Chapter Four: Contents

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NOTE: Long code lines that do not fit completely on one line of this document are shown in italics and continued on to the next line.

1. SHARED RIDES

1.1 allstr_actgen.cfg

```
TRANSIMS_ROOT                          /n/father/transims/CaseStudy3/scenarios/allstr

CONFIG_DEFAULT_FILE                    $TRANSIMS_ROOT/allstr.cfg

ACTIVITY_FILE                          $TRANSIMS_ROOT/activity/AS1.25
ACT_LOG_FILE                           $TRANSIMS_ROOT/log/ActgenSharedRideAS1.25.log
#ACT_HOUSEHOLD_FILE                    $TRANSIMS_ROOT/activity/hh
ROUTER_HOUSEHOLD_FILE                  $TRANSIMS_ROOT/activity/hh
ACT_TRAVEL_TIMES_FILE                  $TRANSIMS_ROOT/activity/traveltime_040601
ACT_TRAVEL_TIME_FUNCTION_MODES         1;2;3;7
ACT_SURVEY_ACTIVITY_FILE               $TRANSIMS_ROOT/data/survey_activities
ACT_SURVEY_WEIGHTS_FILE                $TRANSIMS_ROOT/data/survey_weights_25
ACT_TRAVEL_TIME_INTERVALS_FILE         $TRANSIMS_ROOT/activity/time_intervals
LOG_ACT                                1
ACT_PROBLEM_FILE                       $TRANSIMS_ROOT/activity/act.problems.srfb

# Selector Keys
SEL_MESSAGE_LEVEL                      0
SEL_USE_START_ACT_LOCATION             1
SEL_USE_END_ACT_LOCATION               1
SEL_USE_START_ACT_TYPE                 1
SEL_USE_END_ACT_TYPE                   1
SEL_USE_START_MODE_PREF                1
SEL_USE_END_MODE_PREF                  1
SEL_USE_EUCLID                         1
```

1.2 FixSharedRides

```
#! /bin/csh

setenv SCENARIO $TRANSIMS_HOME/scenarios/allstr
setenv CONFIG_FILE  $SCENARIO/config_files/allstr_actgen.cfg
setenv LOG_DIR $SCENARIO/log
setenv ACTIVITY_FILE $SCENARIO/activity/AS1.25
setenv PARTIAL_FILE $SCENARIO/activity/apar
setenv PROBLEM_FILE $SCENARIO/activity/act.problems.25
setenv FEEDBACK_COMMANDS $SCENARIO/activity/fbhh
setenv MERGE_INDICES $TRANSIMS_HOME/bin/MergeIndices
setenv TMP_CONFIG /tmp/allstr.cfg
setenv INDEXDEFRAG  $TRANSIMS_HOME/bin/IndexDefrag

/bin/cp $CONFIG_FILE $TMP_CONFIG
/bin/chmod u+w $TMP_CONFIG

setenv ITER 1

/usr/bin/awk '{if ($1==1) print $3 " R"}' $PROBLEM_FILE | /bin/sort -n -u > $FEEDBACK_COMMANDS.$ITER

# Regenerate the households that had shared ride assignment problems.
echo "Regenerating activities to remove shared ride problems..." > $LOG_DIR/ActivityRegenerator.log

# Do 10 iterations
foreach i (1 2 3 4 5 6 7 8 9 10)
    echo "Activity Regenerator for shared rides iteration " $i >>&! $LOG_DIR/ActivityRegenerator.log
    echo "ACT_FEEDBACK_FILE  " $FEEDBACK_COMMANDS.$ITER >> $TMP_CONFIG
    echo "ACT_PARTIAL_OUTPUT " $PARTIAL_FILE.$i >> $TMP_CONFIG
    echo "ACT_PROBLEM_FILE   " $PROBLEM_FILE.$i >> $TMP_CONFIG $TRANSIMS_HOME/bin/ActivityRegenerator $TMP_CONFIG >>&!
    $LOG_DIR/ActivityRegenerator.log
    setenv ITER `echo $ITER+1 | /usr/bin/bc`
    /usr/bin/awk '{if ($1==1) print $3 " R"}' $PROBLEM_FILE.$i | /bin/sort -n -u > $FEEDBACK_COMMANDS.$ITER
end

# Merge the partial activity set indexes with the original activity set index.
echo "Merging partial activity indexes.." >>& $LOG_DIR/ActivityRegenerator.log
$MERGE_INDICES $ACTIVITY_FILE.merged.hh.idx $ACTIVITY_FILE.hh.idx $PARTIAL_FILE.1.hh.idx $PARTIAL_FILE.2.hh.idx $PARTIAL_FILE.3.hh.idx
$PARTIAL_FILE.4.hh.idx $PARTIAL_FILE.5.hh.idx $PARTIAL_FILE.6.hh.idx $PARTIAL_FILE.7.hh.idx $PARTIAL_FILE.8.hh.idx
$PARTIAL_FILE.9.hh.idx $PARTIAL_FILE.10.hh.idx >>&! $LOG_DIR/ActivityRegenerator.log

# Create a merged activity file from the merged indexes
echo "Creating merged activity file.." >>& $LOG_DIR/ActivityRegenerator.log
$INDEXDEFRAG $ACTIVITY_FILE.merged.hh.idx $ACTIVITY_FILE.sfb >>&! $LOG_DIR/ActivityRegenerator.log

# Save the uniterated activity set and move the iterated one into the same filename that will be used by the Router.
/bin/mv $ACTIVITY_FILE $ACTIVITY_FILE.beforesrfb
```

```
/bin/mv $ACTIVITY_FILE.sfb $ACTIVITY_FILE

# Clean up
/bin/rm -f $TMP_CONFIG
/bin/rm -f $PARTIAL_FILE.*
/bin/rm -f $FEEDBACK_COMMANDS.*
/bin/rm -f $PROBLEM_FILE.*

echo "Finished." >>& $LOG_DIR/ActivityRegenerator.log
```

2. LONG WALKS

2.1 FindLongWalks.pl

```
#!/usr/local/bin/perl

# find long walks to school in itdb file

use English;

open IN, "<$ARGV[0]" or die "Couldn't open $ARGV[0] for input ($OS_ERROR)\n";
open OUT, ">$ARGV[1]" or die "Couldn't open $ARGV[1] for output ($OS_ERROR)\n";
open LOG, ">>$ARGV[2]" or die "Couldn't open $ARGV[2] for output ($OS_ERROR)\n";

$count1 = 0;
while (<IN>)
{
    ($hh, $trav, $tour, $subtour, $trip, $sid, $eid, $stype, $smode, $sloc, $etype, $emode, $eloc, $dist) = split /,/;
    if (($emode eq 1 && $dist > 2500) || # walk
        ($emode eq 7 && $dist > 7500)) # bike
    {
        if ($stype eq 7 || $etype eq 7) # school
        {
            print OUT "$hh $eid MS 9\n"; # school bus
            ++$count1;
        }
    }
}

print LOG "$count1 long school trips \n";
```

2.2 FixSchoolWalk

```
#! /bin/csh

setenv SCENARIO  $TRANSIMS_HOME/scenarios/allstr
setenv CONFIG_FILE  $SCENARIO/config_files/allstr_actgen_long_walk.cfg
setenv LOG_FILE  $SCENARIO/log/FixSchoolWalk.log
setenv ACT_DIR  $SCENARIO/activity/wfb
setenv SCRIPT_DIR  $ACT_DIR
setenv ACTIVITY_FILE  $ACT_DIR/AS2.25
setenv FEEDBACK_COMMANDS  $ACT_DIR/fbwalk
setenv PARTIAL_FILE  $ACT_DIR/wpar
setenv PROBLEM_FILE  $ACT_DIR/regen.problems
setenv ITDB_FILE  $ACT_DIR/itwalk
setenv TMP_CONFIG  $ACT_DIR/walk.cfg
setenv MERGE_INDEX  $TRANSIMS_HOME/bin/MergeIndices
setenv INDEXDEFRAG  $TRANSIMS_HOME/bin/IndexDefrag
setenv COLLATOR  $TRANSIMS_HOME/bin/Collator
setenv ACTREGEN  $TRANSIMS_HOME/bin/ActivityRegenerator
setenv PERL  /usr/bin/perl

/bin/cp $CONFIG_FILE $TMP_CONFIG
/bin/chmod u+w $TMP_CONFIG

echo "ACTIVITY_FILE   "  $ACTIVITY_FILE >> $TMP_CONFIG
echo "SEL_ITDB_FILE   "  $ITDB_FILE >> $TMP_CONFIG

# Regenerate the activities that had long walks.
echo "Regenerating activities to remove long walk/bike to school..." > $LOG_FILE

echo "Running Collator" >>&! $LOG_FILE
$COLLATOR $TMP_CONFIG >>&! $LOG_FILE

echo "Finding long walks in iteration database 0" >>&! $LOG_FILE
$PERL $SCRIPT_DIR/FindLongWalks.pl $ITDB_FILE.000.it $FEEDBACK_COMMANDS $LOG_FILE
echo "Running Activity Regenerator" >>&! $LOG_FILE
echo "ACT_FEEDBACK_FILE   " $FEEDBACK_COMMANDS >> $TMP_CONFIG
echo "ACT_PARTIAL_OUTPUT  " $PARTIAL_FILE >> $TMP_CONFIG
echo "ACT_PROBLEM_FILE " $PROBLEM_FILE >> $TMP_CONFIG
echo "ACT_LOG_FILE " $ACT_DIR/regen.log >> $TMP_CONFIG
$ACTREGEN $TMP_CONFIG >>&! $LOG_FILE

# Merge the partial activity set indexes with the original activity set index.
echo "Merging partial activity indexes.. " >>& $LOG_FILE
$MERGE_INDEX $ACTIVITY_FILE.merged.hh.idx $ACTIVITY_FILE.hh.idx $PARTIAL_FILE.hh.idx >>&! $LOG_FILE

# Create a merged activity file from the merged indexes
echo "Creating merged activity file.." >>& $LOG_FILE
```

```
$INDEXDEFRAG $ACTIVITY_FILE.merged.hh.idx $ACTIVITY_FILE.wfb >>&! $LOG_FILE

# Save the uniterated activity set and move the iterated one into the same filename.
/bin/mv $ACTIVITY_FILE $ACTIVITY_FILE.beforewfb
/bin/mv $ACTIVITY_FILE.wfb $ACTIVITY_FILE

# Clean up
/bin/rm -f $TMP_CONFIG
/bin/rm -f $PARTIAL_FILE*
/bin/rm -f $FEEDBACK_COMMANDS*
/bin/rm -f $PROBLEM_FILE

echo "Finished." >>& $LOG_FILE
```

2.3 allstr_actgen_long_walk.cfg

```
TRANSIMS_ROOT                          /home/transims/CaseStudy3/scenarios/allstr

ACTIVITY_FILE                          $TRANSIMS_ROOT/activity/activities

NET_DIRECTORY                          $TRANSIMS_ROOT/network
NET_NODE_TABLE                         Node.tbl
NET_LINK_TABLE                         Link.tbl
NET_POCKET_LANE_TABLE                  Pocket_Lane.tbl
NET_PARKING_TABLE                      Parking.tbl
NET_LANE_CONNECTIVITY_TABLE            Lane_Connectivity.tbl
NET_UNSIGNALIZED_NODE_TABLE            Unsignalized_Node.tbl
NET_SIGNALIZED_NODE_TABLE              Signalized_Node.tbl
NET_PHASING_PLAN_TABLE                 Phasing_Plan.tbl
NET_TIMING_PLAN_TABLE                  Timing_Plan.tbl
NET_SPEED_TABLE                        Speed.tbl
NET_LANE_USE_TABLE                     Lane_Use.tbl
NET_TRANSIT_STOP_TABLE                 Transit_Stop.tbl
NET_SIGNAL_COORDINATOR_TABLE           Signal_Coordinator.tbl
NET_DETECTOR_TABLE                     Detector.tbl
NET_TURN_PROHIBITION_TABLE             Turn_Prohibition.tbl
NET_BARRIER_TABLE                      Barrier.tbl
NET_ACTIVITY_LOCATION_TABLE            Activity_Location.tbl
NET_PROCESS_LINK_TABLE                 Process_Link.tbl

#OUT_DIRECTORY                         /home/Gershwinoutput1/allstr

ACT_HOME_HEADER                        Home
ACT_WORK_HEADER                        Work
ACT_ACCESS_HEADER                      Tran_Dist
ACT_BLOCKGROUP_HEADER                  BLOCKGROUP
ACT_TRACT_HEADER                       TRACT
ACT_FEEDBACK_FILE                      $TRANSIMS_ROOT/activity/activity.feedback
#ACT_MULTI_FAMILY_HEADER               MFR
ACT_PARTIAL_OUTPUT                     $TRANSIMS_ROOT/activity/activities.partial
ACT_POPULATION_FILE                    $TRANSIMS_ROOT/population/pop_converted
ACT_PROBLEM_FILE                       $TRANSIMS_ROOT/activity/act.problems
ACT_RANDOM_SEED                        985456379
ACT_SHARED_RIDE_TIME_RANGE_MIN         1
ACT_SHARED_RIDE_TIME_RANGE_MEDIUM      1
ACT_SHARED_RIDE_TIME_RANGE_MAX         1
ACT_SHARED_RIDE_DISTANCE_RANGE         10
ACT_TRAVEL_TIME_INTERVALS_FILE         $TRANSIMS_ROOT/data/time_intervals
ACT_TRAVEL_TIMES_FILE                  $TRANSIMS_ROOT/activity/travel_time_040601
ACT_TRAVEL_TIME_FUNCTION_MODES         1;2;3;7
ACT_MINIMUM_ADULT_AGE                  16
```

```
ACT_DECISION_TREE_FILE                  $TRANSIMS_ROOT/data/decision_tree
ACT_MODE_WEIGHT_FILE                    $TRANSIMS_ROOT/data/mode_weight
ACT_ZONE_INFO_FILE                      $TRANSIMS_ROOT/data/zonedata
ACT_SURVEY_ACTIVITY_FILE                $TRANSIMS_ROOT/data/survey_activities
ACT_SURVEY_HOUSEHOLD_FILE               $TRANSIMS_ROOT/data/survey_households
ACT_SURVEY_WEIGHTS_FILE                 $TRANSIMS_ROOT/data/survey_weights_25

ACT_INITIAL_HOME_TIME_RANGE             0.75
ACT_OUT_OF_HOME_TIME_RANGE              0.5
ACT_HOME_DURING_DAY_TIME_RANGE          0.75
ACT_WORK_TIME_RANGE                     0.25
ACT_END_OF_DAY_TIME_RANGE               0.75
ACT_MAX_END_TIME                        36.0
ACT_DEFAULT_CAR_SPEED                   15.0
ACT_DEFAULT_TRANSIT_SPEED               10.0
ACT_BICYCLE_MODE                        7
ACT_WALKING_MODE                        1
ACT_MAGIC_MOVE_MODE                     8
ACT_DEFAULT_TRANSIT_MODE                3
ACT_LOCATION_CHOICE_EXPONENT            0.5
ACT_DEFAULT_INTRAZONE_DISTANCE          1500

ACT_AUTOMOBILE_MODE_1                   2
ACT_AUTOMOBILE_MODE_2                   5
ACT_AUTOMOBILE_MODE_3                   6
ACT_ADJUST_TIMES                        0

ACT_PERSON_DEMOG_RELATION_HEADER        RELATE
ACT_PERSON_DEMOG_WORKER_HEADER          WORK
ACT_PERSON_DEMOG_GENDER_HEADER          GENDER
ACT_PERSON_DEMOG_AGE_HEADER             AGE
ACT_REQUIRED_HH_DEMOG_1                 HHSIZE
ACT_REQUIRED_HH_DEMOG_2                 INCOME
ACT_REQUIRED_HH_DEMOG_3                 ALT5
ACT_REQUIRED_HH_DEMOG_4                 A5TO15
ACT_REQUIRED_HH_DEMOG_5                 A26TO45
ACT_REQUIRED_HH_DEMOG_6                 HHAGE
ACT_REQUIRED_HH_DEMOG_7                 WORKERS
ACT_REQUIRED_HH_DEMOG_8                 HDENSTY
ACT_HHDENSITY_HEADER                    HH_Acre

ACT_HOME_ACTIVITY_TYPE                  0
ACT_WORK_ACTIVITY_TYPE                  1
ACT_SCHOOL_ACTIVITY_TYPE                7

# School specifications: age ranges, zone and location attractor values.

# Elementary and mid school
ACT_SCHOOL_LOWER_BOUND_1                5
ACT_SCHOOL_UPPER_BOUND_1                15
```

```
# High school
ACT_SCHOOL_LOWER_BOUND_2                16
ACT_SCHOOL_UPPER_BOUND_2                18

# Elementary and high school
ACT_SCHOOL_LOWER_BOUND_3                5
ACT_SCHOOL_UPPER_BOUND_3                18

# Elementary and mid school
ACT_SCHOOL_ZONE_ATTRACTOR_VALUE_1       1

# High school
ACT_SCHOOL_ZONE_ATTRACTOR_VALUE_2       2

# Both elementary/mid and high school
ACT_SCHOOL_ZONE_ATTRACTOR_VALUE_3       3

# Elementary and mid school
ACT_SCHOOL_LOCATION_ATTRACTOR_VALUE_1   1

# High school
ACT_SCHOOL_LOCATION_ATTRACTOR_VALUE_2   2

# Both elementary/mid and high school
ACT_SCHOOL_LOCATION_ATTRACTOR_VALUE_3   3

# Anchor Activity types

# Home
ACT_ANCHOR_ACTIVITY_TYPE_1              0

# Work
ACT_ANCHOR_ACTIVITY_TYPE_2              1

# School
ACT_ANCHOR_ACTIVITY_TYPE_3              7

# College
ACT_ANCHOR_ACTIVITY_TYPE_4              8

ACT_ACTIVITY_TYPE_1                     0
ACT_ZONE_HEADER_1                       Home
ACT_LOCATION_HEADER_1                   Home
ACT_PRIORITY_1                          2
ACT_TIME_PRIORITY_1                     3

ACT_ACTIVITY_TYPE_2                     1
ACT_ZONE_HEADER_2                       Work
ACT_LOCATION_HEADER_2                   Work
ACT_PRIORITY_2                          2
ACT_TIME_PRIORITY_2                     3
```

```
ACT_ACTIVITY_TYPE_3                     2
ACT_ZONE_HEADER_3                       Shop
ACT_LOCATION_HEADER_3                   Shop
ACT_PRIORITY_3                          7
ACT_TIME_PRIORITY_3                     0

ACT_ACTIVITY_TYPE_4                     3
ACT_ZONE_HEADER_4                       Visit
ACT_LOCATION_HEADER_4                   Visit
ACT_PRIORITY_4                          4
ACT_TIME_PRIORITY_4                     3

ACT_ACTIVITY_TYPE_5                     4
ACT_ZONE_HEADER_5                       Social
ACT_LOCATION_HEADER_5                   Social
ACT_PRIORITY_5                          4
ACT_TIME_PRIORITY_5                     5

ACT_ACTIVITY_TYPE_6                     5
ACT_ZONE_HEADER_6                       Other
ACT_LOCATION_HEADER_6                   Other
ACT_PRIORITY_6                          8
ACT_TIME_PRIORITY_6                     0

ACT_ACTIVITY_TYPE_7                     6
ACT_ZONE_HEADER_7                       Serve
ACT_LOCATION_HEADER_7                   Serve
ACT_PRIORITY_7                          4
ACT_TIME_PRIORITY_7                     1

ACT_ACTIVITY_TYPE_8                     7
ACT_ZONE_HEADER_8                       School
ACT_LOCATION_HEADER_8                   School
ACT_PRIORITY_8                          3
ACT_TIME_PRIORITY_8                     3

ACT_ACTIVITY_TYPE_9                     8
ACT_ZONE_HEADER_9                       College
ACT_LOCATION_HEADER_9                   College
ACT_PRIORITY_9                          3
ACT_TIME_PRIORITY_9                     3

ACT_TAZ_HEADER TAZ

# Selector Keys
SEL_MESSAGE_LEVEL                       0
SEL_NO_ITDB_INDEX                       1
SEL_ITDB_FILE                           $TRANSIMS_ROOT/activity/wfb/itwalk
SEL_USE_START_ACT_TYPE                  1
SEL_USE_START_MODE_PREF                 1
```

```
SEL_USE_END_ACT_TYPE                1
SEL_USE_END_MODE_PREF               1
SEL_USE_EUCLID                      1
SEL_USE_START_ACT_LOCATION          1
SEL_USE_END_ACT_LOCATION            1

ACT_FEEDBACK_FILE                   $TRANSIMS_ROOT/activity/wfb/fbwalk
ACT_PARTIAL_OUTPUT                  $TRANSIMS_ROOT/activity/wfb/wpar
ACT_PROBLEM_FILE                    $TRANSIMS_ROOT/activity/wfb/wprob
ROUTER_HOUSEHOLD_FILE               $TRANSIMS_ROOT/activity/wfb/hh
SEL_ITDB_FILE                       $TRANSIMS_ROOT/activity/wfb/itwalk
SEL_HOUSEHOLD_FILE                  $TRANSIMS_ROOT/activity/wfb/hh
ACTIVITY_FILE                       /home/transims/CaseStudy3/scenarios/allstr/activity/wfb/AS2.25
```