TRANSIMS Version 4.0

April 2008 Release

Change Log edited: 4/1/2008

SysLib

A bug was fixed in the Db_Base logic for converting string fields into integers and doubles. The Date_Time class was also enhanced to better handle time strings that don't contain time related characters.

The user program PRINT and LIST logic was expanded to insert the data type codes into the format string if these codes are not provided by the user.

Summarize_Riders method was added to the ridership data classes to calculate riders leaving each stop and maximum load point for each run.

The Add_Breaks method within the time range class was modified to avoid integer overflow issues when "NONE" is provided as the break string.

The random probability method was made an inline function.

Route header and nodes file and data classes were added to the network service. The new keys include ROUTE_HEADER_FILE, ROUTE_HEADER_FORMAT, ROUTE_NODES_FILE, ROUTE_NODES_FORMAT, NEW_ROUTE_HEADER_FILE, NEW_ROUTE_HEADER_FORMAT, NEW_ROUTE_NODES_FILE, and NEW_ROUTE_HEADER_FORMAT.

Changes were made to the route header file processing to simplify the file replication logic.

The Get_Token function was modified to properly process a quoted substring contained within a token. Previously the token needed to start with a quote to be captured properly. The new logic will handle tokens like: name="text xx" as a single token.

The Transit Fare file, data, and network service classes were updated to enable significantly more complex fare structures. A Class_Type enumeration was added for traveler fare classes including CASH, CARD, and SPECIAL categories. Logic was included in the network service method to read both the original and new fare data files.

Kiss-&-ride modes (KNR_OUT and KNR_IN) were added to the mode codes. Kiss-&-ride lot message was added to the problem codes.

The report file name was modified to include the partition number when the REPORT_FILE key is specified.

The new fare zone data was implemented as a structure rather than a class to simplify the complex 6 value indexing. The file now permits ranges and lists for each index variable (from zone, to zone, from mode, to mode, time period, and fare class).

Router 4.0.38

The restricted link logic was expanded to permit the path to include a continuous sequence of restricted links starting or ended at a restricted origin and/or destination. STOP_WAITING_PENALTY and STATION_WAITING_PENALTY keys were added to include a differential penalty if the transit waiting takes place at a stop versus a station. MIN_WAIT_TIME key was added avoid closely timed boardings and transfers. A bug was fixed in the calculation that converted the fare value of cost to impedance for transit routes. The default value of cost was changed from 1 to 0. A bug was fixed in the penalty impedance calculations. For highway paths this affected the LEFT_TURN_PENALTY, RIGHT_TURN_PENALTY, and U_TURN_PENALTY. For transit paths this affected the TRANSFER_PENALTY, STOP_WAITING_PENALTY, and STATION_WAITING_PENALTY. To reproduce the same impact as before, multiply the key value by 8. The logic was modified to output a transfer leg to the plan file when walk detail is not requested and the alighting and boarding stops are the same. The park-&-ride logic was modified to add the daily parking cost from the park-&-ride lot to the path cost and impedance. The default time of day format was changed from HOURS to 24_HOUR_CLOCK. The transit fare processing was modified to process the new transit fare format. A new report called FARE_DATA_REPORT is available to print the expanded fare data. The source code was reorganized to call a common Plan_Build method for trip, activity, and user-specified origins and destinations. Path building methods for kiss-&-ride trips were added. New keys include MAX_KISS_RIDE_PERCENTAGE and KISS_RIDE_TIME_FACTOR. The parking cost logic has also been updated to use the daily and hourly cost fields in the Version 4 parking file plus the parking duration by trip purpose specified with the new key PARKING_HOURS_BY_PURPOSE. The minimum of the daily or hourly times hours parking cost is used. Parking costs for purpose zero and kiss-&-ride trips are automatically set to zero. For activity files, the parking duration is set by the activity duration. The new key FARE_CLASS_DISTRIBUTION was added to define the probability of a transit trip using cash, card, or special fare structures. The transit fare structure was modified to simplify input and improve processing efficiency.

IntControl 4.0.10

Warning messages were added for links entering an intersection without any lane connectivity or if the only connectivity is from merge or diverge movements. The signal timing logic was enhanced to use the number of right turn lanes if the left and thru lanes are zero or use the maximum of the merge and diverge lanes.

Validate 4.0.13

Transit route and stop validation was added. In addition to the transit network and ridership file, the new keys include LINE_GROUP_COUNT_FILE, STOP_GROUP_COUNT_FILE, LINE_EQUIVALENCE_FILE, and STOP_EQUIVALENCE_FILE. The new reports include LINE_GROUP_SUMMARY, STOP_GROUP_SUMMARY,

BOARDING_GROUP_SUMMARY, ALIGHTING_GROUP_SUMMARY, PRINT_LINE_EQUIVALENCIES, and PRINT_STOP_EQUIVALENCIES. The transit line and stop group reports were modified to post the number of lines and runs made in each group and remove unnecessary statistics for each row. A correction was made to the average error calculation for transit line and stop reports.

Reschedule 4.0.5

A bug was fixed in the route selection logic.

LocationData 4.0.3

The ZONE_BOUNDARY_POLYGON, ZONE_FIELD_NAME and ZONE_UPDATE_RANGE keys were added to update the zone numbers assigned to activity locations based on zone boundaries. A report called CHECK_ZONE_COVERAGE was added to check the number of activity locations within each zone. NEW_USE_FLAG_FIELD and LINK_USE_FLAG_TYPES keys were added to set an activity location flag based on the use codes of the associated link.

PlanSelect 4.0.20

SELECT_TRANSIT_ROUTES was added to select households based on a transit route range.

TransimsNet 4.0.6

ACTIVITY_LOCATION_SIDE_OFFSET key was added to enable the user to control the coordinates calculated for the coordinates posted on the activity location records. The position calculation logic was replaced with the Link_Shape method. Bridge facilities were processed as major arterials in the intersection calculations. Logic was added to detect ramp merges onto arterials better.

TransitNet 4.0.11

The notes field was copied from the input transit route file to the output transit route file and from the route header file to the output transit route file. ROUTE_HEADER_FORMAT and ROUTE_NODES_FORMAT keys were added. The option to read travel time fields for each time period from the route header file was added. Modified to use the new route header and nodes network services. Protection against integer overflow math was added. A bug was fixed in the way travel times were calculated.

ExportTransit 4.0.2

A bug was fixed in the travel time calculation logic. PERIOD_TRAVEL_TIMES key was added to permit the program to calculate the travel time for each time period rather than the lower average for all time periods. The notes field was copied from the transit route file to the route header file. Was modified to use the new route header and nodes network services

ArcNet 4.0.14

Was modified to use the new route header and nodes network services

TPPlusRoute 4.0.1

New program to convert multiple TP Plus transit line files to TRANSIMS route header and nodes files. TPPLUS_MODE_MAP_x and TPPLUS_NODE_MAP_FILE keys were added to convert TP Plus mode codes to TRANSIMS mode codes and convert the TP Plus node numbers to a TRANSIMS equivalent value. Several bugs were fixed related to the file appending logic, processing multiple FREQ fields, and processing the last line record in each file. TPPLUS_FLIP_ROUTE_x key was added to reverse the node order to synthesize PM peak routes from AM peak routes. The name and notes fields were enhanced by concatenating route names and orientation information.

CoordMatch 4.0.0

New program to adjust node coordinates, convert node numbers, and/or create a node equivalence between two node files. A reference node map is used to rubber sheet the node coordinates.

ArcPlan 4.0.16

ARCVIEW_STOP_GROUP_FILE and STOP_EQUIVALENCE_FILE keys were added to generated ridership summaries for a group of transit stops.

SubareaNet 4.0.3

Logic was added to convert the regional transit network files to a subarea transit network. The subarea flag structure was replaced with overlaid methods within existing data classes. The transit line generation logic was fixed for situations were the line has only one node outside of the boundary.

Microsimulator 4.0.43

Logic was added to process external transit stops. A bug was fixed for the situation where no vehicles are included in the input vehicle file. Additional process accounting logic was added to separate transit vehicle processing from normal vehicle processing. The alighting totals were fixed for exits at the end of the line that is also the end of the link. The starting and ending cell for a transit route were corrected.

LineSum 4.0.6

TRANSIT_STOP_GROUP_BY_STOP report was added to list the ridership by stop within each stop group. Name fields were automatically activated for stop group and line ridership reports. A few format refinements and null point protection were added to the stop group by stop report.

ConvertTrips 4.0.14

The logic was expanded to include the new kiss-&-ride modes.

SubareaPlans 4.0.21

The transit network processing from SubareaNet was added and transit plan processing was implemented. A bug was fixed when generating a single output plan file from multiple input plan files.