LocationData Quick Reference

Version 4.0.9

Syntax:

LocationData [-flag] [control_file]

Purpose:
1. Create or update fields in the activity location file.
2. Assign activity locations to a zone number based on the point-in-polygon equivalence to an ArcView zone boundary file.
3. Create transit accessibility weights based on the number of transit runs within a specified distance of each activity location.
4. Create trip distribution flags based on the use codes of the link attached to the activity location.
5. Create trip distribution weights based on the location of subzone centroids and a subzone data field.
6. Copy data fields from a zone file based on a zone number in the activity location file.
7. Apply custom data processing scripts to manipulate and calculate fields in the activity location file based on inputs from several related files.
8. Access fields in an ArcView polygon boundary file based on a point-in-polygon match to the activity location coordinates.

Required Keys

NET_ACTIVITY_LOCATION_TABLE	[net_directory]*filename*
NEW_ACTIVITY_LOCATION_TABLE	[new_directory]*filename*

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 {(2)}
COPY_EXISTING_FIELDS (1)	FALSE {true/false/yes/no/1/0}
NEW_WALK_ACCESS_FIELD (4)	*field_name* (3)
MAX_WALK_DISTANCE	1000 meters {10..3000.0}
WALK_ACESS_TIME_RANGE (16)	0..24:00 {(17)}
TIME_OF_DAY_FORMAT	24_HOUR_CLOCK {(18)}
NEW_USE_FLAG_FIELD (5)	*field_name* (3)
LINK_USE_FLAG_TYPES	ANY (6)
NEW_USE_FLAG_FIELD_# (5)	*field_name* (3)

LINK_USE_FLAG_TYPES_#	ANY (6)
NEW_SUBZONE_FIELD (7)	*field_name* (3)
MAX_SUBZONE_DISTANCE	1000 meters (10..10000.0}
SUBZONE_DATA_FILE	[project_directory]*filename*
SUBZONE_DATA_FORMAT	VERSION3 {(2)}
SUBZONE_DATA_FIELD	*field_name* (3)
NEW_SUBZONE_FIELD_# (7)	*field_name* (3)
MAX_SUBZONE_DISTANCE_#	1000 meters (10..10000.0}
SUBZONE_DATA_FILE_#	[project_directory]*filename*
SUBZONE_DATA_FORMAT_#	VERSION3 {(2)}
SUBZONE_DATA_FIELD_#	*field_name* (3)
NEW_LOCATION_FIELD (8)	*field_name,* [[INTEGER], [10]]
NEW_LOCATION_FIELD_# (8)	*field_name,* [[INTEGER], [10]]
CONVERSION_SCRIPT (9)	[project_directory]*filename.shp*
DATA_FILE (10)	[project_directory]*filename*
DATA_FORMAT	VERSION3 {(2)}
DATA_JOIN_FIELD	*field_name* (3)
LOCATION_JOIN_FIELD	*field_name* (3)
DATA_FILE_# (10)	[project_directory]*filename*
DATA_FORMAT_#	VERSION3 {(2)}
DATA_JOIN_FIELD_#	*field_name* (3)
LOCATION_JOIN_FIELD_#	*field_name* (3)
ZONE_BOUNDARY_POLYGON (11)	[project_directory]*filename.shp*
ZONE_FIELD_NAME	*field_name* (3)
ZONE_UPDATE_RANGE	ALL (12)
BOUNDARY_POLYGON (13)	[project_directory]*filename.shp*
BOUNDARY_POLYGON_# (13)	[project_directory]*filename.shp*
INPUT_COORDINATE_SYSTEM	System, Code, Units (14)
INPUT_ADJUSTMENT_FACTORS	X offset, Y offset, X factor, Y factor (15)
OUTPUT_COORDINATE_SYSTEM	System, Code, Units (14)
OUTPUT_ADJUSTMENT_FACTORS	X offset, Y offset, X factor, Y factor (15)
NET_DIRECTORY	*Pathname*
NET_NODE_TABLE	[net_directory]*filename*
NET_LINK_TABLE	[net_directory]*filename*
NET_PROCESS_LINK_TABLE	[net_directory]/filename
NET_TRANSIT_STOP_TABLE	[net_directory]*filename*
NET_TRANSIT_ROUTE_TABLE	[net_directory]*filename*
NET_TRANSIT_SCHEDULE_TABLE	[net_directory]*filename*
NEW_DIRECTORY	*Pathname*
NET_DEFAULT_FORMAT	[default_file_format] {(2)}

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NET_NODE_FORMAT	[net_default_format] {(2)}
NET_LINK_FORMAT	[net_default_format] {(2)}
NET_ACTIVITY_LOCATION_FORMAT	[net_default_format] {(2)}
NET_PROCESS_LINK_FORMAT	[net_default_format] {(2)}
NET_TRANSIT_STOP_FORMAT	[net_default_format] {(2)}
NET_TRANSIT_ROUTE_FORMAT	[net_default_format] {(2)}
NET_TRANSIT_SCHEDULE_FORMAT	[net_default_format] {(2)}
NEW_DEFAULT_FORMAT	[default_file_format] {(2)}
NEW_ACTIVITY_LOCATION_FORMAT	[new_default_format] {(2)}

Reports

LOCATIONDATA_REPORT_#	CONVERSION_SCRIPT
	CONVERSION_STACK
	CHECK_ZONE_COVERAGE

Notes

1	If existing fields are not copied, only the basic activity location fields are included (LOCATION, NODE, LINK, OFFSET, X_COORD, Y_COORD, and ZONE)
2	{VERSION3, BINARY, FIXED_COLUMN, COMMA_DELIMITED, SPACE_DELIMITED, TAB_DELIMITED, CSV_DELIMITED, DBASE, LANL, SQLITE3}
3	Field names can be any unique combination of numbers, letters, and underscores. Note that ArcView or dBase field names are limited to 10 characters.
4	The new walk access field and maximum walk distance keys are used to calculate the relative accessibility of a given activity location to near-by transit stops. This calculation requires the link, node, process link, and transit network files. The number of runs at each stop and the distance between the stop and the activity location determine the accessibility weight.
5	The new use flag field and link use types keys are used to set the field value to 0 or 1 depending on how the link related to the activity location can be used. If the link use code permits any of the options included in the use types key, the field value is set to 1. One or more fields can be set using the _# key variations. This key is typically used to identify auto or truck access restrictions.
6	Any combination of use codes separated by a slash (/) {ANY, WALK, BICYCLE, AUTO, TRUCK, BUS, RAIL, SOV, HOV2, HOV3, HOV4, LIGHTTRUCK, HEAVYTRUCK, RESTRICTED, CAR, BIKE, TAXI, TROLLEY, STREETCAR, LIGHTRAIL, RAPIDRAIL, REGIONRAIL}
7	Each subzone key group consists of up to five keys. The new subzone field will include an activity location weight based on the proximity of the activity location to the subzone centroid found in the subzone file and the value of the subzone field. The average of the weights to the two best subzone centroids is saved to the new activity location field. This option is typically used to assign trip distribution weights to activity locations based on subzone population or employment data.
8	This key defines new fields to add to the activity location file. The values assigned to these fields are initialized to zero or blank and are typically set using a conversion script. The key can include up to three comma separated values. The first is the field name. This is followed by the field type and the field size. The type options include integer (default, I, INTEGER), floating point (R, REAL, D, DOUBLE), or string (S, STRING, C, CHARACTER). The default size is 10. Floating point fields can be defined with decimal points (e.g., 10.2). Two decimal points are assumed by default.

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9	The conversion script key is a file name that includes a TRANSIMS User Program script. Any field in the input activity location file can be referenced using the file label IN (e.g., IN.*field*). Any field in the output activity location file (including all newly created fields) can be referenced using the field label OUT (e.g., OUT.*field*). All fields in each Data File are referenced using DATA and the key group number. For example, a field in DATA_FILE_2 is accessed as DATA2.*field*. An additional field called "AL_COUNT" is added to each data file and is set to the number of activity locations with the same join field.
10	Each data file group consists of up to four keys. The two join fields must exist in their respective files. The appropriate data record from each data file is passed to the conversion script for each activity location. The program counts the number of activity locations with the same join field value and saves this value to the AL_COUNT field added to each data file. This field can be used to proportionally distribute data items to activity locations based on the number of activity locations associated with the data record. For example, population and employment data from traffic analysis zones can be distributed equally to each activity location within the zone by dividing the data by the value in the AL_COUNT field.
11	If a zone boundary polygon key is provided, an ArcView shapefile with one boundary polygon for each zone is read. The zone field name key is the field name in the shapefile that defines the value posted in the ZONE field of the activity location file. The zone update range defines the range of zone values in the activity location file that will be eligible for update if they fall within a zone polygon. A warning message is generated for each zone in range that does not fall within a zone boundary. These activity location zone numbers are not changed.
12	The range of zone numbers are defined as a comma separated list (e.g., 1000..1200, 3000..3100)
13	If one or more boundary polygon keys are provided, ArcView shapefiles with one boundary polygon for each data record are read. The coordinates of the activity locations are used in a point-in-polygon search to identify the best boundary record for each location. The data fields from the corresponding polygon are passed to the user program script for processing. The fields are reference in the script using the file name Polygon or Polygon#.
14	System options include: UTM, STATEPLAN, and LATLONG Code is the FIPS code number for the system (e.g., Oregon North = 3601) Unit options include: FEET, METERS, MILES, KILOMETERS, DEGREES, and MILLION_DEGREES.
15	X and Y offsets are added to the coordinate values X and Y factors are multiply the coordinate values
16	The time ranges can be used to created multiple transit weights for different times of day.
17	Time Range (e.g., 0:00..6:00, 18:00..23:00)
18	{HOURS, SECONDS, 24_HOUR_CLOCK, 12_HOUR_CLOCK}

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