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Dakota Access Pipeline Revision

Executive Summary:

We are on the revision team for the design and construction path of the crude oil Dakota Gas pipeline through the state of Iowa, before initial construction begins through the state. Our objective is to ensure that the path already proposed by the draft team is optimized for efficiency and cost by the criterion of:

- Shortest possible pipeline path
- Most negative elevation gradient throughout the path
- Pipeline starts northwestern Iowa (43.369522, -96.527587) and ends in near Sandusky (40.473038, -91.379588) where the Illinois team will begin.
- The pipeline must not pass through urban areas due to the minimalization of input costs

This our optimized path will be completed by using a program coded in Matlab that analyzes topographical information which yields a map and a vector of the coordinates of the pipeline.

Project Plan:

1. Obtain data set from Iowa's DNR website.
2. Write code for analysis of coordinate data.
3. Compare our projected map to initial plans map.
4. Optimize and finalize code for the final delivery of product.

start on this part early. Let me know if you get stuck.

Team Roles:

Brandon - Code
Bryce – Prepare data to be read into Matlab
Connor – Obtain Data
Drew - Optimize
Ethan - Code
Saud – Obtain Data
Tony – Map comparison

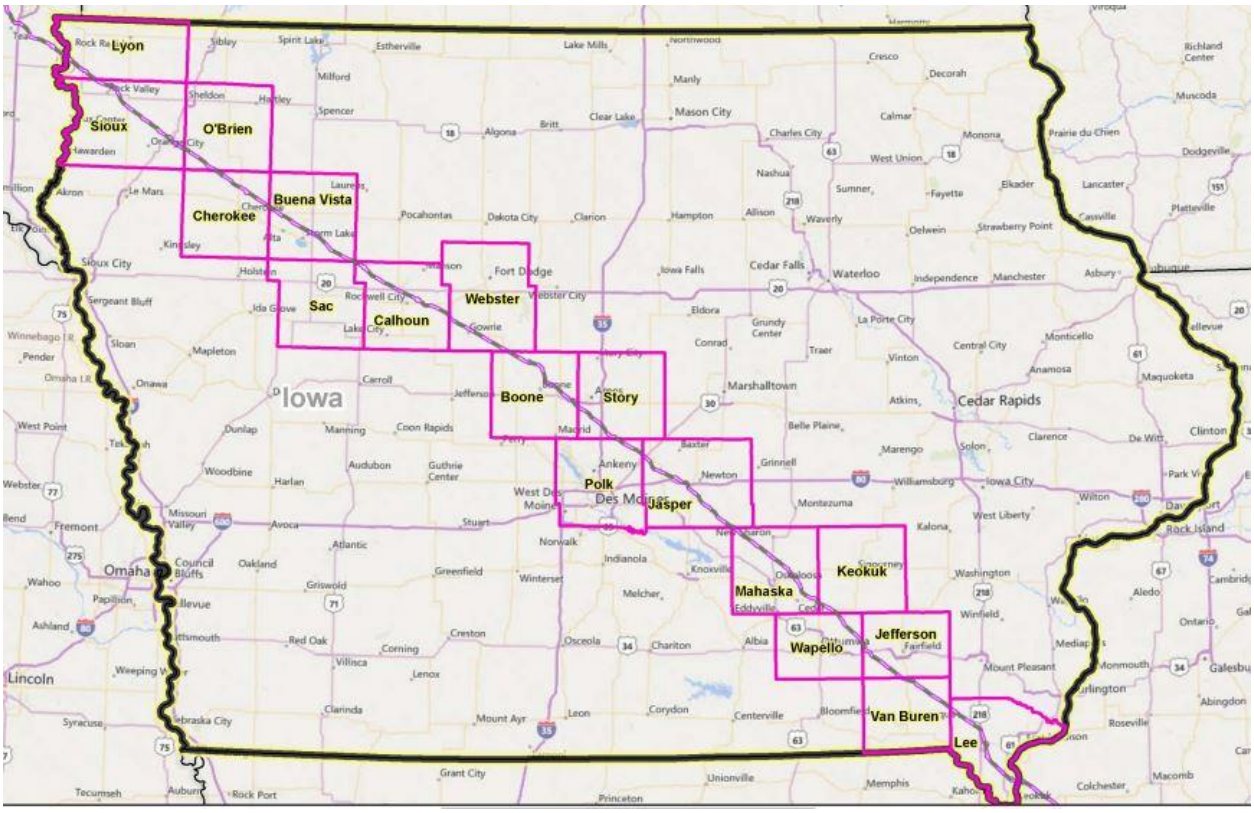
Timeline:

November 1 – November 10: Prepare Data for input into Matlab
November 10 – November 20: Complete first code draft and begin map comparison
November 20 – November 30: Debug and Optimize
December 1 – 4: Finalize for delivery of Product

Expected Product:

Map of pipeline path with a document of the coordinate data that confirms the initially proposed pipeline path from the draft team or an optimized pipeline path.

Initially Proposed Pipeline:



Preliminary data set:

http://www.iowadnr.gov/Environmental-Protection/Air-Quality/Modeling/Dispersion-Modeling/Elevation-Data

Good. My recommendation is to start early.

Reading and studying together topography data will be a little tricky.