

Enbridge Liquids Pipelines

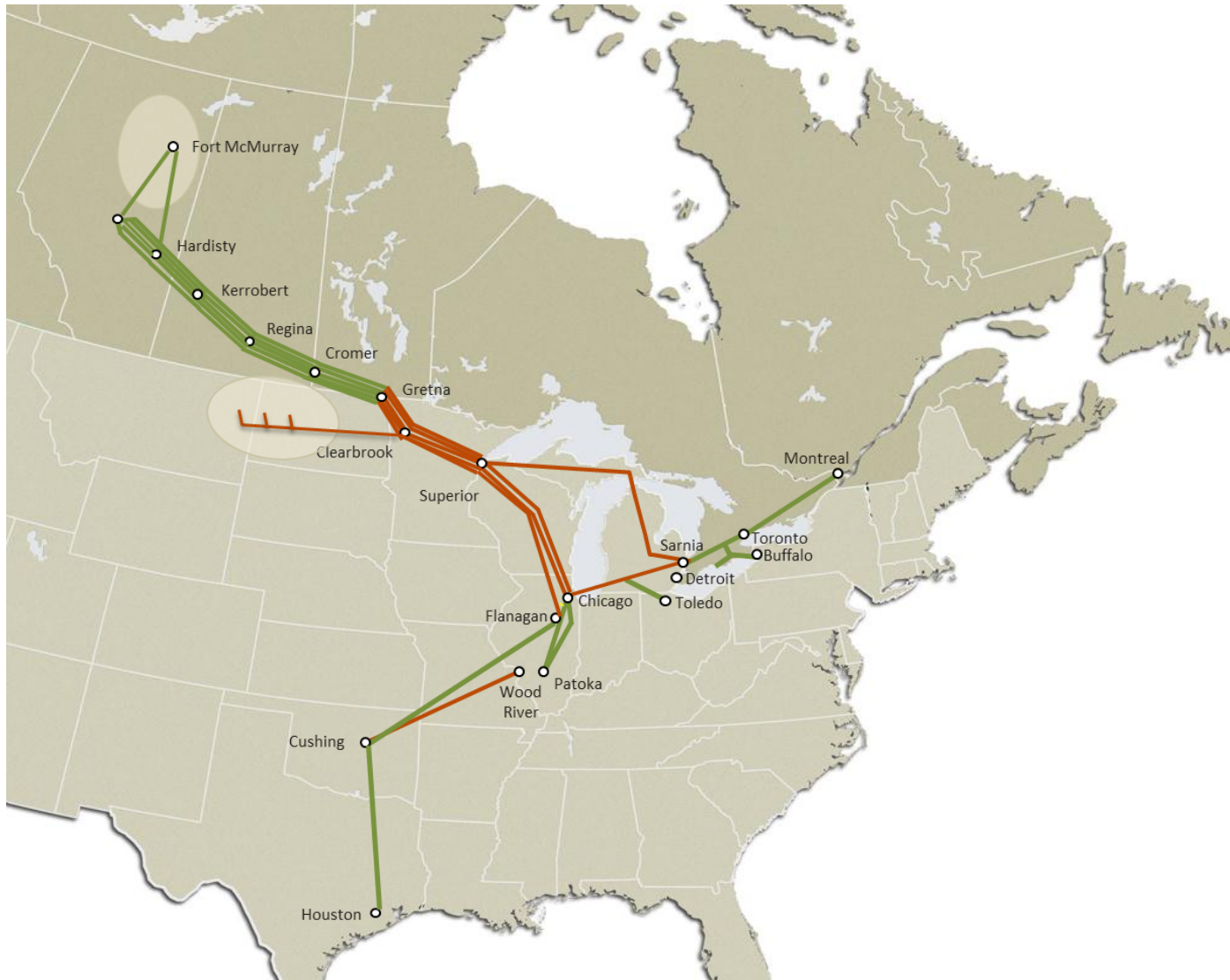
Vern Yu

VP Business Development & Asset
Management

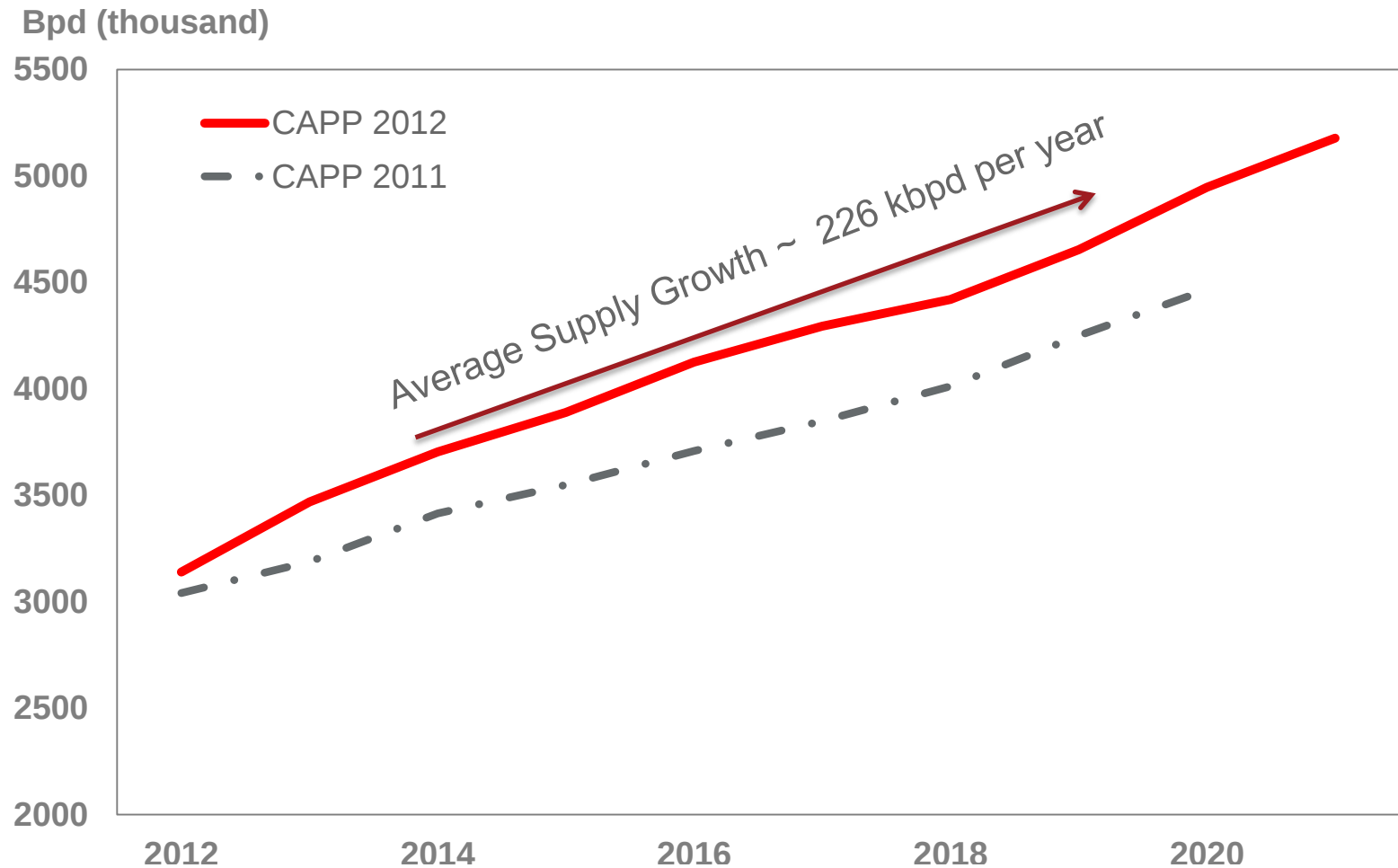
July 10, 2012



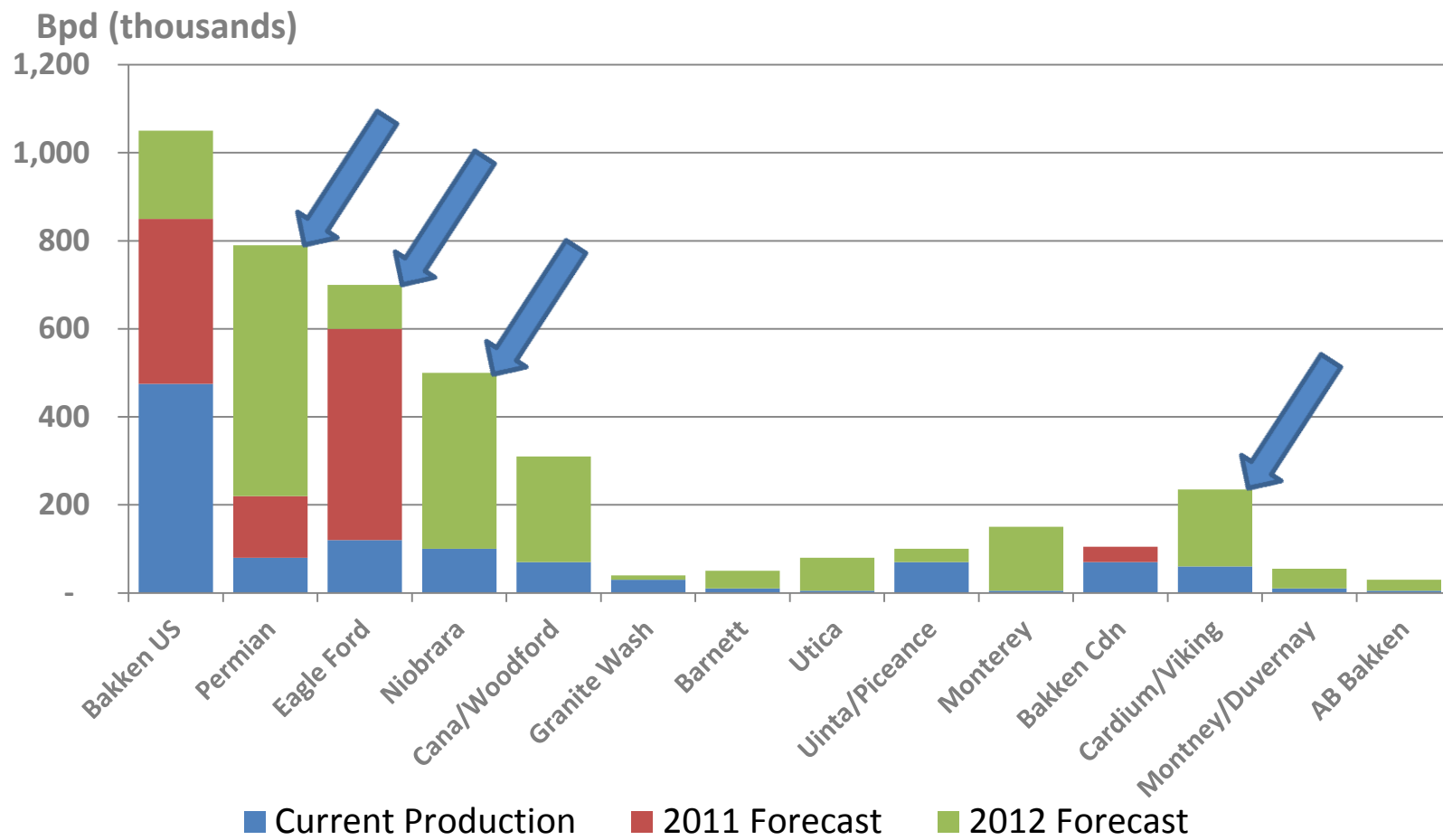
Enbridge Crude System Map



CAPP WCSB Supply Forecast

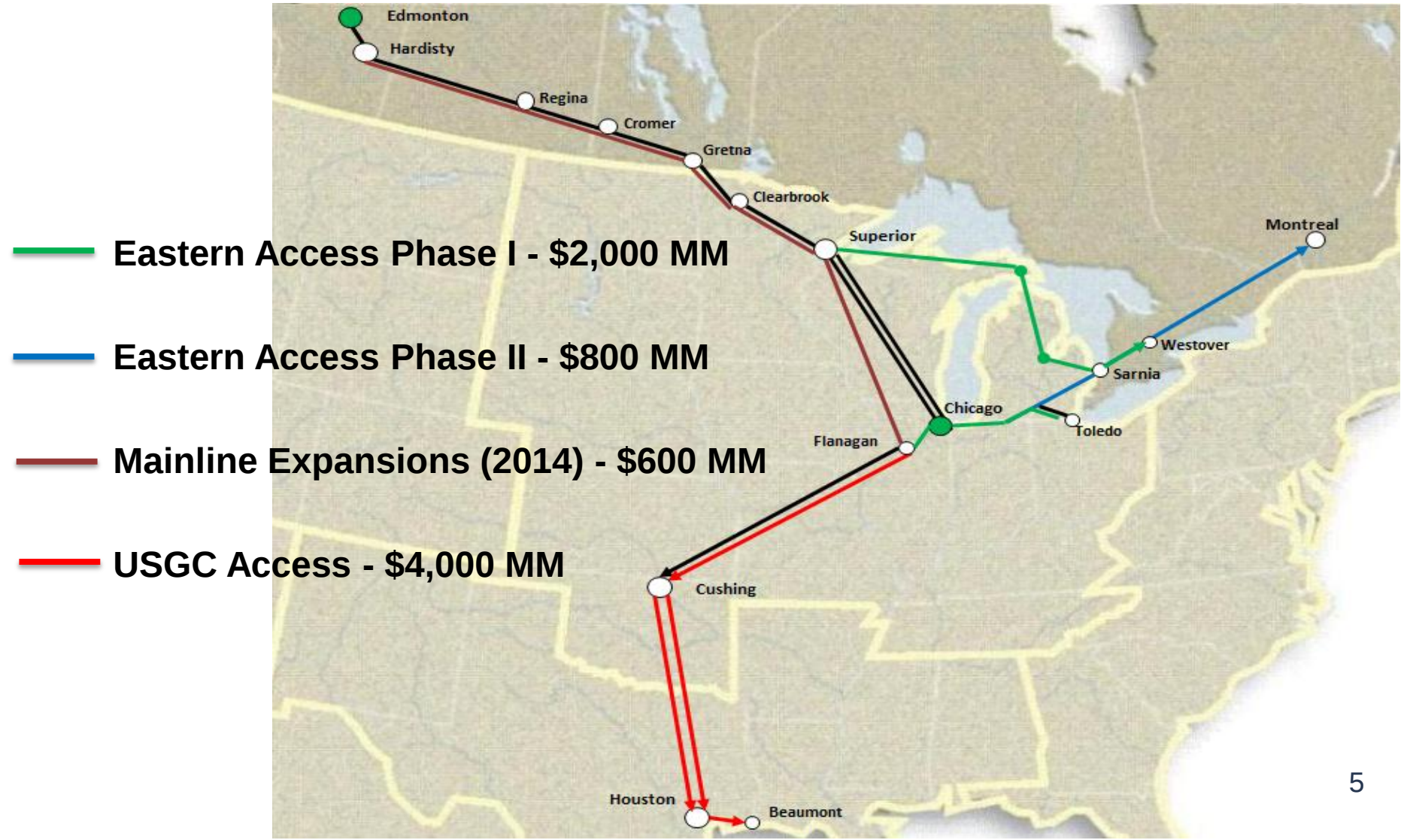


Tight Oil Production Potential – Peak Production

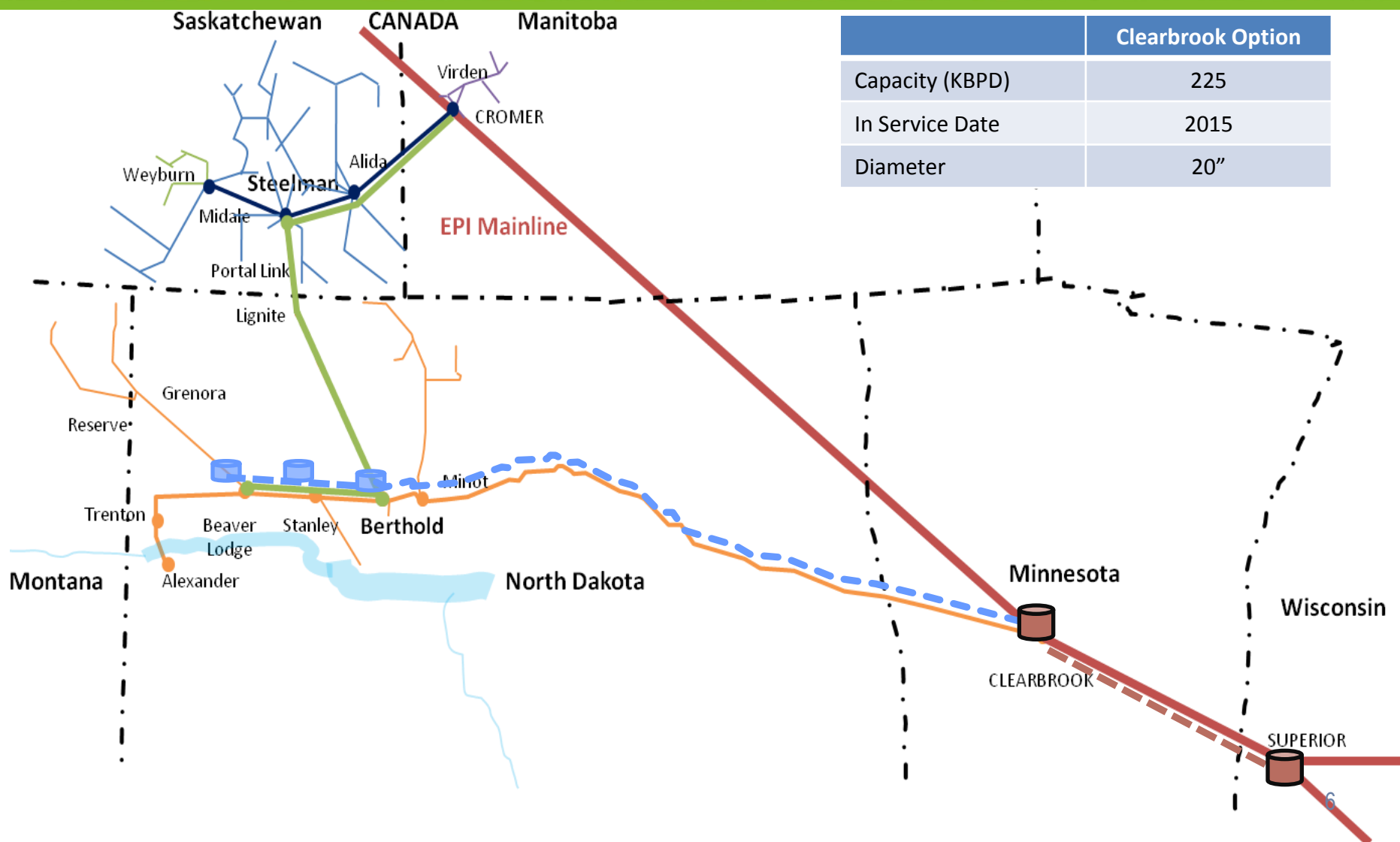


- ***Total potential ~ 3.5 MMbpd growth***
- ***Total production potential reaches ~4.6 MMbpd***

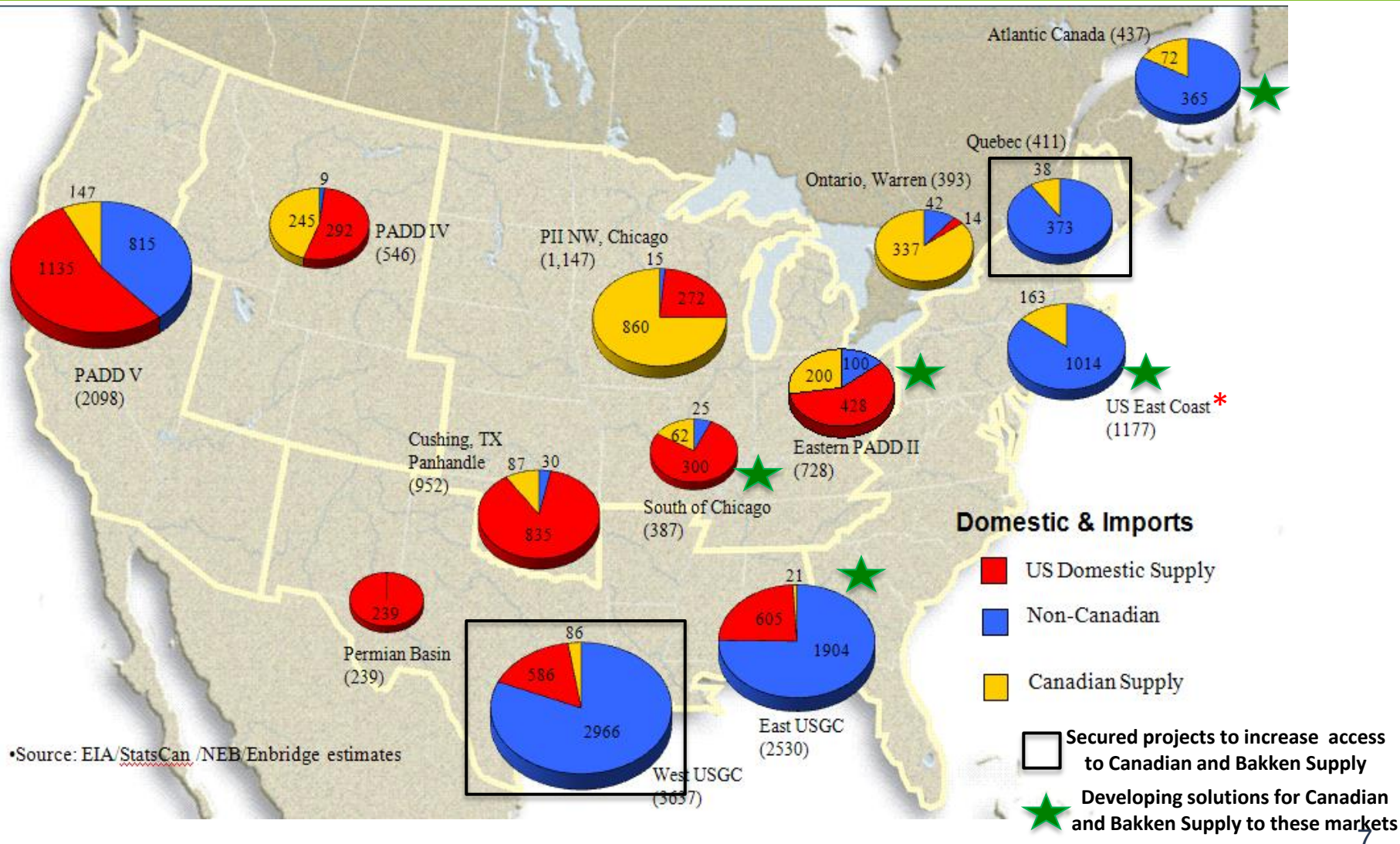
Enbridge Sanctioned Projects



Project Sandpiper



Crude Oil Disposition By Market



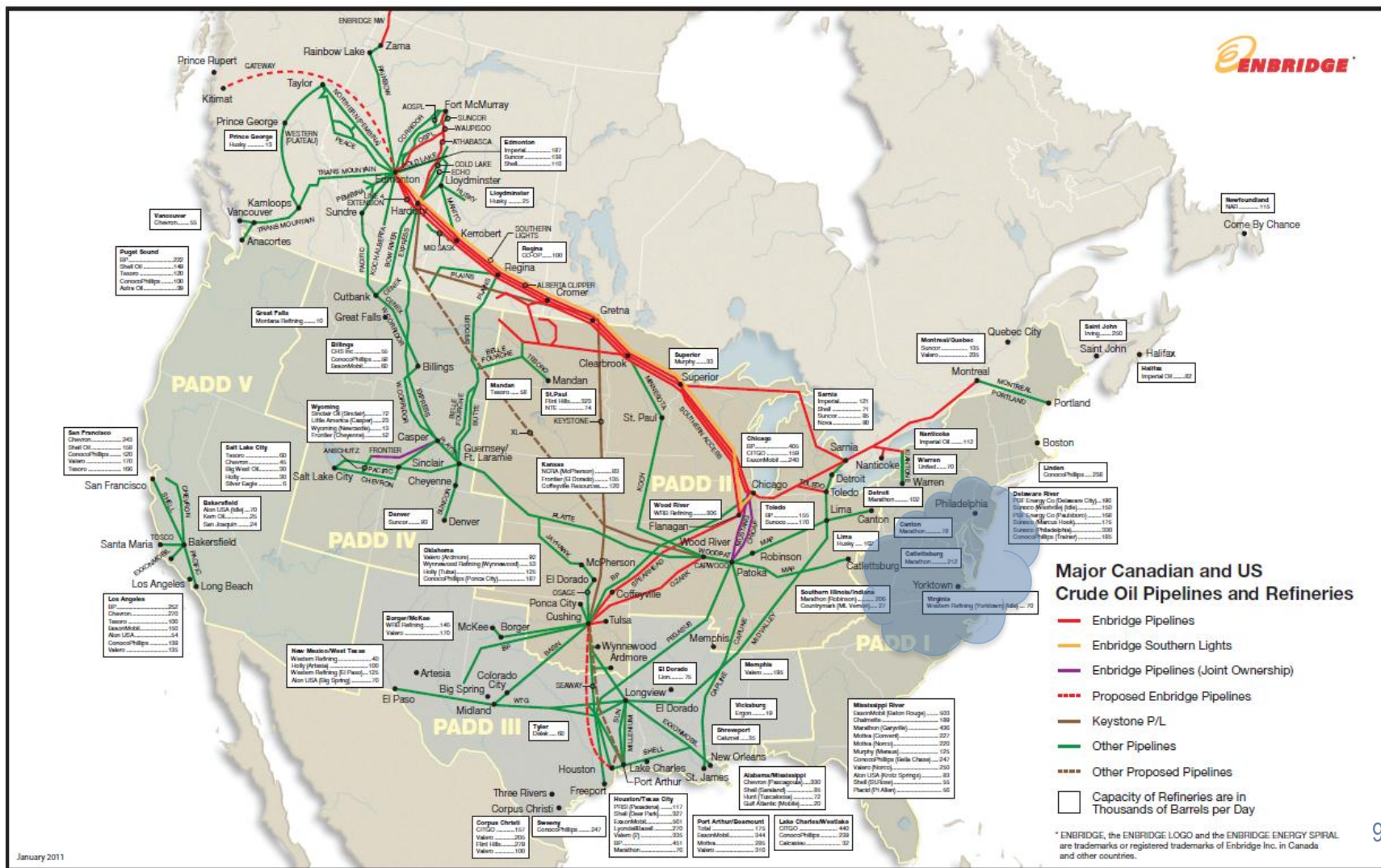
PADD 1 Opportunity



- Philadelphia area refineries import approximately 550,000 barrels per day of offshore crude
- Domestic crude supply offers strong economic benefits to Philadelphia area refineries compared to waterborne imports:
 - Brent/WTI spread: ~\$14*/bbl
 - WTI/Bakken light spread: ~\$11*/bbl
~\$25 /bbl

* Retrieved from PIRA data, updated June 5, 2012

Challenges



Potential Solutions

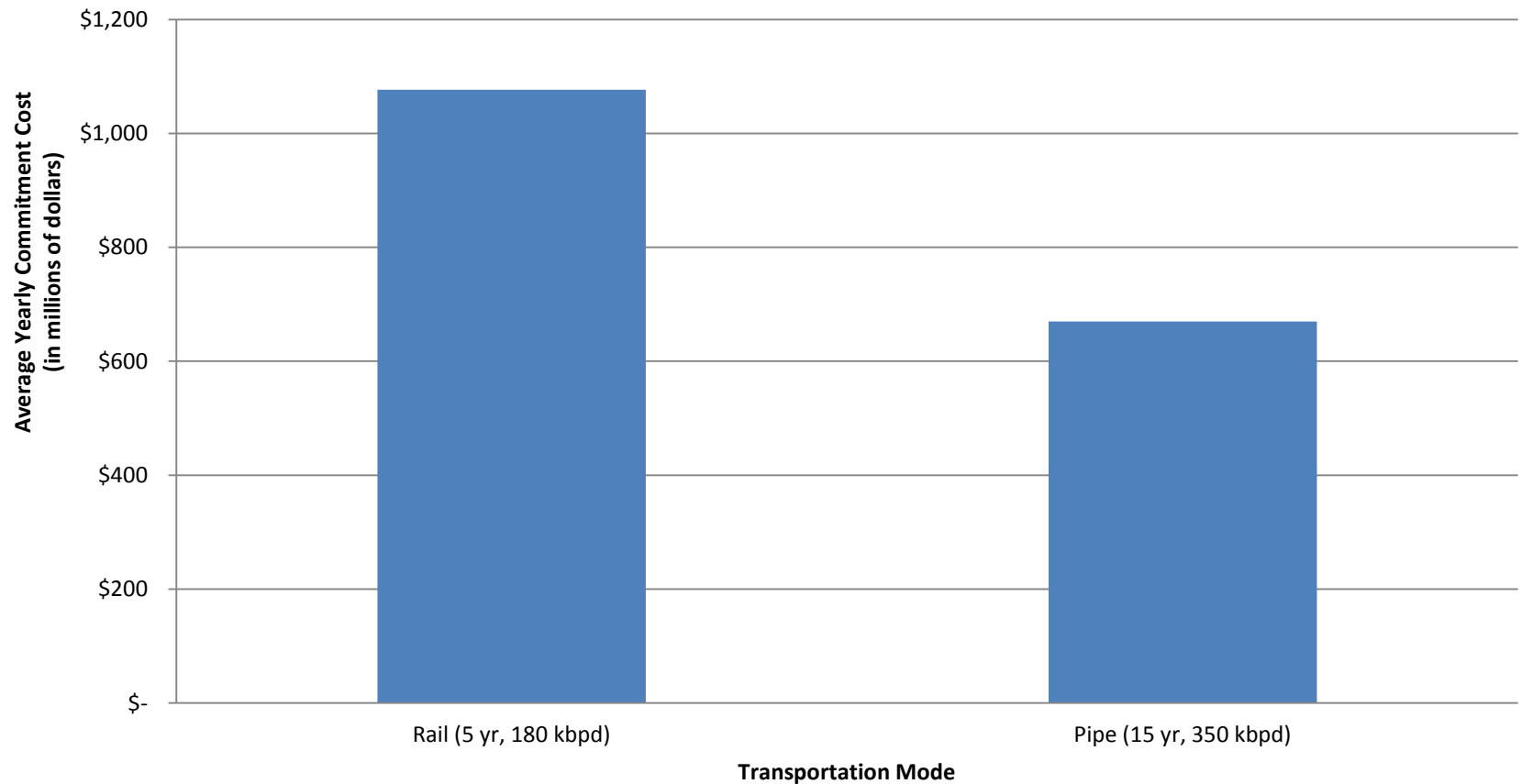


- Short-Term: Rail
 - Enbridge Bakken rail facility
 - Potential rail from Ontario or Michigan
- Longer-Term: Pipeline
 - Originate from Ontario or Michigan
 - Requires long-term commitments

Annual cost and term comparison of solutions from Bakken



Rail vs. Pipe Average Yearly Commitment Costs of Bakken Crude

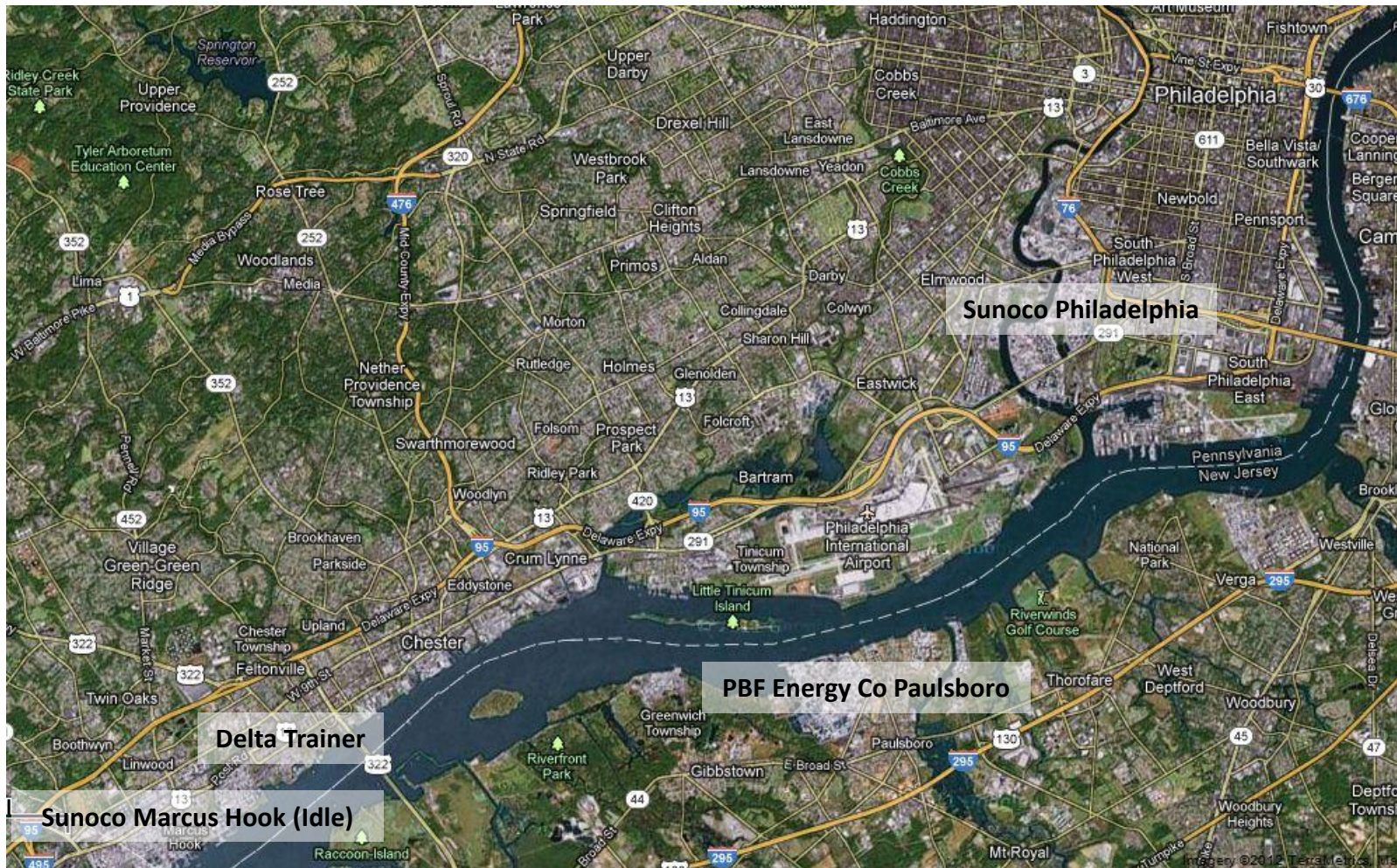


Challenges for Rail



- Increased rail traffic
 - 180 kbpd = ~40 new trains between Bakken and Philadelphia
 - Fleet could be reduced by originating rail from Ontario or Michigan/Ohio
- Constraints on offloading capabilities
 - 1 unit train has a capacity of ~60 kbpd
 - Currently only 3 available locations capable of offloading
- High demand for rail cars

Challenges for new pipe



Discussion

Thank you

