PopSyn Quick Reference

Version 4.0.7

Revision History
1/8/2010 Edited by AECOM Consult, Inc.
4/15/2010 Edited by RSG, Inc.

Syntax:

PopSyn [-flag] [control_file]

Purpose:

1. Use PUMS and zone-based marginal distributions to synthesize households by type,
2. Distribute synthetic households to activity locations within each zone,
3. Apply vehicle type distributions to synthesize vehicles for each household,
4. Create household, population, and vehicle files for input to the activity generator.

Required Keys

PUMS_HOUSEHOLD_FILE	[project_directory]*filename*
PUMS_POPULATION_FILE	[project_directory]*filename*
ZONE_DATA_FILE	[project_directory]*filename*
NET_ACTIVITY_LOCATION_TABLE	[net_directory]*filename*
NET_PROCESS_LINK_TABLE	[net_directory]*filename*
NEW_HOUSEHOLD_FILE	[project_directory]*filename*
NEW_POPULATION_FILE	[project_directory]*filename*
NEW_VEHICLE_FILE	[project_directory]*filename*
STATE_PUMA_LIST	{(1)}
LOCATION_ZONE_FIELD	*fieldname* (2)
PUMS_ATTRIBUTE_FIELD_#_#	*fieldname* (3) (4)
PUMS_ATTRIBUTE_BREAKS_#_#	{(4)} (5)
ZONE_FIELD_GROUP_#_#	*fieldname* (4) (6)

Optional Keys

TITLE	Text
REPORT_FILE	*Filename*
REPORT_FLAG	FALSE {true/false/yes/no/1/0}
MAX_WARNING_MESSAGES	100,000
MAX_WARNING_EXIT_FLAG	TRUE {true/false/yes/no/1/0}
PROJECT_DIRECTORY	*Pathname*
DEFAULT_FILE_FORMAT	VERSION3 {(7)}
TRAVELER_SCALING_FACTOR	100 {2..100}

VEHICLE_TYPE_DISTRIBUTION	[project_directory]*filename*
HOUSEHOLD_FILE (12)	[project_directory]*filename*
POPULATION_FILE (12)	[project_directory]*filename*
VEHICLE_FILE (12)	[project_directory]*filename*
NEW_PROBLEM_FILE	[project_directory]*filename*
RANDOM_NUMBER_SEED	Computer clock time {>=0}
MAXIMUM_IPF_ITERATIONS	10000 {100..100000}
MINIMUM_IPF_DIFFERENCE	0.0000001 {>0..0.001}
PUMS_WEIGHT_FIELD	*fieldname* (3)
PUMS_VEHICLE_FIELD	*fieldname* (3)
PUMS_AGE_FIELD	*fieldname* (3)
ZONE_DATA_ID_FIELD	*fieldname* (8)
LOCATION_WEIGHT_FIELD_#	*fieldname* (2) (9)
ZONE_TOTAL_FIELD_#	*fieldname* (8) (9)
STARTING_HOUSEHOLD_ID	1 {>0}
STARTING_VEHICLE_ID	1 {>0}
OUTPUT_HOUSEHOLD_FIELDS	All {10} (3)
OUTPUT_POPULATION_FIELDS	All {10} (11)
LOCATION_WARNING_FLAG	FALSE {true/false/yes/no/1/0}
PUMS_HOUSEHOLD_FORMAT	[default_file_format] {(7)}
PUMS_POPULATION_FORMAT	[default_file_format] {(7)}
ZONE_GROUP_FORMAT	[default_file_format] {(7)}
NEW_PROBLEM_FORMAT	[default_file_format] {(7)}
NET_DIRECTORY	*Pathname*
NET_ACTIVITY_LOCATION_FORMAT	[net_default_format] {(7)}
NET_PROCESS_LINK_FORMAT	[net_default_format] {(7)}
DEMAND_FILE_FORMAT	[default_file_format] {(7)}
NEW_HOUSEHOLD_FORMAT	[demand_file_format] {(7)}
NEW_POPULATION_FORMAT	[demand_file_format] {(7)}
NEW_VEHICLE_FORMAT	[demand_file_format] {(7)}
NEW_PROBLEM_FORMAT	[default_file_format] {(7)}

Reports

POPSYN_REPORT_#	PUMA_CROSS_CLASSIFICATION
	PUMS_HOUSEHOLD_SUMMARY
	PUMS_POPULATION_SUMMARY

Notes

1	A list of State-PUMA codes defined as the two character state abbreviation plus the puma number (e.g., OR300, WA1001, etc.). If States are coded using FIPS codes, these values should be used

	instead of the state abbreviations. For example, the PUMA for Alexandria, Virginia using FIPS codes is 51200.
2	A field name in the activity location file
3	An attribute field name in the PUMS household file
4	*_#_# → the first # indicates the model number, the second # the attribute group within the model
5	Value breaks define the separating values between attribute types (e.g., AGE → 5, 16, 21, 65)
6	The base text for field names in the zone data file. The actual field names include the type code. For example, a base text of "AGE" with the Age distribution in (5) would generate field names = AGE1, AGE2, AGE3, AGE4, and AGE5.
7	{VERSION3, BINARY, FIXED_COLUMN, COMMA_DELIMITED, SPACE_DELIMITED, TAB_DELIMITED, CSV_DELIMITED, DBASE, LANL, SQLITE3}
8	The field name in the zone data file that links to the activity location file zone field
9	*_# → indicates the household model number
10	A list of field names to copy to the output file (e.g., HHSIZE, AUTOS, AGE, …)
11	An attribute field name in the PUMS population file
12	If existing household, population, and vehicle files are entered, their records are copied to the output household, population, and vehicle files prior to adding new synthetic households.