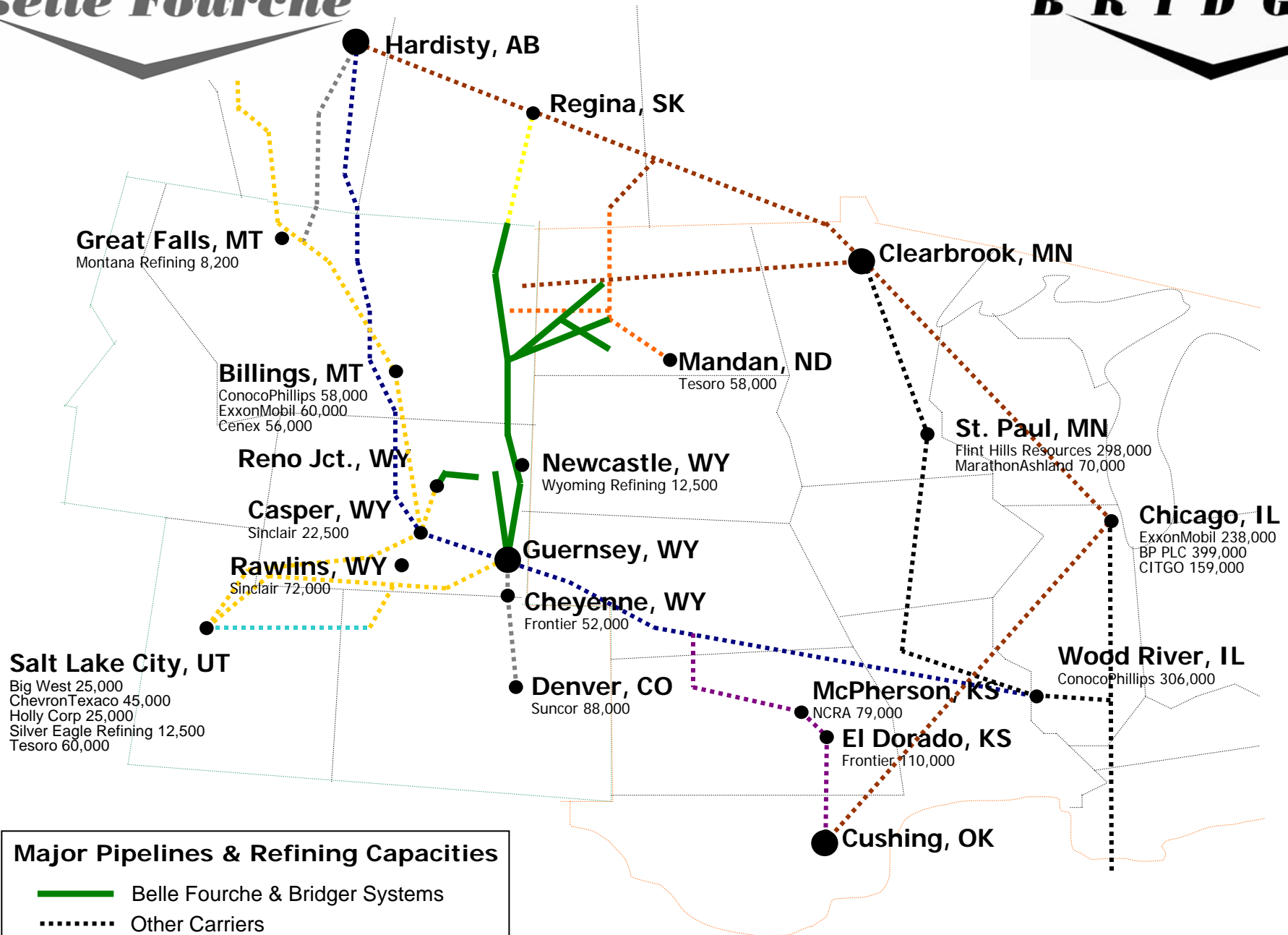




# Pipeline Capacity and the Crude Differential

A Presentation to the Wyoming  
Pipeline Authority

Tuesday, April 25, 2006





# Agenda

1. Problem Definition: ***Geographic Market Risk***
  - *Crude production in the Rocky Mountains is at risk of shutting in due to lack of pipeline space*
  - *Some crude production in the Rocky Mountains receives large discounts because it lacks market access*
2. Problem Cause
3. Problem Development
4. Proposed Solutions and the Problems they solve



## PROBLEM CAUSE



# Summary of Causes

### **Supply**

- Increased domestic production causes exports to lower paying regions
- Incremental domestic production and incremental Canadian imports compete for pipeline space

### **Demand**

- Seasonal slack decreases demand
- Expected and long term unexpected refinery shutdowns shock demand

### **Other**

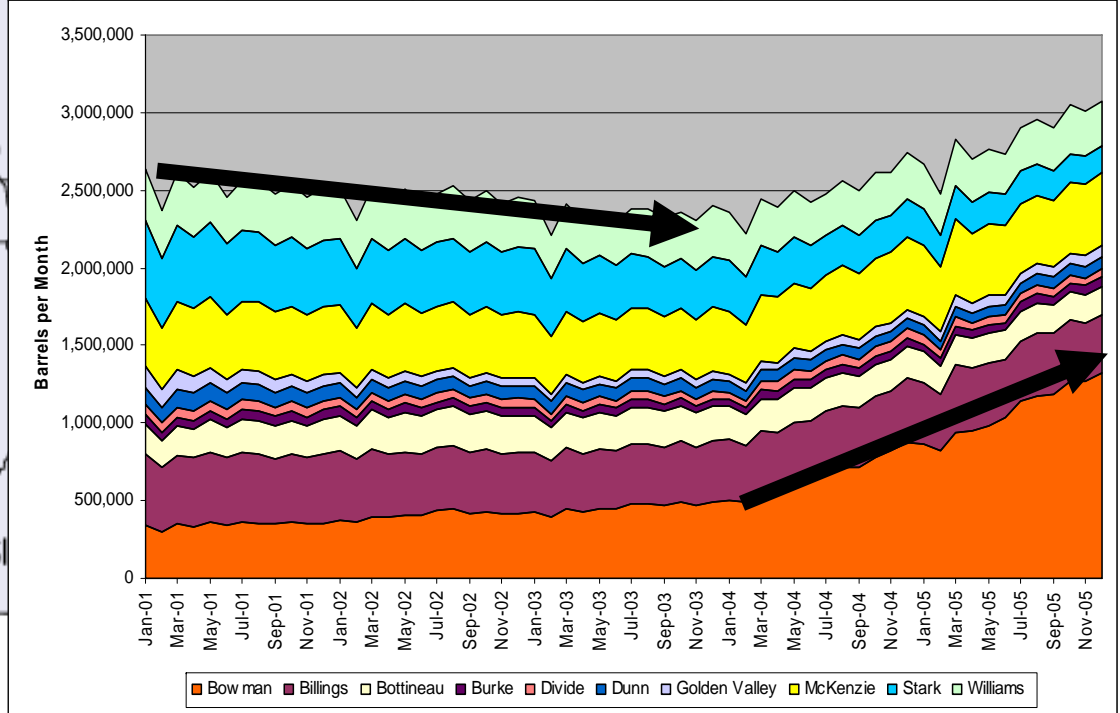
- Quality differences
- Pipeline constraints on northern and southern exits from Rocky Mountains



# PROBLEM CAUSE



<i>Two North Dakotas</i>		
	<b>Bowman County</b>	<b>All others</b>
Volume	~43,000 bpd	~61,000 bpd
Gravity	31-33	38-42
Market	<b>Guernsey</b>	Guernsey, Mandan & Clearbrook
Benchmark	Wyoming Sweet	North Dakota Light

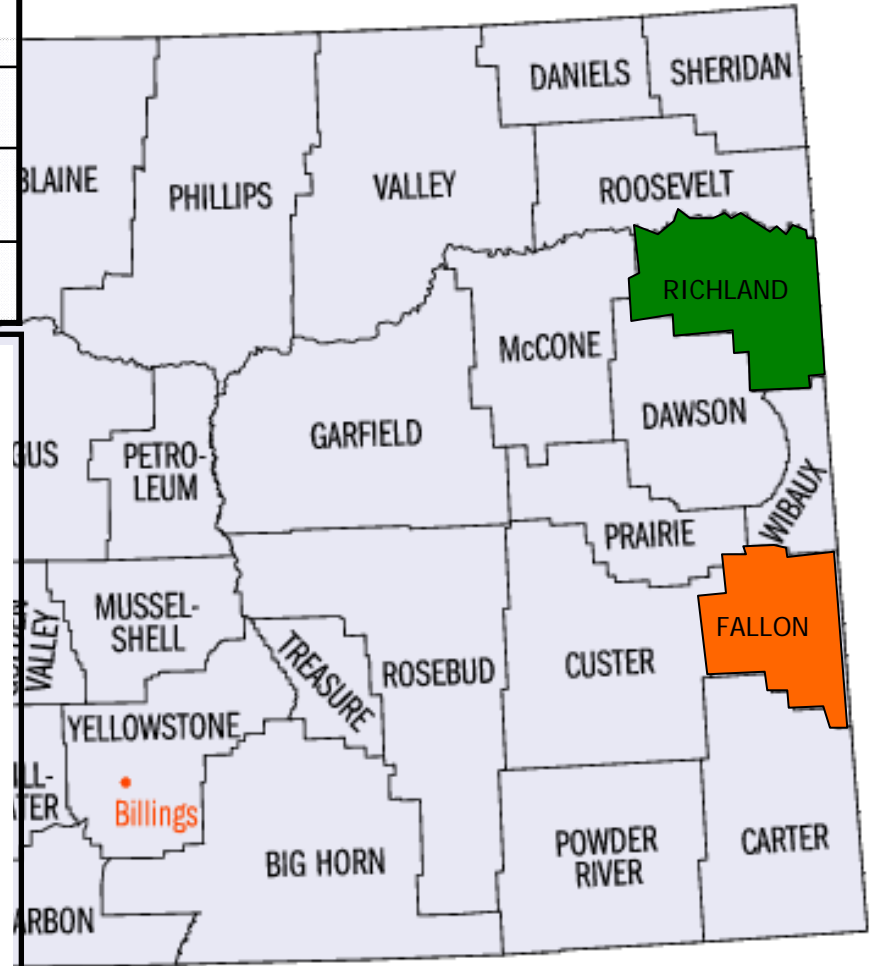
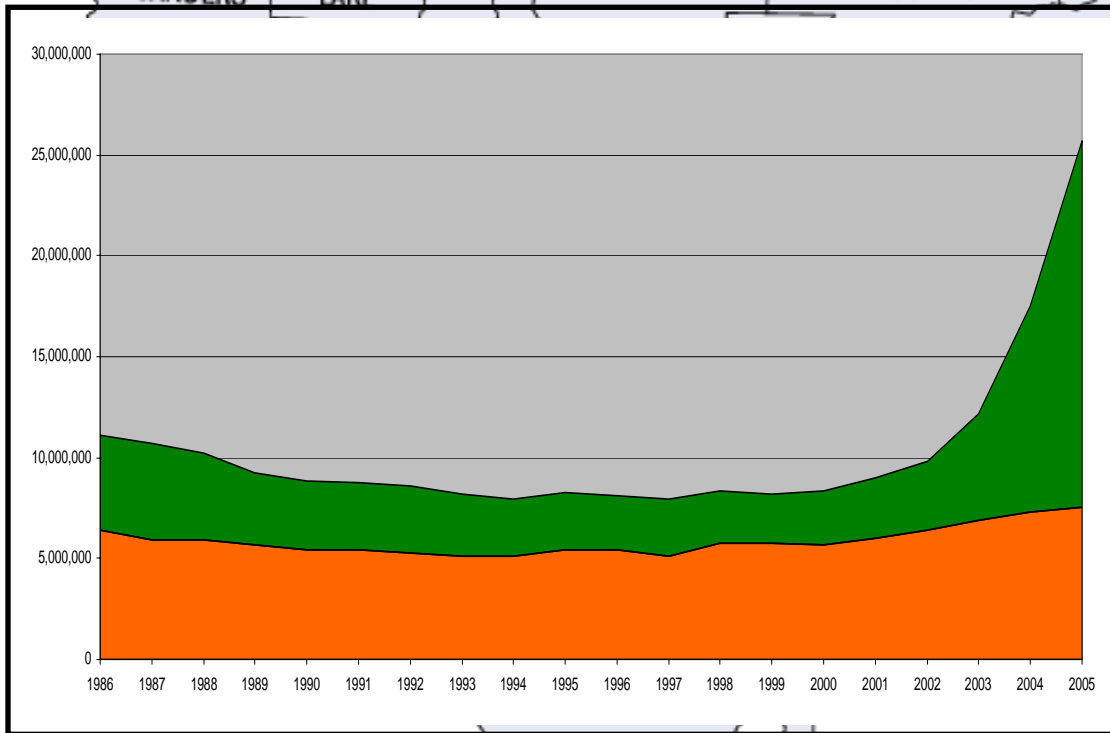




# PROBLEM CAUSE



<i>Two Montanas</i>		
	Fallon	Richland
Volume	~20,000 bpd	~56,000
Trend	Steady Increase	Dramatic Increase
Market	<b>Guernsey</b>	Guernsey, Mandan & Clearbrook
Benchmark	Wyoming Sweet	NDS or LS



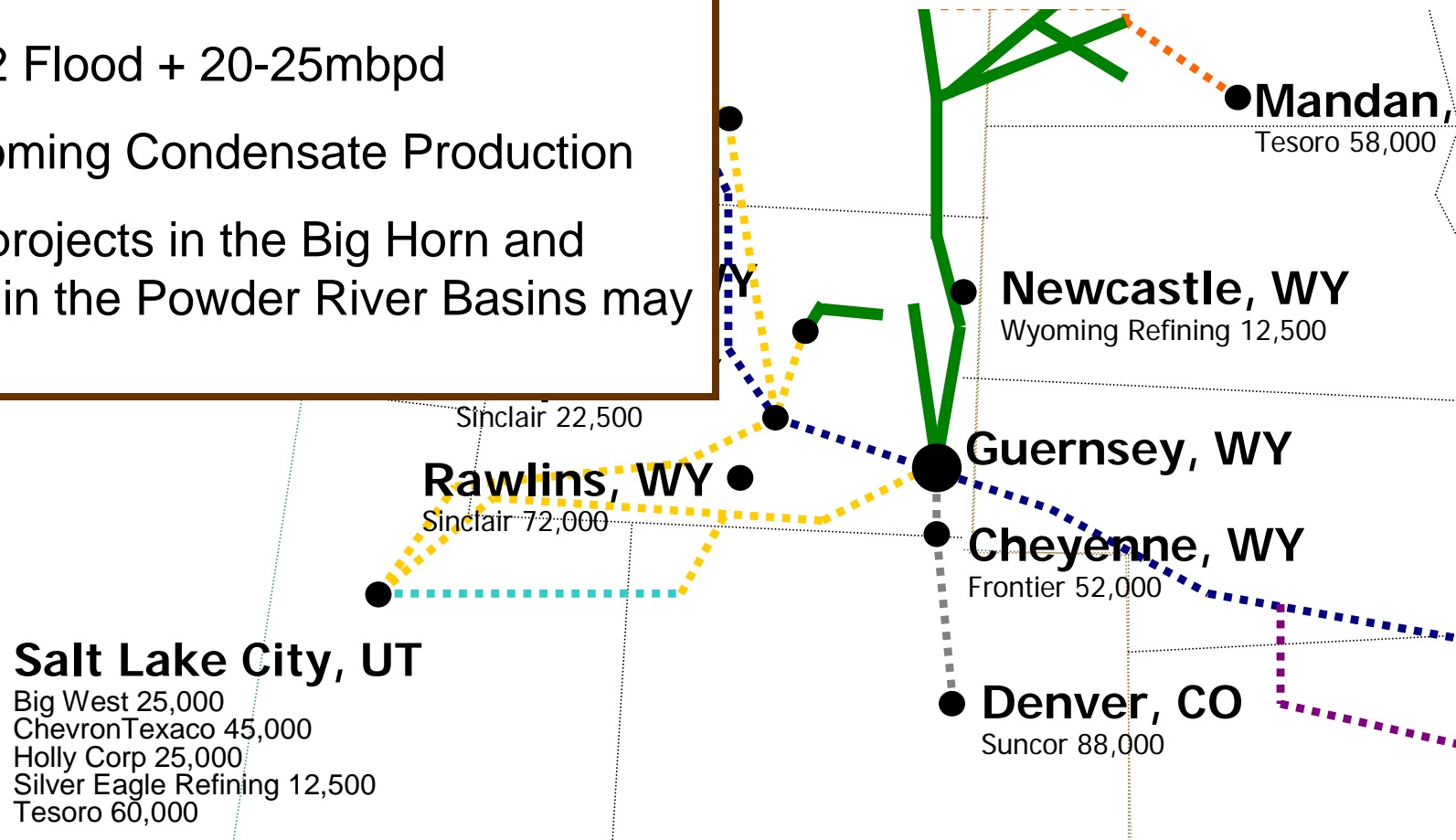
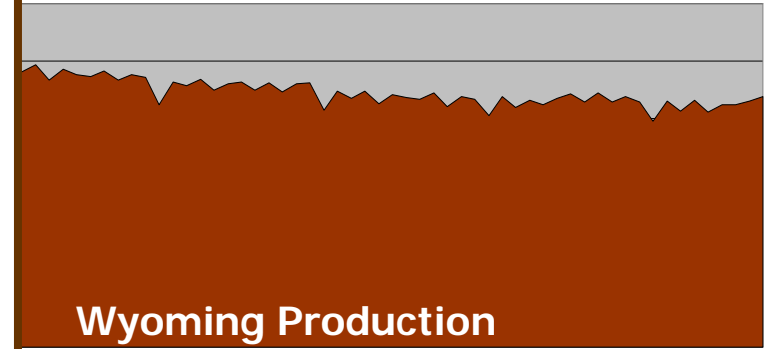


# PROBLEM CAUSE



## Wyoming Topics

- Two Markets: Casper/ Guernsey
- Wyoming produces 140,000 bpd of General Sour, Asphaltic, Condensate and Powder River Basin sweet
- Salt Creek CO2 Flood + 20-25mbpd
- Southwest Wyoming Condensate Production
- Future tertiary projects in the Big Horn and horizontal plays in the Powder River Basins may be in jeopardy





# PROBLEM CAUSE



Montana

**Enbridge 80,000**

North Dakota

Alexander

Mandan

40,000

Little Missouri

Baker

South Dakota

Wyoming

Osgo

Newcastle

Casper

Frontier 65,000

Rawlins

RMPL 15,000

Ft. Laramie/ Guernsey

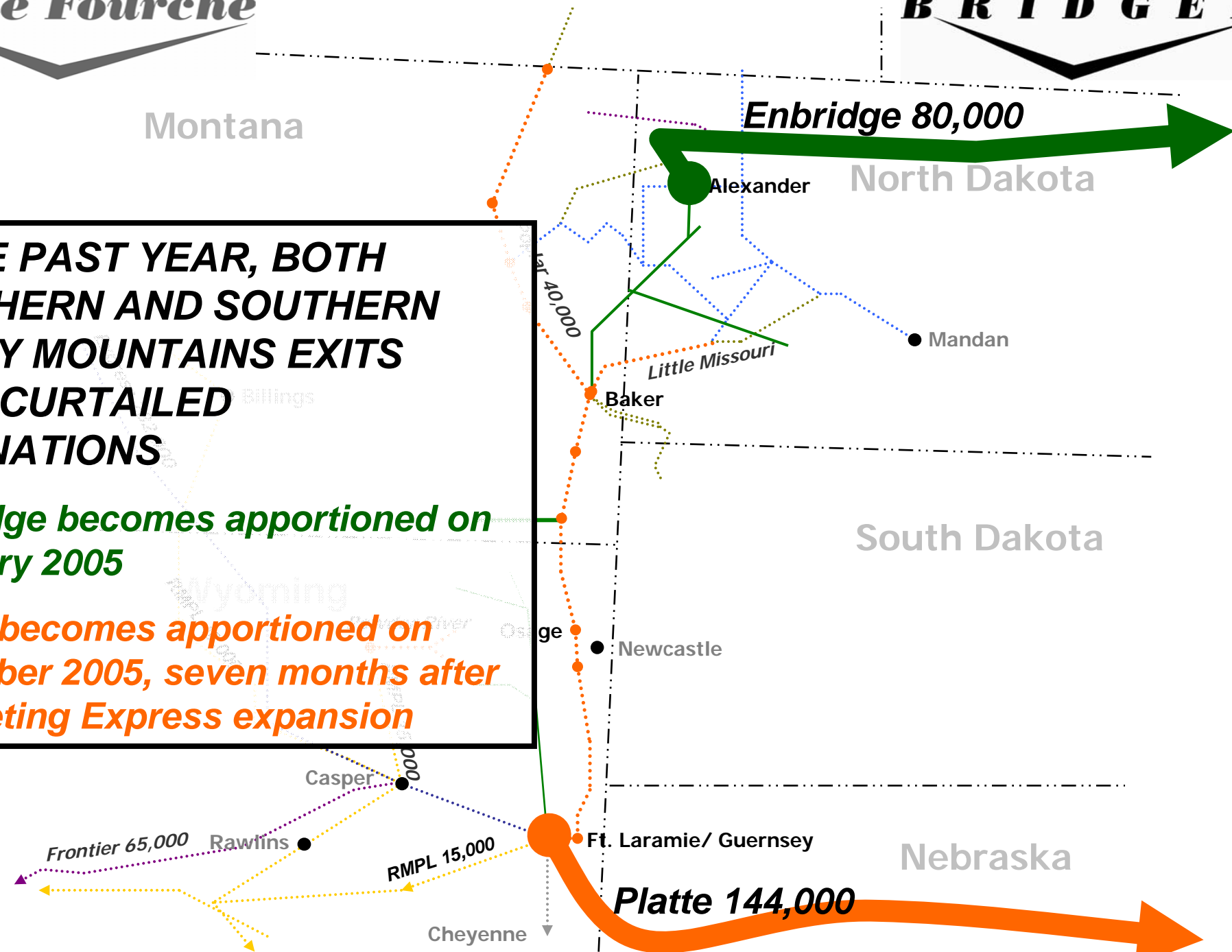
Nebraska

**Platte 144,000**

Cheyenne

**IN THE PAST YEAR, BOTH NORTHERN AND SOUTHERN ROCKY MOUNTAINS EXITS HAVE CURTAILED NOMINATIONS**

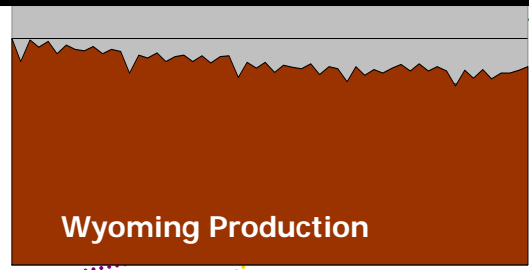
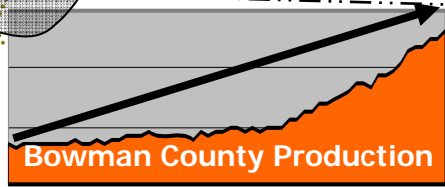
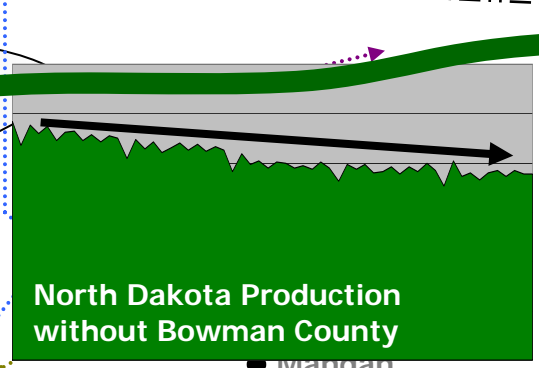
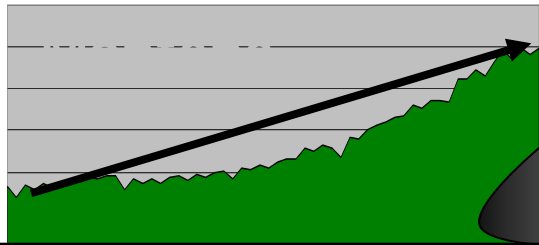
- Enbridge becomes apportioned on February 2005**
- Platte becomes apportioned on December 2005, seven months after completing Express expansion**





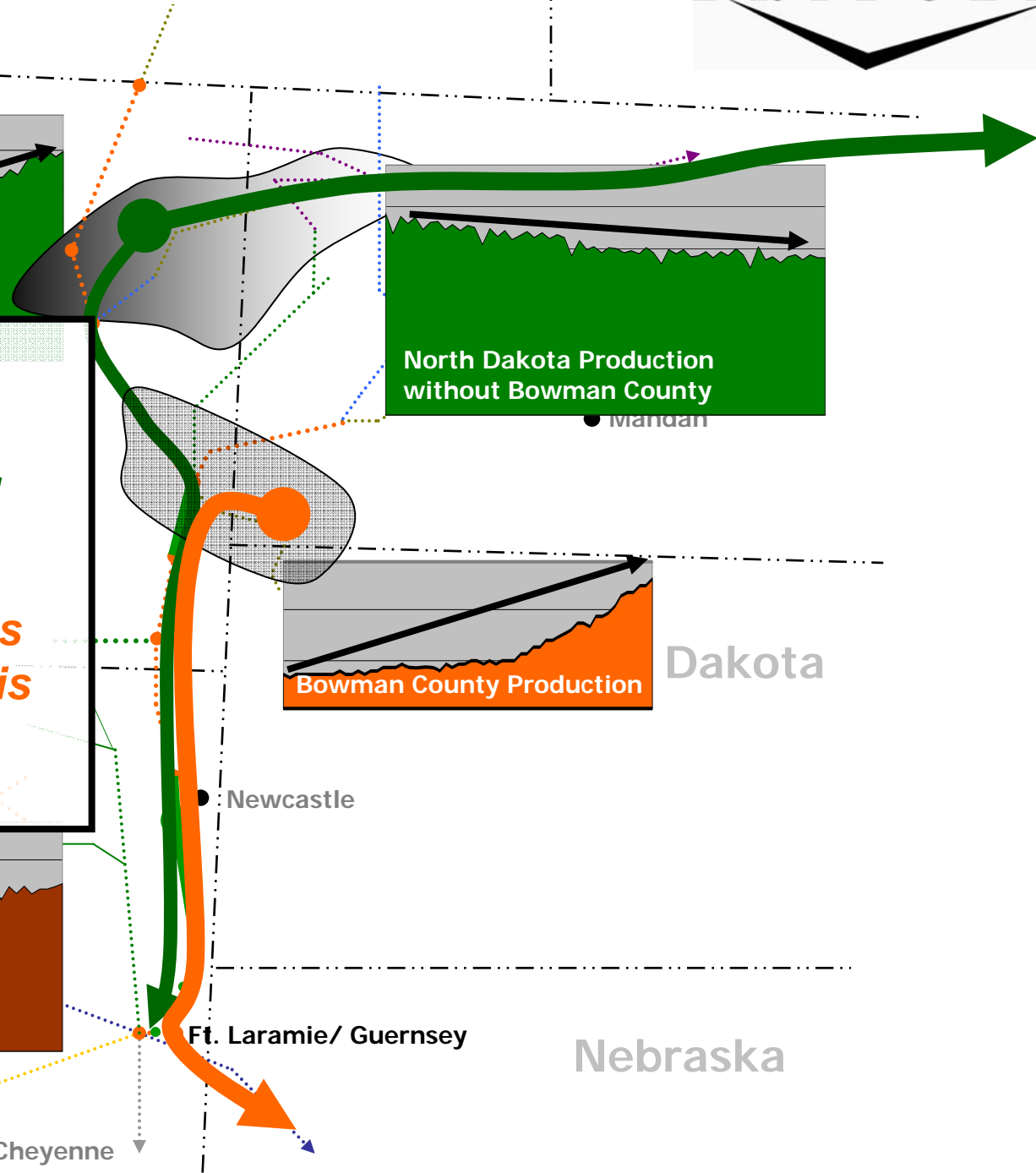


# PROBLEM CAUSE



**A general statement**

- **Richland County's problem is lack of space on Enbridge and lack of access to Salt Lake**
- **Wyoming's, Bowman County's and Fallon County's problem is lack of capacity leaving Guernsey, WY**

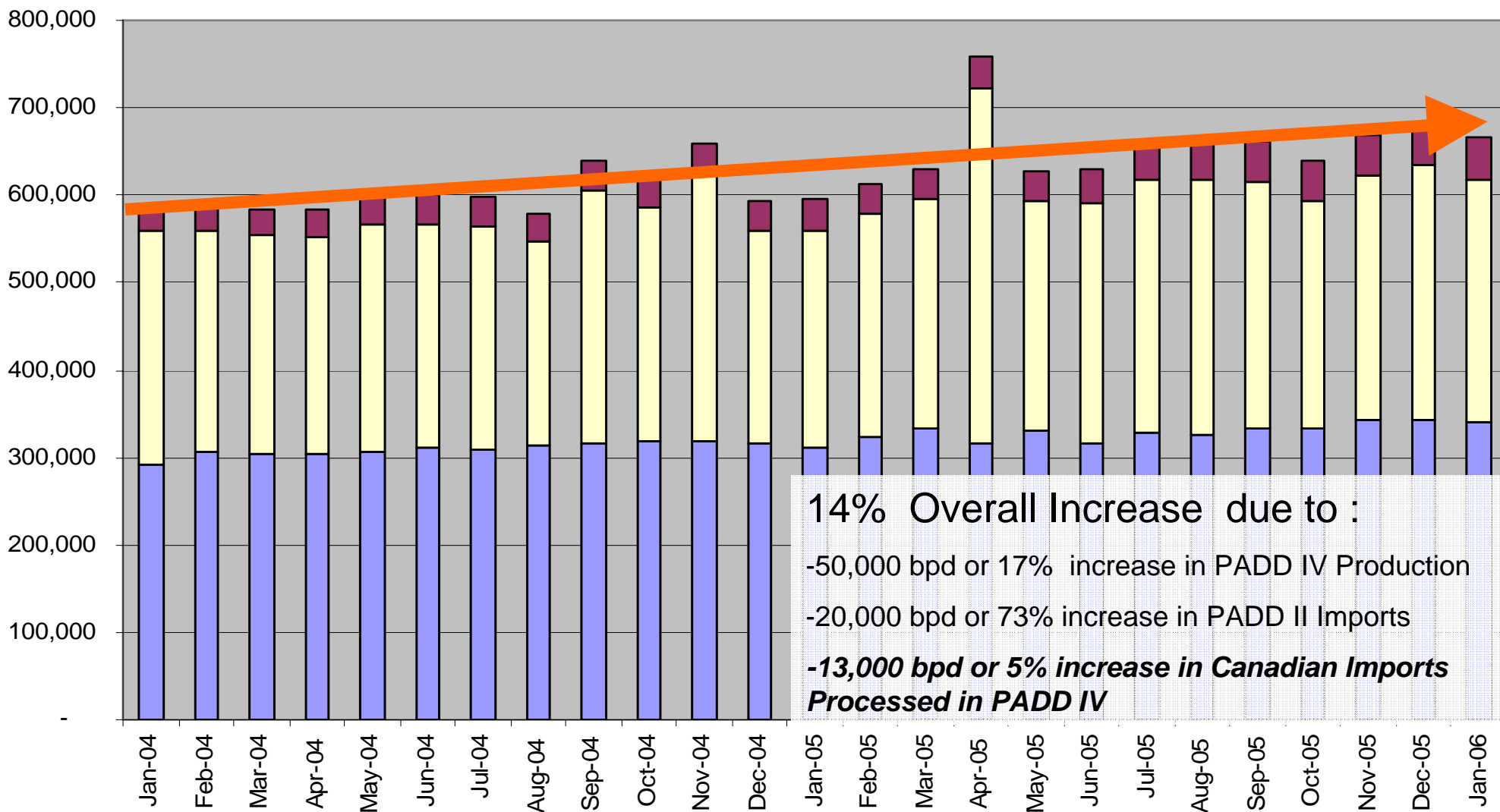


Sources: Montana Oil & Gas Commission, North Dakota Industrial Commission, Energy Information Administration



PROBLEM CAUSE

# Supply



Source: Energy Information Administration

■ PADD IV Production ■ PADD IV Foreign Imports (Canadian) ■ PADD IV Domestic Imports



# SOLUTIONS



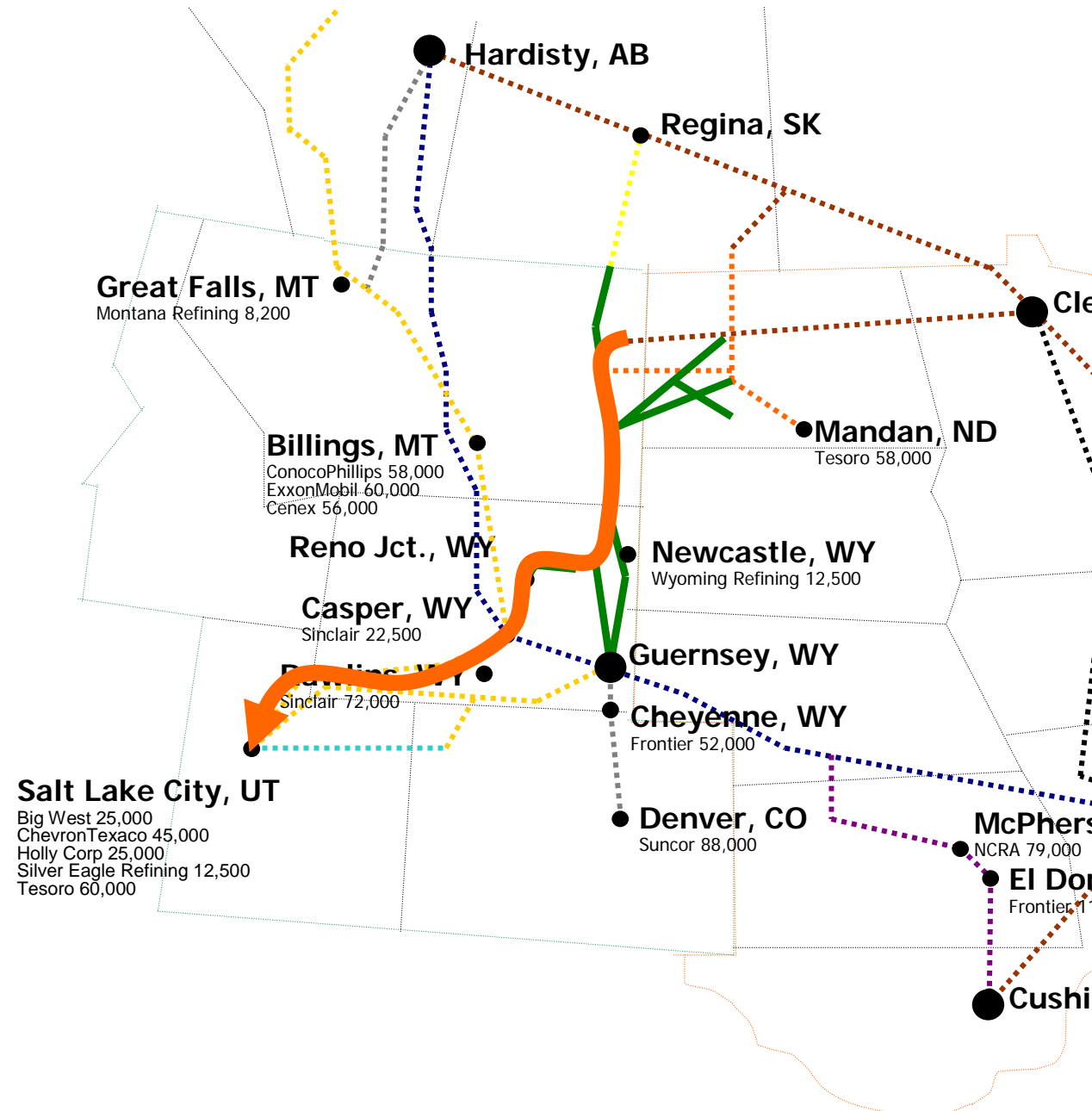
## Near Term Solutions

**Segregate Quality Streams to Guernsey**

- Currently in effect
- Butte segregates Light Sweet Stream (LS) (.2%wt S 38+ API)

**Segregate LS to Salt Lake City**

- 6 months
- Belle Fourche creates a new route for delivering LS to RMPL for delivery into Frontier PL at Casper





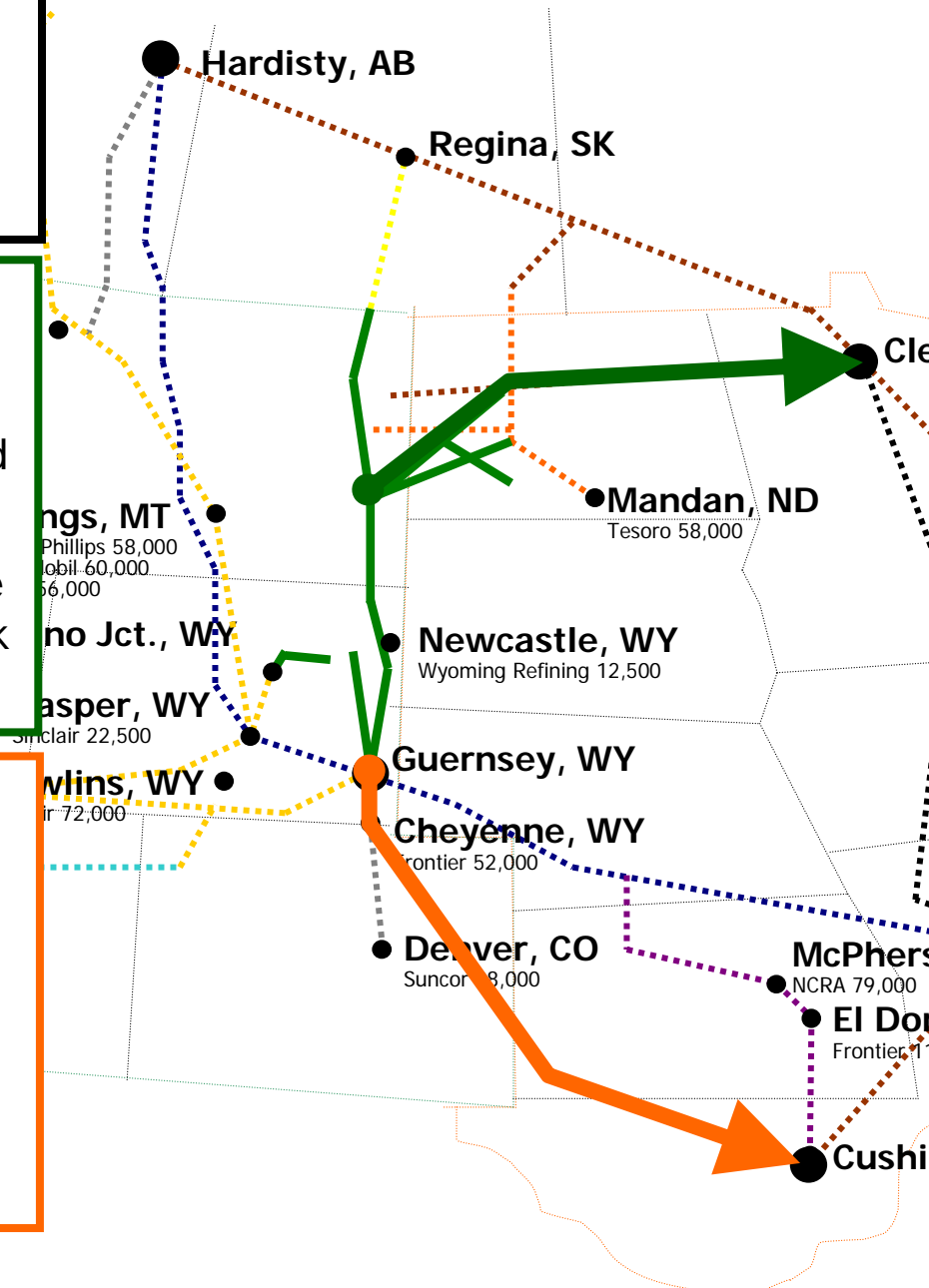
# SOLUTIONS



## Long Term Solutions

- Enbridge increases capacity on North Dakota system (18 Months).
  - Helps Richland County, MT production and proposed Bakken production in N.D.
  - If Enbridge loops line from Alexander to Tioga, Belle Fourche could deliver more CCA barrels to Clearbrook Market.

- Build new pipeline leaving Guernsey to Cushing (2-3 Years) or other Midwest Destination
  - Ties all Rocky Mountain production directly to NYMEX contract and reduces geographic market risk
  - Many rumored projects...





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