LinkSum - Quick Reference

Version 5.0.7

Usage

LinkSum [-flag] [control_file]

```
Optional Flags:
  -Q[uiet]    = execute without screen messages
  -H[elp]     = show program syntax and control keys
  -C[ontrol]  = create/update a default control file
  -K[eyCheck] = list unrecognized control file keys
  -P[ause]    = pause before exiting
  -N[oPause]  = never pause before exiting
  -D[etail]   = execute with detailed status messages
  -X[ML]      = write an XML file with control keys
```

Purpose

1. Generate link data files of volumes, speeds, travel times, V/C ratios, travel time ratios, delay, average density, maximum density, average queue, maximum queue, and cycle failures summarized by time of day.

2. Summarize data within a subarea polygon or for specified facility types.

3. Summarize link data by zone or zone group found in the activity location file.

4. Summarize activity location data fields by link direction.

5. Report the links with the top 100 link volumes, lane volumes, period volumes, speed reductions, V/C ratios, travel time ratios, volume changes, or travel time changes.

6. Report the link groups with total volumes greater than user specified values.

7. Report the distribution of travel time, V/C ratio, travel time change, and volume change by lane kilometer and time period.

8. Select links to output using a link equivalence file.

9. Calculate congestion duration-based measures by aggregating time periods with time ratios greater than a specified value.

10. Report various network performance statistics.

Configuration Keys

REQ? KEY	TYPE	DEFAULT	VALUE RANGES
TITLE	Text		
REPORT_FILE	File		filename[_partition][.prn]
REPORT_FLAG	Bool	FALSE	TRUE/FALSE, YES/NO, 1/0, T/F, Y/N
PROJECT_DIRECTORY	Path		
MODEL_START_TIME	Time	0:00	>= 0 [seconds], 0.0 [hours], 0:00

Configuration Keys

REQ?	KEY	TYPE	DEFAULT	VALUE RANGES
	MODEL_END_TIME	Time	24:00	> [model_start_time]
	UNITS_OF_MEASURE	Text	METRIC	METRIC, ENGLISH
	RANDOM_NUMBER_SEED	Int.	0	0 = computer clock, > 0 = fixed
	MAX_WARNING_MESSAGES	Int.	100000	>= 0
	MAX_WARNING_EXIT_FLAG	Bool	TRUE	TRUE/FALSE, YES/NO, 1/0, T/F, Y/N
	MAX_PROBLEM_COUNT	Int.	0	>= 0
	NUMBER_OF_THREADS	Int.	1	1..24
	LINKSUM_REPORT_*	Text		program report name

System File Keys

REQ?	KEY	TYPE	DEFAULT	VALUE RANGES
☑	NODE_FILE	File		[project_directory]filename
☑	LINK_FILE	File		[project_directory]filename
☑	PERFORMANCE_FILE	File		[project_directory]filename
	LANE_USE_FILE	File		[project_directory]filename
	CONNECTION_FILE	File		[project_directory]filename
	LOCATION_FILE	File		[project_directory]filename

File Service Keys

REQ?	KEY	TYPE	DEFAULT	VALUE RANGES
	ZONE_EQUIVALENCE_FILE	File		[project_directory]filename
	LINK_EQUIVALENCE_FILE	File		[project_directory]filename

Data Service Keys

REQ?	KEY	TYPE	DEFAULT	VALUE RANGES
	DAILY_WRAP_FLAG	Bool	FALSE	TRUE/FALSE, YES/NO, 1/0, T/F, Y/N
	SUMMARY_TIME_RANGES	Text	ALL	e.g., ALL, 0..97200 seconds, 0.0..27.0 hours, 0:00..27:00

Data Service Keys

REQ? KEY	TYPE	DEFAULT	VALUE RANGES
SUMMARY_TIME_INCREMENT	Time	15 minutes	0, 2..240 minutes

Select Service Keys

REQ? KEY	TYPE	DEFAULT	VALUE RANGES
SELECT_FACILITY_TYPES	List	ALL	FREEWAY..EXTERNAL
SELECT_SUBAREA_POLYGON	File		[project_directory]filename

Control Keys

REQ? KEY	TYPE	DEFAULT	VALUE RANGES
COMPARE_PERFORMANCE_FILE	File		[project_directory]filename
MINIMUM_LINK_FLOW	Dec.	2.0	>= 0
SELECT_BY_LINK_GROUP	Bool	FALSE	TRUE/FALSE, YES/NO, 1/0, T/F, Y/N
NEW_LINK_ACTIVITY_FILE	File		[project_directory]filename
COPY_LOCATION_FIELDS	Text		
NEW_ZONE_TRAVEL_FILE	File		[project_directory]filename
NEW_GROUP_TRAVEL_FILE	File		[project_directory]filename
NEW_LINK_DIRECTION_FILE_*	File		[project_directory]filename
NEW_LINK_DIRECTION_FIELD_*	Text		FLOW, TRAVEL_TIME, VC_RATIO, TIME_RATIO, SPEED, DELAY, DENSITY, MAX_DENSITY, QUEUE, MAX_QUEUE, CYCLE_FAILURE, VMT, V
NEW_LINK_DIRECTION_INDEX_*	Bool		TRUE/FALSE, YES/NO, 1/0, T/F, Y/N
NEW_LINK_DATA_FILE_*	File		[project_directory]filename
NEW_LINK_DATA_FIELD_*	Text		FLOW, TRAVEL_TIME, VC_RATIO, TIME_RATIO, SPEED, DELAY, DENSITY, MAX_DENSITY, QUEUE, MAX_QUEUE, CYCLE_FAILURE, VMT, V
NEW_PERFORMANCE_DATA_FILE	File		[project_directory]filename
NEW_TURN_VOLUME_FILE	File		[project_directory]filename
TURN_NODE_RANGE	List	ALL	e.g., 1, 2, 4..10, 100..200, 300

Notes

Each '_FILE' key has a corresponding '_FORMAT' key. The following file formats can be used for input and ouput files.
TEXT, BINARY, FIXED_COLUMN, COMMA_DELIMITED, SPACE_DELIMITED, TAB_DELIMITED, CSV_DELIMITED, DBASE, SQLITE3, VERSION3