QGIS Application - Bug report #17325
QGIS 2.99 with Network Analysis Error

2017-10-25 03:30 AM - Joshua Geoghegan

Status:	Closed			
Priority:	Normal			
Assignee:				
Category:	Network			
Affected QGIS version:	master	**Regression?:**	No	
Operating System:	Windows 10 Enterprize	**Easy fix?:**	No	
Pull Request or Patch supplied:	No	**Resolution:**		
Crashes QGIS or corrupts data:	No	**Copied to github as #:**	25223	

Description

Hi there,

I am testing the Processing Toolbox>Network Analysis>Shortest Path tools to find the shortest paths from a point feature, along a road network to a final point.
During my testing I receive an error, which occurs with the other tools.
The data I am using is shapefiles.

Attached are errors I receive using each tool.

Associated revisions

Revision 5ffd7214 - 2017-10-31 07:00 AM - Nyall Dawson

[processing] Shortest path handling for multipoint layers

Fixes shortest path algorithms fail for multipoint source layers
or layers with null geometries

Refs #17325

Revision 199b5692 - 2017-10-31 07:01 AM - Nyall Dawson

Fix broken network analysis network tolerance option

The tolerance option was not correctly calculated, resulting in
semi-random behavior for networks which relied on a non-zero
tolerance.

Also possible speed boost for complex networks by using
proper spatial index instead of custom sorting/filtering code.

Refs #17325

Revision 8d32bf72 - 2017-10-31 07:01 AM - Nyall Dawson

Fix QgsGraphAnalyzer::dijkstra traverses through edges backwards

This means that it flips the direction of the graph edge, breaking
route restrictions.

Refs #17325

Revision 8f22f5eb - 2017-10-31 07:01 AM - Nyall Dawson

[processing] Misc fixes for network analysis tools

Also maintain attributes in service area from layer alg, add test

Fixes #17325

History

#1 - 2017-10-25 10:28 AM - Nyall Dawson

- *Subject changed from QGIS 2.99 with Grass 7.22 Network Analysis Error to QGIS 2.99 with Network Analysis Error*

- *Status changed from Open to Feedback*

- *Affected QGIS version changed from 2.8.9 to master*

Can you please attach your data files?

#2 - 2017-10-25 11:51 PM - Joshua Geoghegan

- *File Roads.zip added*

Hi Nyall,

Shapefiles attached.
I renamed them for you to make sense of them.
I used the layer to point option, but none of the tools worked.

Thanks

Josh

#3 - 2017-10-30 06:22 AM - Nyall Dawson

PR at https://github.com/qgis/QGIS/pull/5488

#4 - 2017-10-31 07:27 AM - Nyall Dawson

- *Status changed from Feedback to Closed*

- *% Done changed from 0 to 100*

Applied in changeset commit:qgis|8f22f5eb3b7ad277b6ef2061ef91d1085c133d4a.

#5 - 2017-10-31 07:30 AM - Nyall Dawson

Should be fixed in the next nightly release. Some things to note:

1. Your road network has small gaps, so you'll need to set a tolerance (under advanced) of something like 0.1

2. You'll get much better results if you pre-process your road network a bit. I'd suggest:
  - simplifying
   - run the 'snap geometries to layer' algorithm over it, and snap it back to itself (will move nearby vertices so that they exactly coincide)
   - run the 'split with lines' algorithm over it, using the snapped layer as both the source and split layer (will create additional nodes where lines overlap, which the network analysis tools require)
   - run 'multiparts to singleparts' on the result.

#6 - 2017-11-15 05:22 AM - Joshua Geoghegan
- File shortest_routes.jpg added

Hi Nyall,

We have been using this and following your instructions.
Sometimes the path takes an indirect route even when the linework is quite simple, which you can see from the attached image.
The blue dots are the start point, well the nearest road. You can also see a couple of points aren't being included.
We have played with the topology tolerance but it doesn't seem to help.

Would you have any advice on this?

Thanks again.

Josh

Files

shortest path point to point log.txt	994 Bytes	2017-10-25	Joshua Geoghegan
shortest path point to layer log.txt	1.09 KB	2017-10-25	Joshua Geoghegan
shortest path layer to point log.txt	1.09 KB	2017-10-25	Joshua Geoghegan
service area from point log.txt	922 Bytes	2017-10-25	Joshua Geoghegan
service area from layer log.txt	1.03 KB	2017-10-25	Joshua Geoghegan
Roads.zip	702 KB	2017-10-25	Joshua Geoghegan
shortest_routes.jpg	118 KB	2017-11-15	Joshua Geoghegan