

TRANSIMS Version 4.0.5

Software changes between 4.0.4 and 4.0.5

Change Log edited: 4/28/2009

SysLib

A bug was fixed in setting the record number associated with the Get_GE and Get_LE methods of the index array class.

A bug was fixed related to the REPORT_FLAG key.

The Purpose Group class was updated to include balancing factors methods.

Additional error checking logic was added to the link equivalence read method.

Logic was added to the transit driver data class and network service method to read and store the notes data in memory.

Length field and flag were added to skim file and skim data classes. A new time length data classes was added to minimize memory requirements for total time and trip length skims.

A bug was fixed in the table processing logic of the user program class.

An error message was added to the Plan file class to minimize conflicts between the traveler scaling factor and the scaling factor posted in the Plan definition file.

The traveler scaling factor key was moved from demand service into execution service to avoid problems caused by control methods that read local keys prior to demand keys. This affected the checking of the scaling factor in the plan definition file (or creating a def file) against a traveler scaling factor that is not yet set.

The Dir List class was split into Dir List and Dir Connect to separate the connection functionality from the link list functionality.

The read activity method within demand service was updated to process all of the fields in the activity file.

The max value method was added to the range data class.

The first group and next group methods were added to the link equiv class.

The survey person array class was added.

An end time field was added to the signal data class to simplify time range analysis for signal timing plans. The read signal method of the network service sets the field after the signal file is read into memory.

The extended file methods were added to the problem file class.

The memory allocated by data array was initialized to zero to avoid potential problems with packed data fields and warning messages in memory debuggers. A check was added for memory reductions.

The memory allocated for file record buffers was initialized to zero to avoid potential problems generated by fields that are not used or initialized.

Time step and time ranges classes were expanded to include a pad flag for the time label and range label methods. If true, this option will generate time strings that contain a fixed number of characters.

Point Time data and file classes were added to store and manage files of data entering and exiting activity locations and zones.

IGNORE_PERIODS method was added to the link direction file class to disable the conversion of time ranges for fields starting with P#, B#, and D#.

The performance data structure and demand service reading process now include the option to summarize three additional fields: congested VMT, congestion VHT, and congestion percentage of the time period. A Congested_Ratio method was added to set the time ratio that defines congested conditions. These fields can also be selected for output in a link data or link direction file using the key words CONGESTED_VMT, CONGESTED_VHT, and CONGESTED_TIME.

OUTPUT_SUMMARY_PERSON_FLAG_* key was added to the link delay class to output performance statistics weighted by vehicle occupancy.

Smooth_Data class was added to the utility directory to manage generic data smoothing through a common object interface.

The Link Delay file time period processing within the Demand Service class was updated to properly detect a Version3 format based on the *.def file rather than the default or user specified format key.

ActBalance 4.0.0

New program to calculate and summarize attraction balancing factors for an activity file.

ActGen 4.0.34

BALANCING_FACTOR_FILE, BALANCING_FACTOR_FORMAT, and BALANCING_FACTOR_FIELD_# keys were added to include attraction balancing factors for

each purpose group. NEW_HOUSEHOLD_PERSON_COUNT key was added to summarize the number of times a survey household person was replicated.

ActivityPattern 4.0.1

NEW_HOUSEHOLD_PERSON_COUNT key was added to summarize the number of times a survey household person was replicated.

ArcDelay 4.0.17

A bug was fixed checking for time period values in field names that start with “D”. IGNORE_TIME_RANGE_FIELDS key was added to disable the processing of time ranges for link direction file fields starting with P#, B#, or D#.

ArcNet 4.0.21

The process link error messages were replaced by warning messages and zero coordinates. The lane connectivity shapes were enhanced to draw all of the lane alignment connections generated for a range of input and output lanes. SELECT_TIME_PERIOD key was added to define a time range for selecting time-based network attributes for signals, lane-use, parking, tolls, turns, and transit routes.

ArcPlan 4.0.21

The ArcView Problem filename now has the project directory appended to it. Warning messages are no longer listed for problems with link numbers of zero. Error messages about not finding activity locations, parking lots, or transit stops were changed to warning messages. The problem type list is now initialized to false for all problem types.

ArcSnapshot 4.0.10

The program now exits file processing after the maximum selected time value is reached. TIME_STEPS_PER_SECOND and PAD_FILE_TIME_LABEL keys were added to enable the program to create snapshot images at less than one second intervals (assuming the Microsimulator created the snapshot file at sub-second intervals). The padding flag ensures that the labels on the output shapefiles have a fixed string length.

CheckSurvey 4.0.4

Code was added to insert a notes field in the output survey activity file if the create notes flag is set and the input survey file does not include a notes field.

ConvertTrips 4.0.18

The logic was expanded to recognize a period field in the input trip tables and convert this to a time range with the time period equivalence file.

DynusTNet 4.0.2

New program to convert a TRANSIMS network to DynusT or DynaSmart format. A set of placeholder files were generated for bus.dat, GradeLengthPCE.dat, leftcap.dat, output_option.dat, ramp.dat, StopCap2Way.dat, StopCap4Way.dat, superzone.dat, TrafficFlowModel.dat, vms.dat, YieldCap.dat, zone.dat, Demand.dat, demand_truck.dat,

demand_HOV.dat. The control.dat file phasing and sign records were modified to include fixed column formatting to work in DynusT as well as DynaSmart. The sign logic was updated to set two-way and four-way stop codes based on the presence of uncontrolled approaches rather than the number of stop signs. The zone numbers were re-indexed to eliminate all zones that do not contain a node. A new file called zone_map.dat was created to equate the TRANSIMS zone numbers to the DynusT zone numbers.

DynusTPlan 4.0.2

New program to convert a TRANSIMS plan file to DynusT or DynaSmart vehicle and path files. DYNUS_T_USER_CLASS key was added to control the assignment process. A correction was made to the destination zone number assigned to node-based paths. The zone numbers were re-indexed to eliminate all zones that do not contain a node for compatibility with DynusTNet.

Emissions 4.0.3

Added warning messages about missing summary year and month specifications when years and months are included in the emission rate tables. Included reports documenting the vehicle and facility type maps. The logic for emission rate units was implemented and a new key called POLLUTANT_UNITS_* was added to define separate unit methods for each pollutant. Logic was added to permit a given rate value to be used for multiple category members. An optional file group number followed by a pound sign (#) was added to the front of the value number to enable values from different rate files to be assigned to different category members.

NEW_EMISSION_RATE_FILE and NEW_EMISSION_RATE_FORMAT keys were added to output the aggregate emission rate table. SELECT_ZONE_RANGE and SELECT_SUBAREA_POLYGON keys were added to generate emissions for a subset of the region – typically a county. Bin_Sum_Data class was added to summarize VMT/VHT data by vehicle, facility, hour, and speed bin. NEW_SPEED_SUMMARY_FILE and NEW_SPEED_SUMMARY_FORMAT keys were added to output a summary of the VMT/VHT by vehicle, facility, hour, and speed bin. NEW_MOVES_SPEED_HOUR_FILE, NEW_MOVES_SPEED_HOUR_FORMAT, NEW_MOVES_VMT_HOUR_FILE, NEW_MOVES_VMT_HOUR_FORMAT keys were added to dump the summary data in MOVES table format.

FileFormat 4.0.2

NESTED_COUNT_FIELD and NESTED_COUNT_FIELD_* keys were added to enable the format conversion to recognize and process nested data files.

IntControl 4.0.18

The timing plan file will now be consistent with the phasing plan file in situations where a warning message is posted about a missing lane connection. LINK_DELAY_FILE key was added as an option for inputting turning movement volumes. Turn movement error messages were changed to warning messages. TIME_PERIOD_RANGE key was added as an option to time period breaks to update the splits for a specific set of time periods. The default value for ADD_NO_CONTROL_RECORDS was changed from true to false.

DELETE_NODE_CONTROL_FILE key was added to input a list of nodes where signal or sign controls will be deleted prior to added new information. A bug was fixed reading the link delay

time periods. The SIGNAL_TIMING_UPDATES report was added to print data about the timing plan changes. TIME_OF_DAY_FORMAT key was added to control the time formatting for the report. The probability of generating protected left turn phases for intersections without left turn pockets was reduced. The timing update option was modified to more realistically consider volume in shared lanes and between phases. A bug was fixed in generating signals listed in the input signal file when time period breaks are not defined. The link delay turning movement volumes are now used to create signals with the volume method. A phasing bug was fixed for intersections with multiple thru lanes sharing the same conflicting thru lane. The updated logic combines the multiple thru lanes if the approach does not include left or right turns and provides a fully protected phase if turns are permitted. The thru phase timing weight was also adjusted for situations where leading left-thru phases are generated. Refinements were also made in assigning detectors to actuated signal movements. The new logic removes detectors from permitted lefts when protected lefts also exist and removes detectors from thru movements during protected left phases. Walkway links were ignored by the intersection analysis. The volume aggregation now is customized for the specific time range specified for each signal in the signalized node file when regenerating signals using the volume method and updating timing plans. A bug was fixed in the calculation of turn volumes for each time period when updating signal timing. The creation process now permits a different cycle length, minimum phase time, yellow, red clear, pocket factor, general green factor, extend factor, minimum capacity and maximum capacity value for each time period. Each of the keys accept one or more values and use the closest value for each time period.

LinkDelay 4.0.8

The program was modified to use the Smooth_Data object rather than a private subroutine.

LinkSum 4.0.26

SELECT_BY_LINK_GROUP key was added to select link using the link equivalence file. Average speed was added to the network performance reports. The performance measure calculations for the previous link delay file were made identical to the delay processing calculations within demand service. Logic was added to enable the reports and output files to summarize data for a specific link direction using a link group file.

CONGESTED_TIME_RATIO key was added to activate the congestion performance measures for the detailed performance report and the output link data or link direction files. If the time period data has a travel time ratio greater than the specified value (default is 3.0), the VMT, VHT, and time period is added to corresponding congestion performance measure. The new link data and link direction field names that output this data are CONGESTED_VMT, CONGESTED_VHT, and CONGESTED_TIME. The time values are output as a percentage of the total time period. A bug was fixed in the percent time calculations for the detail network performance report.

LocationChoice 4.0.4

BALANCING_FACTOR_FILE, BALANCING_FACTOR_FORMAT, and BALANCING_FACTOR_FIELD_# keys were added to include attraction balancing factors for each purpose group. A bug was fixed initializing the data fields used for the attraction balancing file.

Microsimulator 4.0.59

The print file now reports the time when the maximum number of vehicles is on the network and the total hours of travel and average travel time for completed vehicle trips.

FIX_VEHICLE_LOCATIONS key was added to move the vehicle to the origin parking lot if it is not already at that location. Vehicle passenger counts were added to each record in the snapshot file. The option to output link summary statistics weighted by vehicle occupancy was added (OUTPUT_SUMMARY_PERSON_FLAG_*). The vehicle occupancy weighting option was added to the cycle failure statistics. A bug was fixed in setting the maximum lane connection speed when the input data field is zero.

NewFormat 4.0.6

Additional logic was added to find locations for activities with no coordinates in the travel survey. Home locations outside the modeling region were also excluded.

PlanCompare 4.0.28

The print file now reports the total hours of travel for the plans selected for output.

IGNORE_LOCATION_DIFFERENCES key was added to facilitate compares of traveler trips loaded to different networks. Additional information about the plan matching process was added to the printout file. In situations where the complete trip does not match, but the drive legs within the trip do match, a comparison of the drive legs is used to record differences and select plans. ONLY_COMPARE_DRIVE_LEGS key was added to limit comparisons to matching drive legs. A bug was fixed in the path dump report. The path and time dump reports can now select records based on difference parameters greater than 100 percent. The percent time difference parameter can now be entered as zero to enable selections limited to path differences. The aggregate difference statistics are now printed even when the distribution reports are not requested. A bug was fixed in the path-only comparison process. The path comparison process was changed to more accurately account for small differences in both the input and compare plans rather than just the compare plan. The permitted range for maximum percent selected was changed to 0.1 to 100.0. SELECT_TIME_PERIODS key was added to limit the compare of differences to specified times of day. A correction was added to continue selecting records from the input plan file after the compare plan end-of-file is reached.

PlanPrep 4.0.10

The *.def files created for the temporary plan files used for file combining are now deleted.

PlanSum 4.0.47

The travel time update option was expanded to update and output all travel legs (i.e., walk, bike, transit, etc.) of the travel plan rather than just the drive legs. SKIM_TRIP_LENGTH key was added to include a trip length field in the skim file. The time length data class structures were added to minimize memory requirements for total time and trip length skims. The zone equivalence file can now be used to aggregate skim data in addition to trip tables.

HOUSEHOLD_PERSON_COUNT key was added to summarize the plans with a replication count by household and person. This is primarily used to generate weighted summary statistics for routed survey activity file. Logic was added to correctly process skims and trip tables for plan files that do not start and end at activity locations. The process link file is read to create a map

between parking lots (and transit stops) and connected activity locations to retrieve a zone number for the parking lot.

PlanTrips 4.0.10

The logic was changed to process all of the trips for a given traveler rather than each trip one at a time. This is important for trip chaining and activity-based plans. The options to adjust the time schedules in an activity file and output plan file records as activities were added.

HOUSEHOLD_LIST key was added to limit the time adjustment process to a select list of households. Data gathering for the time shift summary report was added for applications where an input trip or activity file is not provided.

ProblemSelect 4.0.4

The program now reads and selects households from partitioned problem files.

ProblemSum 4.0.4

The logic for the problem density report was completed and a bug caused by not including a time period range was addressed. The program now reads and summarizes partitioned problem files. NEW_PROBLEM_TIME_FILE, NEW_PROBLEM_TIME_FORMAT, NEW_PROBLEM_LINK_FILE, and NEW_PROBLEM_LINK_FORMAT keys were added to create files summarizing different problem types by time of day and link by time of day.

Progression 4.0.5

The group number for applications with a link equivalence file was modified to display the link equivalence group ID rather than the internal ID. The label from the link equivalence file is also now posted on the output report. The ArcView shape file now includes the last link in the progression group. GROUP_PERIOD_WEIGHT_FILE key was added to provide weighting factors by time period for each link group. KEEP_LINK_GROUP_ORDER key was added to manually override the order of the progression settings based on the record order in the link equivalence file. A bug was fixed in the group length calculation when a link equivalence file is provided. EVALUATE_EXISTING_OFFSETS key was added to generated progression performance measures for the input signal offsets prior to recalculating the offsets for output.

Relocate 4.0.11

NEW_LOCATION_MAP_FILE and NEW_PARKING_MAP_FILE keys were added to dump a list of the mapping between old activity locations and new activity locations and old parking lots and new parking lots. The activity location mapping was refined for locations with a positive zone value to skip locations in the new activity location file with zero zone values. This avoids selecting a transit activity location for a trip activity location. Records are now written to the new activity file. OLD_LINK_FILE, OLD_NODE_FILE, and OLD_PARKING_FILE keys were added along with link, node, and parking network files for updating the link and node numbers for drive paths in the plan file. This is primarily used for repairing plan files for networks where links are split with a new node or where plans are moved from one network to another. A bug was fixed in converting the last link within link-based plan files. Logic was added to properly expand plan records that start and end on the same link. Additional logic was added to properly expand plan records that start and end at activity location on opposite sides of

the street (i.e., cross the street). The printout file now reports the number of updates made to plan path records as well as origins and destinations.

Router 4.0.56

The bug was fixed in positioning the dummy vehicle when the IGNORE_VEHICLE_ID key is used. Logic was added to reset the vehicle location for each person within a household to avoid vehicle access problems caused by another driver not returning the vehicle home at the end of the day. The processing logic for auto paths between selected origins to selected (or all) destinations was streamlined to build a single vine for each origin rather than a separate path for each origin-destination pair. This change improves processing speed by a factor of five or more. The select logic for all modes was modified to skip activity locations for zone values of zero (normally transit stop access points) when ALL is specified for selected origins or destinations.

SubareaNet 4.0.10

Logic was added to copy the notes field from the transit driver file when the create notes flag is set. Logic was added to check that both ends of a transit process link are attached to subarea links. The highest zone number in the activity location file is rounded up by 10 and used as the initial zone number assigned to the activity locations added to each subarea boundary link.

SubareaPlans 4.0.31

Logic was added to copy the notes field from the transit driver file when the create notes flag is set. SELECT_TIME_PERIODS key was added to enable selection of a subarea plan set for a specified time period. The highest zone number in the activity location file is rounded up by 10 and used as the initial zone number assigned to the activity locations added to each subarea boundary link.

TPPlusRoute 4.0.4

The ONEWAY route field was modified to recognize “T” and “t” as well as “Y” and “y”. Logic was added to check for N=### and NODES=### in the transit line file and extract the node number for the route.

TransimsNet 4.0.21

Additional protection against deleting nodes in the keep node list was included.

TransitNet 4.0.17

A bug was fixed in the offset calculation for the stop activity location added to the B to A direction of a cross street for a rail station on a link that does not permit walk access.

TripSum 4.0.15

A bug in initializing the cells of the trip table summary was fixed.

HOUSEHOLD_WEIGHT_FILE was replaced with HOUSEHOLD_PERSON_COUNT to summarize the trips and activities with a replication count by household and person. This is primarily used to generate weighted summary statistics for survey activity files.

NEW_LOCATION_TRIP_END_FILE, NEW_LOCATION_TRIP_END_FORMAT,

NEW_ZONE_TRIP_END_FILE, and NEW_ZONE_TRIP_END_FORMAT keys were added to summarize trip origins and destinations by activity location and zone number.

VISSIMNet 4.0.7

New program to convert a TRANSIMS network to VISSIM XML input format. Pocket lane, stop sign and signal processing were added. Vehicle type and class logic was added. New network generation logic was added to convert TRANSIMS parking locations to parking access links for VISSIM. The new network can be output into TRANSIMS format as well as the VISSIM XML format. Logic to add a stop sign to the parking links, generated the new parking, activity location, and process link files, and write the VISSIM zones and zone connectors to the XML file was added. Shape file generation and processing was added for split links. SELECT_TIME_PERIOD key was added to specify a time range for the output network. The demand actuated signal enumeration was corrected. Lane connectivity was added to permit paths to cross the street between two parking stubs.

VISSIMPlan 4.0.2

New program to convert TRANSIMS plan files to VISSIM XML route data. OUTPUT_TIME_INCREMENT key was added to create individual time periods with the overall time range to allocate the trips. Time period numbers and selection was corrected.