

Transportation and Widening Soybean Basis: The Stakes for Soybean Producers

A Presentation to the
Soy Transportation Coalition

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Introduction

- **Market Solutions LLC** has been conducting analysis for the **Soy Transportation Coalition (STC)** to help understand the link between transportation costs, service and capacity and producer returns and competitiveness.
- **Soybean price basis** is the difference between the cash price offered at a delivery location and the nearby soybean futures contract price on the Chicago Board of Trade (CBOT).
- Basis is generally a result of costs of transportation, storage, interest and local supply and demand conditions.
- Soybean basis has been widening in recent years, meaning that many producers are getting a smaller share of the futures price.
- Soybean prices are currently relatively high, so many producers may not notice the money they are losing to increased basis.
- Findings suggest that transportation often accounts for 30-60 percent of basis, so if and when overall price levels fall, there is no reason to think that basis will narrow unless transportation challenges are addressed.



Overview

- This presentation includes:
- **A review of national and regional soybean price basis trends.** This shows that the gap between farm and futures prices has been widening.
- **Results of analysis of basis trends at a sample of local elevators, river and export facilities, and processors.** These show that widening basis is a challenge across the board.
- **Results of interviews with elevator and processor customers for soybeans.** These detail some of the transportation challenges that affect prices they pay to producers.
- **Analysis of Surface Transportation Board (STB) data on rail shipments and rates for soybeans and meal.** These show how rates and service differ for different groups of elevators and processors and how this affects their costs, shipping options and competitiveness.
- **Conclusions** – suggest implications for soybean producers and their customers and next steps for the STC.

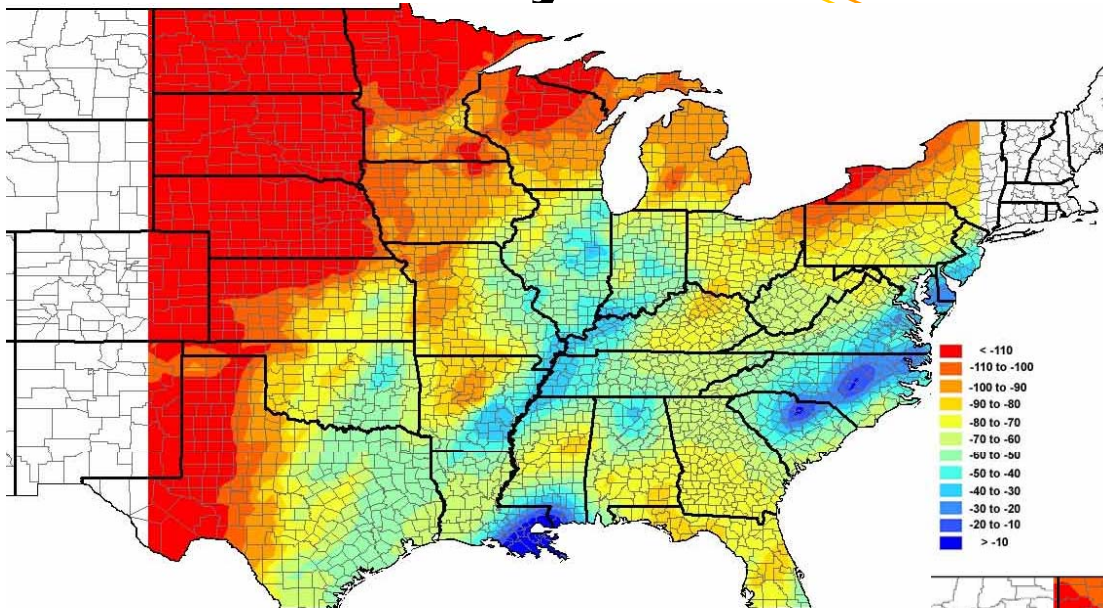


Clear Trend Toward Widening Soybean Basis

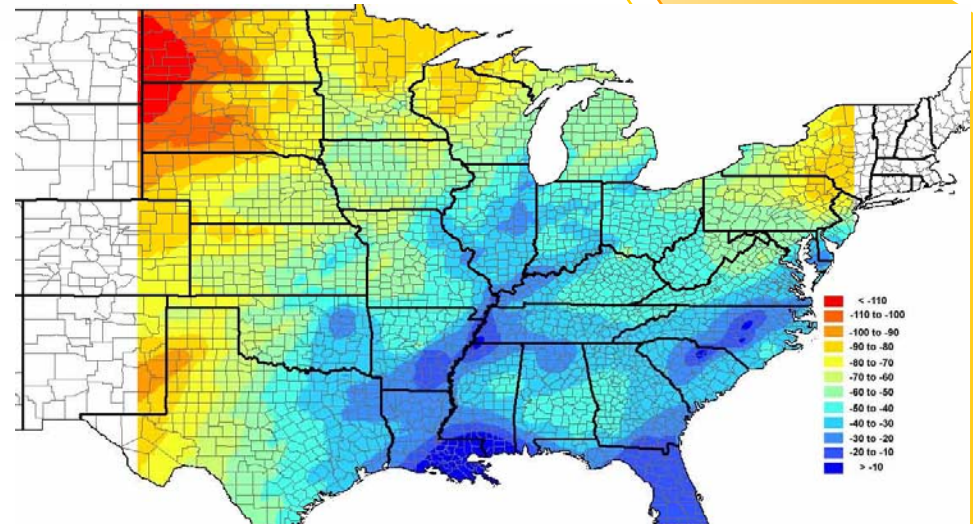
- The maps below use price data from over 2,600 locations tracked by Cash Grain Bids Inc. to provide a national overview of soybean price basis change for February, June and October, 2007 compared to five year averages.
- The scale ranges from deep red, representing cash prices that were more than \$1.10 below the November futures price to dark blue, representing cash prices that were .10 or more above nearby futures. In other words, they show basis ranging from a low of -110 cents to a high of +10 cents.
- Findings indicate that basis has consistently widened except for some Gulf of Mexico export locations and parts of the Southeast that have large soybean deficits.
- More detailed basis maps were developed for 2006 and 2007 and at the state level for Illinois, Indiana, Iowa, Nebraska, North Dakota, Ohio and South Dakota. The consistent message from all of them is that many farmers are getting less of the futures price for their soybeans.



October Soybean Basis: 2007 vs. 5 year Average



October 2007



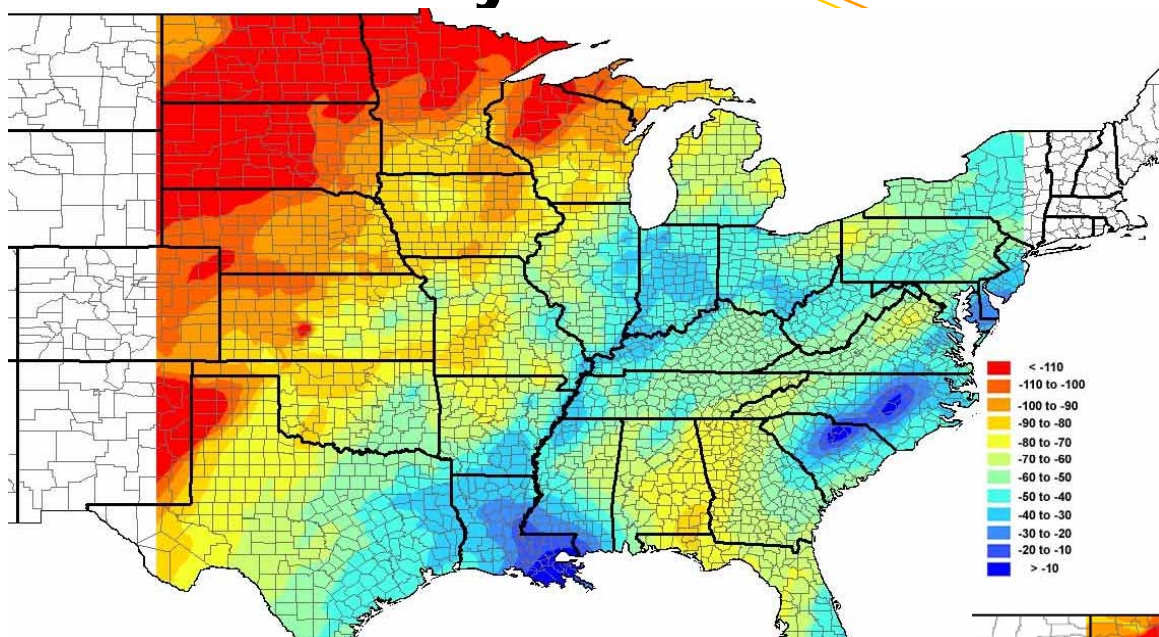
October 5 Year Ave



Source: Cash Grain Bids Inc for Market Solutions LLC

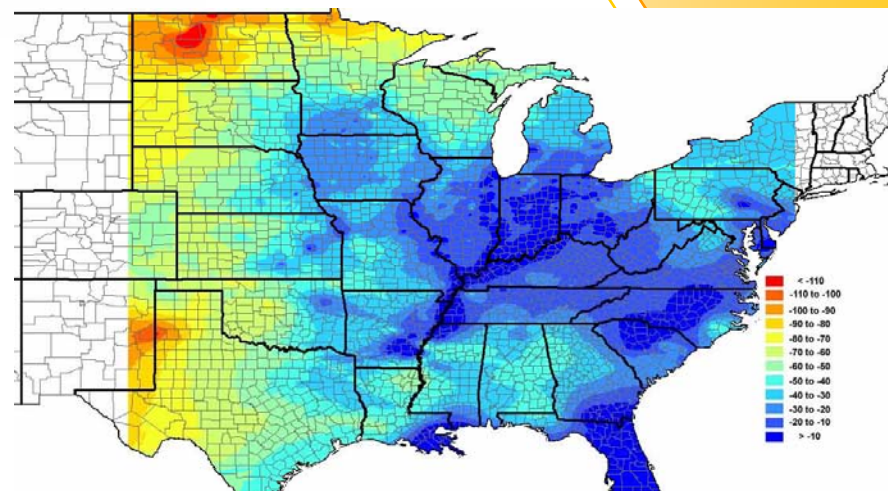


June Soybean Basis: 2007 vs. 5 year Average



June 2007

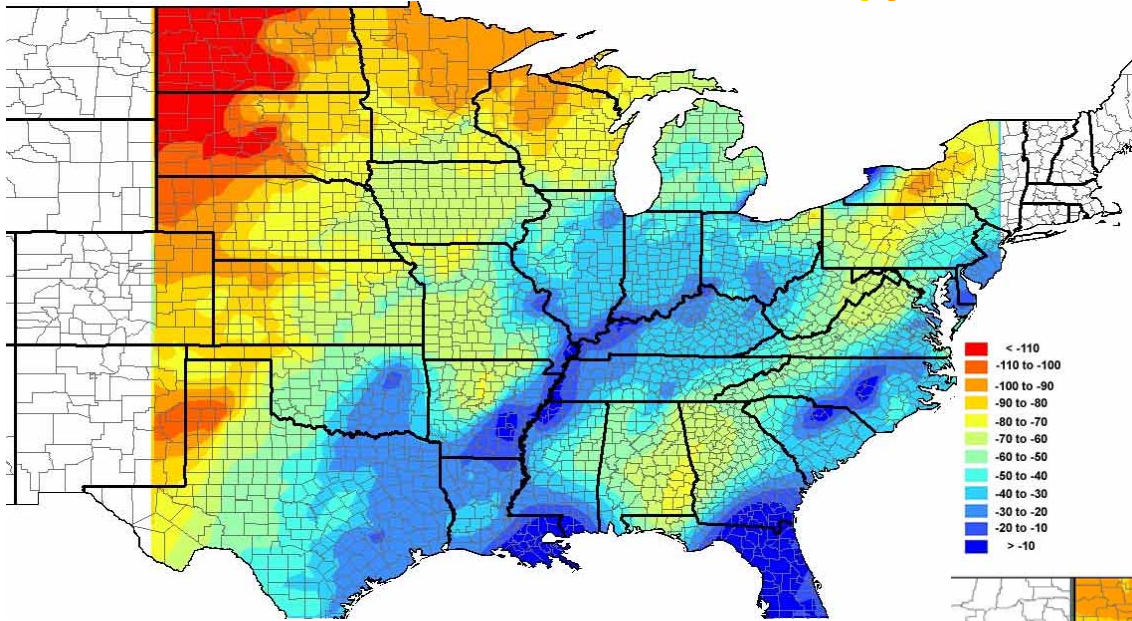
June 5 Year Ave



Source: Cash Grain Bids Inc for Market Solutions LLC

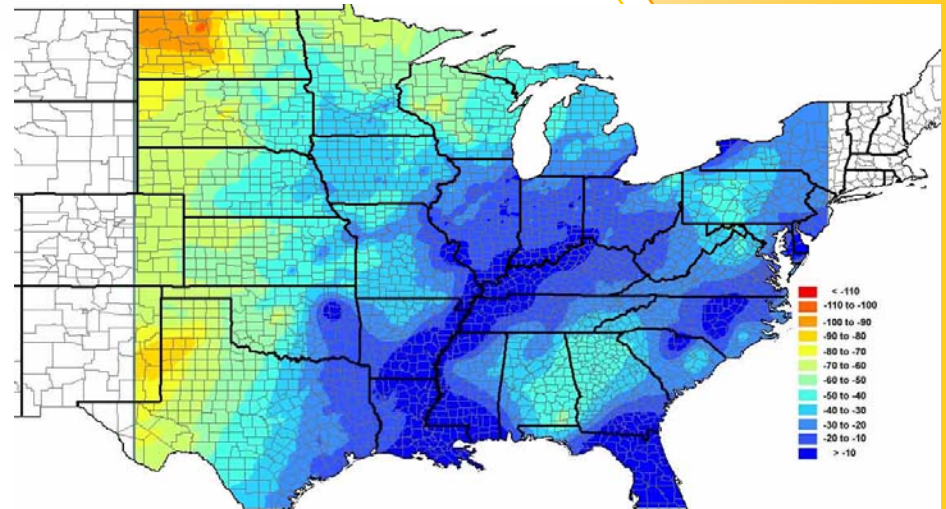


February Soybean Basis: 2007 vs. 5 year Average



February 2007

February 5 Year Ave



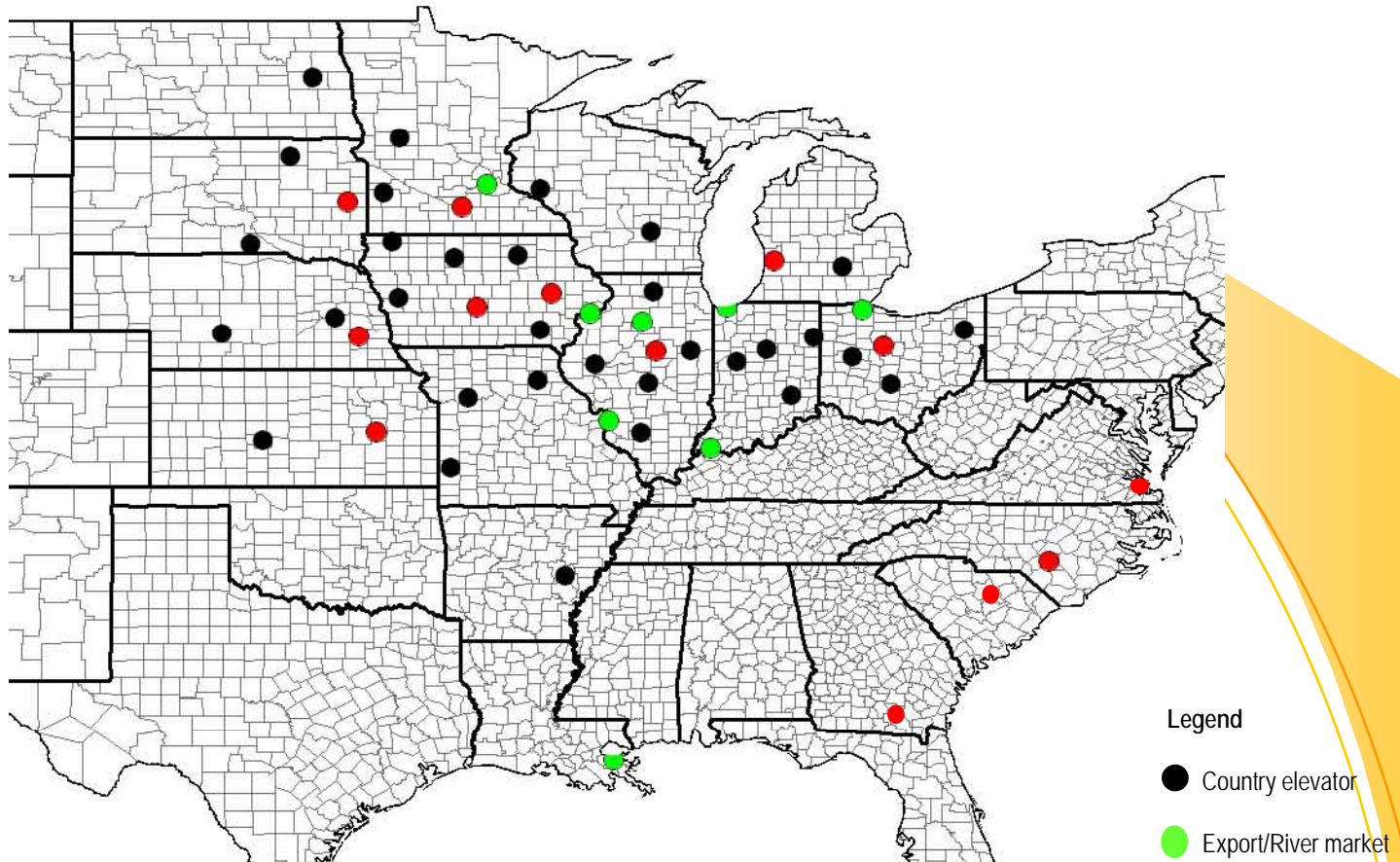
Source: Cash Grain Bids Inc for Market Solutions LLC



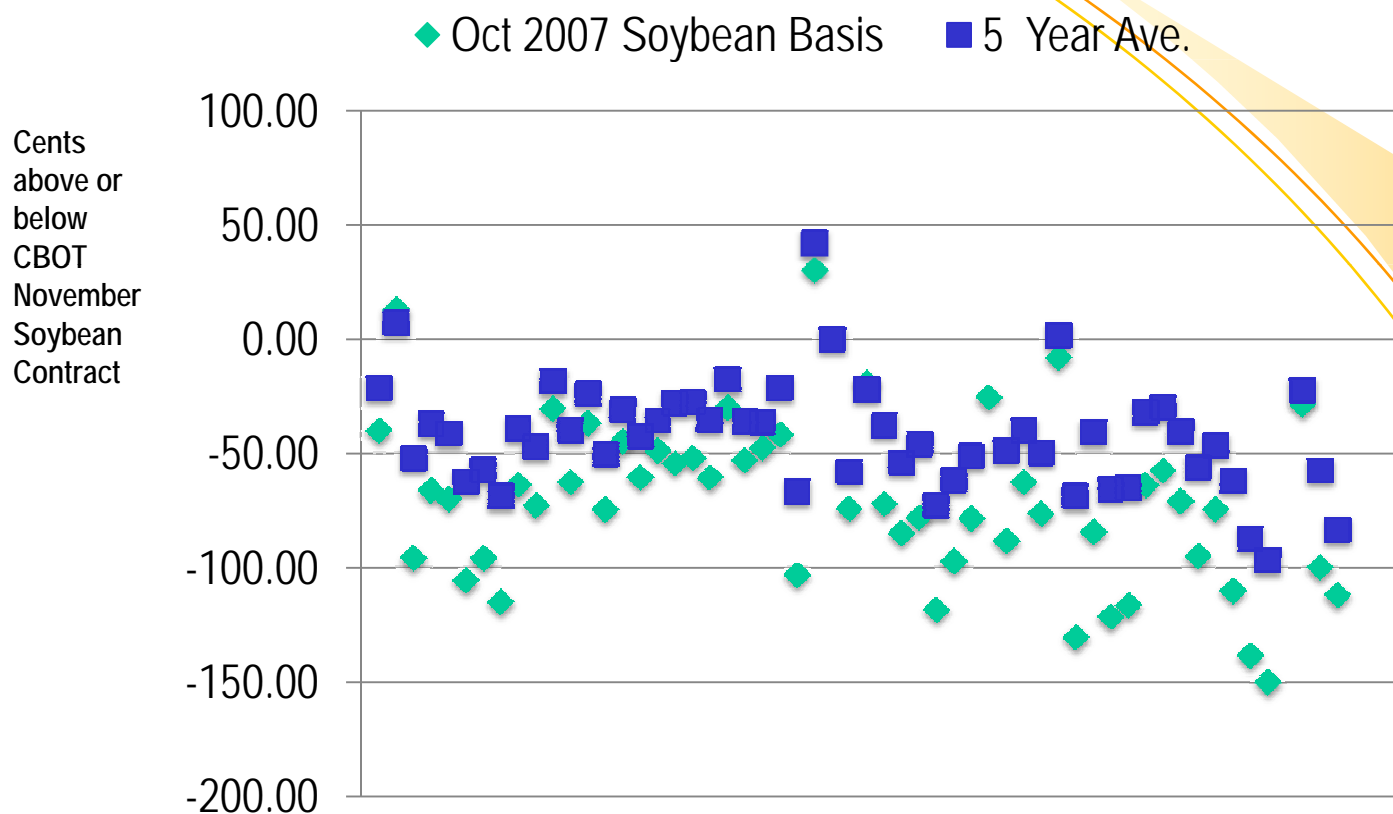
Case Examples of Basis Developments and Factors Behind Them

- Soybean basis has clearly been widening. How does this play out at the regional, state and local level? Who is getting hurt the most? And what might soybean producer groups and their customers do to improve the situation?
- Examined detailed price and basis data for a sample of 54 specific locations. Including a mix of:
 - Country elevators (black dots) that receive rail cars at single car rail rates and elevators with unit and shuttle train capability
 - Export and river elevators with access to barge shipping (green dots); and
 - Soybean processing facilities (red dots).
- Quantitative analysis followed by in-depth interviews with a sample of facilities.

Case Examples of Basis Developments



October 2007 Soybean Basis vs. 5 Year Average



54 Selected locations

Source: Market Solutions LLC analysis of Cash Grain Bids data

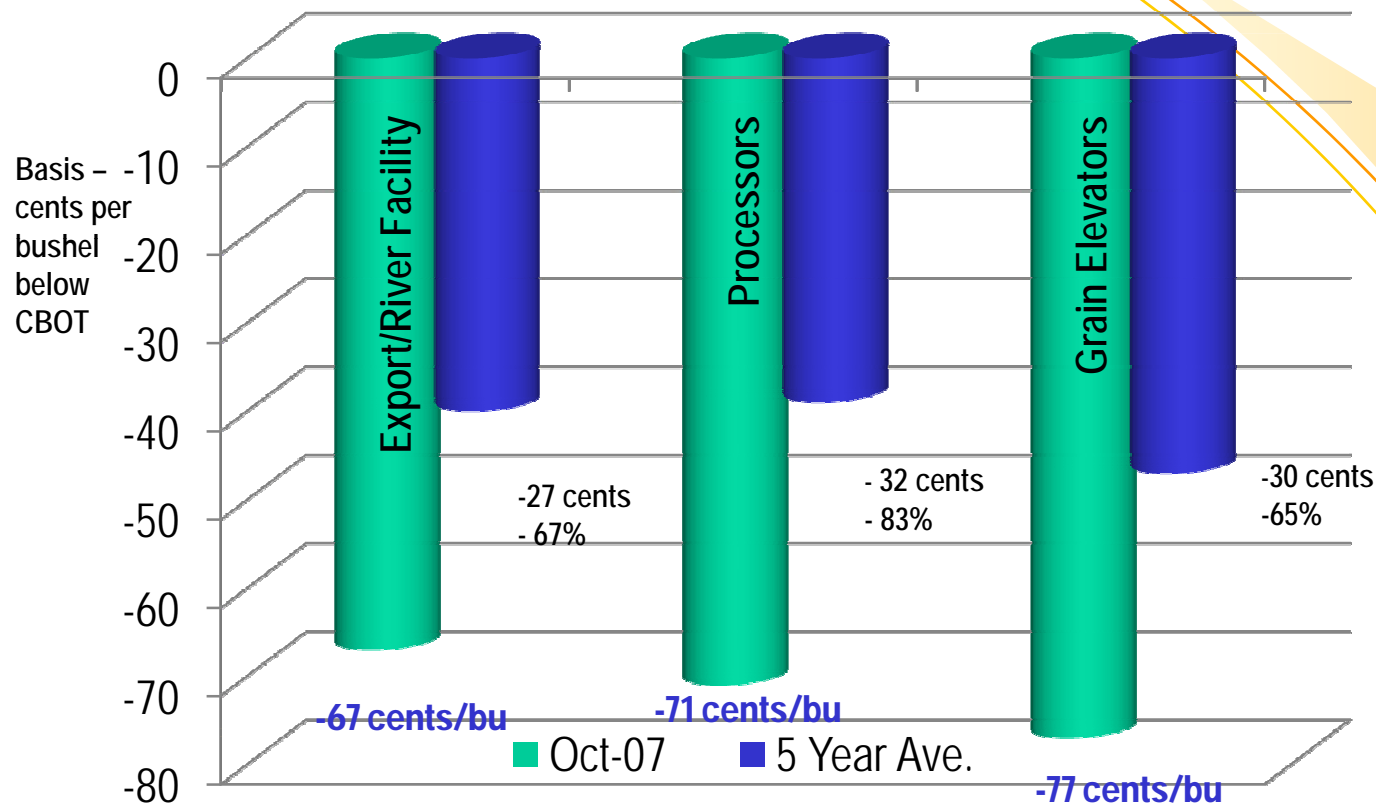


Costs of Widening Soybean Basis

- Average October 2007 soybean basis reported for the 54 locations examined in more detail was -71 cents below the CBOT November contract.
- There was a \$1.80 per bushel range in average prices paid for soybeans during October among the different locations.
- Basis ranged from +30 cents over futures at the Gulf to -150 cents under futures in South Dakota.
- Compared to the five year average, October 2007 basis was 29 cents wider, a 67 percent increase.
- In one out of four locations, basis widened by 40-62 cents compared to the five year average.
- Based on average 2007 yields this wider basis cost producers selling at harvest almost \$12 per acre and for one out of four the cost was \$16 to \$26 per acre.

Average October Basis by Facility Type

October, 2007 vs. 5 Year Average



Midwest facilities

Source: Market Solutions LLC analysis of Cash Grain Bids Inc data



Interview Findings: Top Rail Challenges

- A few people indicated that problems with truck and barge transportation have made rail more attractive, even as it has become more expensive.
- A number of similar rail challenges were reported in multiple interviews:
 1. Overall rail rate levels and rate increases.
 2. Rail fuel surcharges and other increases in associated costs.
 3. Rail car deliveries and pick up, car availability, getting cars switched as scheduled, slow service in obtaining trains and getting them released.
 4. Short line bottlenecks and switching costs that make rail shipments less competitive, even after significant investments of private and public funds have been made to improve the short line.
 5. Loss of rail service or no competitive service.
 6. Costs of expanding facilities to handle unit and shuttle trains were also mentioned, both as a capital cost that has to be repaid, and a factor that puts facilities with lower capacities at a disadvantage.

The Link Between Rail Rates and Soybean Basis

- Average freight revenue per carload handled by the railroads has been rising for all commodities.
- It has been rising faster for grains and oilseeds than for freight in general
- Among the top four grains and oilseeds shipped, rates for soybeans have been rising the most rapidly, up 53.4 percent between 2003 and 2006 according to USDA.
- This confirms that rail rates have been increasing at the same time that soybean basis has been widening
- Soybean producers have a special interest in addressing the issue because rates have risen faster for soybeans than for other grain shippers and for shippers in general.
- Soybean producer prices are affected by costs involved in rail movements to terminal and export elevators and feed mills, as well as to crushing facilities and other customers.
- Producer prices are also affected when soybean meal and oil are moved by rail after processing.

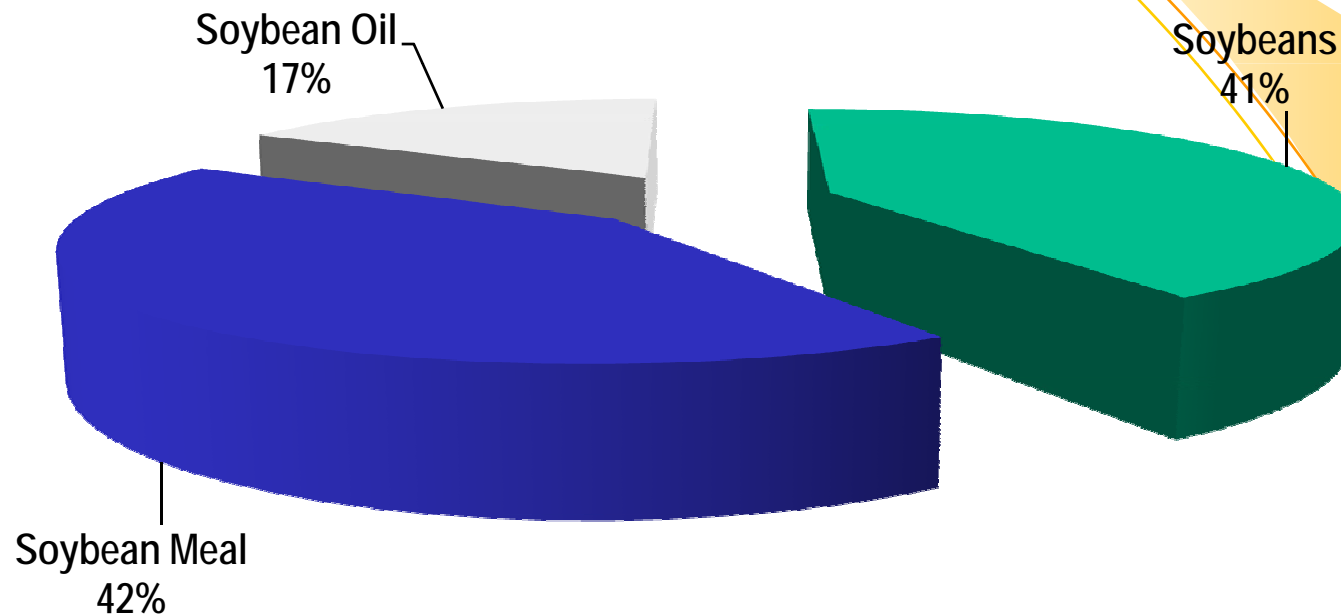


Importance of Soy Complex to Railroads

About 622,000 Cars Shipped 2006-07

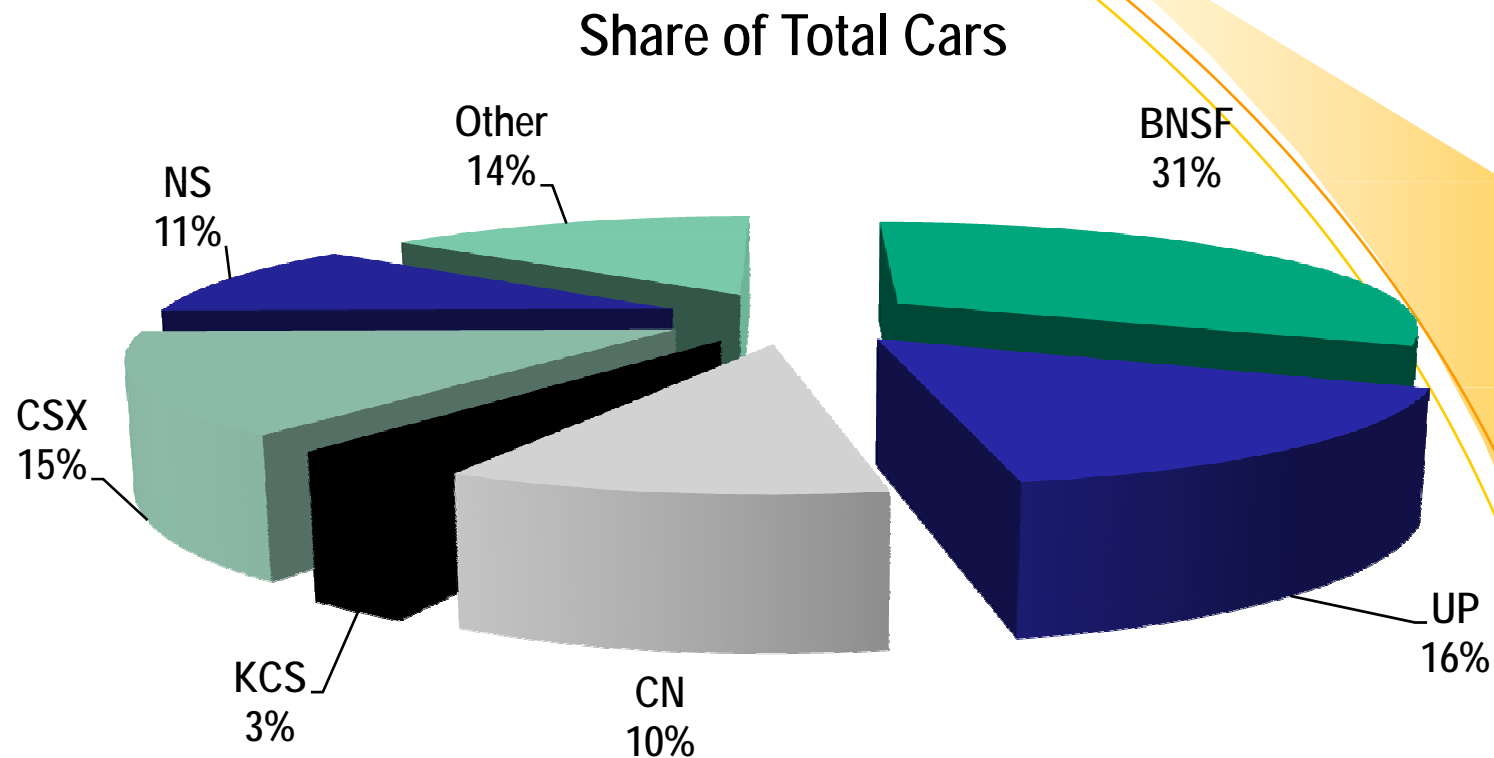
Soybeans and Meal Generated More than \$1 billion in Railroad Revenue

Cars Shipped



Source: Market Solutions LLC analysis based on STC data

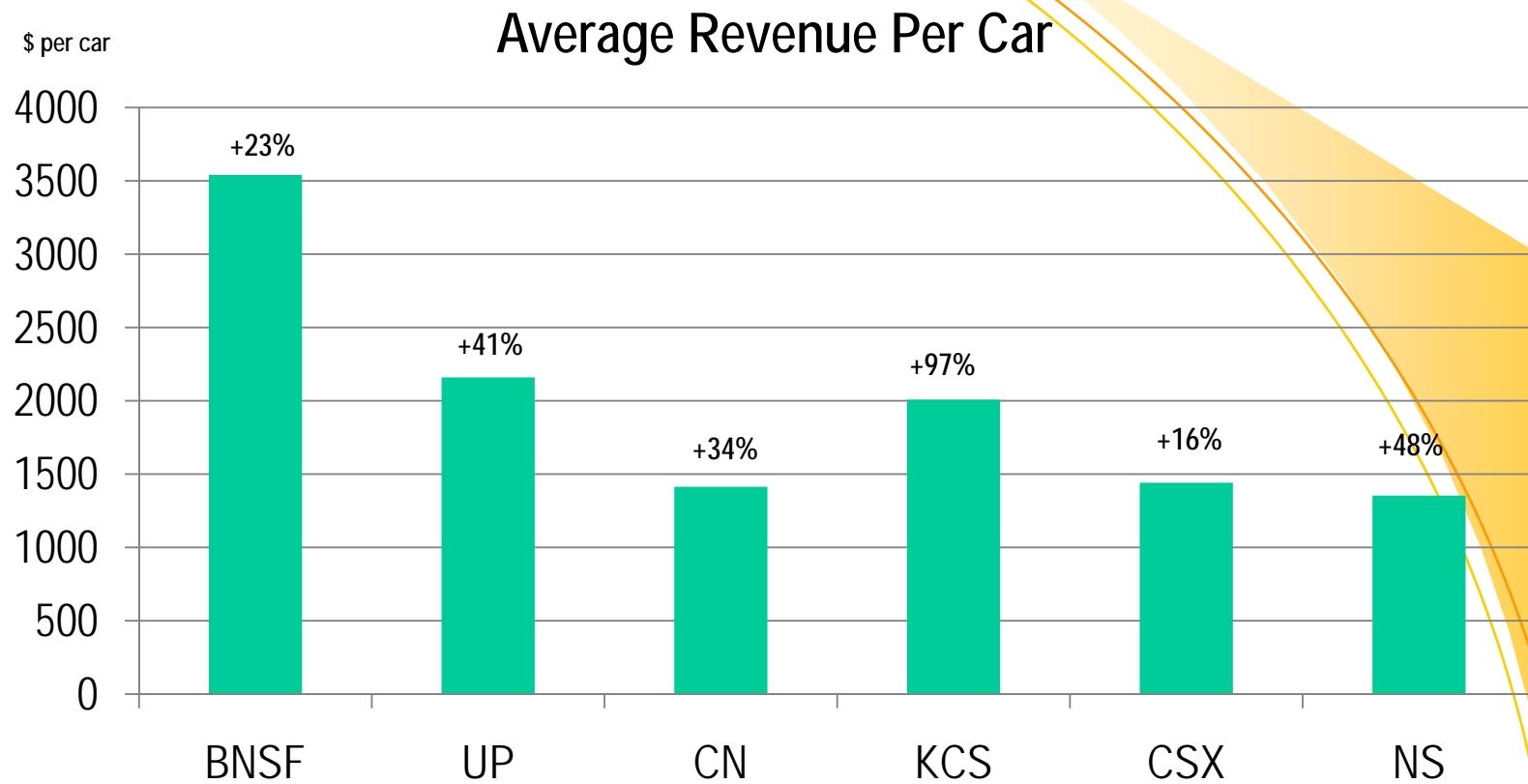
Railroads Shipped 256,000 Cars of Soybeans 2006-07



Source: Market Solutions LLC analysis based on STC data



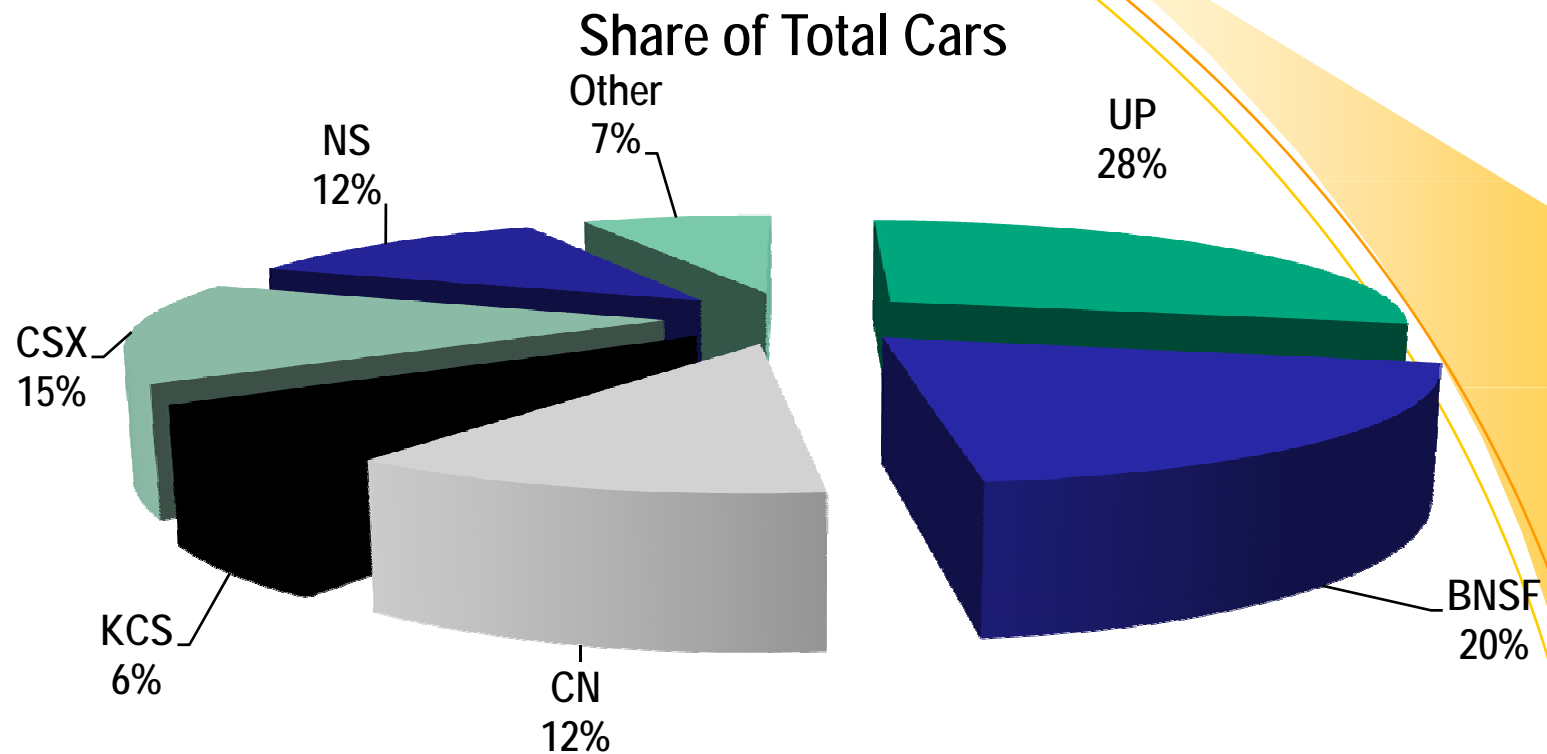
Average Soybean Rates, 2006-07 and Percentage Change Since Q3 2005



Source: Market Solutions LLC analysis based on STC data



Railroads Shipped 262,000 Cars of Soybean Meal, 2006-07

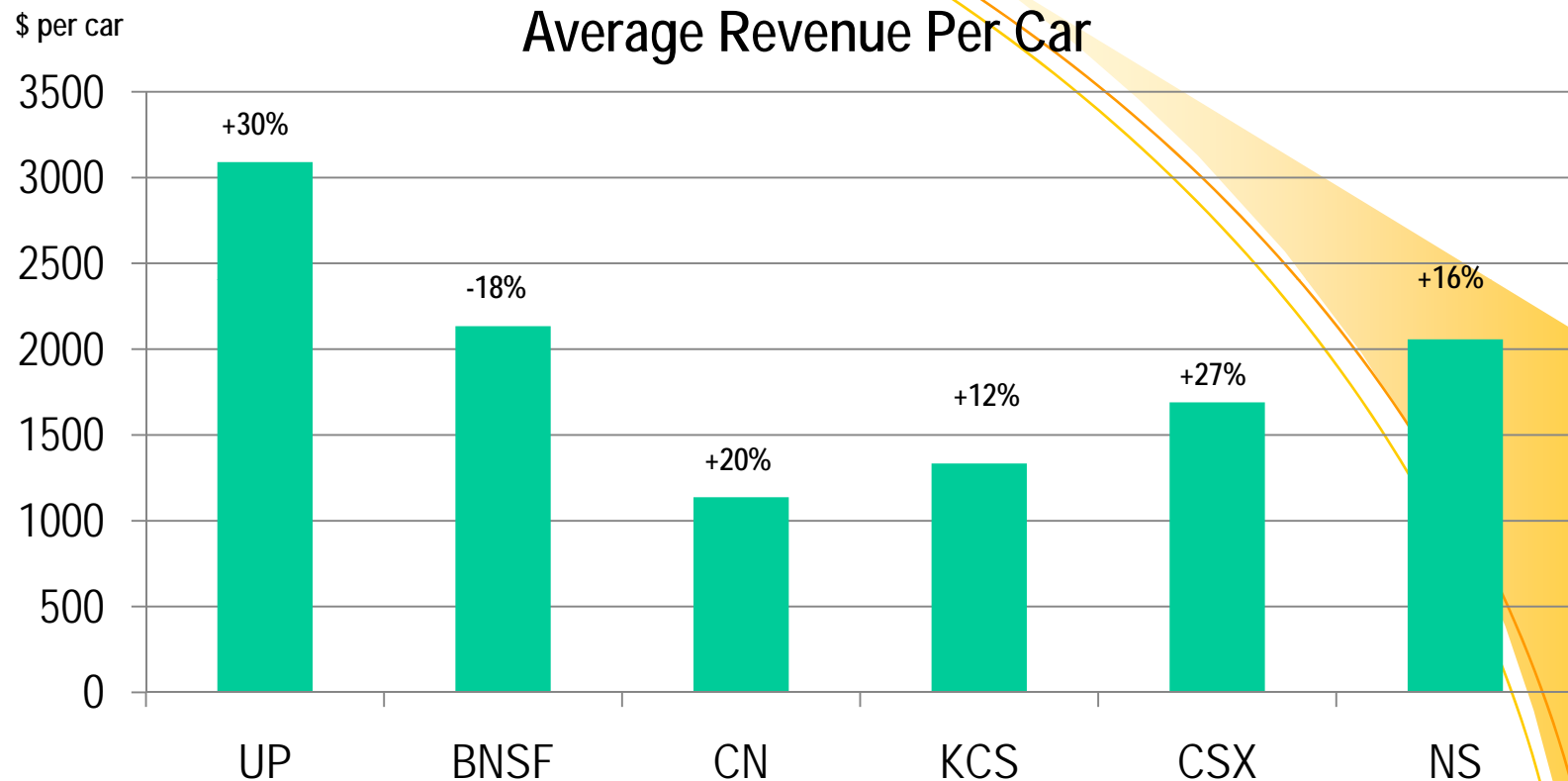


Source: Market Solutions LLC analysis based on STC data



Average Soybean Meal Rates, 2006-07

and Percentage Change Since Q3, 2005



Source: Market Solutions LLC analysis based on STC data



Captive Shipper Costs to Soybean Producers

- Changes in rates are only one part of the equation affecting prices and basis. Individual carriers charge different rates based on the other options available to a shipper. Shippers who have access to only one railroad are often referred to as “captive shippers.”
- Captive soybean shippers paid an average of \$946 to \$2,556 per car more during the third quarter of 2007 than did those who had competitive rail shipping options, according to analysis by Escalation Consultants.
- This translates into an additional cost ranging from 29 to 78 cents per bushel of soybeans. This in turn affects producer prices and basis.
- Captive soybean meal shippers paid premiums of \$980 to \$2,696 per car more than those without options. This translates into a premium of \$10 to \$29 per ton of soybean meal, obviously sufficient to make some locations competitive, and some much less so.
- For producers, this difference translates into another 25 to 68 cents per bushel of soybeans crushed that captive processors have to pay to get the meal from those soybeans to market.



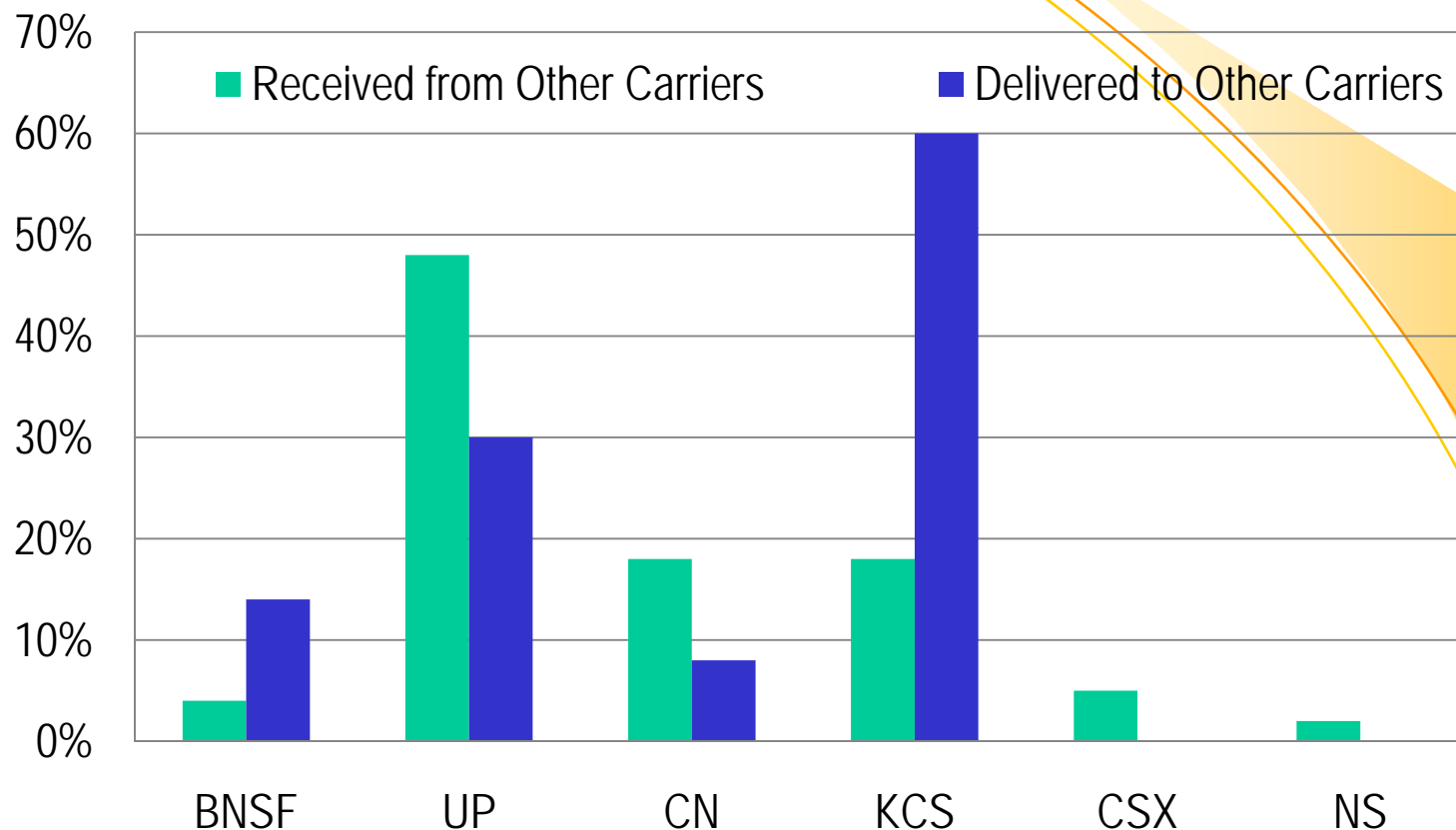
Captivity and Bottlenecks Limit Options

- If a processor is to stay in business, these additional costs have to be recovered at least in part through lower prices paid to those who supply the soybeans they crush, ie. through wider basis which filters back to producer prices.
- Shippers are sometimes “**captive**,” because they only have service from one railroad. Sometimes there is only one option for part of the way to a customer, this is called a **bottleneck**. Railroads prefer to handle shipments entirely themselves, so they may offer non-competitive rate quotes or not offer service to get to desired destinations. This limits competition and also affects basis.
- Data for six Class I railroads in 2006/07 show that for 220,000 carloads of soybeans handled:
 - 86 percent were originated on the reporting carrier
 - 86 percent terminated on the reporting carrier
 - 14 percent were received from a connecting Class I or a short line
 - 14 percent were delivered to a connecting carrier.
- The following chart shows that this varies significantly among railroads.



Share of Soybean Traffic Originating or Terminating on Other Railroads, 2006-07

Share of Cars



Source: Market Solutions LLC analysis based on STC data



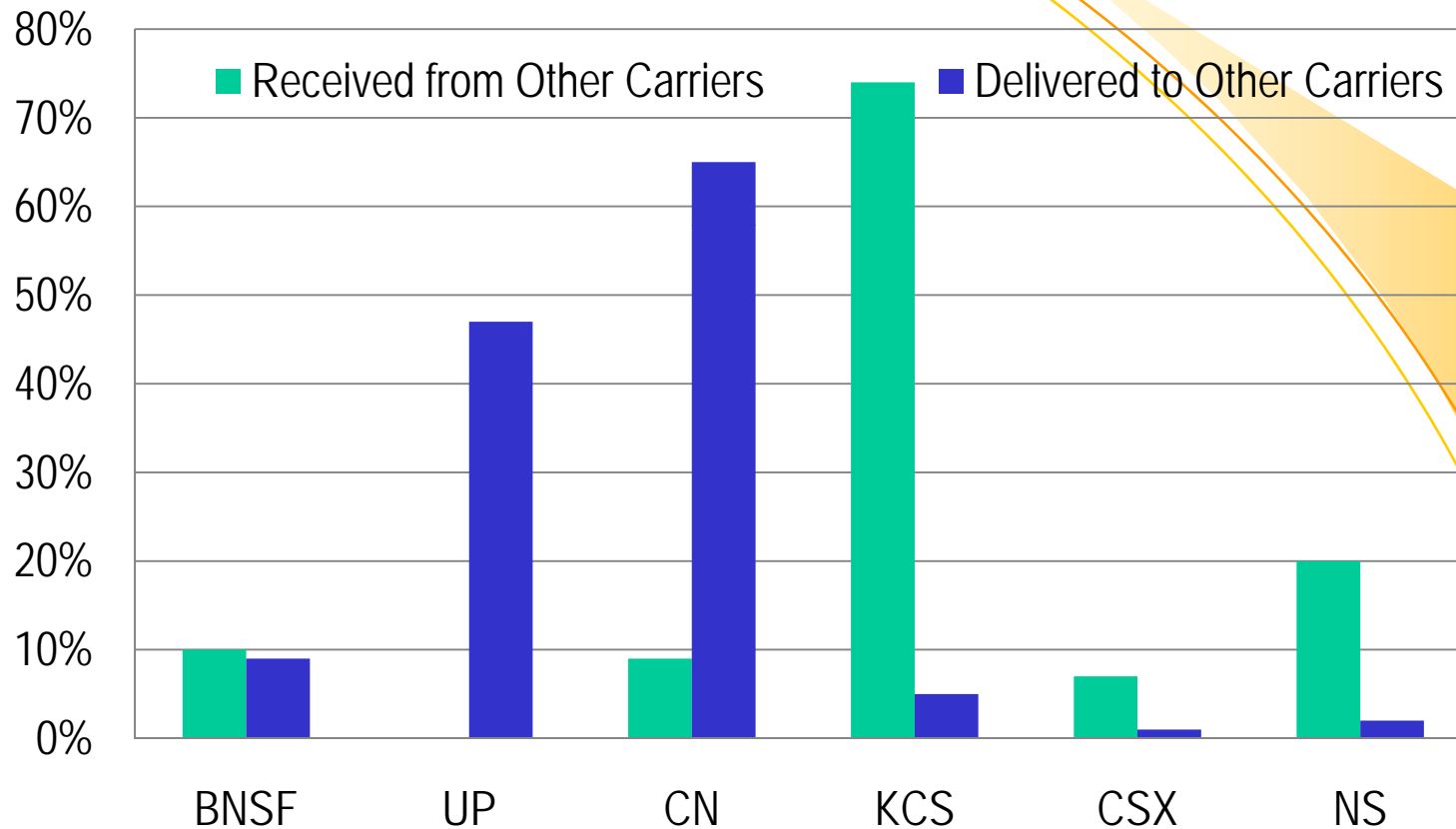
Soybean Meal Traffic Using Multiple Carriers

- A similar situation applies to soybean meal. For 243,000 cars of soybean meal carried during 2006/07:
 - 88 percent was originated on the reporting carrier
 - 75 percent was terminated on the reporting carrier
 - 12 percent was received from a connecting carrier
 - 25 percent was delivered to a connecting carrier
- These data, together with railroad specific findings, show the challenges faced by elevators and processors which would like to serve customers located on other railroads, or use short lines to create shipping options to reach destinations served by other carriers.
- This helps explain the complaint voiced by some shippers that the railroads are in a position to determine which customers they can serve and where they can source supplies.



Share of Soybean Meal Traffic Originating or Terminating on Other Railroads, 2006-07

Share of Cars



Source: Market Solutions LLC analysis based on STC data



Conclusions and Next Steps

- Findings underscore that soybean price basis is widening in part because of changes in rail shipping costs, service and capacity.
- They help explain how this affects soybean producers. They show how the impact is multiplied since soybeans have to be transported first as soybeans, and then as soybean meal and oil. Transportation costs come into play again when these are used to produce biofuels and food products.
- Interview findings help highlight the nature of specific rail challenges facing facilities. They underscore the importance of competitive transportation options to producer returns.
- Analysis of rail rate data underscores that increases in soybean rates have been larger than for other grains and other commodities, providing reason for soybean producers to take the lead in getting cost, service and capacity issues addressed.
- Rate data also underscore the cost to soybean producers of customers who are captive shippers and face bottlenecks, and show how the options vary by carrier.
- A goal for follow up analysis will be to dig more deeply into rate data to better understand how different shippers are being affected and help set priorities for action.



Thank You!!!

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