MSAG/NG911 Comparison

By Kristen Jordan Koenig
September 14, 2016

Purpose: This tool compares a PSAP's (Public Safety Answering Point) Master Street Address Guide (MSAG) with their NG911 Road Centerline address ranges.

Tool requirements:

- MSAG as a spreadsheet with header columns including Dir, Street, Community, and ESN.
- NG911 Geodatabase with Road Centerline file in approved template format

What the tool flags:

- Segments in the MSAG that are not in the NG911 Road Centerline
- Segments in the NG911 Road Centerline that are not in the MSAG
- Any values or ranges in either the MSAG or NG911 Road Centerline that are not in the other file

Where is my data:

The tool creates a folder called MSAG_analysis_YYYYMMDD in the same folder where your NG911 geodatabase lives. Inside this folder is a geodatabase called MSAG_analysis_YYYYMMDD.gdb. All working layers and tables are saved in this geodatabase including a table version of your MSAG and a copy of your NG911 road centerline. These two copies will contain the analysis results after the tool runs.

How to see the results:

After the tool runs, you can see the results several ways.

All results are recorded in a table called MSAG_reporting. This table's COMPARISON field can be tied back to fields in other tables called COMPARE, COMPARE_R and COMPARE_L.

All results are tied back to their original MSAG or Road Centerline record. To view MSAG results, open the table called MSAG_YYYYMMDD and look at the REPORT field. To view Road Centerline results, open the feature class called RoadCenterline inside the MSAG geodatabase and look at the REPORT_R and REPORT_L fields. The REPORT_R field addresses any issues with the right side of the road and REPORT_L addresses any issues with the left side of the road.

Note on results: Range comparisons occur on entire road segments, and that's how they are reported. As an example (all data made up), consider segment 1200AVE|HOPE|1112. In the MSAG, this segment has a low of 100 and a high of 249. In the road centerline file, there are two segments, one with a low of 100 and a high of 149, and another with a low of 200 and a high of 299. In this circumstance, the MSAG

segment will report that it does not have the range 250-299. In the road centerline, both segments will report that they are missing the range 150-199.

Table View of Example

Table	Comparison	Low	High	Report
MSAG_YYYYMMDD	1200AVE|HOPE|1112	100	249	Not in MSAG- Range: 250-299
RoadCenterline	1200AVE|HOPE|1112	100	149	Not in NG911 road- Range 150-199
RoadCenterline	1200AVE|HOPE|1112	200	299	Not in NG911 road- Range 150-199

Interpreting the results:

The term segment refers to the concatenation of the full street name, community and ESN such as 1200AVE\|HOPE\|1112. All ranges for a given segment for both MSAG and road centerlines are compared with each other.

Message	Meaning
Exact MSAG match	All ranges between the MSAG and road centerline match for that segment
Does not have an MSAG match	This segment does not appear in the MSAG file
Does not have a road centerline match	This segment does not appear in the road centerline
Issue with corresponding road centerline range	This MSAG segment represents a larger range than the one in the road centerline. The corresponding road centerline segment(s) will have details regarding missing ranges.
Issue with corresponding MSAG range	This road centerline segment represents a larger range than the one in the MSAG file. The corresponding MSAG segment will have details regarding missing ranges.
Not in NG911 road- Rng XX/ Val XX	This road centerline segment's range does not match perfectly with the MSAG segment's range. The ranges identified are the ranges missing in the road centerline.
Not in MSAG- Rng XX/ Val XX	This MSAG segment's range does not match perfectly with the road centerline segment's range. The ranges identified are the ranges missing in the MSAG.

Editing the data:

All data in this analysis is a copy, and any edits to this data will have no effect on your real data. Any edits should be done in the master copies of the data. The copy of the road centerline data with the results will have consistent SEGIDs with the master version of the road centerline data. The MSAG does not have IDs, so you must manually determine which records need editing.

How it works:

The criteria for comparison are a concatenation of the road pre-direction, name, street type, MSAG community and the ESN number. The comparison string looks similar to this: 1200AVE|HOPE|1112. After the concatenation occurs for both the MSAG and Road Centerline segments, the tool compares if names exist in both places and identifies if one or the other file is missing a segment.

After the general comparison, the tool compares the address ranges between similar MSAG and NG911 road centerline segments. For a complete comparison, all of a road segment's ranges will be taken into consideration for a given comparison. The tool takes into account the possibility that NG911 road centerline segments can have differences between the right and left sides.

Support Contact:

For issues or questions, please contact Kristen Jordan Koenig with the Kansas Data Access and Support Center. Email Kristen at Kristen@kgs.ku.edu and please include in the email which script you were running, any error messages, and a zipped copy of your geodatabase (change the file extension from zip to piz so it gets through the email server).

Disclaimer: The Kansas NG9-1-1 GIS Toolbox is provided by the Kansas 911 Coordinating Council, Kansas GIS Policy Board's Data Access & Support Center (DASC), and associated contributors "as is" and any express or implied warranties, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose are disclaimed. In no event shall the Kansas 911 Coordinating Council, DASC, or associated contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.