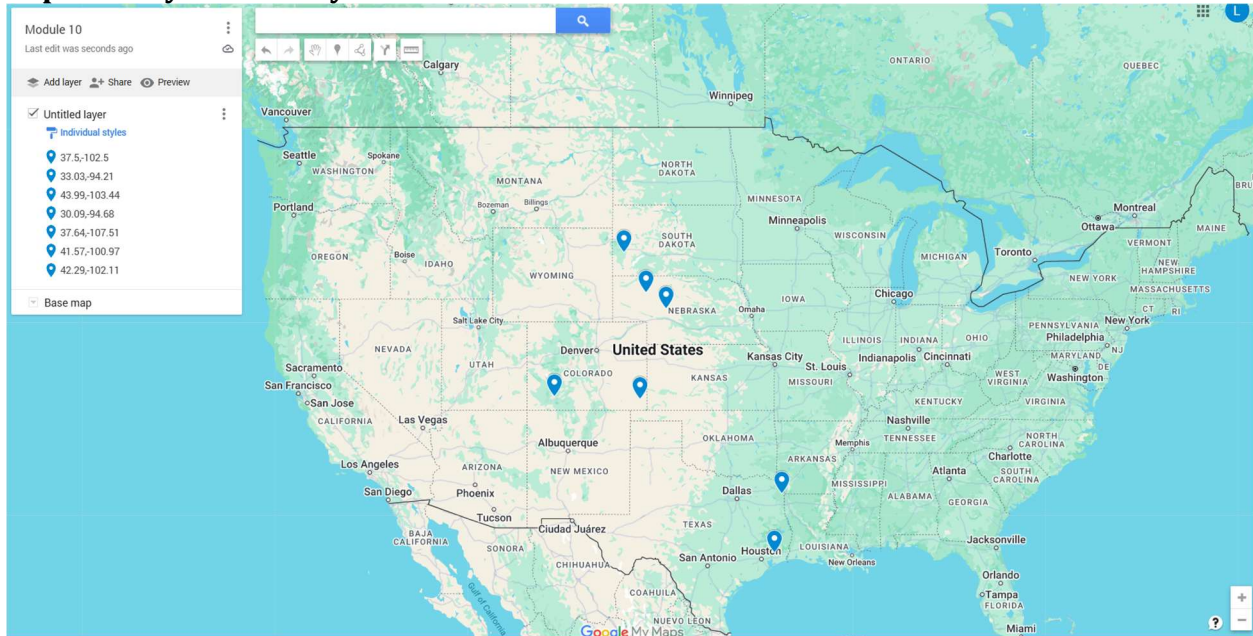


Module 10 – MOLP

Exploratory Data Analysis



Model Formulation

Write the formulation of the model into here prior to implementing it in your Excel model. Be explicit with the definition of the decision variables, objective function, and constraints. For this problem, I am only asking that you perform the model formulation for the MOLP model.

MIN:

$$17X_{12} + 23X_{14} + 10X_{17} + 9X_{24} + 14X_{26} + 8X_{27} + 7X_{31} + 11X_{32} + 19X_{36} + 16X_{41} + 14X_{42} + 13X_{43} + 18X_{45} + 11X_{53} + 16X_{54} + 15X_{56} + 8X_{57} + 23X_{63} + 5X_{64} + 12X_{67} + 15X_{71} + 6X_{73} + 6X_{74} + 6X_{76}$$

Model Optimized for Equally Weighted Objectives

Implement your formulation into Excel and be sure to make it neat. This section should include:

Modified Weights:

I elected to make the transportation cost the highest weight, as it would have the highest bearing on the overall total cost of transportation. Next, I decided to limit congestion so that operations would run smoothly. Distance traveled was next in line to ensure that there still exists an element of efficiency within the firm. Lastly, eco-friendliness was ranked in such a low manner, as it is of the least concern for the operating principles of the firm.