



Grain Handling & Transportation

From Farm to Delivery Point

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Grain Price Competition *within*

U.S. Grain Markets

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Grain Market Origins & Destinations

- **Origins**

- Locations FROM which grain is transported TO other destinations

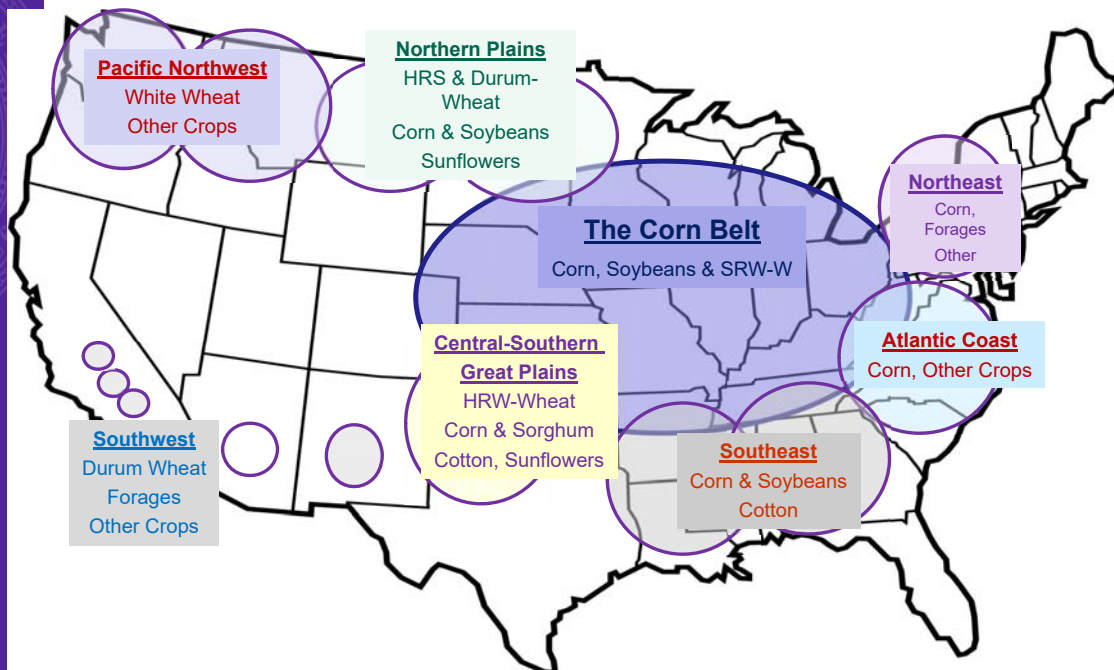
- HRW Wheat originates from Western Great Plains
 - Corn originates from Corn Belt; Milo from High Plains

- **Destinations**

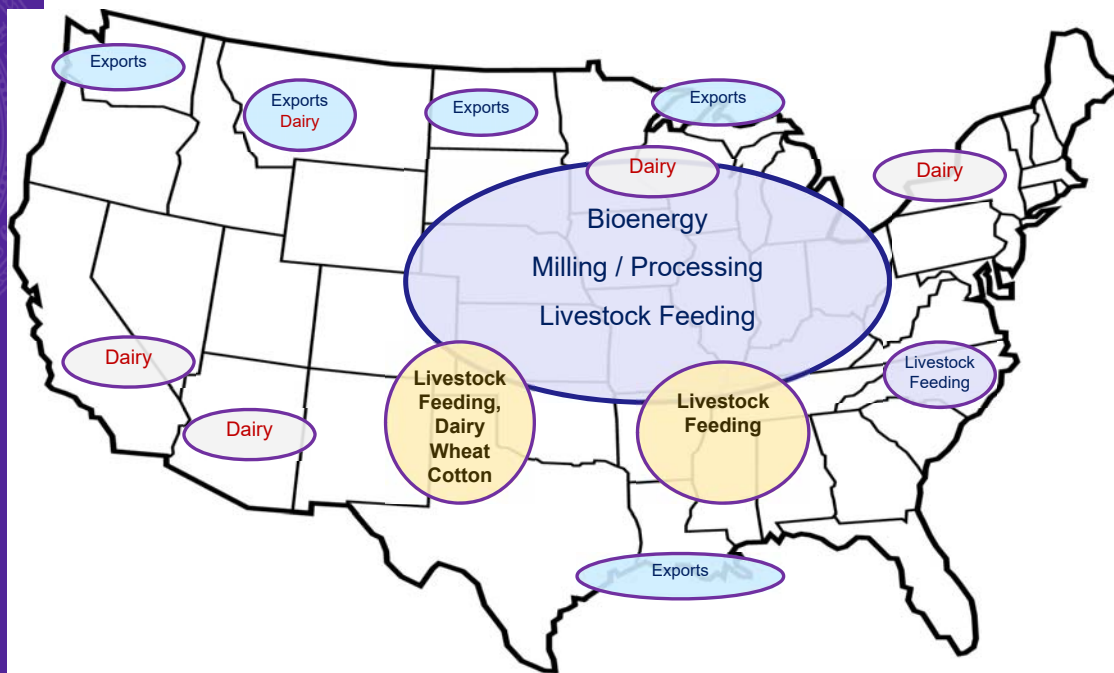
- Locations TO which grain is transported FROM other points of origin

- Kansas HRW Wheat destined for Flour Mills or Export
 - Feedgrains destined for SW Kansas livestock feeders, Ethanol-Processing Plants, or Export Terminals

U.S. Grain Production Regions



U.S. Regional Grain Use / Demand

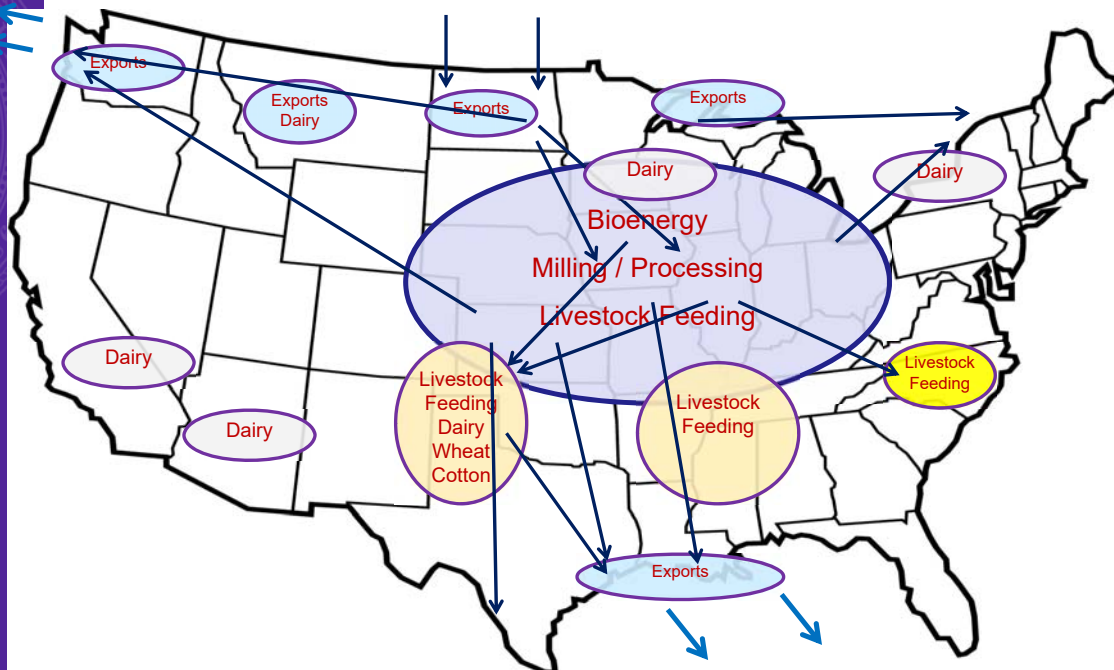


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Transportation Flow of U.S. Grain to Use

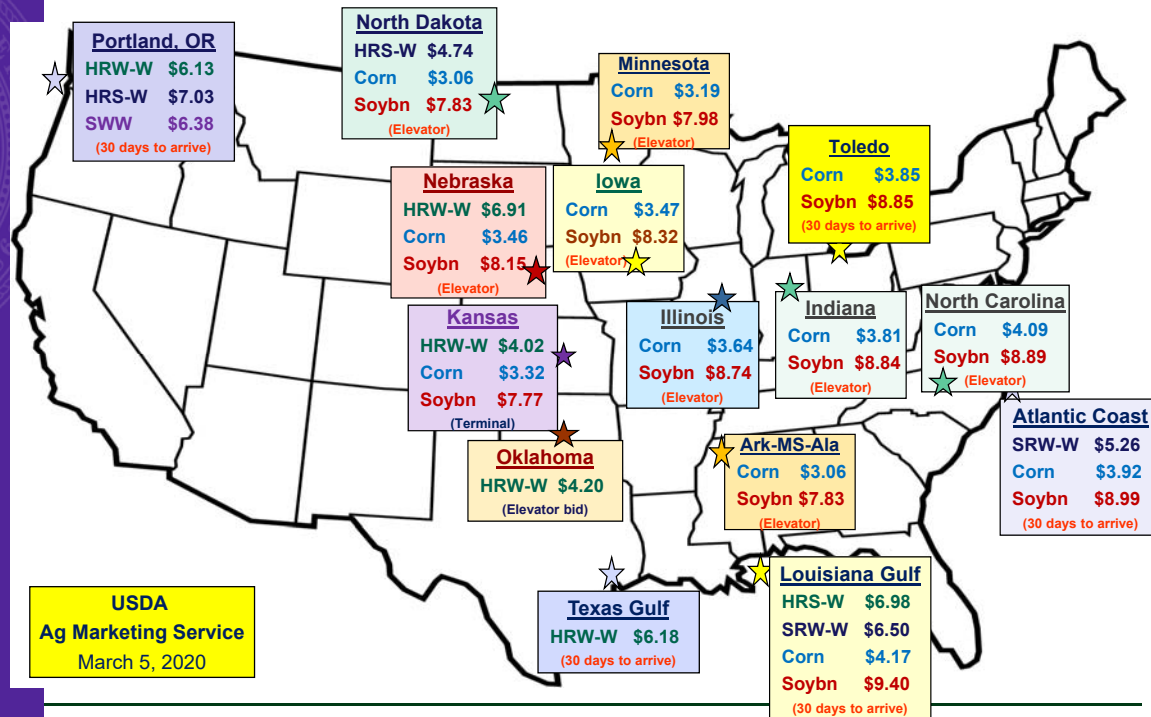


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U.S. Grain Prices by Major Location



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Feedgrain Market Origins & Destinations



Kansas Cash Corn & Grain Sorghum Prices

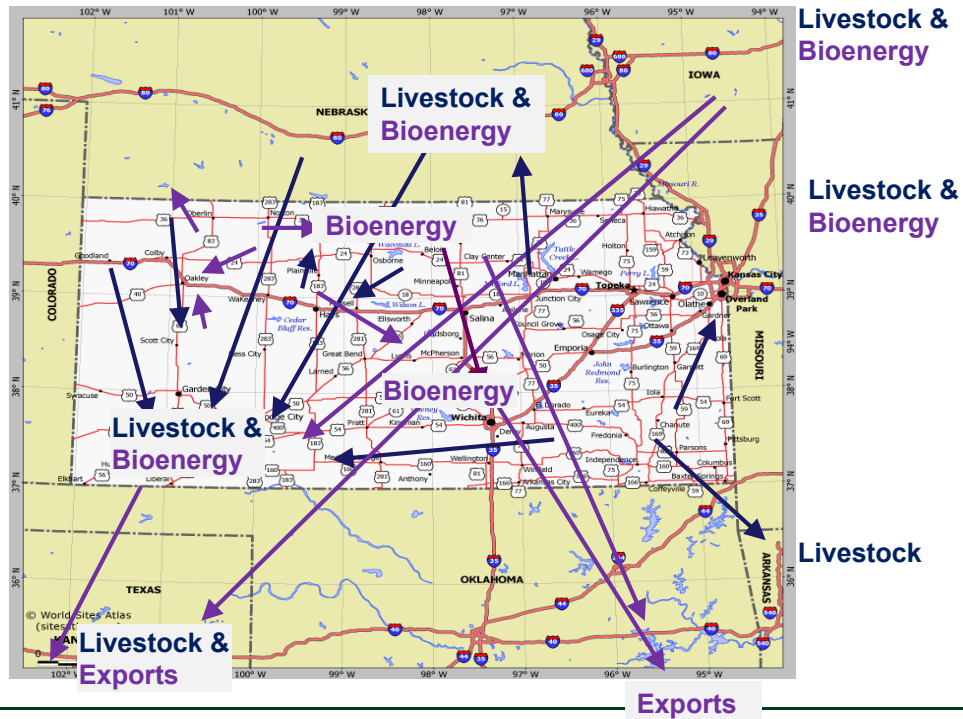


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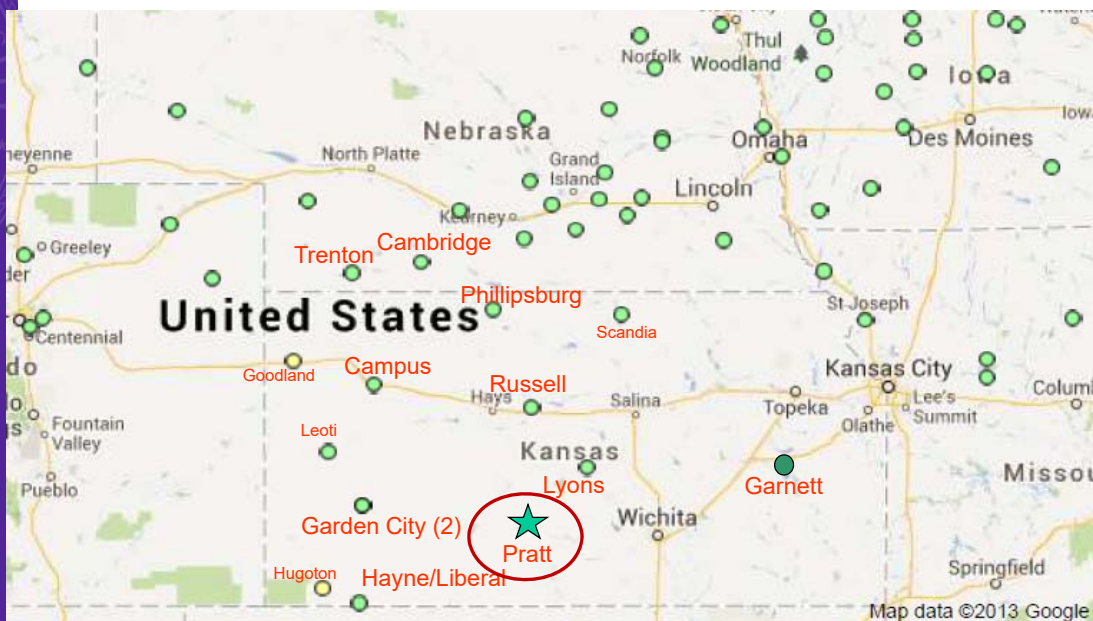
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Kansas Feedgrain Origins-Destinations



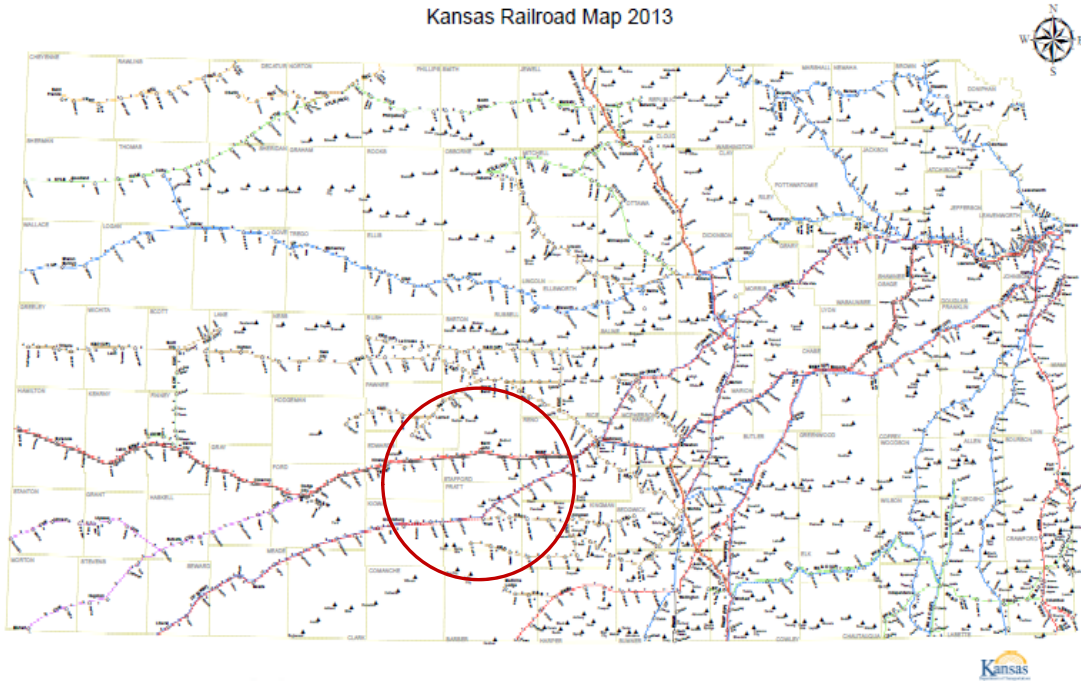
Kansas Ethanol Plant Locations 2020

Source: Renewable Fuels Association



Kansas Railroad Map

Kansas Railroad Map 2013

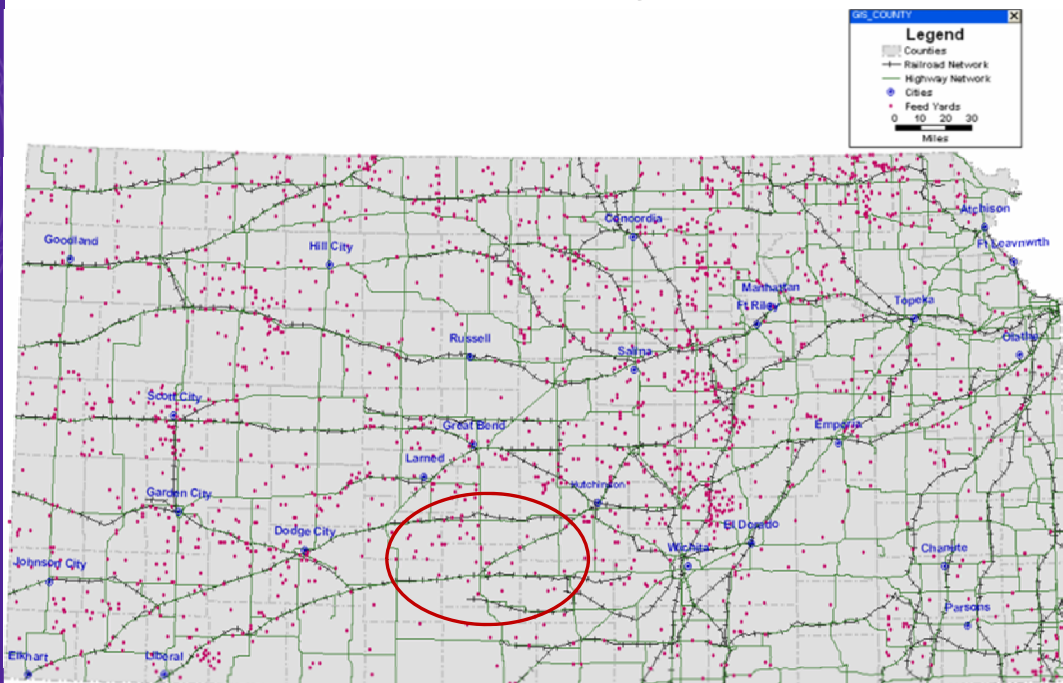


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Kansas Railroads & Feedyards (July 2007 Study)

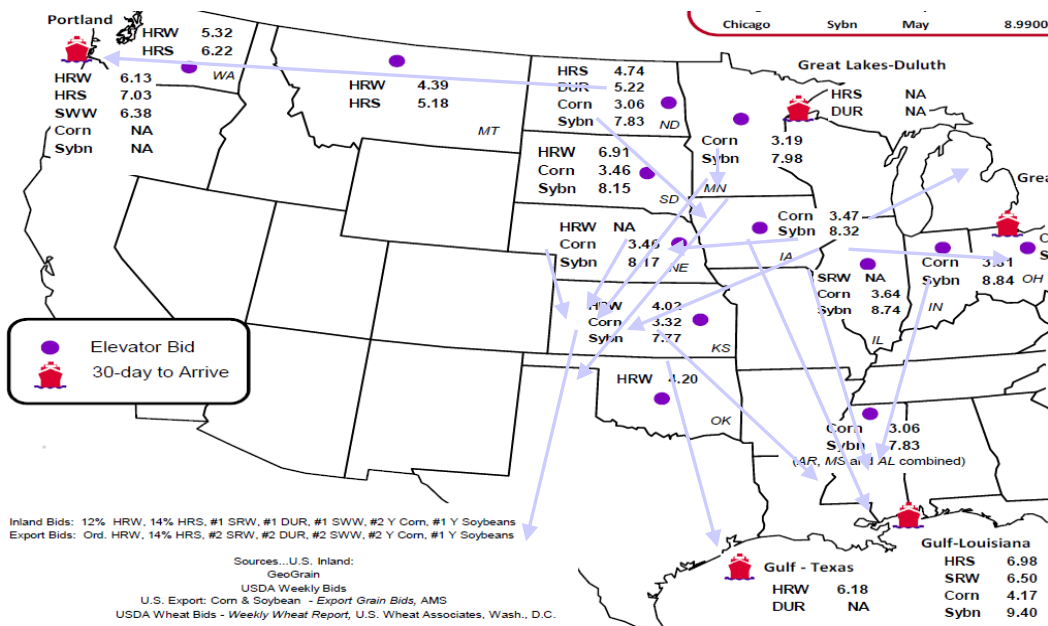


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U.S. Feedgrain Origins & Destinations



The Economic Cost of Transporting Grain Off-Farm by Semi-Tractor/Trailer



2020 Iowa Farm Custom Rate Survey

Custom Grain Trucking/Hauling Costs

	Average	Low	High
5 miles (1-way)	\$0.10 ⁴ /bu	\$0.05 /bu	\$0.20 /bu
25 miles (1-way)	\$0.16 ³ /bu	\$0.09 /bu	\$0.28 /bu
100 miles (1-way)	\$0.30 ⁰ /bu	\$0.15 /bu	\$0.44 /bu

Grain Transportation Cost Example #1

Semi-Truck Expense & Use Estimates

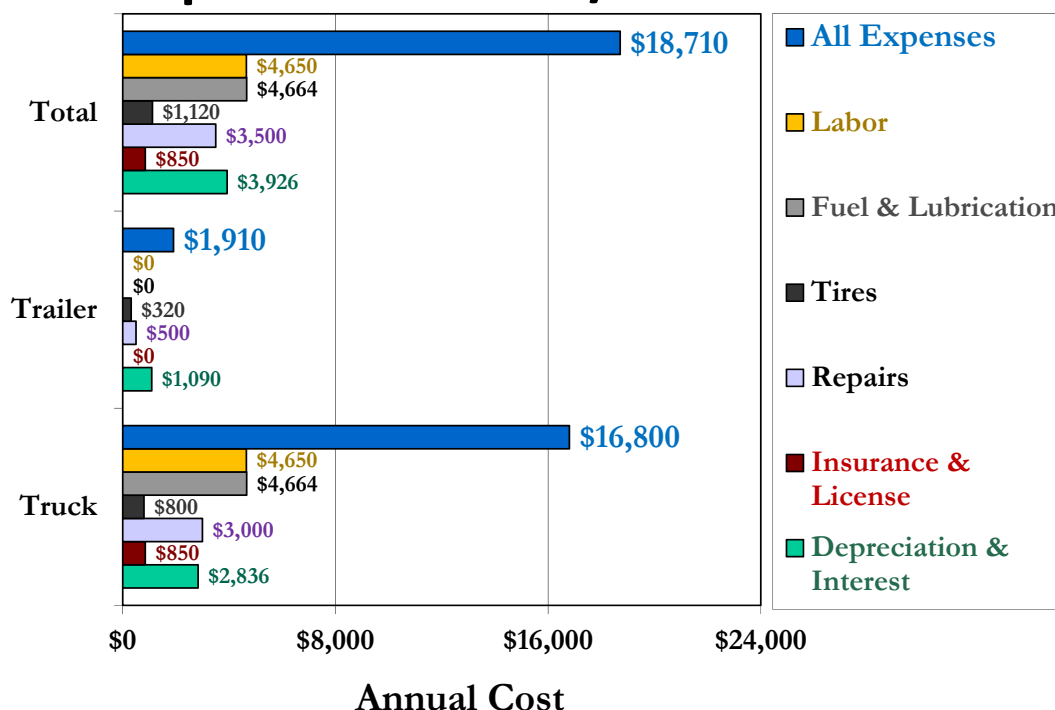
- Purchase Price (Used)
 - \$30,000 (\$25K - \$35K)
- Useful Life
 - 10 years
- Salvage Value
 - \$11,000 (\$10K - \$15K)
- Repairs/Year
 - \$3,000
- Tire Expense (10 tires)
 - \$400/tire, 40K miles/tire
- Annual Use
 - 8,000 miles
 - 100,000 bu. (1,000 / load)
 - 100 round trips annually
- Fuel
 - \$2.65/gallon, 5.0 mpg
 - 50 mph avg. hauling speed
- Other
 - License-insurance: \$850 /yr
 - Labor \$15/hr, 5% Interest

Grain Transportation Cost (more) – Example #1

Semi-Trailer Expense Estimates

- Purchase Price (Used)
 - \$15,000 (\$10K - \$20K)
- Useful Life
 - 10 years
- Salvage Value
 - \$3,750 (\$2,000 - \$5,000)
- Repairs/Year
 - \$500 (\$400-\$500)
- Tire Expense (8 tires)
 - \$250/tire, 50K miles/tire
- Software Analysis Tool
 - Grain Truck Transportation Cost Calculator
 - Iowa State University Extension (Edwards)

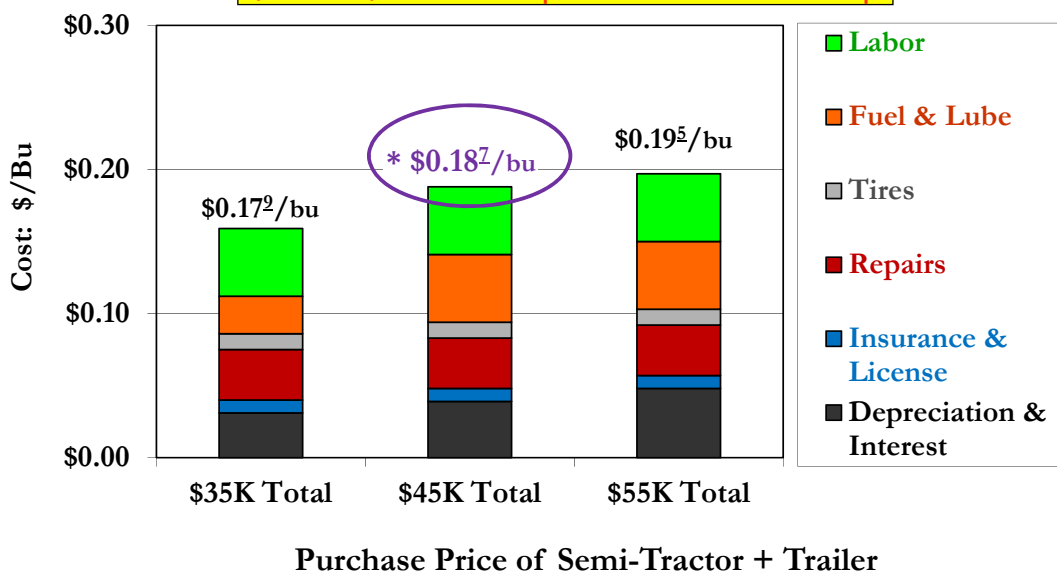
Example: Semi-Truck/Trailer Costs #1



Grain Trucking Cost #1 - \$Cost/bu.

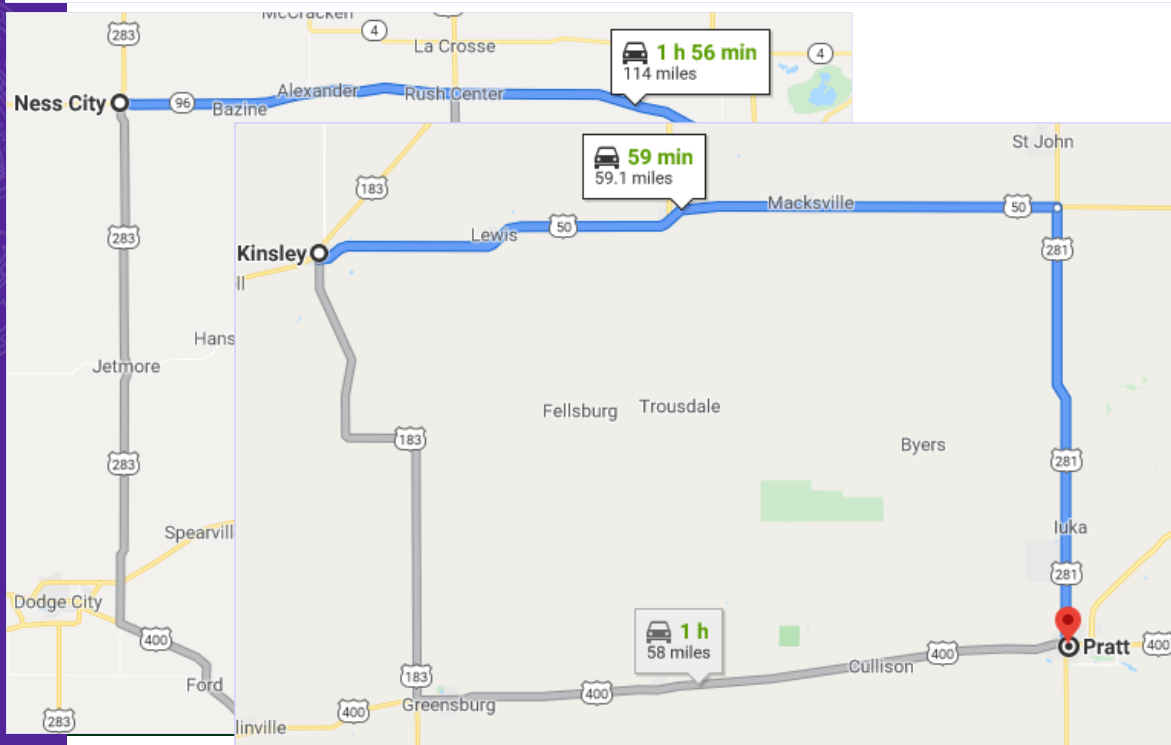
Semi-Tractor/Trailer (8,000 miles/yr)

\$2.23 - \$2.44 /mile per 80 mile Round Trip





Hauling Distances: Ness City & Kinsley to Pratt, KS



Corn Destination (Example #1): Pratt, SC KS

2-Way Trips (Empty Backhauls Included)

-
- Operating Costs: \$1.74 /mile or \$0.13⁹ /bu.
 - Total Cost: \$2.34 /mile or \$0.18⁷ /bu.
-

- Kinsley ⇨ Pratt: 118 miles (2 way x 59 miles)
 - Operating Cost = \$205 / Total Cost = \$276 per load
- Ness City ⇨ Pratt: 228 miles (2 way x 114 miles)
 - Operating Cost = \$397 / Total Cost = \$534 per load

Grain Transportation Cost Example #2

Semi-Truck Expense & Use Estimates

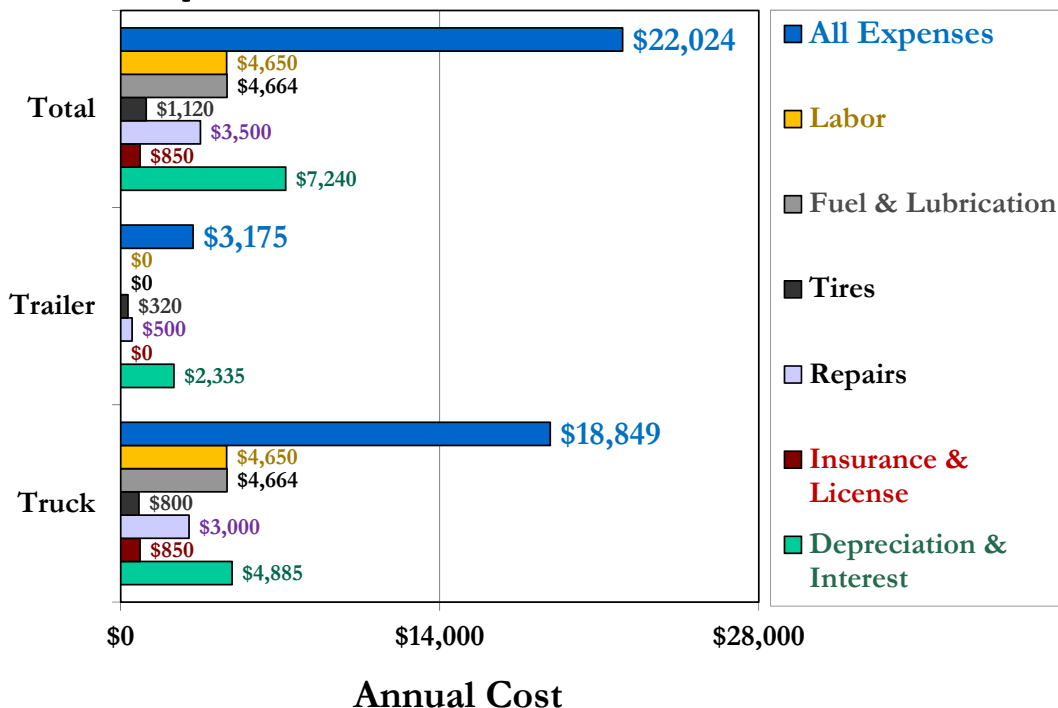
- Purchase Price (Used+)
 - \$50,000 (\$45K - \$50K)
- Useful Life
 - 10 years
- Salvage Value
 - \$20,000
- Repairs/Year
 - \$3,000
- Tire Expense (10 tires)
 - \$400/tire, 40K miles/tire
- Annual Use
 - 8,000 miles
 - 100,000 bu. (1,000 / load)
 - 100 Round trips annually
- Fuel
 - \$2.65/gallon, 5.0 mpg
 - 50 mph avg. hauling speed
- Other
 - License-insurance: \$850 /yr
 - Labor \$15/hr, 5% Interest

Grain Transportation Cost (more) – Example #2

Semi-Trailer Expense Estimates

- Purchase Price (Used+)
 - \$35,000 (\$25K - \$35K)
- Useful Life
 - 10 years
- Salvage Value
 - \$15,000 (\$5,000 - \$15,000)
- Repairs/Year
 - \$500 (\$400-\$500)
- Tire Expense (8 tires)
 - \$250/tire, 50K miles/tire
- Software Analysis Tool
 - Grain Truck Transportation Cost Calculator
 - Iowa State University Extension (Edwards)

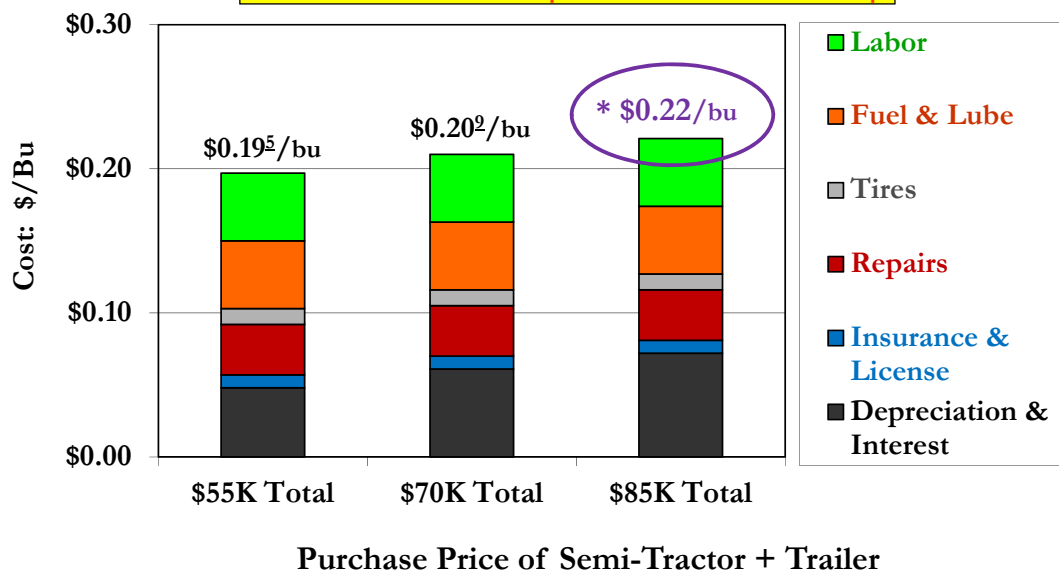
Example: Semi-Truck/Trailer Costs #2



Grain Trucking Cost #2 - \$Cost/bu.

Semi-Tractor/Trailer (8,000 miles/yr)

\$ 2.44 - \$2.75 /mile per 80 mile Round Trip



Corn Destination (Example #2): Pratt, SC KS

2-Way Trips (Empty Backhauls Included)

- Operating Costs: \$1.74 /mile or \$0.13⁹ /bu.
- Total Cost: \$2.75 /mile or \$0.22⁰ /bu.

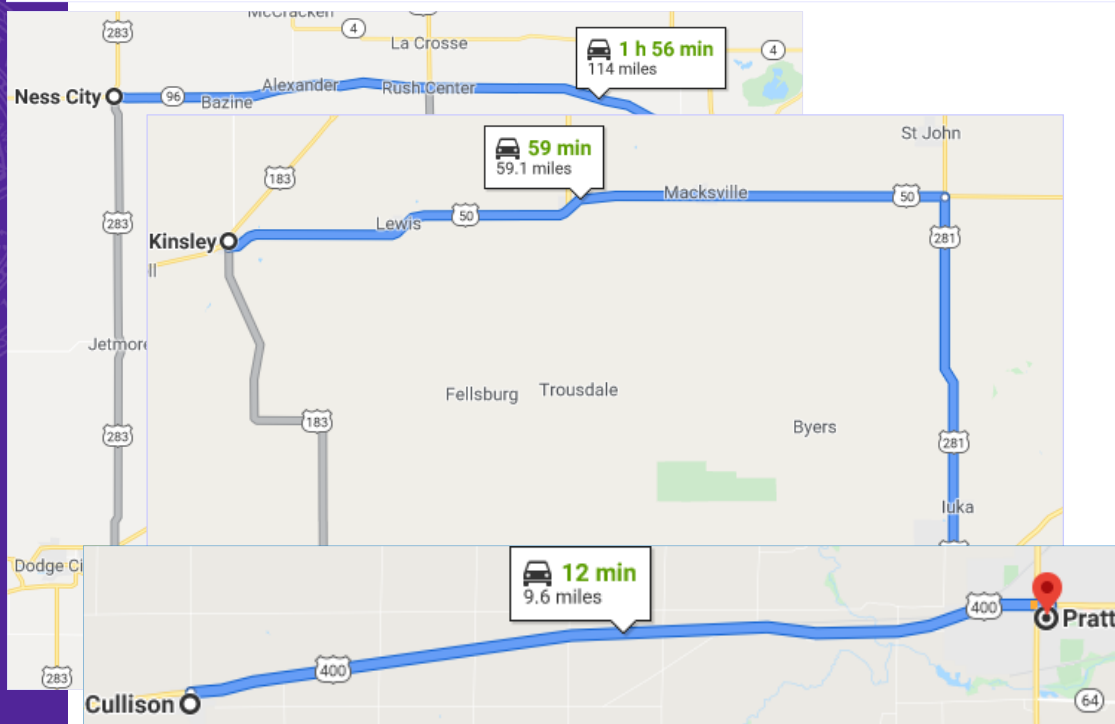
- Kinsley ⇒ Pratt: 118 miles** (2 way x 59 miles)
 - Operating Cost = \$205 / Total Cost = \$325 per load
- Ness City ⇒ Pratt: 228 miles** (2 way x 114 miles)
 - Operating Cost = \$397 / Total Cost = \$627 per load



The Estimated Profitability of Transporting Corn

Examples for March 11, 2020

Hauling Distances: Ness City, Kinsley & Cullison to Pratt, KS



Corn \$ Transportation - Example #1

Ness City to Pratt, KS; No In-Out Cost (*?) (3/11/2020)

Location	\$/bu.	Vs Colby
Ness City West Central Kansas	\$3.43	---
Pratt South Central (114 miles 1-way) VC: $[114 \times \$1.74 /mi] \div 1,000 \text{ bu} = \$0.20 /bu$ TC: $[114 \times \$2.34 /mi] \div 1,000 \text{ bu} = \$0.27 /bu$	\$3.63	<u>Dif: +\$0.20</u> Net: +\$0.00 Net: (\$0.07)
Pratt South Central (228 miles 2-way) VC: $[228 \times \$1.74 /mi] \div 1,000 \text{ bu} = \$0.40 /bu$ TC: $[228 \times \$2.34 /mi] \div 1,000 \text{ bu} = \$0.53 /bu$		Net: (\$0.20) Net: (\$0.33)

Corn \$ Transportation - Example #1

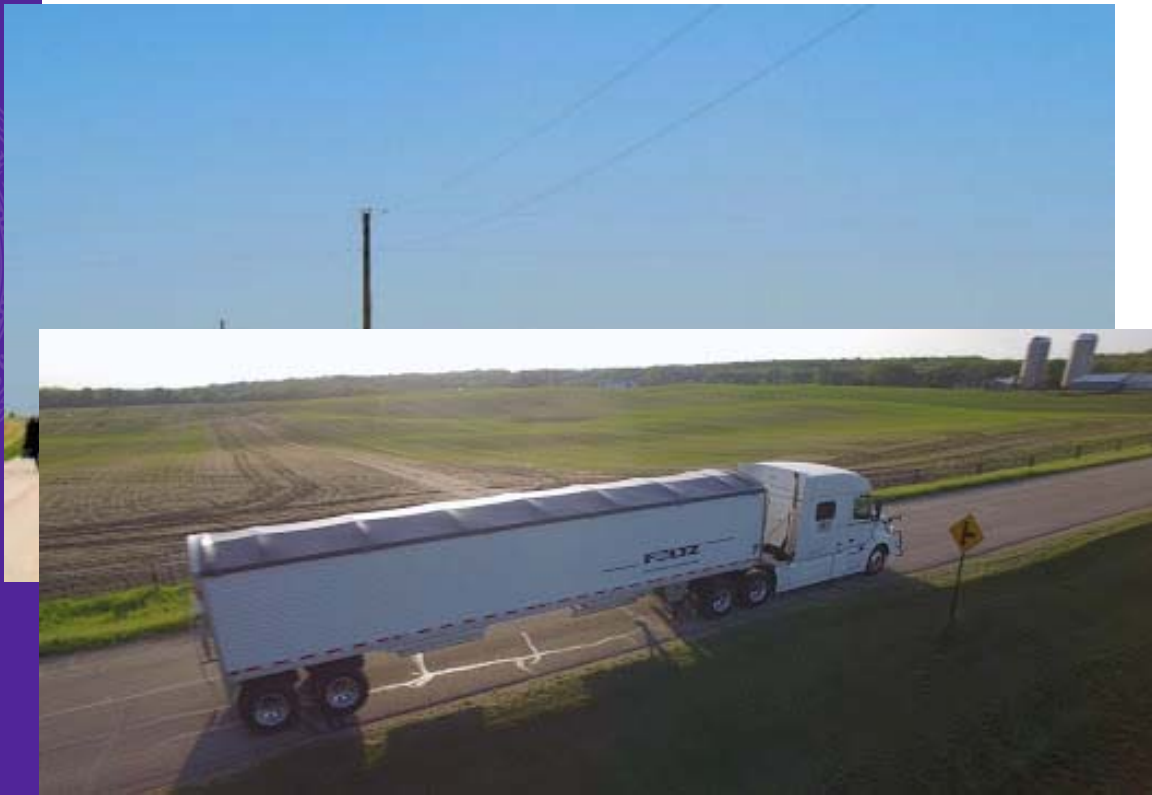
Kinsley to Pratt, KS; No In-Out Cost (*?) (3/11/2020)

Location	\$/bu.	Vs Colby
Kinsley Central Kansas	\$3.53	---
Pratt South Central (59 miles 1-way) VC: [59 x \$1.74 /mi] ÷ 1,000 bu = \$0.10 /bu TC: [59 x \$2.34 /mi] ÷ 1,000 bu = \$0.14 /bu	\$3.63	<u>Dif: +\$0.10</u> Net: +\$0.00 Net: (\$0.04)
Pratt South Central (118 miles 2-way) VC: [118 x \$1.74 /mi] ÷ 1,000 bu = \$0.21 /bu TC: [118 x \$2.34 /mi] ÷ 1,000 bu = \$0.28 /bu		Net: (\$0.11) Net: (\$0.17)

Corn \$ Transportation - Example #1

Cullison to Pratt, KS; No In-Out Cost (*?) (3/11/2020)

Location	\$/bu.	Vs Colby
Cullison SC Kansas	\$3.51	---
Pratt SC KS (10 miles 1-way) VC: [10 x \$1.74 /mi] ÷ 1,000 bu = \$0.01 ⁷⁴ /bu TC: [10 x \$2.34 /mi] ÷ 1,000 bu = \$0.02 ³⁴ /bu	\$3.63	<u>Dif: +\$0.12</u> Net: +\$0.10 ²⁶ Net: +\$0.09 ⁶⁶
Pratt SC (20 miles 2-way) VC: [20 x \$1.74 /mi] ÷ 1,000 bu = \$0.03 ⁴⁸ /bu TC: [20 x \$2.34 /mi] ÷ 1,000 bu = \$0.04 ⁶⁸ /bu		Net: +\$0.08 ⁵² Net: +\$0.07 ³²



Questions *or* Comments?

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