone File = ../Network/zone.txt

Link File = ../Network/link.txt

Connection File = ../Network/connection.txt

Parking File = ../Network/parking.txt

Location File = ../Network/Location.txt

Input System Demand Files:

Link Delay File = ../Results/3.Trip.Performance

Output System Demand Files:

New Skim File = ../results/Loc\_Skim.txt

Skim OD Units = LOCATIONS

Skim Time Periods = 6.0..6.25, 8.0..8.25, 8.25..8.5, 8.5..9.0

Skim Time Increment = 0.00 minutes

Data Service Controls:

Number of Time Periods = 108

Flow-Time Service Controls:

Path Building Parameters:

PathSkim Control Keys:

Route From Specified Locations = 3..4,9..10,17..18

Route to Specified Locations = 54

Route By Time Increment = 15.00 minutes

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 Connection File Records = 49

Number of Parking File Records = 60

Number of Location File Records = 60

Number of Link Delay File Records = 7207

Number of Link Direction Records = 3302

Number of Link Connection Records = 3905

Number of Summary Time Periods = 108

Percent of Link Periods with Travel Time Data = 82.6%

Percent of Time Periods with Link Delay Data = 88.9%

Percent of Connection Periods with Travel Time Data = 73.8%

Percent of Time Periods with Connection Delay Data = 88.9%

Number of Selected Origin Locations = 6

Number of Selected Destinations = 1

Number of Specified Time Periods = 1

Number of Potential Skim Cells = 6

New Skim File Period 0 Records = 6

New Skim File Period 1 Records = 6

New Skim File Period 2 Records = 6

New Skim File Period 3 Records = 6

Number of Output Origin Locations = 6 (100.0%)

Number of Output Destinations = 1 (100.0%)

Number of Output Time Periods = 4 (400.0%)

Number of Output Skim Cells = 24 (400.0%)

Fri Apr 12 09:22:26 2013 -- Process Complete (0:00:00)

### Output SkimFile (Loc\_Skim.txt)

This table shows the skims from locations 3,4,9,10,17 and 18 to location 54. It includes 4 time periods, as specified in the SKIM\_TIME\_PERIODS parameter in the control file.

NUM\_ORG=6; NUM\_DES=1; PERIODS=6:00..6:15, 8:00..8:15, 8:15..8:30, 8:30..9:00

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ORIGIN | DESTINATION | PERIOD | COUNT | WALK | DRIVE | OTHER | LENGTH | COST | IMPEDANCE |
| 3 | 54 | 0 | 1 | 45 | 167 | 0 | 3360 | 0 | 2578 |
| 4 | 54 | 0 | 1 | 45 | 167 | 0 | 3360 | 0 | 2578 |
| 9 | 54 | 0 | 1 | 45 | 113 | 0 | 2760 | 0 | 2030 |
| 10 | 54 | 0 | 1 | 45 | 113 | 0 | 2760 | 0 | 2030 |
| 17 | 54 | 0 | 1 | 45 | 181 | 0 | 2697 | 0 | 2715 |
| 18 | 54 | 0 | 1 | 45 | 181 | 0 | 2697 | 0 | 2715 |
| 3 | 54 | 1 | 1 | 45 | 176 | 0 | 3360 | 0 | 2666 |
| 4 | 54 | 1 | 1 | 45 | 176 | 0 | 3360 | 0 | 2666 |
| 9 | 54 | 1 | 1 | 45 | 113 | 0 | 2760 | 0 | 2038 |
| 10 | 54 | 1 | 1 | 45 | 113 | 0 | 2760 | 0 | 2038 |
| 17 | 54 | 1 | 1 | 45 | 189 | 0 | 2697 | 0 | 2791 |
| 18 | 54 | 1 | 1 | 45 | 189 | 0 | 2697 | 0 | 2791 |
| 3 | 54 | 2 | 1 | 45 | 181 | 0 | 3360 | 0 | 2710 |
| 4 | 54 | 2 | 1 | 45 | 181 | 0 | 3360 | 0 | 2710 |
| 9 | 54 | 2 | 1 | 45 | 113 | 0 | 2760 | 0 | 2034 |
| 10 | 54 | 2 | 1 | 45 | 113 | 0 | 2760 | 0 | 2034 |
| 17 | 54 | 2 | 1 | 45 | 188 | 0 | 2697 | 0 | 2784 |
| 18 | 54 | 2 | 1 | 45 | 188 | 0 | 2697 | 0 | 2784 |
| 3 | 54 | 3 | 2 | 45 | 180 | 0 | 3360 | 0 | 2701 |
| 4 | 54 | 3 | 2 | 45 | 180 | 0 | 3360 | 0 | 2701 |
| 9 | 54 | 3 | 2 | 45 | 113 | 0 | 2760 | 0 | 2036 |
| 10 | 54 | 3 | 2 | 45 | 113 | 0 | 2760 | 0 | 2036 |
| 17 | 54 | 3 | 2 | 45 | 187 | 0 | 2697 | 0 | 2773 |
| 18 | 54 | 3 | 2 | 45 | 187 | 0 | 2697 | 0 | 2773 |

## Example 4: Centroid to Centroid Skims

This skim picks one location per zone, near the centroid of each zone.

### Control File

PROJECT\_DIRECTORY ../

CONNECTION\_FILE network/connection.txt

DESTINATION\_LOCATIONS\_PER\_ZONE 1

LINK\_DELAY\_FILE Results/3.Trip.Performance

LINK\_FILE network/link.txt

LOCATION\_FILE network/Location.txt

LOCATION\_SELECTION\_METHOD CENTROID

ORIGIN\_LOCATIONS\_PER\_ZONE 1

NEW\_DESTINATION\_LOCATION\_FILE results/New\_Centroid\_Des\_File.txt

NEW\_ORIGIN\_LOCATION\_FILE results/New\_Centroid\_Ori\_File.txt

NEW\_SKIM\_FILE results/SOV\_Centroid\_Skim.txt

NODE\_FILE network/Node.txt

PARKING\_FILE network/parking.txt

ROUTE\_AT\_SPECIFIED\_TIMES 6.0..6.25, 8.0..8.25, 8.25..8.5, 8.5..9.0

ROUTE\_BY\_TIME\_INCREMENT 0

SKIM\_TIME\_INCREMENT 0 minutes

SKIM\_TIME\_PERIODS 6.0..6.25, 8.0..8.25, 8.25..8.5, 8.5..9.0

TITLE PathSkim for Centroid Skims

ZONE\_FILE network/zone.txt

### Resulting .prn file

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

| |

| PathSkim - Version 5.0.23 |

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| Fri Apr 12 14:39:13 2013 |

| |

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

Control File = PathSkimToy3.ctl

Report File = PathSkimToy3.prn (Create)

PathSkim for Centroid Skims

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 = 1365791953

Number of Threads = 1

Input System Network Files:

Node File = ../network/Node.txt

Zone File = ../network/zone.txt

Link File = ../network/link.txt

Connection File = ../network/connection.txt

Parking File = ../network/parking.txt

Location File = ../network/Location.txt

Input System Demand Files:

Link Delay File = ../Results/3.Trip.Performance

Output System Demand Files:

New Skim File = ../results/SOV\_Centroid\_Skim.txt

Skim Time Periods = 6.0..6.25, 8.0..8.25, 8.25..8.5, 8.5..9.0

Skim Time Increment = 0.00 minutes

Data Service Controls:

Number of Time Periods = 108

Flow-Time Service Controls:

Path Building Parameters:

PathSkim Control Keys:

Route At Specified Times = 6.0..6.25, 8.0..8.25, 8.25..8.5, 8.5..9.0

Route By Time Increment = 0.00 minutes

Origin Locations Per Zone = 1

Destination Locations Per Zone = 1

Location Selection Method = CENTROID

New Origin Location File = ../results/New\_Centroid\_Ori\_File.txt

New Destination Location File = ../results/New\_Centroid\_Des\_File.txt

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 Connection File Records = 49

Number of Parking File Records = 60

Number of Location File Records = 60

Number of Link Delay File Records = 7207

Number of Link Direction Records = 3302

Number of Link Connection Records = 3905

Number of Summary Time Periods = 108

Percent of Link Periods with Travel Time Data = 82.6%

Percent of Time Periods with Link Delay Data = 88.9%

Percent of Connection Periods with Travel Time Data = 73.8%

Percent of Time Periods with Connection Delay Data = 88.9%

Number of Selected Origin Zones = 7

Number of Selected Destinations = 7

Number of Specified Time Periods = 4

Number of Potential Skim Cells = 196

New Skim File Period 0 Records = 32

New Skim File Period 1 Records = 32

New Skim File Period 2 Records = 32

New Skim File Period 3 Records = 32

Number of Output Origin Zones = 7 (100.0%)

Number of Output Destinations = 7 (100.0%)

Number of Output Time Periods = 4 (100.0%)

Number of Output Skim Cells = 128 (65.3%)

Total Number of Problems = 68

Number of Path Building (#1) Problems = 68 (100.0%)

Fri Apr 12 14:39:13 2013 -- Process Complete (0:00:00)

### Output Location File (New\_Centroid\_Des\_File.txt)

This is an output file, listing the location that was used for each zone.

ZONE LOCATIONS

1 9

3 47

10 51

11 53

12 55

13 57

14 59

### Output SkimFile (Skim.txt)

This table shows a selection of the centroid-based skims. It includes 4 time periods, as specified in the SKIM\_TIME\_PERIODS parameter in the control file. Note that the values for the Zone 1 to Zone 11 skim are the same as those for the Location 9 to Location 54 skim in the previous example. This is because the chosen centroid for Zone 1 was Location 9, and the chosen centroid for Zone 11 was Location 53 (which is adjacent to Location 54).

NUM\_ORG=7; NUM\_DES=7; PERIODS=6:00..6:15, 8:00..8:15, 8:15..8:30, 8:30..9:00

| ORIGIN | DESTINATION | PERIOD | COUNT | WALK | DRIVE | OTHER | LENGTH | COST | IMPEDANCE |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 3 | 0 | 1 | 30 | 140 | 0 | 2010 | 0 | 2007 |
| 1 | 11 | 0 | 1 | 45 | 113 | 0 | 2760 | 0 | 2030 |
| 1 | 12 | 0 | 1 | 45 | 55 | 0 | 800 | 0 | 1450 |
| 1 | 13 | 0 | 1 | 45 | 183 | 0 | 2450 | 0 | 2734 |
| 1 | 14 | 0 | 1 | 45 | 183 | 0 | 2450 | 0 | 2738 |
| 3 | 1 | 0 | 1 | 30 | 163 | 0 | 2010 | 0 | 2235 |
| … | … | … | … | … | … | … | … | … | … |
| 1 | 3 | 1 | 1 | 30 | 142 | 0 | 2010 | 0 | 2023 |
| 1 | 11 | 1 | 1 | 45 | 113 | 0 | 2760 | 0 | 2038 |
| 1 | 12 | 1 | 1 | 45 | 55 | 0 | 800 | 0 | 1453 |
| 1 | 13 | 1 | 1 | 45 | 190 | 0 | 2450 | 0 | 2799 |
| 1 | 14 | 1 | 1 | 45 | 190 | 0 | 2450 | 0 | 2799 |
| 3 | 1 | 1 | 1 | 30 | 164 | 0 | 2010 | 0 | 2247 |
| … | … | … | … | … | … | … | … | … | … |
| 1 | 3 | 2 | 1 | 30 | 142 | 0 | 2010 | 0 | 2031 |
| 1 | 11 | 2 | 1 | 45 | 113 | 0 | 2760 | 0 | 2034 |
| 1 | 12 | 2 | 1 | 45 | 55 | 0 | 800 | 0 | 1454 |
| 1 | 13 | 2 | 1 | 45 | 189 | 0 | 2450 | 0 | 2793 |
| 1 | 14 | 2 | 1 | 45 | 189 | 0 | 2450 | 0 | 2791 |
| 3 | 1 | 2 | 1 | 30 | 171 | 0 | 2010 | 0 | 2316 |
| … | … | … | … | … | … | … | … | … | … |
| 1 | 3 | 3 | 1 | 30 | 142 | 0 | 2010 | 0 | 2023 |
| 1 | 11 | 3 | 1 | 45 | 113 | 0 | 2760 | 0 | 2037 |
| 1 | 12 | 3 | 1 | 45 | 55 | 0 | 800 | 0 | 1450 |
| 1 | 13 | 3 | 1 | 45 | 188 | 0 | 2450 | 0 | 2780 |
| 1 | 14 | 3 | 1 | 45 | 188 | 0 | 2450 | 0 | 2779 |
| 3 | 1 | 3 | 1 | 30 | 167 | 0 | 2010 | 0 | 2279 |
| … | … | … | … | … | … | … | … | … | … |
| 14 | 13 | 3 | 1 | 60 | 89 | 0 | 570 | 0 | 2092 |