



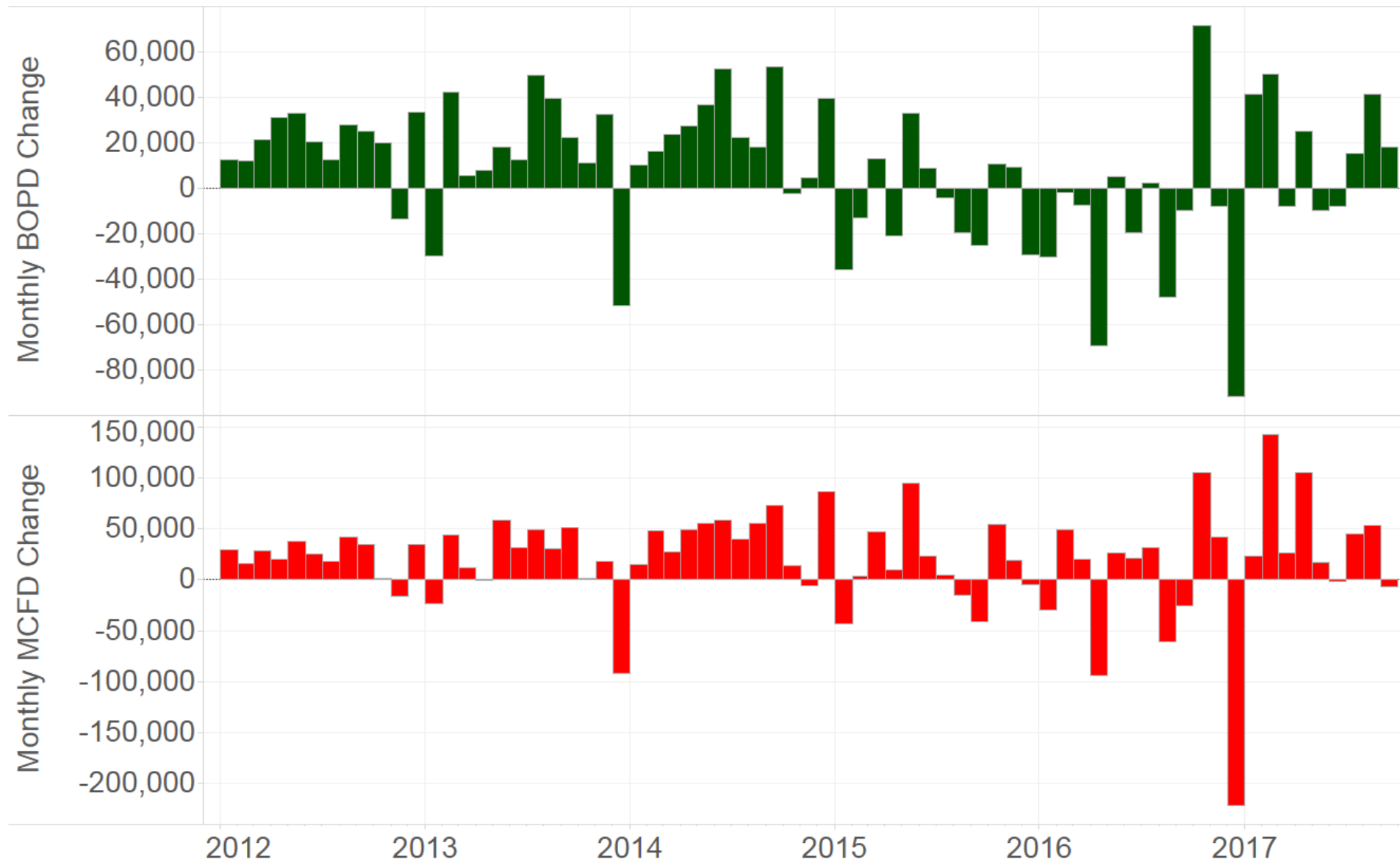
November 2017 Monthly Update
North Dakota Pipeline Authority
Justin J. Kringstad
November 15, 2017

US Williston Basin Oil Production - 2017

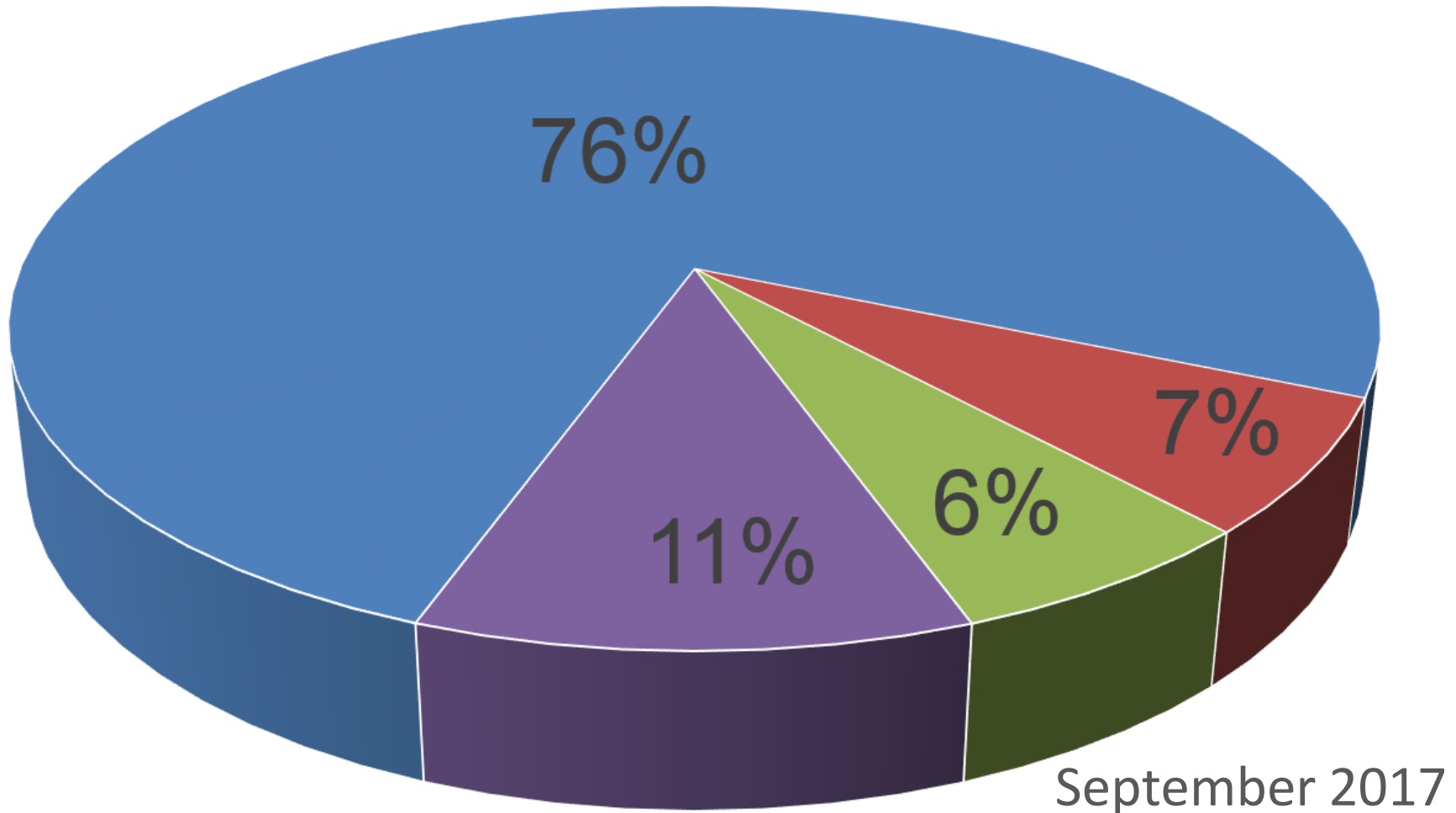
MONTH	ND	Eastern MT*	SD	TOTAL
January	983,880	52,727	3,553	1,040,160
February	1,034,092	53,959	3,718	1,091,769
March	1,025,883	52,901	3,705	1,082,488
April	1,050,834	52,440	3,768	1,107,042
May	1,040,983	52,920	3,389	1,097,292
June	1,032,927	52,644	3,563	1,089,134
July	1,048,099	49,898	3,529	1,101,526
August	1,089,318	49,008	3,565	1,141,891
September	1,107,104			
October				
November				
December				



Monthly Production Change



Estimated Williston Basin Oil Transportation



■ Pipeline Export

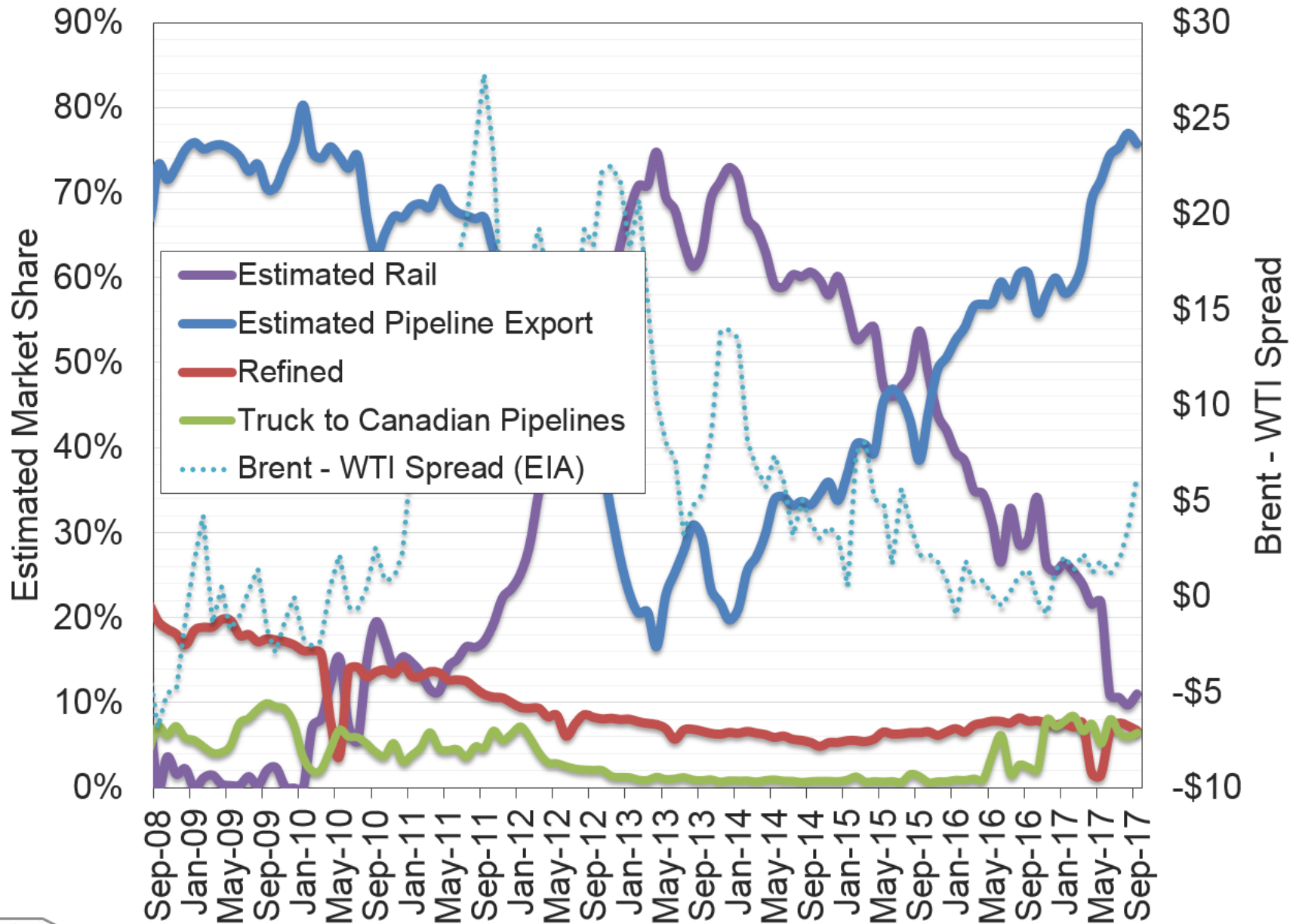
■ Refined

■ Truck to Canadian Pipelines

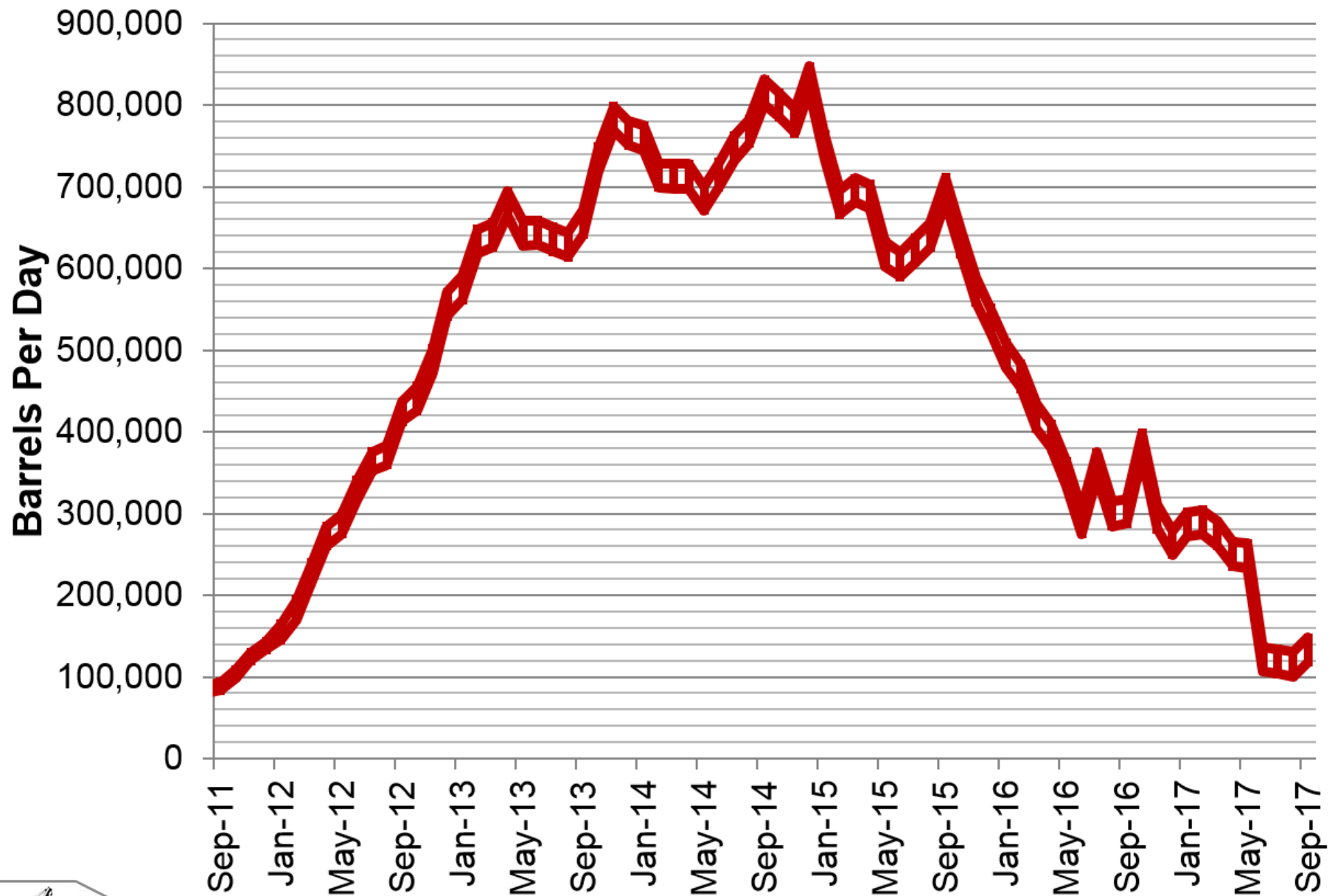
■ Estimated Rail



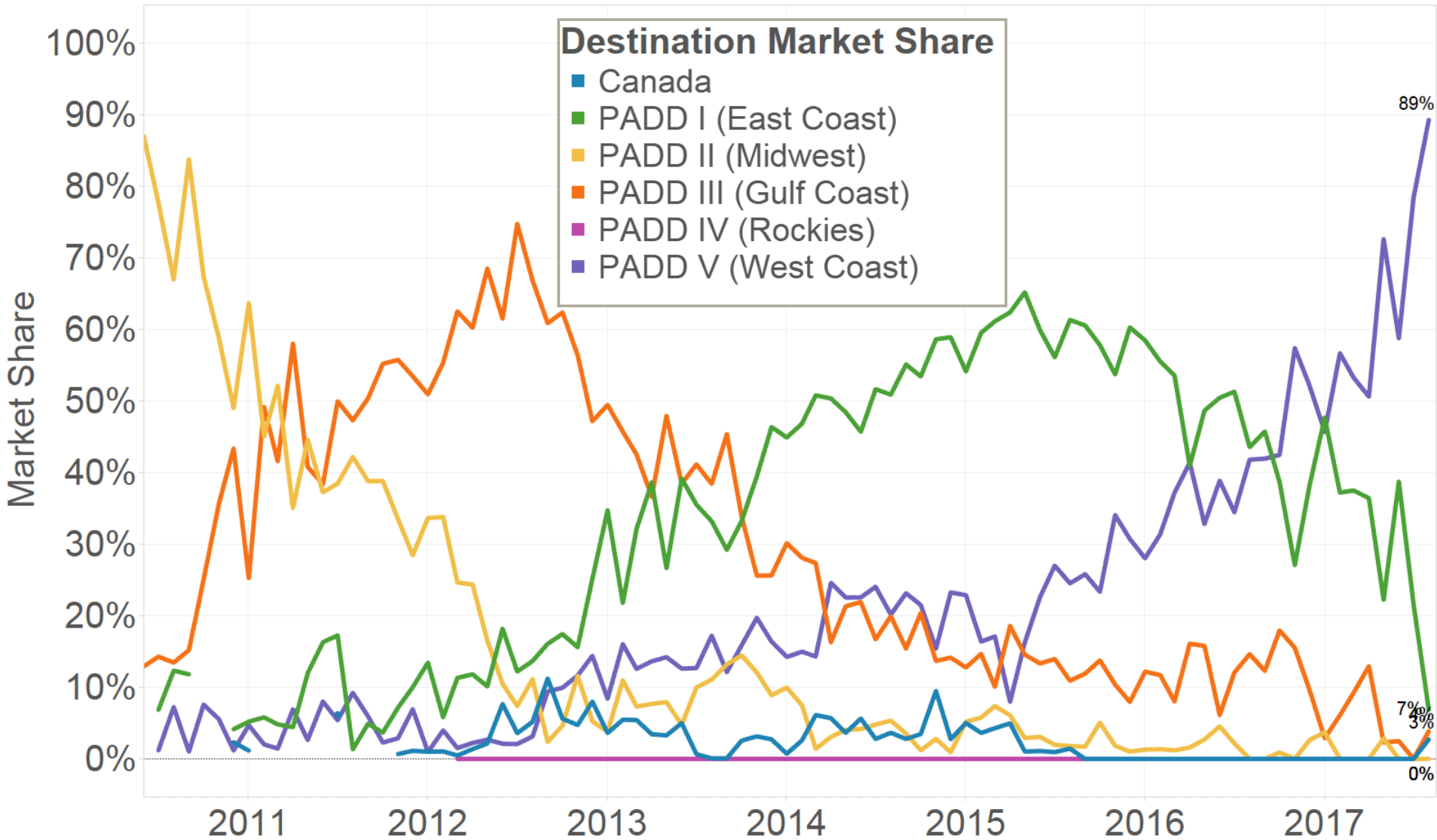
Estimated Williston Basin Oil Transportation



Estimated ND Rail Export Volumes



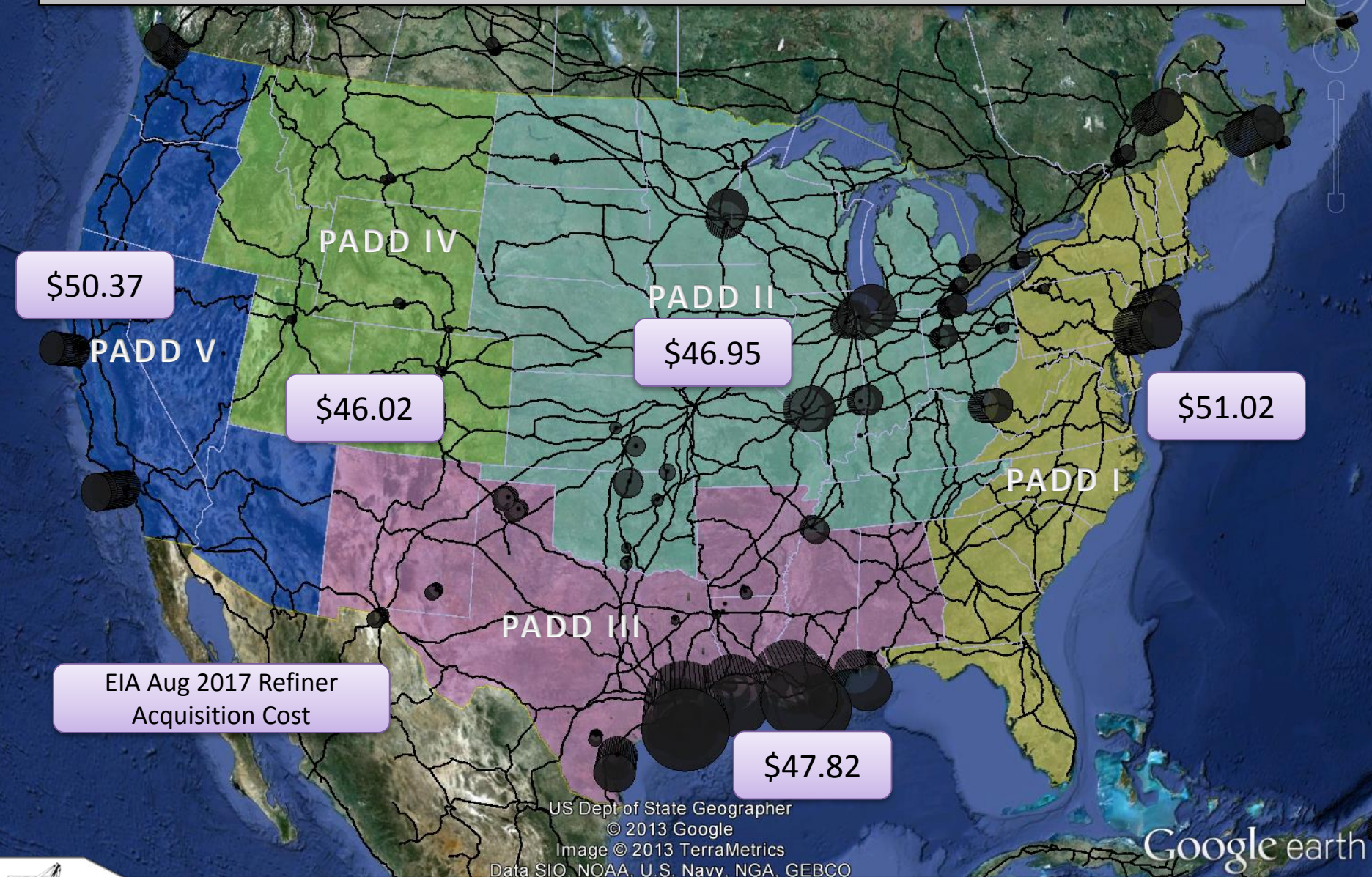
Rail Destinations Market Share (Aug 2017)



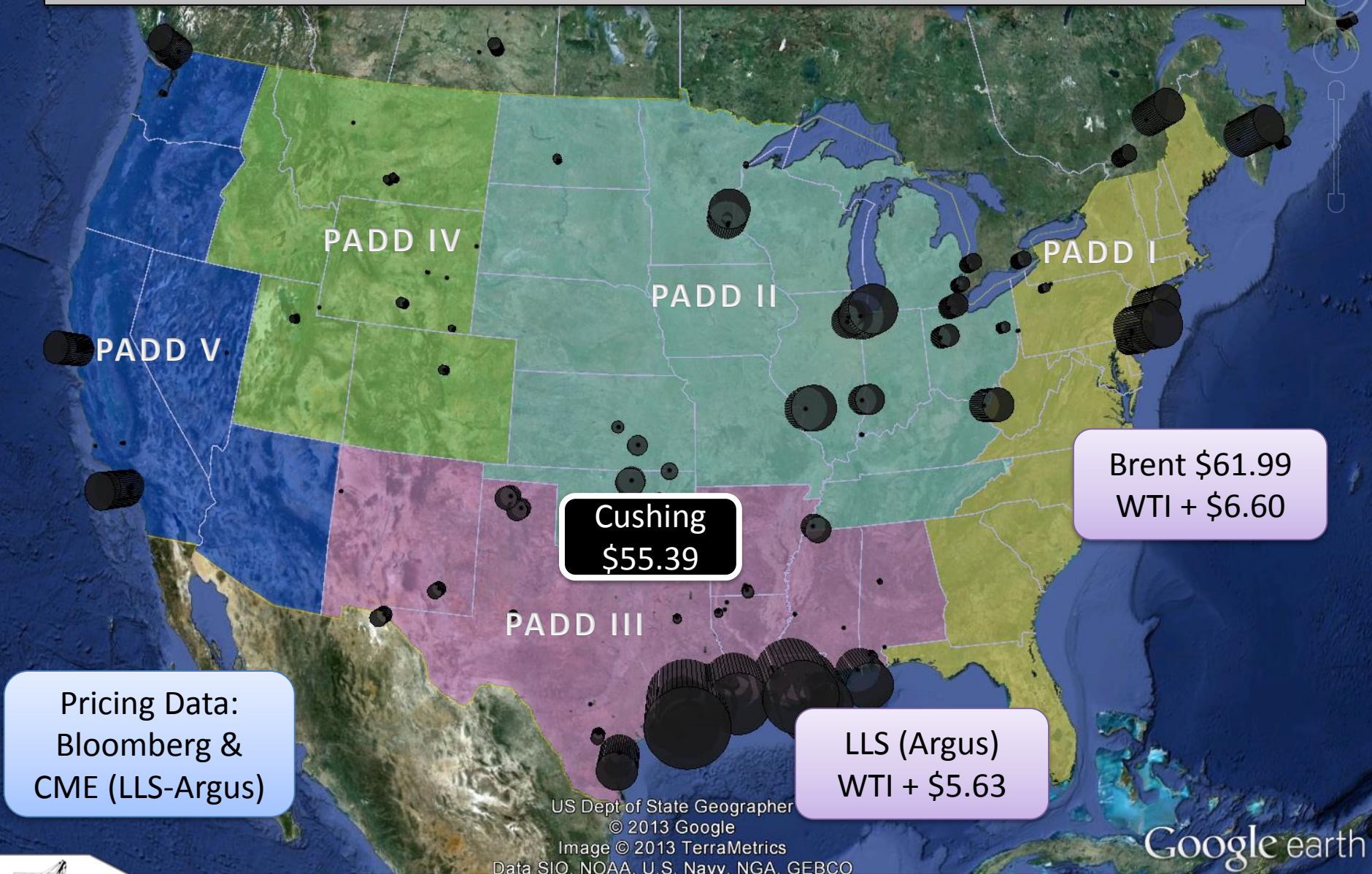
Data for Rail Destination Market Share Provided by the US Energy Information Administration



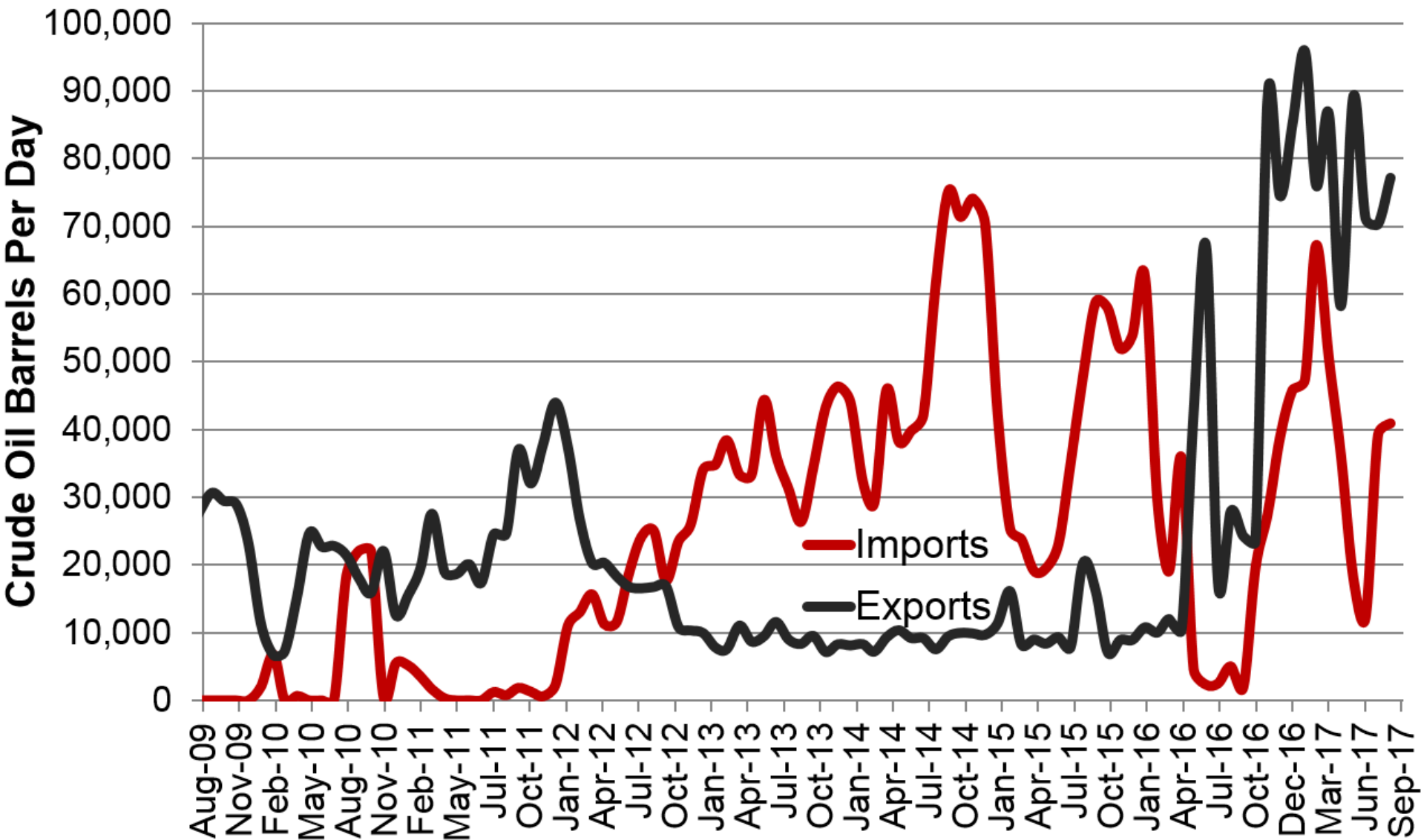
Major Rail Lines and Refineries



Crude Oil Prices – Nov. 15, 2017



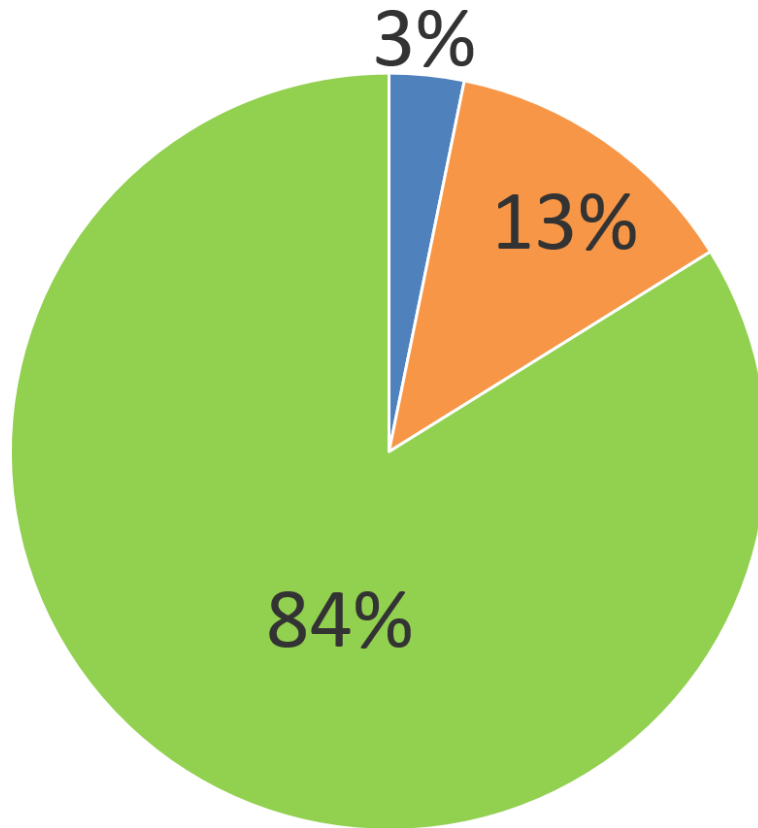
Williston Basin Truck Imports and Exports with Canada



Data for truck imports/exports chart is provided by the US International Trade Commission



Solving the Flaring Challenge



Statewide

GREEN – % of gas captured and sold
Blue – % flared from zero sales wells
Orange – % flared from wells with at least one mcf sold.

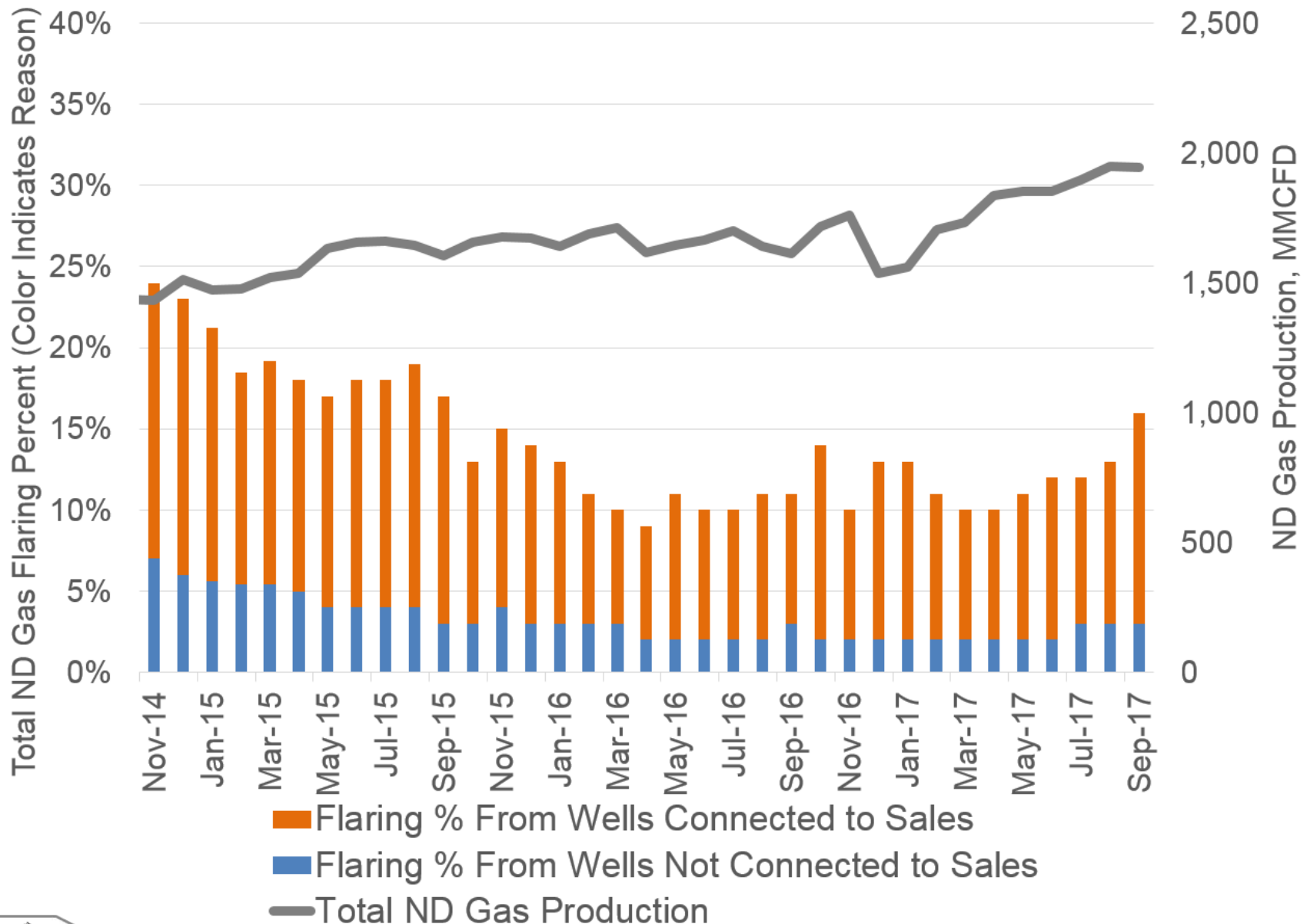
Simple Terms

Blue – Lack of pipelines
Orange – Challenges on existing infrastructure

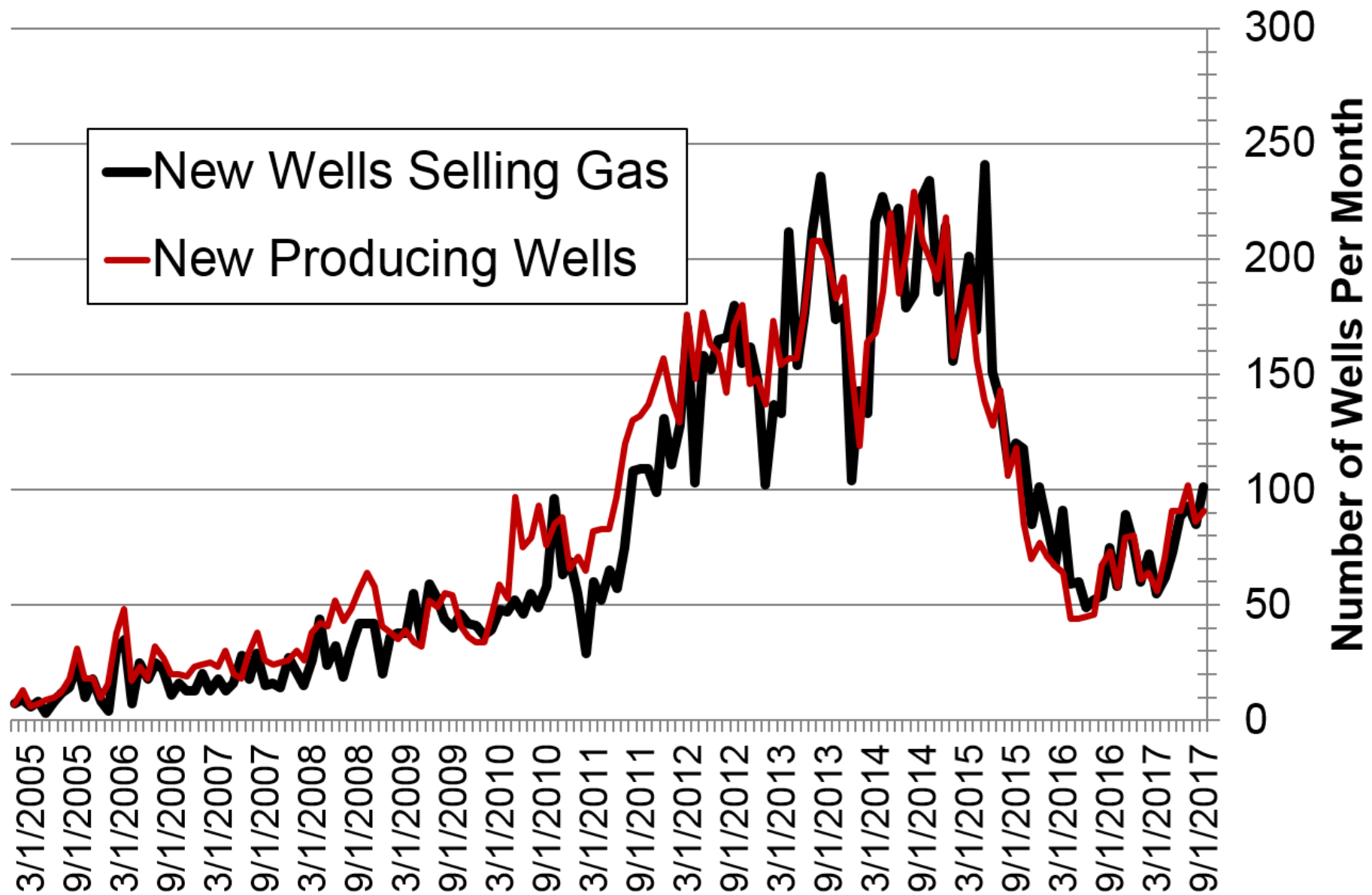
Sep 2017 Data – Non-Confidential Wells



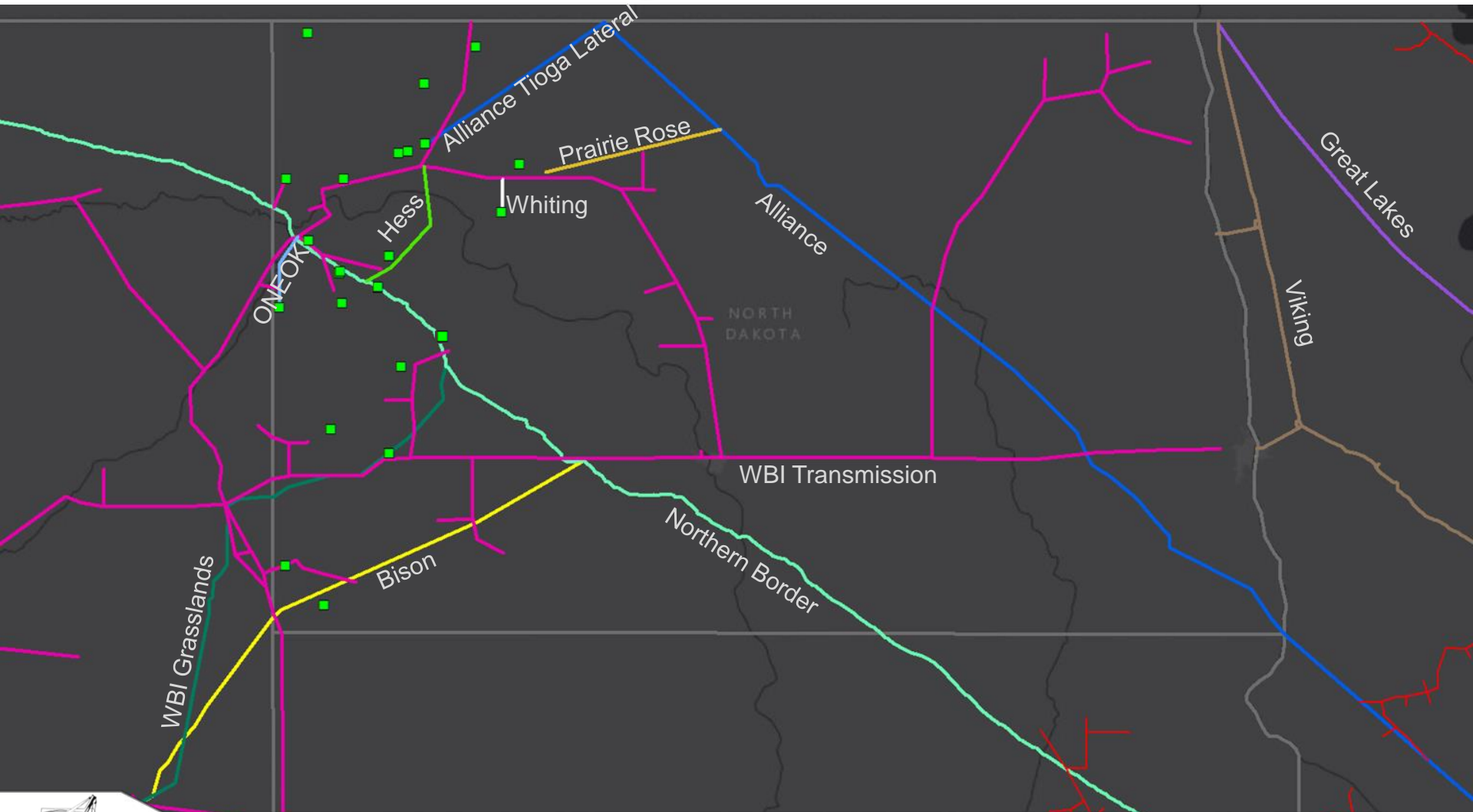
Solving the Flaring Challenge



Solving the Flaring Challenge

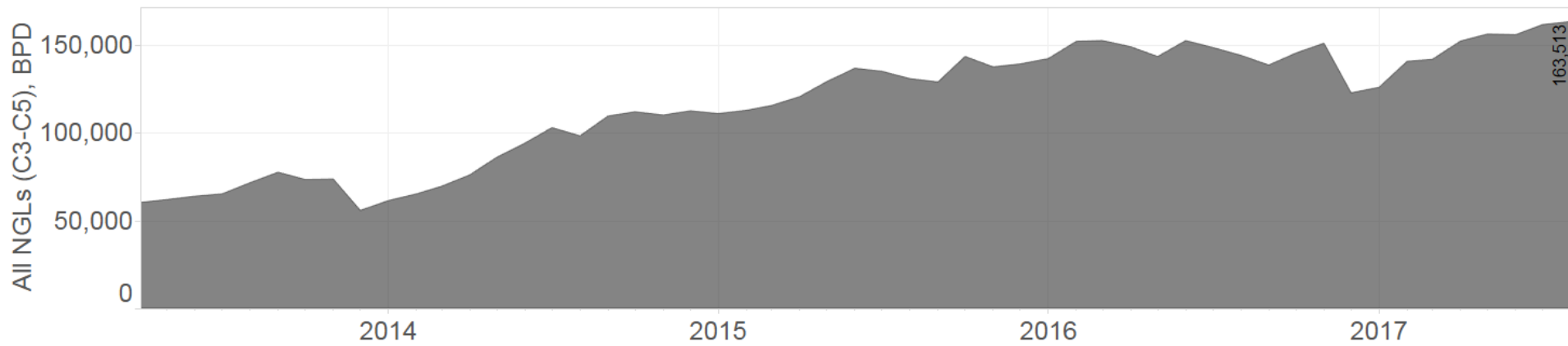


Major Gas Pipeline and Processing Infrastructure

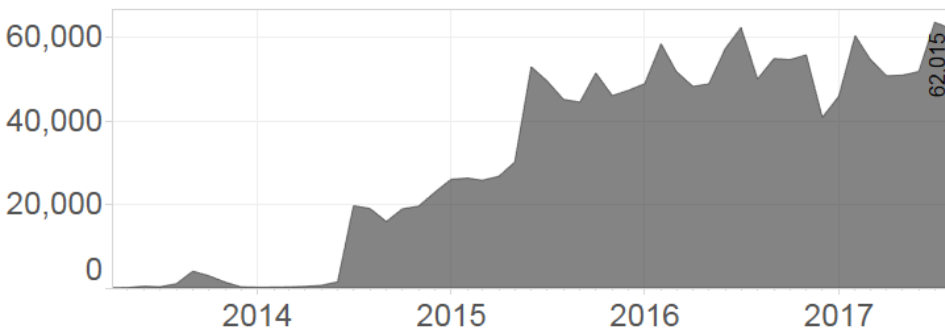


Plant Natural Gas Liquids - (Aug 2017)

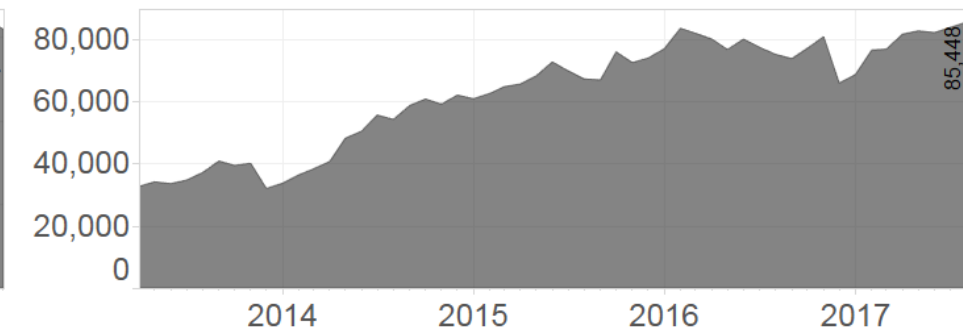
All NGLs, BPD



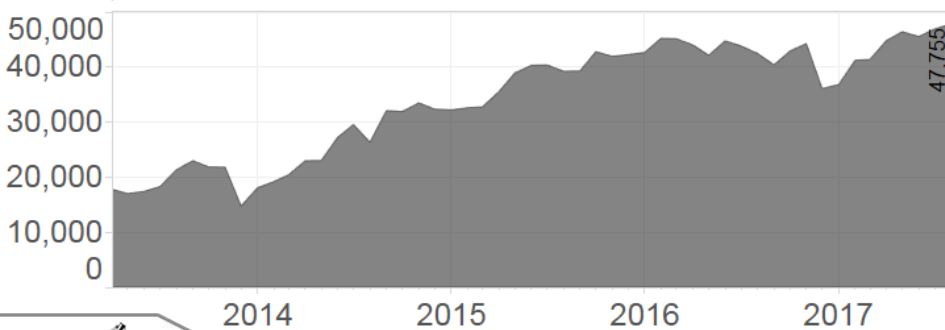
Ethane, BPD



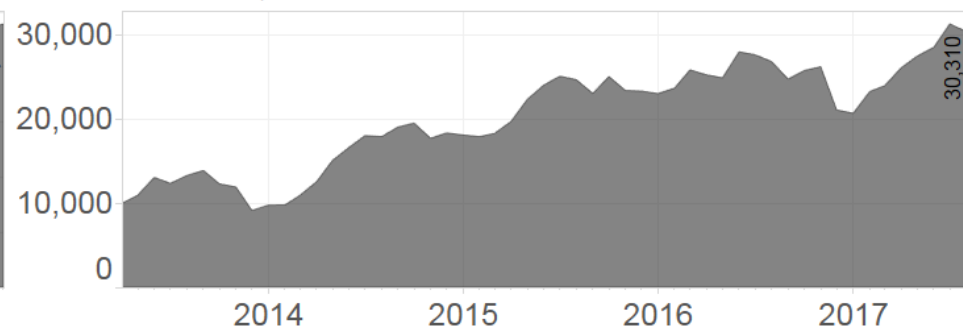
Propane, BPD



Butane, BPD



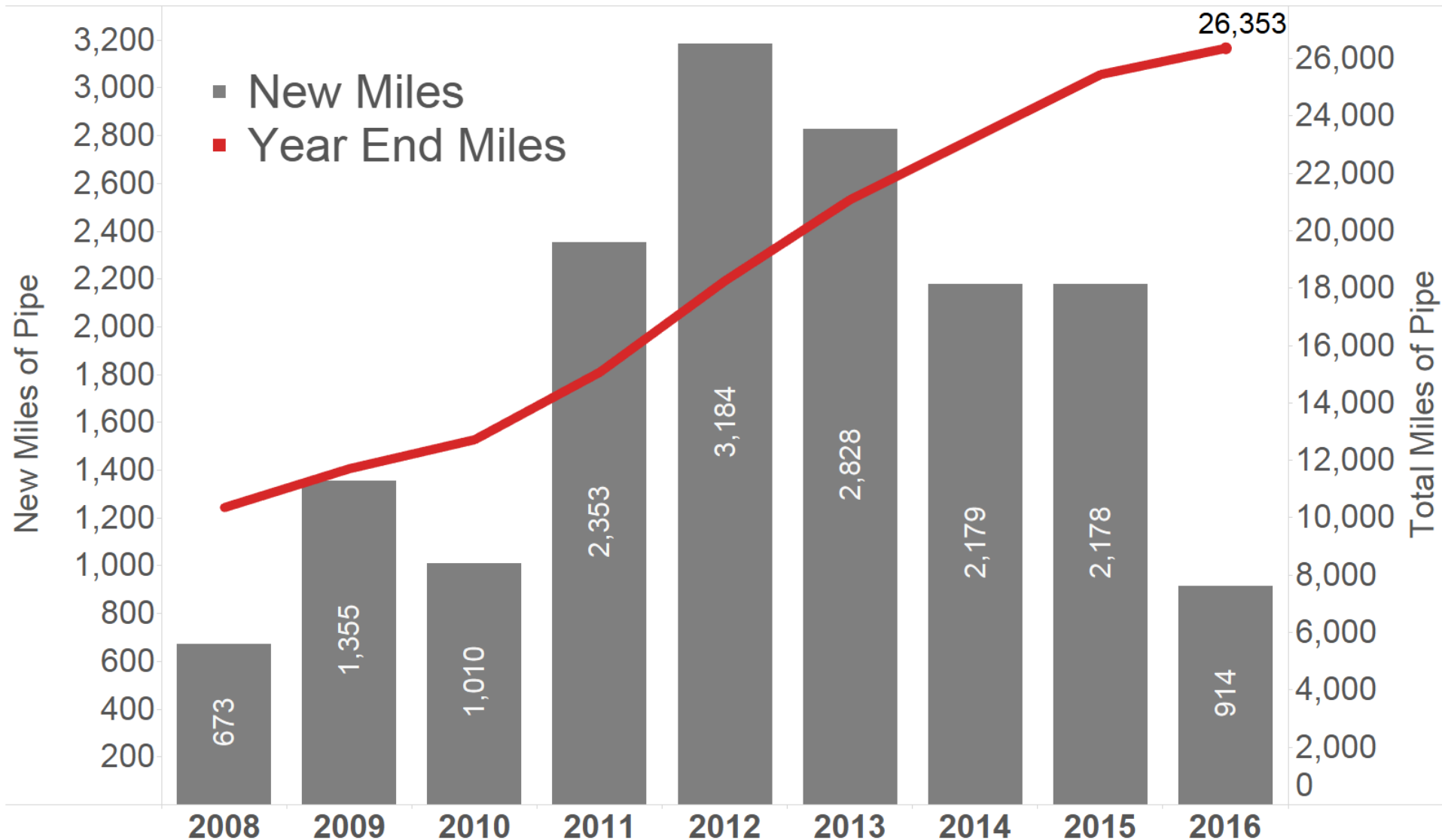
Natural Gasoline, BPD



Pipeline Construction Update



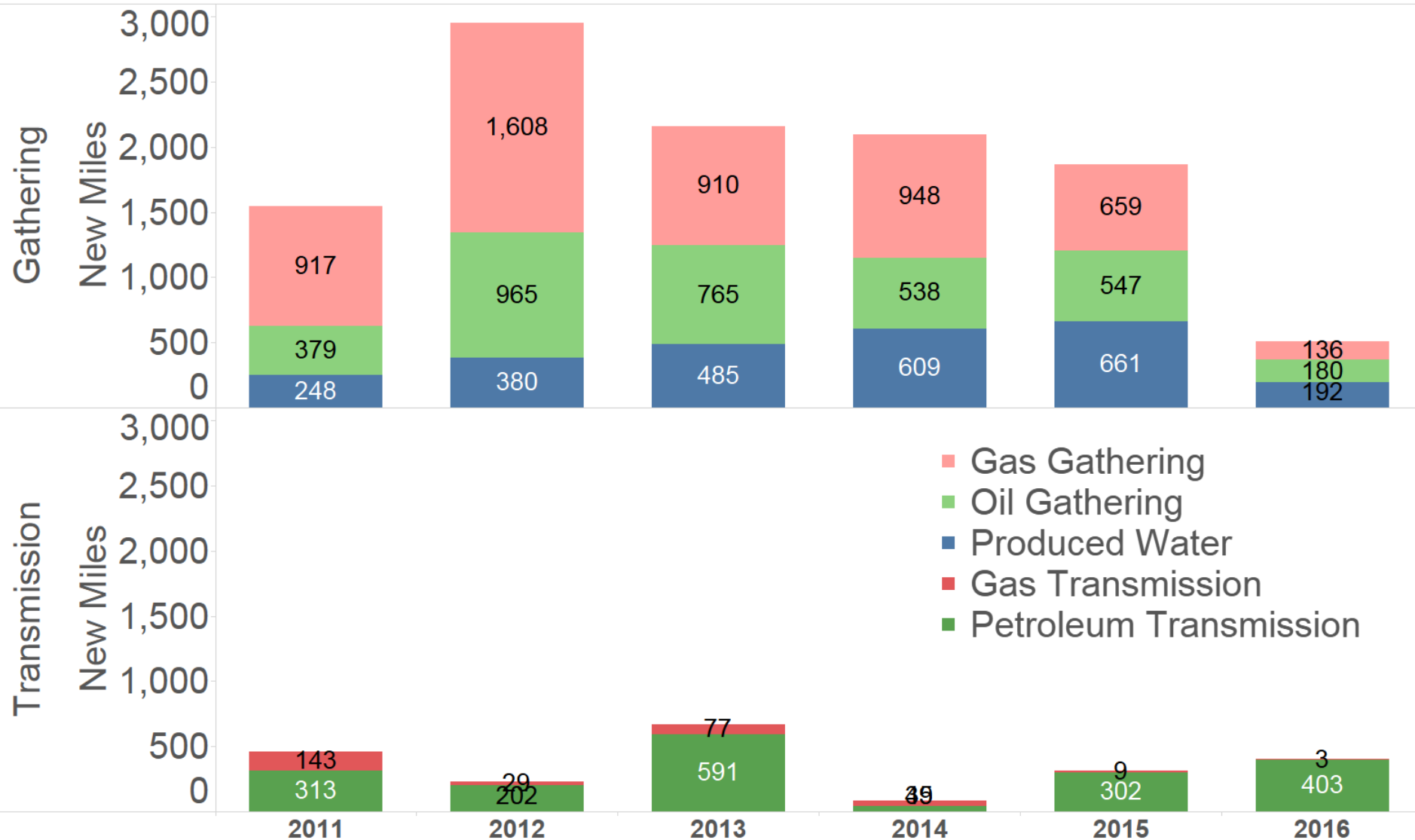
North Dakota Pipeline Construction



Sources: NDIC & PHMSA



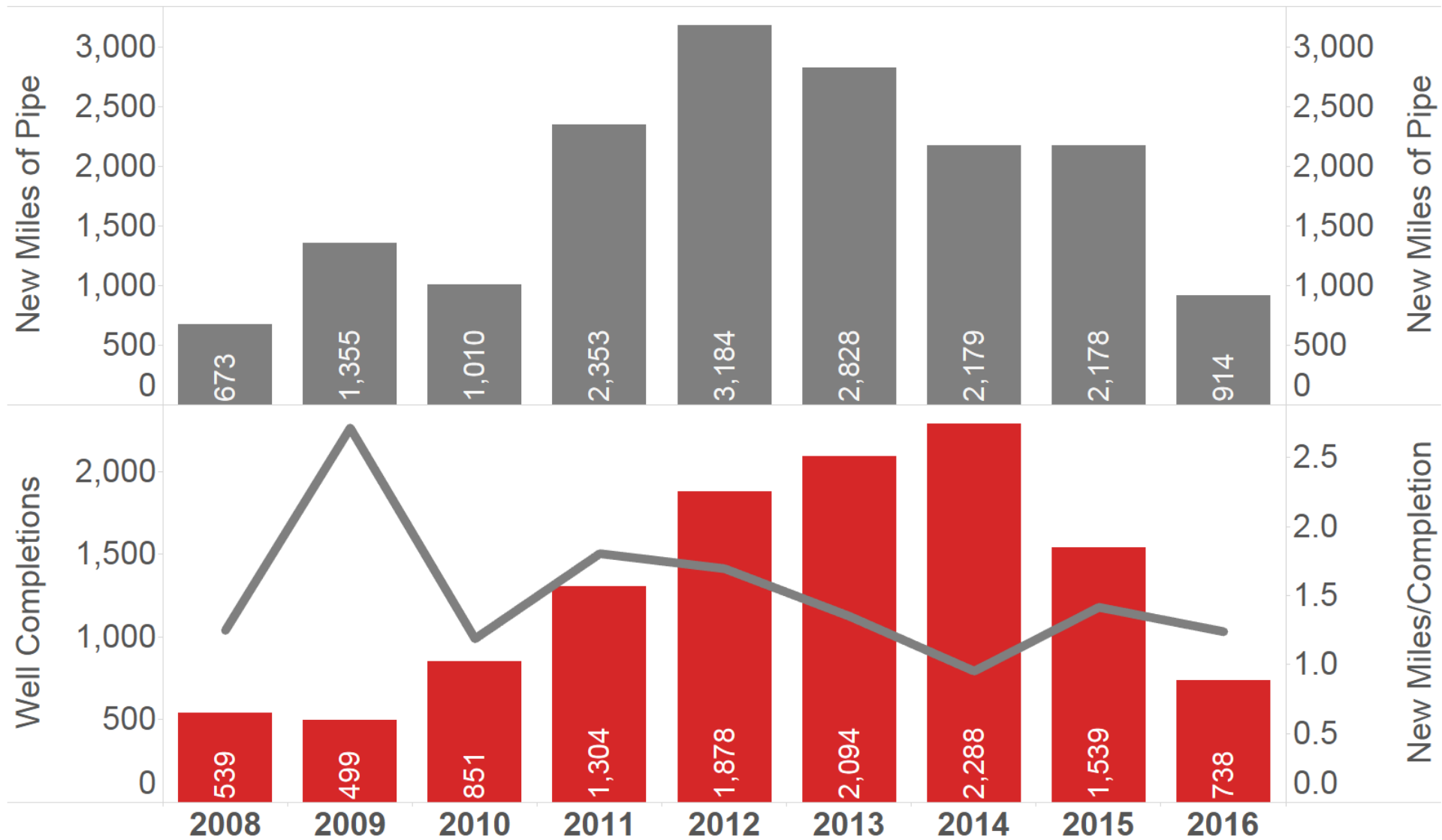
North Dakota Pipeline Construction

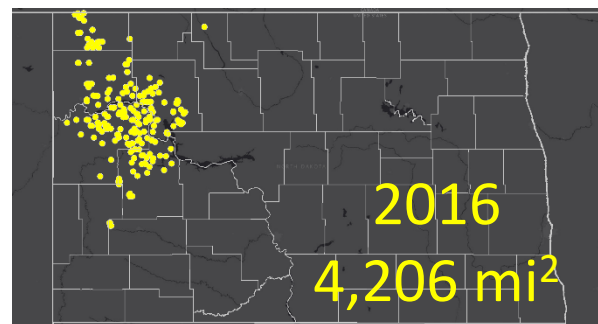
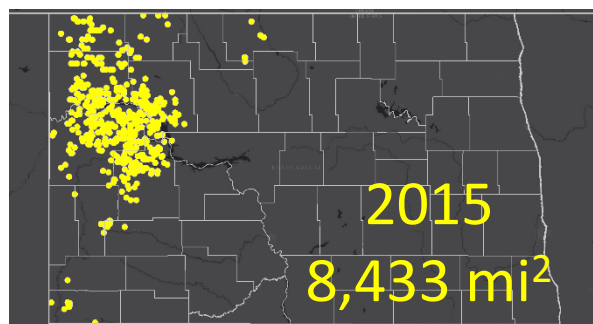
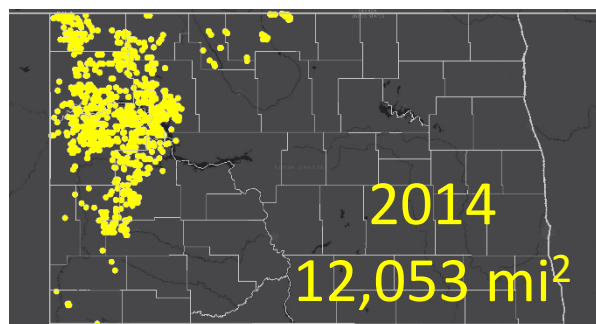
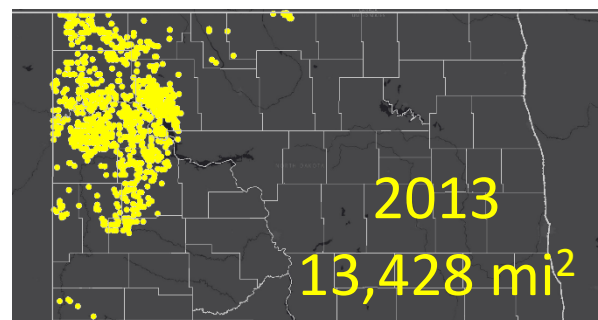
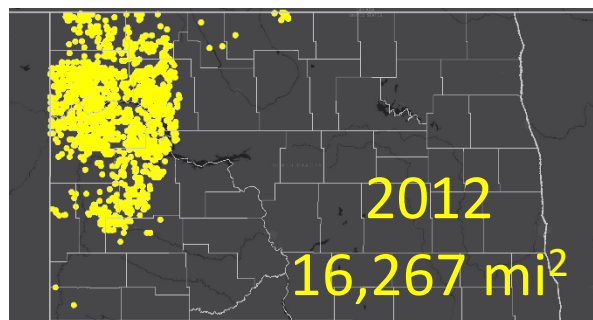
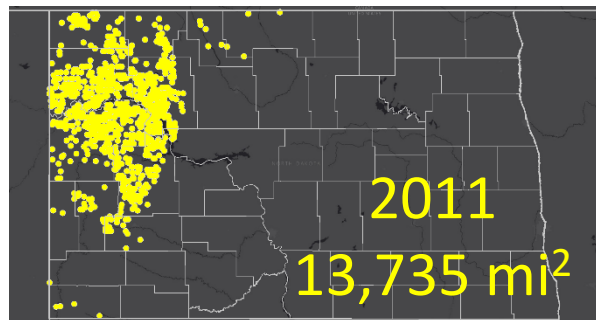
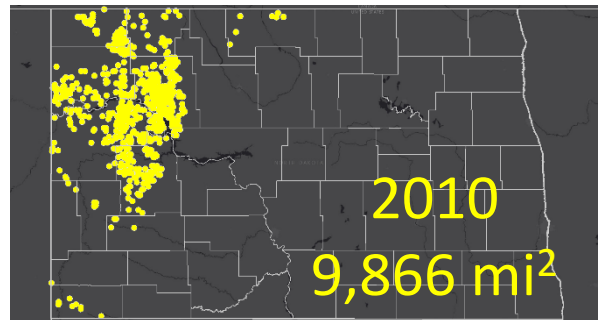
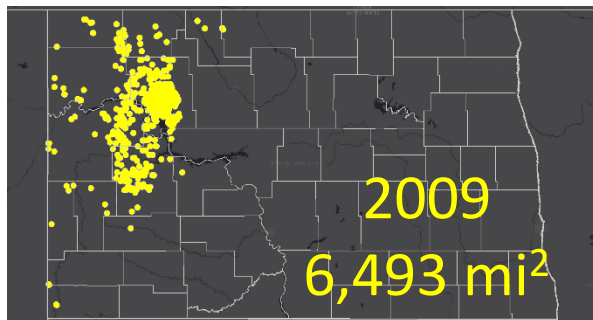
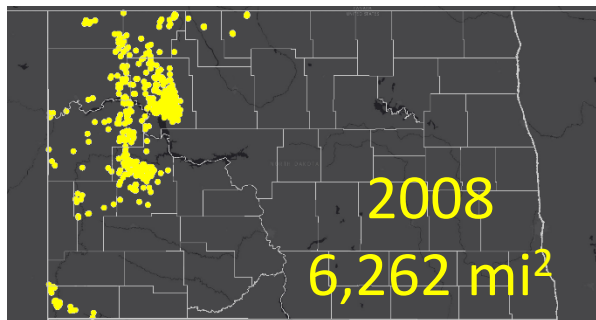


Sources: NDIC & PHMSA

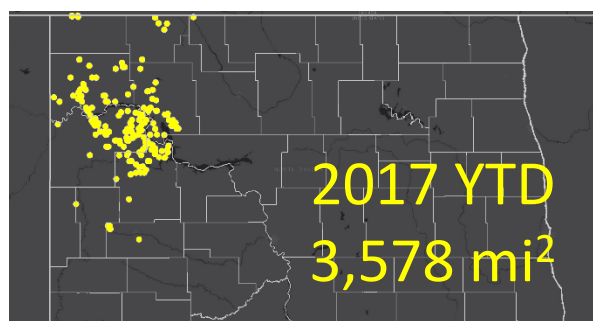


New Miles and Well Completions

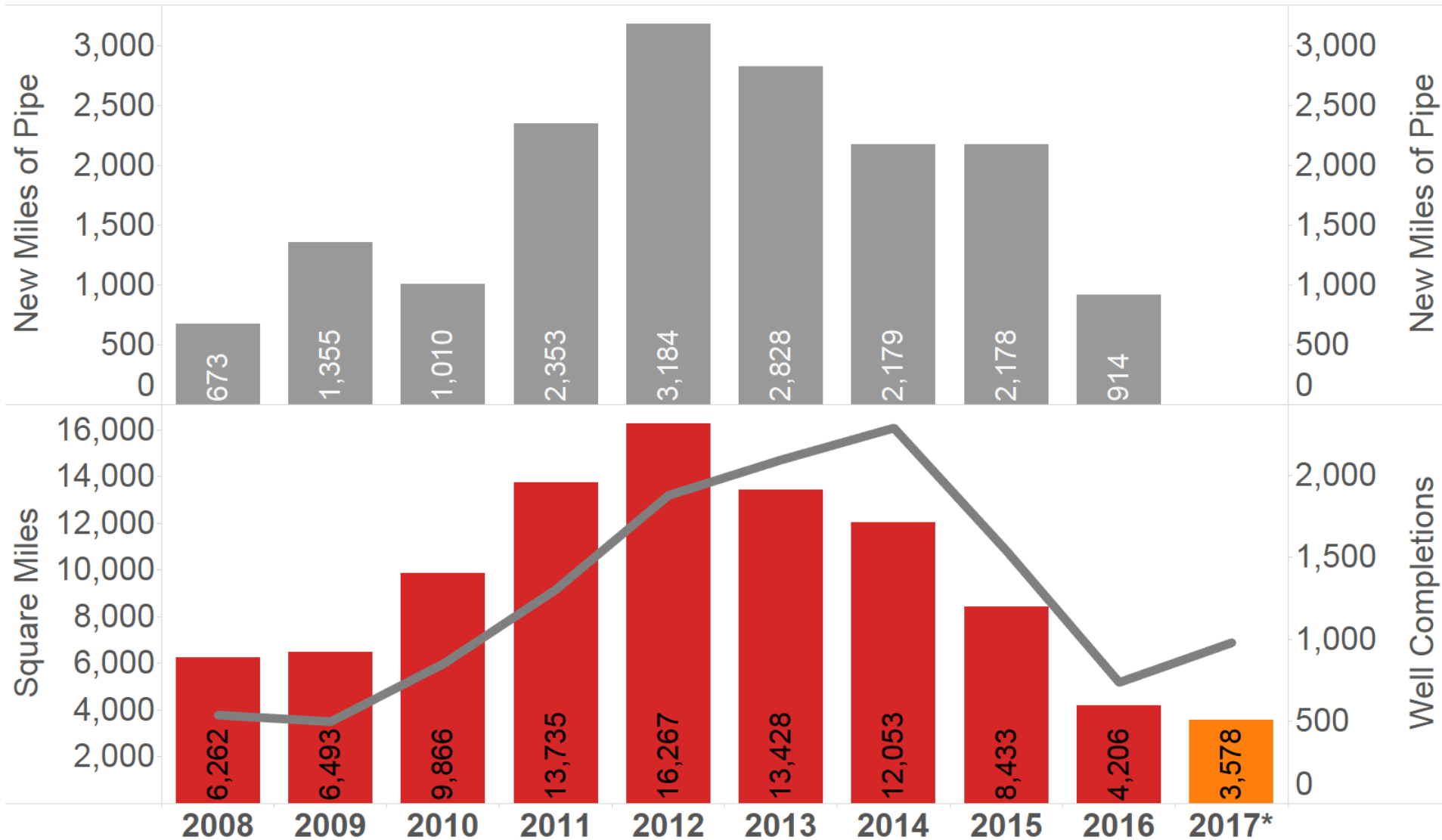




2 Mile Buffer Around New Wells By Year



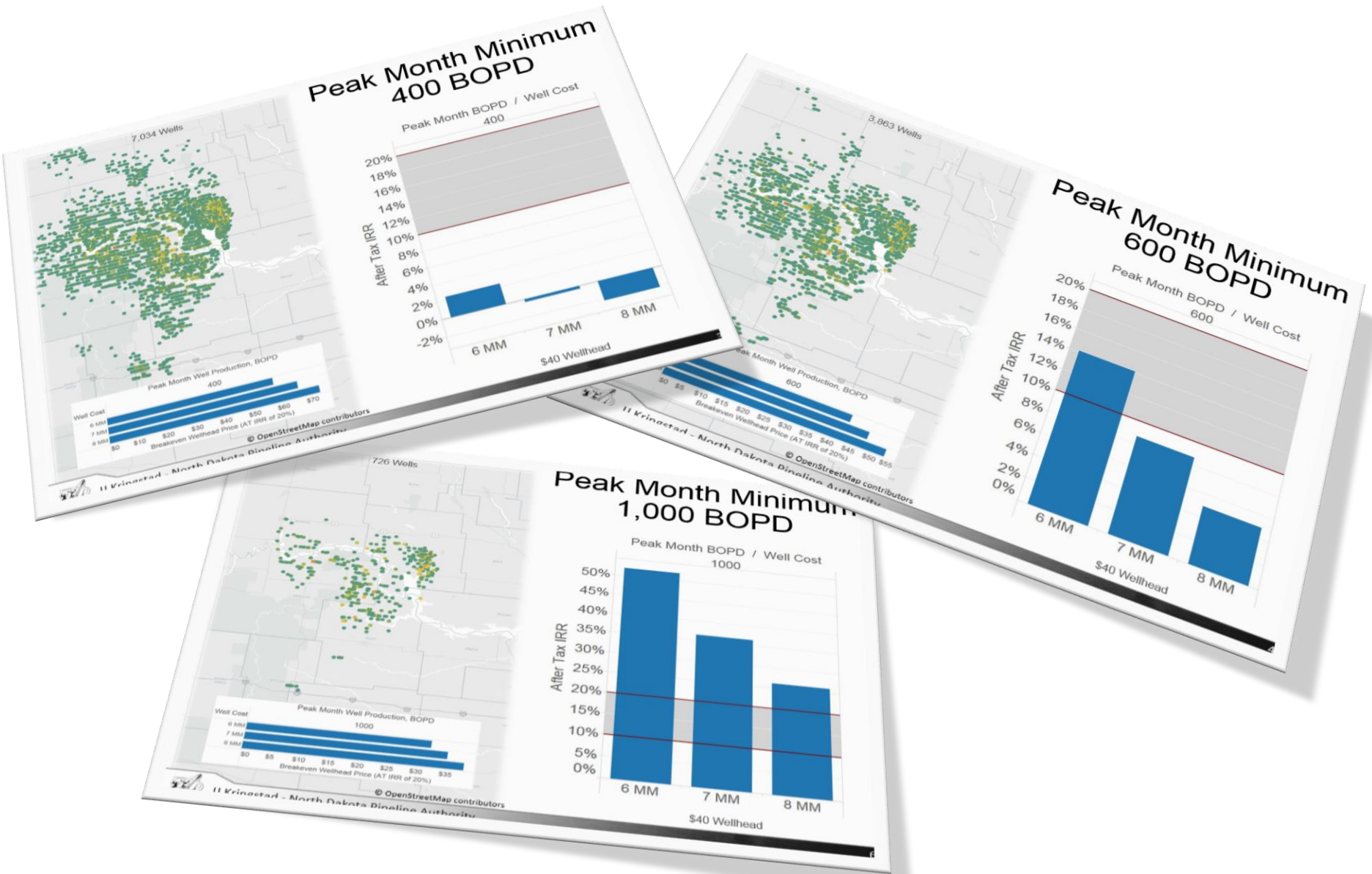
New Miles and Activity Footprint



*2017 Forecasted

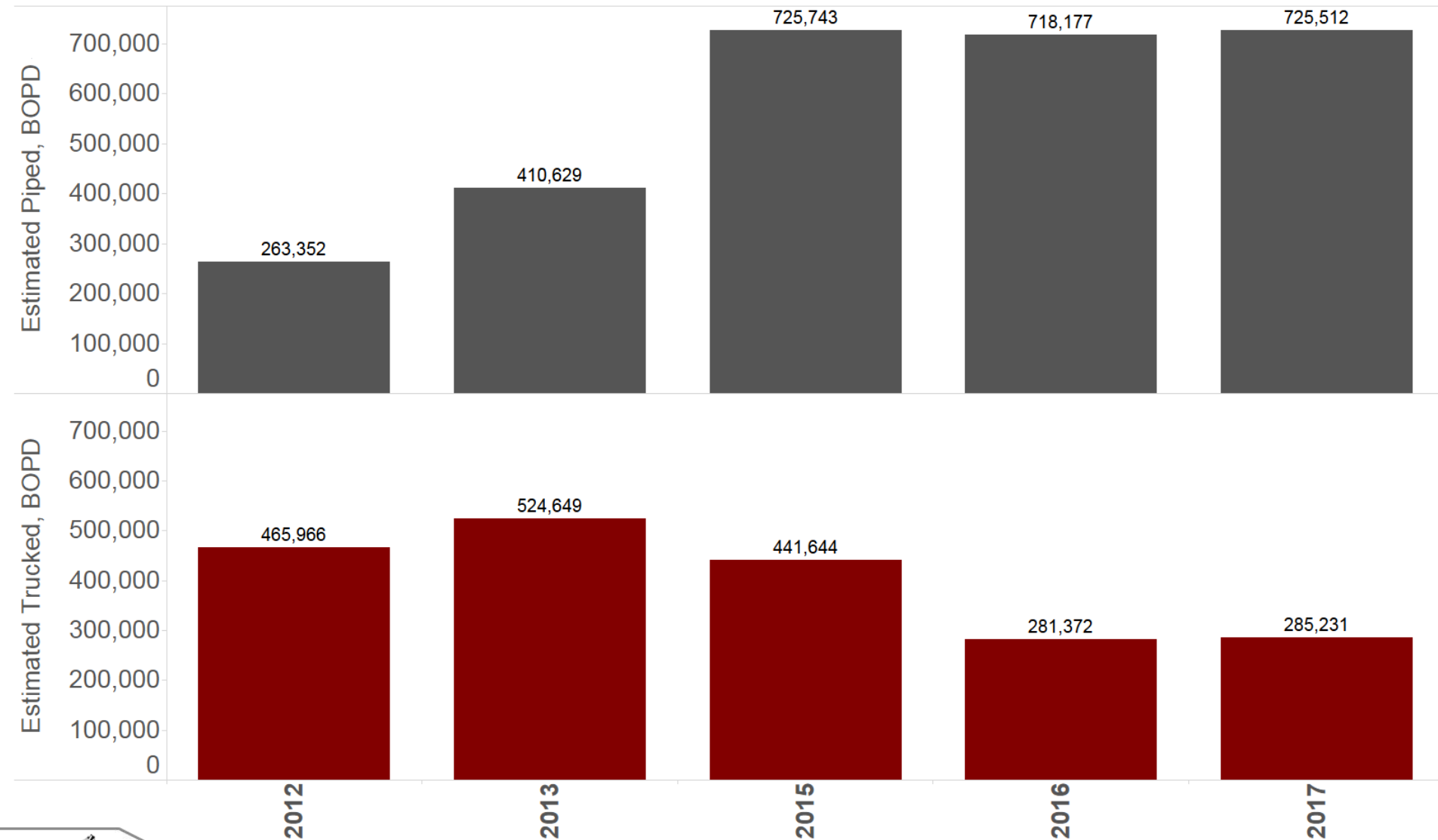


Predicting New Miles With Activity Footprint

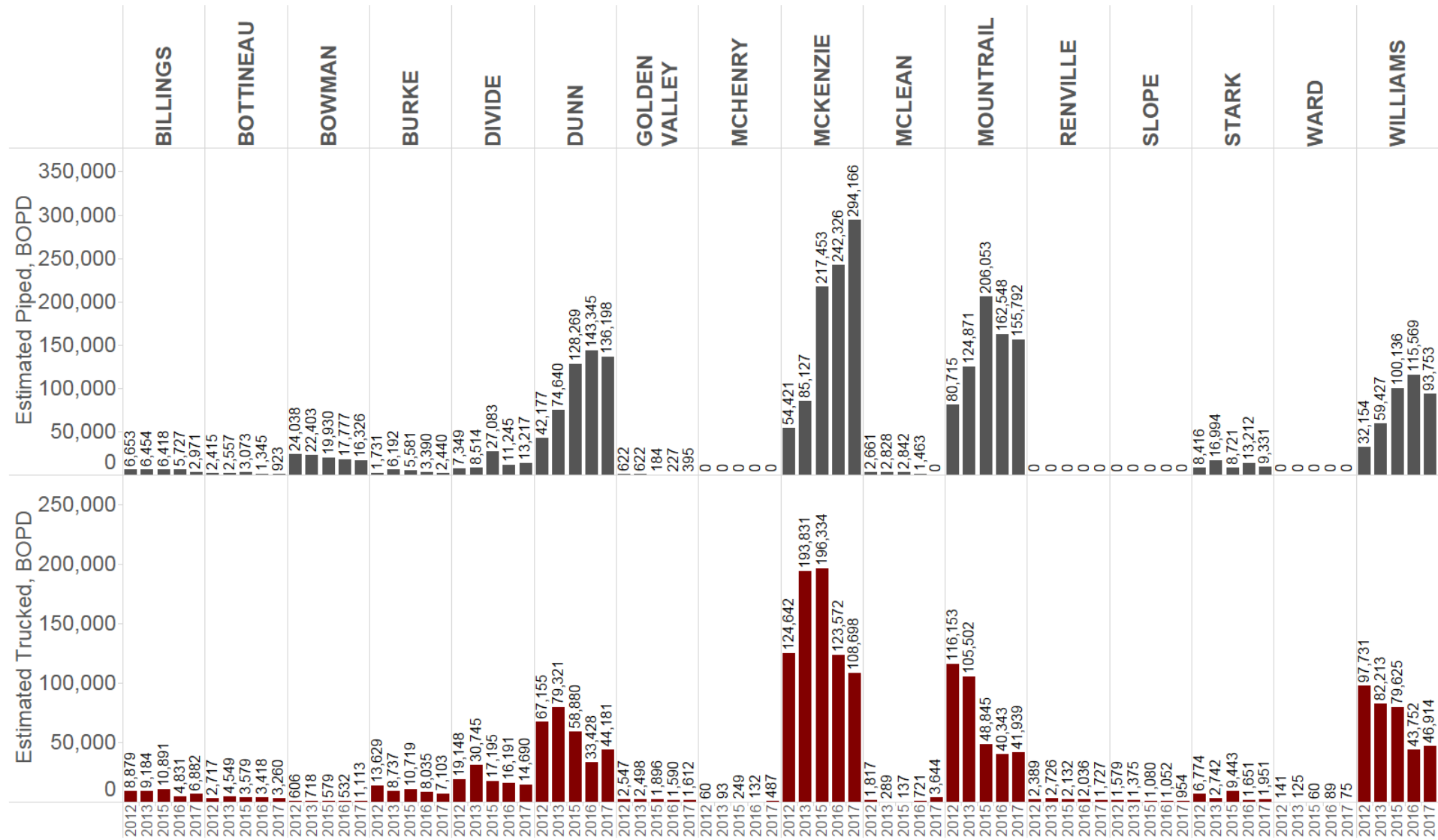


Evolution of Oil Gathering in ND

Statewide Totals



Evolution of Oil Gathering in ND



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