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Background

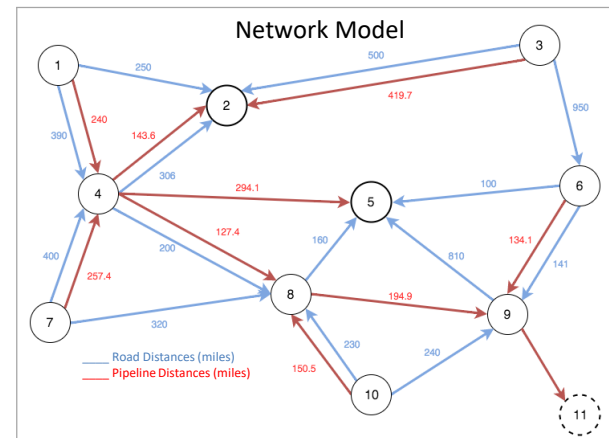
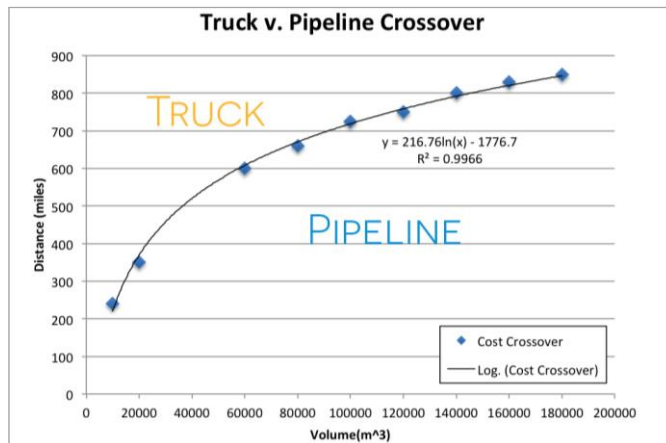
- Gas Flaring is the process of burning excess gas in the atmosphere as a safety measure or when infrastructure is lacking
 - Byproduct of crude oil production, and could otherwise be sold
- GE Oil & Gas is looking to implement "Virtual Pipeline" to gather and sell flare gas
 - Substitute for actual pipelines, that replicates the continuous flow of energy via transportation logistics using trucks

Purpose

- To provide a software tool to evaluate opportunities when associated products and services (like Virtual Pipeline) can be marketed and sold
- Develop methodology that could be used to help solve problems within different subsets of Gas Flaring Management

Semester Objectives

- Evaluate existing software
 - Public domain
 - Commercial
 - Custom
- Develop cost functions
 - Capital Cost
 - Operating Cost
- Evaluate cost functions on sample network



Future Steps

- The graph above represents where pipeline and truck cost functions are equivalent when looking at different volumes and distances
 - Area above line represent scenarios where trucks are more cost effective
 - Area below line represents scenarios where pipelines are more cost effective
- Graph could be used to identify prospective situations where GE could sell the Virtual Pipeline concept and equipment to customers

- Edit current model to reflect transient situations that reflect real world occurrences
- Incorporate supply and demand fluctuations through yearly analysis
- Add ability to analyze other transportation modalities
 - Including railroad and ship
- Add ability to split supply between multiple transportation modalities along an arc within a network
- Allow software to suggest new solutions not defined by the user
 - Such as ability to iterate through potential new network solutions