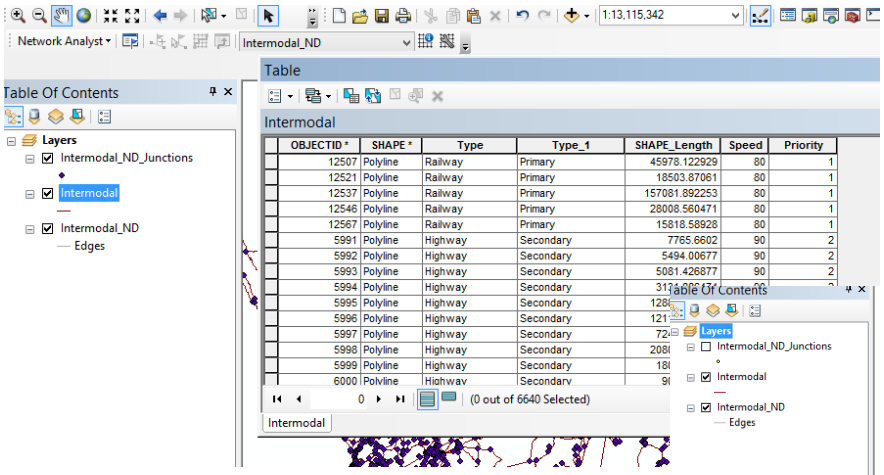
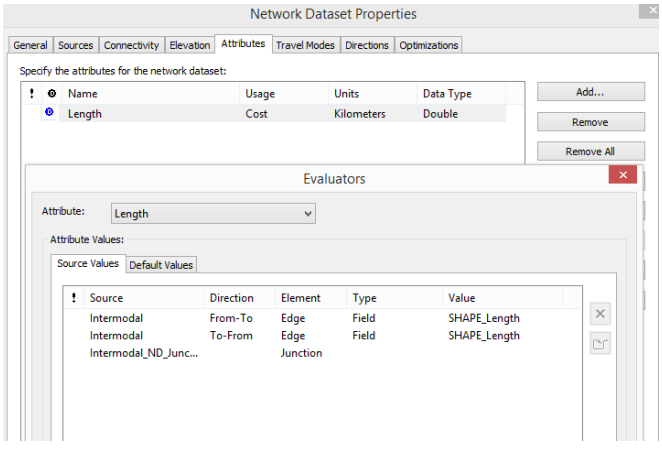
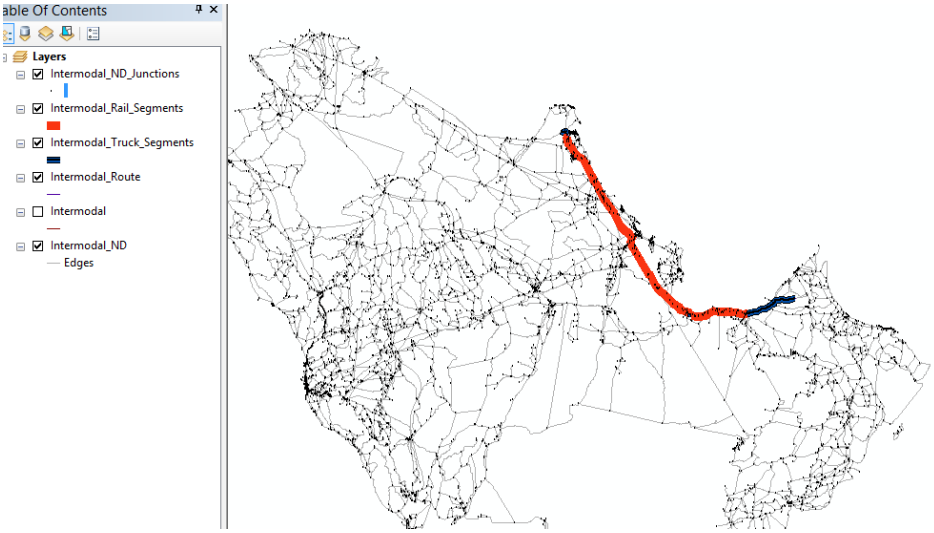
I have an Intermodal layer with the following attributes (See table below and diagram below). The blue highlighted selected segments are the rail segments and the rest are highway elements. The railways have a priority I assigned as 1 and the highways as 2

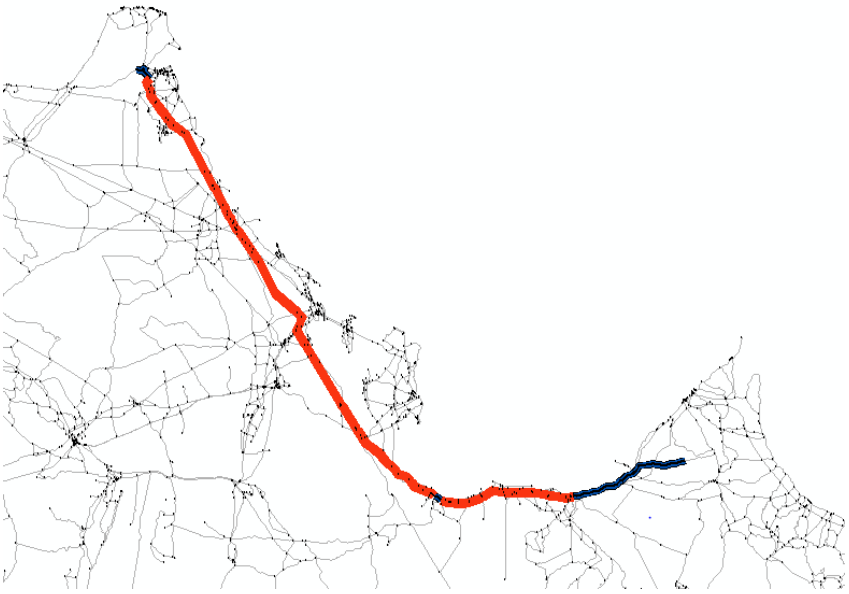


I am creating a route from one location to another for transportation of freight using the intermodal system. I want it to use a railway whenever possible and highway whenever a railway is not an option while minimizing the travel distance. Ideally, Rail-Highway-Rail transportation is what I want to see.

When I run the analysis without hierarchy as a parameter in the evaluator while leaving length as default value (shape_length), this is the output I get for a sample route (Point a to point b) **Highway-Rail-Highway-Rail-Highway. (This is not good as I will need to load and unload shipments too many times)**

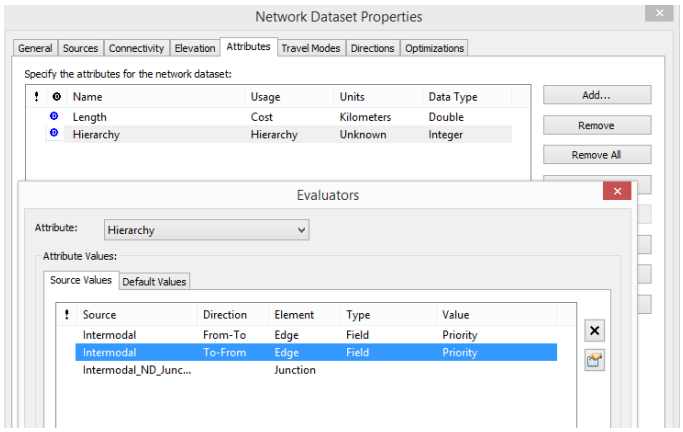


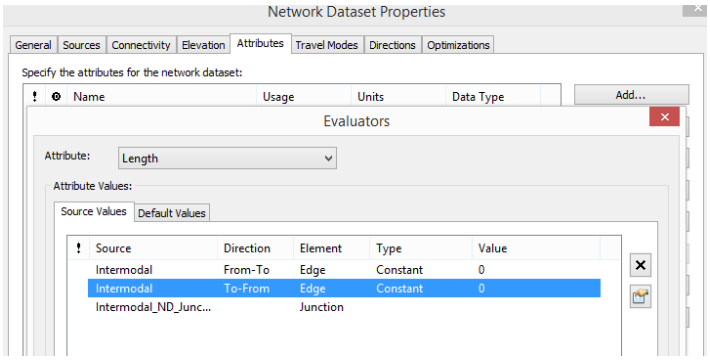


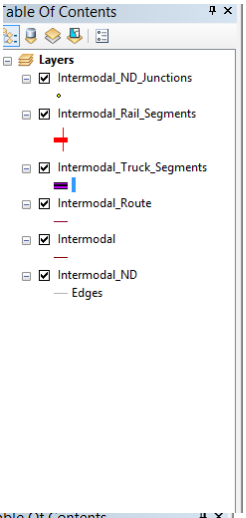


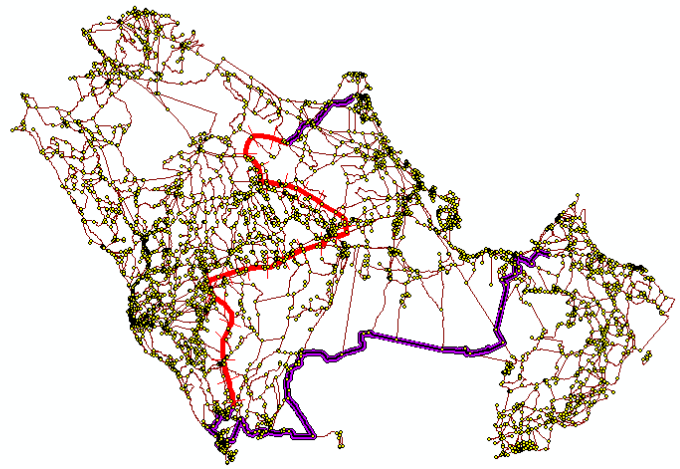
Moreover, if you zoom in, the route takes railway (red) and then goes to highway (dark blue) and then railway (red) when it should have continued on rail (highlighted in light blue as selected by attribute)

And when I run the analysis, if I set the hierarchy as a default parameter in the evaluator while leaving length as a constant (0), this is the output I get for a sample route (Point a to point b) **Highway-Rail-Highway.**

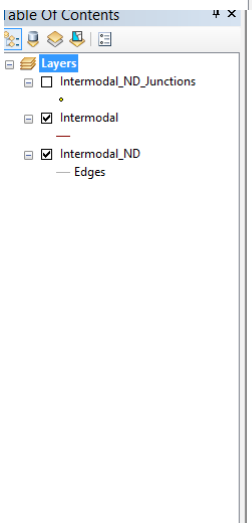








This is something that I want to see (Highway-Rail-Highway), but with optimal distance. The output length is too long here. There is a faster route while using railway, but the analysis is not recognizing it. See below the light blue highlighted railway segments.



How can I then do an analysis so that I can have an optimum (minimal) route generated while maintaining hierarchy to get an output (Highway-Rail-Highway) without changing modes too frequently ? Given that it is freight transport, this is not a viable approach.

Could you kindly please advise me oh how I may be able to solve this problem? Thank you very much in advance