

**NORTH DAKOTA ELEVATOR INDUSTRY SURVEY RESULTS
- MARKETING & RAIL CARRIERS' CUSTOMER SERVICE -**

SUMMARY OF RESULTS FOR ELEVATOR MANAGERS

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INTRODUCTION

The purpose of this study is to encourage competition among rail carriers by facilitating communication between N.D. elevators and their rail carriers regarding customer service issues. Although railroads generally track performance and conduct customer service surveys in-house, this project uses summaries of actual shipment levels, elevator characteristics, and survey results for making comparisons among rail carriers serving elevators in North Dakota.

Customer service is a unique aspect of business. Although imperfect flows of information provide opportunities for short-run competitive advantages, customer service may be an intricate part of a company's long-term mission statement and organization and operational strategies. Because the perceptions of customers determine the success of a company's customer service strategy, understanding the basic requirements and preferences of customers is vital. Value created through customer service activities may enhance the competitiveness of a firm.

Two primary sources of data for this study are (1) the North Dakota Public Service Commission grain movement database and (2) a 1995 survey of N.D. elevator managers. The grain movement database consists of a collection of monthly reports from each of the elevators in North Dakota. In these reports elevators specify mode, destination and volume for shipments of grains and oilseeds they originate. The survey, titled *N.D. Elevator Evaluation of Railroad & Truck Service*, was mailed to 425 elevators in the state. It was returned by 120 elevator managers, generating a response rate of 28 percent.

N.D. Rail Carriers

The North Dakota rail system is operated by two Class I and two regional railroads (Figure 1). The Burlington Northern (BN) operates a majority of the system with about 2,300 miles of track, serving 225 elevators across the state. Canadian Pacific Rail System (CP) controls over 900 miles of track, reaching just under 100 elevators in the northern, central and eastern regions of the state. These Class I railroads handled 63 percent of the grain and oilseeds originating from the state in 1993-94.

The Red River Valley & Western (RRVW), a regional railroad affiliated with BN, acquired about 650 miles of track in the central and southeastern regions of North Dakota in the mid-1980's and is the primary rail carrier for 55 elevators. A second regional railroad, the Dakota, Missouri Valley & Western (DMVW), that is affiliated with CP, was formed in the early 1990's. The DMVW operates 243 miles of track and serves 17 elevators in the southern and central reaches of the state .

Table 1. N.D. Track Miles, Elevators Served, and Market Share for Grain & Oilseed Origination by Railroad, 1994

	Track Miles	Elevators Served	Grain Handled (000 Bushels)	Avg. Market Share (1990-1994)
BN	2,327 56%	225 46%	212,427 41%	39%
CP	916 22%	98 20%	113,326 22%	22%
RRVW	657 16%	55 11%	39,577 8%	10%
DMVW	243 6%	17 3%	25,556 5%	5%

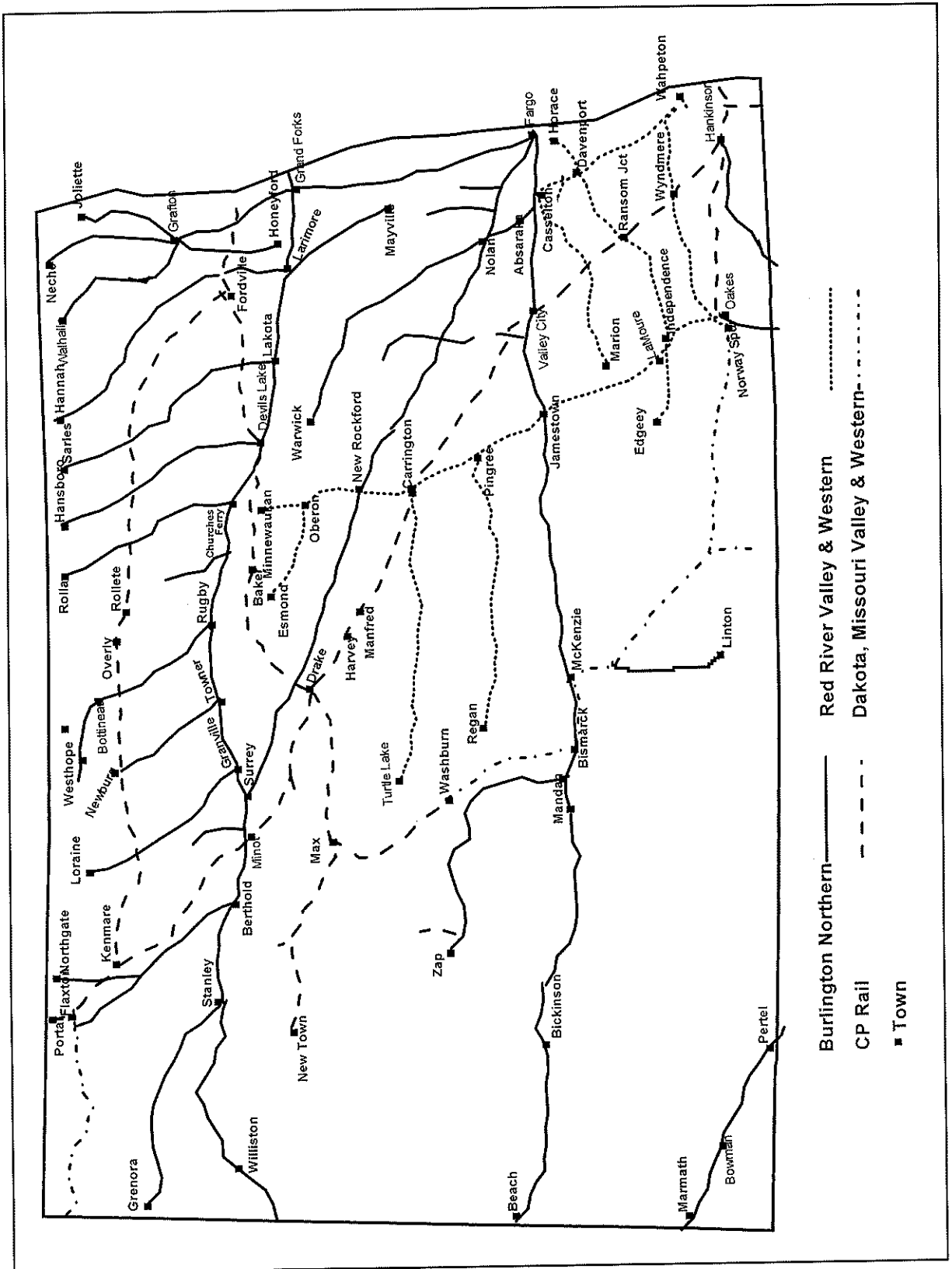


Figure 1. North Dakota Rail System

N.D. Elevator Industry Profile

Since peaking at over 2,000 sites in 1915, the North Dakota elevator system has experienced rationalization of its resources and today it includes 484 licensed elevator sites. On average, each site houses 508 thousand bushels of storage (North Dakota Public Service Commission) and ships over a million bushels of grain. Both average storage capacity and grain handled have increased over the past 15 years. In 1979 elevators averaged 29 percent less grain handled per site and about half the storage capacity.

Table 2. North Dakota Elevator Industry, 1979 vs. 1994

	1979	1994	Change
Number of Licensed Sites	589	484	-18%
Market Share for the:			
5 Largest Volume Elevators	5%	12%	140%
150 Largest Volume Elevators	57%	81%	42%
Unit Train Facilities	8	112	1300%
Grain Handled, Avg. (bu.)	808,258	1,044,126	29%
Storage Capacity, Avg. (bu.)	244,000	508,300	108%
Sites with Storage Capacity of:			
less than 400,000 bu	89%	56%	-37%
400,001 to 800,000	9%	26%	189%
800,001 +	2%	18%	800%
Own At Least One Truck	14%	22%	57%
Sites with Rail Loadout per Hour of:			
less than 5,000 bu	76%	32%	-58%
5,001 to 10,000	19%	43%	126%
10,001 +	5%	25%	400%

Because the nature of the grain industry favors large shipment originators, an important distinction to be made among elevators is their access to rail service. About 10 percent of the elevators in North Dakota are limited to truck shipments because they are located where rail lines have been abandoned. Among the elevators with access to rail, track space for cars ranges from three to a hundred cars. To maintain consistency with the grain movement information and rail tariff quotes, four segments of the elevator population, based on track space, are defined for this report:

- No Rail:* No Access to Rail Service
- Single-Car:* Track Space for 1 to 24 Cars
- Multiplecar:* Track Space for 25 to 49 Cars, and
- Unit Train:* Track Space for 50 Cars or More.

Table 3. North Dakota Elevator System, 1993-94

	Number of Sites	Grain Handled (000 Bushels)	Storage Capacity (000 Bushels)
No Rail	45 10%	7,223 1%	13,259 5%
Single-Car	211 46%	72,775 14%	65,496 26%
Multicar	91 20%	113,222 22%	59,963 24%
Unit Train	112 24%	322,133 63%	111,760 45%
Total	459	515,357	250,478

Beyond the simple rail/truck modal split, the decision to utilize single car, multi car or unit train size shipments for commodities can be identified to further distinguish the importance of the rail alternative. The shift away from single-car shipments is evidenced in Figure 2. While truck share has varied little over the past seven years, the single-car alternative has lost market share to both multicar and unit-train alternatives. In 1987-88, single-car shipments were used in marketing 41 percent of North Dakota's grain and oilseeds. By 1993-94 single-car use had declined 24 percent and was employed for less than a third of the grain and oilseed shipments (Vachal, et al. 1994).

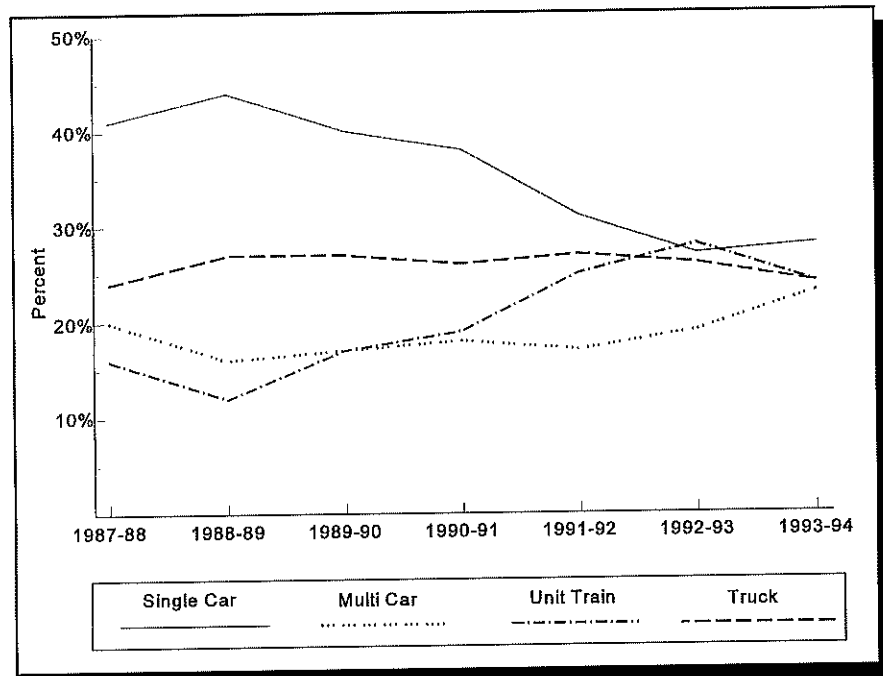


Figure 2 Trends in the Modal Shipment of N.D. Grains and Oilseeds

Rate advantages associated with shipping grain in larger lots provides incentive for shippers to continue to originate larger shipments. Railroads encourage elevators to use unit trains by establishing rates¹ that include a 13-cent discount from single-car shipments and a five-cent discount from multicar shipments relative to unit train shipments. These rate spreads have been a major factor in elevator decisions to invest in upgrading their facilities to handle unit trains.

Table 4. Mode for Shipments, Elevators Segmented by Track Space, 1993-94

-Mode for Shipments -					
(000 Bushels)					
Elevator Group	1-24 Cars	25-49 Cars	50 Cars+	Truck	All Modes
No Rail				7,224 100%	7,224
Single-Car	30,563 42%	447 1%	191 0%	41,575 57%	72,776
Multicar	47,120 42%	29,739 26%	1,676 1%	34,689 31%	113,224
Unit Train	67,940 21%	89,308 28%	123,912 38%	40,984 13%	322,144
Total	145,623 28%	119,494 23%	125,779 24%	124,472 24%	515,368

¹BN & CP Published Tariff rate comparison single-car, multicar and unit train shipments of wheat to Minneapolis originating from Minot, Valley City and Devils Lake. May 1995.

In addition to elevator capabilities and rate spreads, marketing choices may also be influenced by the nature of the market for commodities handled by an elevator. For instance, the prominence of export business in the HRS wheat market is more likely to elicit unit train shipments, while local crushing plants that are a relatively strong market for sunflowers make truck shipments economical. Some markets pay a premium to receive smaller shipments because of storage, distance, or quality issues. Buyers support a market for smaller rail shipments and truck shipments by paying relatively higher prices to ship/receive a more specialized shipment, ie. a smaller shipment needed to meet specific storage or quality requirements.

Table 5. Mode for Shipments of Major Commodities from N.D. Elevators, 1993-94

	Mode for Shipment				Total (000 Bushels)
	Single Car (1 to 24 Cars)	Multi Car (25 to 49 Cars)	Unit Train (50 + Cars)	Truck	
HRS Wheat	25%	24%	38%	14%	252,566
Durum	28%	29%	26%	17%	82,921
Barley	34%	28%	5%	32%	109,934
Sunflower	11%	1%	0%	88%	26,017
Oats	67%	9%	0%	24%	11,427
Flaxseed	40%	0%	0%	60%	2,200
Soybeans	42%	24%	23%	10%	9,815
All Grains	28%	23%	24%	24%	515,357

The turnover ratio is an indicator of resource utilization, comparing available storage to total shipments. Fixed costs per unit and bushels handled are inversely related. Fixed costs are tied to an elevator's structure so greater utilization of storage capacity and loadout facilities decrease per bushel as additional bushels are handled through a facility. Turnover ratio may be influenced by factors such as harvest yields, competitiveness of an elevator's price, management, carrier service, and customer satisfaction.

Table 6. Turnover Ratios for N.D. Elevators Segmented by Track Space, 1993-94

	Shipped to End Users	Transhipped* to N.D. Elevators	Median Turnover: Ratio of Shipments to Capacity*
	(000 Bushels)		
No Rail	7,223	6,757	1.43
Single-Car	72,775	25,313	1.97
Multicar	113,222	6,336	2.63
Unit Train	322,133	5,153	4.07

*Shipments includes bushels shipped to end users and transhipped to other elevators, as reported to the N.D. PSC.

The median statistic is used to describe turnovers in Table 6. The median turnover ratio is equal to the turnover ratio for the elevator in the middle of an elevator group. For this calculation each of the four elevator groups were sorted by turnover from highest to lowest so the middle, or median, turnover ratio could be identified. Thus, in each elevator group there are an equal number of elevators operating above and below these median turnover ratio levels. These turnover ratio comparisons are important for assessing resource utilization among and within the alternative elevator groups.

SURVEY RESULTS

The summaries compiled for this report combine North Dakota Public Service Commission grain movement data and survey responses. A customer profile characterizes the capabilities and marketing activities of the 120 elevators that responded to the survey. The description of the response group, marketing activities, and rail carrier service ratings provide a foundation for discussing trends in the grain marketing industry and projecting future needs of North Dakota elevators.

Customer Profile

The 120 elevators that responded to the survey shipped over 212 million bushels of grains and oilseeds, accounting for over 40 percent of the total bushels originated by North Dakota elevators.

Table 7. Survey Respondants' Track Space, Shipments and Storage Capacities

	Number of Sites	Grain Handled (000 Bushels)	Storage Capacity (000 Bushels)
No Rail	15 13%	1,894 1%	3,741 4%
Single-Car	44 37%	29,285 14%	17,102 20%
Multicar	29 24%	42,648 20%	23,778 28%
Unit Train	32 27%	139,005 65%	39,649 47%
Total	120	212,823	84,270

The loadout capacities are important in comparing per bushel handling costs among elevators. Handling costs are influenced by fixed cost (eg. investment in equipment) and variable cost (eg. labor requirements). For loading wheat, (assuming 3,300 bushels per car) a single-car elevator averaged a loadout of two cars per hour versus five cars per hour for unit train shippers. For loading truck shipments no rail and single car elevators averaged five trucks per hour compared to ten and twelve trucks per hour for multicar and unit train loaders, respectively.

Table 8. Average Main House Storage and Loadout Capacities

	Average Main House Storage Capacity	Average Rail Loadout	Average Truck Loadout
	- Bushels -	- Bushels per Hour -	
No Rail	159,929		4,264
Single-Car	222,036	5,472	4,459
Multicar	450,103	9,810	7,892
Unit Train	716,890	16,328	9,640
Average	403,379	9,927	6,694

Diversification and specialization are directives that have been given much attention when elevators have developed the foundation for their strategic planning. While some elevators have chosen to add services and products to enhance competitiveness, other elevators have sought to gain a competitive edge by specializing in grain marketing. A typical elevator generated 68 percent of its gross annual income through grain sales, 8 percent from storage income, and the remainder through other supplies and services.

Beyond the importance of grain marketing activities the grain purchasing/drawing characteristics of elevators should also be considered in identifying trends and discussing competitiveness.

Table 9. Grain Purchased from Farmers and the Distance of Deliveries

	% of Grain Purchased from Farmers	Deliveries Received from:			
		0-9 miles	10-19 miles	20-29 miles	Over 29 miles
No Rail	96%	42%	40%	11%	8%
Single-Car	97%	52%	28%	12%	8%
Multicar	98%	40%	29%	15%	16%
Unit Train	89%	43%	27%	17%	13%
Average	95%	45%	29%	14%	11%

Because producer transportation costs play an important role in shaping an elevator's grain drawing area, the size of trucks that frequent an elevator is an important characteristic of producer deliveries. As farm truck capacity and average farm size increase, the area that producers consider in their grain marketing decision expands.

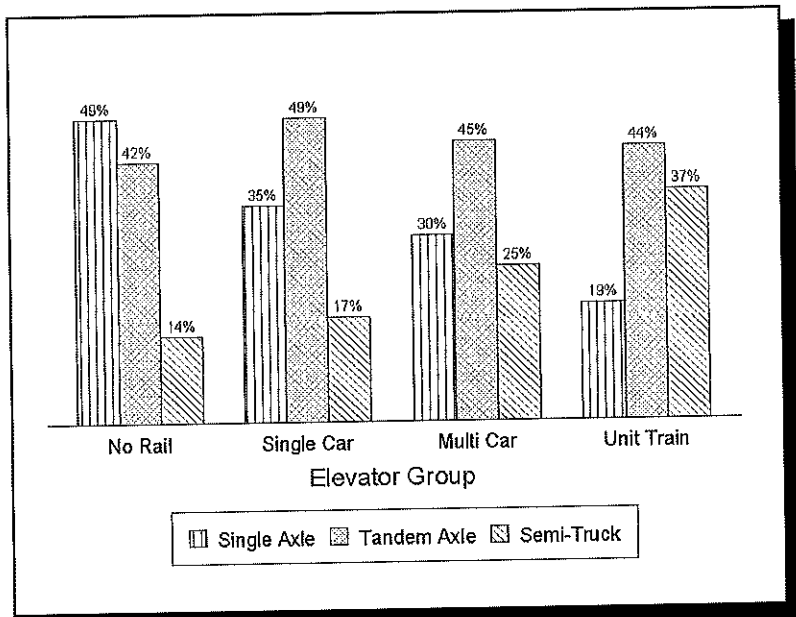


Figure 3 Truck Types Unloaded by Each Elevator Group

A wide variety of factors may influence an elevator's modal decision. Two important factors are truck rates, relative to rail, and the availability of truck capacity, both for-hire and elevator owned/leased.

Table 10. Truck Rates for Wheat Shipments to Minneapolis, Duluth, and the PNW, 1994

	Minneapolis			Duluth			PNW*		
	West	Central	East	West	Central	East	West	Central	East
	- cents per hundredweight -								
Harvest	112	95	83	121	98	84	167	162	n.a.
Non-Harvest	103	90	77	110	94	78	156	157	n.a.
Backhaul Rate	85	73	60	91	77	58	157	n.a.	n.a.

*small sample size may not provide representative rate levels
n.a. not available

In addition to rates, ease of access to truck service may influence marketing decisions. Direct access is common among North Dakota elevators, as 22 percent of survey respondents owned or leased semi-trucks. About 30 percent of the unit train shippers owned or leased trucks compared to 10 percent of the no rail shippers. Twenty and 24 percent of single-car and multicar shippers respectively, reported owning or leasing trucks. Only 11 percent of the elevators that owned/leased trucks had an inventory that included more than two trucks. The range for hauls with these truck ranged from five to 475 miles, with a median haul of 32 miles.

The adequacy of hired truck services may also influence marketing decisions. According to survey response, trucks are readily available during the non-harvest season. Truck availability was rated less than adequate for the harvest season. The large increase in demand for trucks by elevators during the harvest season and the decrease in supply associated with the farmer-owned trucks.

Elevators & Railroad Service

Railroads are an essential component in the N.D. elevator industry's ability to market large quantities of grain and oilseeds competitively. Access to rail cars is a vital component in the discussion of elevator marketing decisions and rail carriers customer service agenda. N.D. elevators that market grain via rail buy service through tariff orders, forward car contracting programs and negotiated confidential contracts.

Tariff orders are a popular method for ordering cars as illustrated in Table 11. Forty-two percent of the cars originated by respondents were ordered through the tariff system. Prior to deregulation of the rail industry tariff cars were the only option for ordering cars. Today, tariff cars are still used to satisfy the common carrier obligation of rail carriers. The common carrier obligation that is included in the Interstate Commerce Act requires carriers to serve all rail users on an equitable basis. Tariff orders are submitted directly to the railroad. Delivery of tariff cars is not guaranteed by the railroad and no penalty is assessed if the railroad fails to make timely delivery of the cars. In turn, the order for these cars may be canceled by the elevator without penalty if the cars are not delivered to the elevator within a specified time period, ie. 30 days. The rate charged for these cars is the tariff rate that is in place at the time the order is filled, thus the rate for the delivered tariff cars may be higher or lower than the rate that was in place when cars are ordered.

Another option for accessing rail service is buying a forward position for car delivery. The programs offered by the Class I railroads include the BN's Certificate of Transportation (COT) and Guaranteed Freight (GF) programs, and CP's Protected Rail Equipment eXchange (PERX) program. Elevators served by the two regional railroads order cars through their affiliated Class I's programs. With the COT and PERX forward ordering programs a fixed percent of the railroad fleet service is offered through an 'auction.' In the 'auction' process elevators submit bids for delivery of cars during the first or last half of a month for up to four or six months (depending in the program) into

the future. The successful elevator bids may be accepted at a premium or a discount, relative to tariff, depending on the market. For the COT and PERX programs the equipment is railroad owned or leased.

The guaranteed freight program offered by BN allows elevators to lease cars from a firm other than the railroad and add the cars to its rail carrier's fleet in exchange for service. For most elevators in North Dakota the car leasing arrangement and the agreement with the railroad for the equipment/service exchange are handled by a parent company or merchandising firm. The elevators then purchase the guaranteed freight services from the parent company or merchandising firm. Terms of the guaranteed freight agreements are determined in individual contract agreements. Delivery is provided within a 15-day window; it is not based on the first half/last half of the month schedule. In contrast to the COT and PERX programs, rates for guaranteed freight cars cannot be locked in when ordering. Rates for these cars are equal to the tariff rate in place when cars are delivered. Late delivery by the railroad or cancellation by the elevator result in a per car penalty payment paid by the party violating the agreement.

Table 11. Survey Respondents' Use of Car Ordering Programs for Rail Shipments

	<u>Average</u>		<u>Average, Weighted by Bushels Shipped</u>	
		Total		Total
Forward Contract:				
COT	29%		26%	
Guaranteed Freight	23%		29%	
PERX	6%	58%	14%	69%
Tariff Order:				
BN, CP, RRVW & DMVW Tariff	37%		24%	
CP Long-Term Tariff	4%	42%	7%	31%

Higher participation in the COT and guaranteed freight programs relative to PERX, may be related to the number of shippers served by each railroad and the relative newness of the PERX program. The PERX program has been in place for only two years, compared to the BN COT program that was initiated seven years ago.

While a straight average provides information about the number of elevators participating in the alternative car ordering options, a weighted average is used to estimate the share of cars that are originated by N.D. elevators under the alternative ordering options. When car ordering was weighted by bushels shipped the importance of forward contracting programs was enhanced (Table 11).

Preferences of shippers and use of alternative car ordering programs vary based on capabilities, capacities, markets, etc. In addition, different forms/levels of risk are associated with the rail car ordering options. Risk is associated with the cancellation penalties, rates, transferability, and reliability of delivery under the alternative programs. For example, one identifiable risk associated with both tariff and guaranteed freight cars is that the per car rate is not established until cars are delivered. This risk does not exist for COT and PERX orders, as rates are locked in upon ordering. Risks associated with COT, PERX, and Guaranteed Freight orders include the penalties attached to cancellation. While some of this risk may be eliminated due to the existence of secondary markets for COTS, PERX, and GF orders, the risk is not eliminated. COT and PERX rates can be established when the order is in place (up to six months ahead of time for COTs and four months for PERX) and the cancellation penalty for these cars is substantial if unneeded cars cannot be sold (transferred) in the secondary market. Notice of transfers made in the secondary market must be given to the respective railroad ten days before the beginning of the delivery period for PERX and five days before the beginning of the delivery period for COTs.

Car Ordering by N.D. Elevators - Segmented by Railroad and Shipper Type

The use of the alternative car ordering programs is summarized by elevator group for each railroad in Table 12. Among the elevator groups, the single-car elevators ship the largest share of tariff cars. The premiums and discounts and the waiting times associated with the alternative programs are listed in the Appendix. The use of alternative car ordering programs will continue to change as railroads modify programs and elevators revise marketing plans.

Table 12. Participation in Alternative Car Ordering Programs & the Percent of Rail Shipments Originated Via Each Car Ordering Method

	BN			CP			RRVW		
	Single	Multi	Unit	Single	Multi	Unit	Single	Multi	Unit
Share of Respondants Participating in their Rail Carriers Alternative Car Ordering Programs									
Tariff	54%	92%	83%	83%	100%	100%	89%	86%	100%
Forward Purchase	73%	100%	100%	60%	83%	75%	89%	86%	100%
Cars Shipped via Each Program (Weighted Average, Weighted by Bushels Shipped by Rail)									
Tariff	20%	11%	12%	90%	78%	57%	61%	59%	51%
Forward Purchase	80%	89%	88%	10%	22%	43%	49%	41%	49%

*DMVW: small sample size does not provide adequate representation among elevator groups

Customer Service Activities

Based on a review of other customer service surveys and the input of elevator managers and railroads, five components of customer service were identified:

- ◆ Services of Marketing and Sales Personnel,
- ◆ Timely Delivery of Equipment,
- ◆ Convenience of Ordering,
- ◆ Availability of Order Information, and
- ◆ Condition of Equipment.

Table 13. Mean and Distribution of Survey Responses Ranking the Importance of Railroad Customer Service Activities

Customer Service Activity:	Average Ranking	Distribution of Responses				
		1	2	3	4	5
		(Scale 1=most important to 5=least important)				
1. Timely Delivery of Equipment	1.4	81%	10%	2%	2%	5%
2. Convenience of Ordering	2.8	14%	27%	33%	18%	8%
3. Condition of Equipment	2.9	17%	28%	21%	18%	18%
4. Availability of Order	3.0	14%	20%	28%	27%	11%
5. Marketing and Sales Personnel	3.4	14%	19%	19%	8%	40%

Table 14. Elevators' Ranking of the Importance of Railroad Customer Service Activities, Summarized by Railroad (Scale 1st=most important to 5th=least important)

Customer Service Activity:	BN	CP	RRVW	DMVW
Timely Delivery of Equipment	1 st	1 st	1 st	1 st
Convenience of Ordering	2 nd	3 rd	2 nd	4 th
Condition of Equipment	2 nd	4 th	3 rd	5 th
Availability of Order Information	4 th	2 nd	5 th	2 nd
Marketing and Sales Personnel	5 th	5 th	3 rd	3 rd

Table 15. Elevator Managers' Rating of Railroad Customer Service Activities

Customer Service Activity:	Average Rating	Distribution of Responses				
		1 poor	2	3 average	4	5 excellent
Marketing and Sales Personnel	3.2	8%	12%	40%	30%	9%
Condition of Equipment	3.0	9%	22%	34%	27%	7%
Car Ordering System	3.0	12%	18%	38%	20%	11%
Timely Delivery of Equipment	2.7	23%	19%	25%	26%	6%
Availability of Order Information	2.7	20%	16%	38%	22%	3%

Table 16. Elevators' Average Rating of Railroad Customer Service Activities, Summarized by Elevator Groups

(Scale 1=poor to 5=excellent)

Customer Service Activity:	Single-Car	Multi-car	Unit Train
Services of Marketing & Sales Personnel	3.3	3.0	3.2
Condition of Equipment	3.0	3.2	2.8
Car Ordering System	3.1	3.2	2.7
Timely Delivery of Equipment	2.5	2.9	2.9
Availability of Order Information	2.6	2.8	2.8

Table 17. Elevators' Rating of Railroad Customer Service Activities, Summarized by Railroad (Scale 1=poor to 5=excellent)

Customer Service Activity:	BN	CP	RRVW	DMVW
Services of Marketing & Sales Personnel	2.8	1.9	3.3	2.5
Condition of Equipment	3.4	3.3	3.4	3.2
Car Ordering System	3.0	3.0	4.0	5.0
Timely Delivery of Equipment	2.8	2.8	3.9	2.7
Availability of Order Information	2.7	2.7	3.8	4.2
Weighted Average*	3.0	2.8	3.8	3.4

Weighted by the Importance of Each Customer Service Activity - See Table 14.

CONCLUSION

The North Dakota elevator industry has undergone substantial changes - adjusting to deregulation of rail rates, changes in producer delivery options, and shifts in markets. Through these changes, rail has remained the dominant mode for grain and oilseed marketing. Typically rail is used in marketing 75 percent of the grain and oilseed shipments originated by elevators. Thus, it is important to encourage railroads to provide competitive rates and service to North Dakota shippers.

The purpose of this study is to encourage competition among rail carriers by providing marketing information and customer service comparisons for N.D. elevators. The value attached to customer service activities depends on expectations of customers. Thus, the initial step is to develop a 'profile' describing the structure and marketing characteristics of the elevator network. Based on this profile, survey responses are summarized to ascertain which customer service activities are most important to elevator managers and how their railroad performed with regard to satisfying the managers customer service needs.

In 1993-94, 425 elevators in North Dakota contributed in shipping over 515 million bushels of grain and oilseeds to processors and export destinations. The 120 elevators that responded to the survey accounted for 40 percent of these bushels. Among the elevators were 15 with no access to rail, 44 with track space for 1 to 24 cars (single-car elevators), 29 with track space for 25 to 49 cars (multicar elevators), and 32 with the ability to load unit trains. The distribution of the elevators among the alternative car loading groups is important, as about 75 percent of the grain originated by N.D. elevators is marketed via rail and the rate structure for rail shipments gives unit train shippers an advantage relative to single-car and multicar shippers.

Beyond rate differences, many factors influence elevator marketing decisions such as the size/shape of an elevator drawing area, producer delivery patterns, the nature of the commodity,

truck/rail rates, and ease of access to truck/rail. Each of these factors is addressed in the customer profile section of the report, providing the base for the customer service comparison.

Based on a review of customer service surveys and the input of elevator managers and railroads, five components of customer service were identified:

- ◆ Services of Marketing and Sales Personnel,
- ◆ Timely Delivery of Equipment,
- ◆ Convenience of Ordering,
- ◆ Availability of Order Information, and
- ◆ Condition of Equipment.

In the initial question in the customer service section of the survey, elevators were asked to rank these components in order of importance. Timely delivery of equipment was identified as the most important service activity by 81 percent of the respondents. The convenience of ordering, condition of equipments, and availability of order information were all considered important, ranging from 2.8 to 3.0 in importance on a scale of 1 to 5, with 1 being most important. Service of sales and marketing personnel received the lowest rating, 3.4.

When elevators are grouped by primary carrier, timely delivery of equipment is the most important service activity for each group. CP and DMVW served elevators rank availability of order information second out of five, while BN and RRVW shippers list convenience of ordering second. The emphasis placed on the availability of order information by the CP and DMVW shippers may be associated with the strike the railroad experienced during the marketing year referenced in this survey. Services of marketing and sales personnel was ranked least important by elevators served by Class I railroads. Regional railroads ranked services of marketing and sales personnel third in their ranking of service activities. This difference may reflect regional railroads' commitment and ability to provide personalized marketing and sales services to the shippers they serve.

In addition to establishing a ranking of the importance of customer service activities shippers rated their primary carrier's success in providing customer service. Overall, railroads performed

better than average for only the services provided by marketing and sales personnel. Condition of equipment was ranked as average by elevators responding to the survey. Availability of order information failed to meet the expectations of 36 percent of elevator managers, while timely delivery of equipment was viewed below average by 42 percent of the shippers.

BN led the two Class I carriers, receiving an overall rating of 3.0. CP received a rating of 2.8, slightly below average. The Class I railroads exceeded expectations for the condition of the equipment they delivered and met expectations for their car ordering systems. CP was given negative marks for services of marketing and sales personnel, likely impacted by the strike.

RRVW led the four rail carriers in the comparison of overall customer service, receiving a rating of 3.8 on a scale of 1 to 5, with 5 being excellent. RRVW was given above average ratings for each of the customer service activities. Next in line was the other regional rail carrier, the DMVW, with its rating of 3.4. Poor delivery and marketing and service personnel support ratings were offset by high car ordering and availability of order information ratings given by shippers. Operations of the DMVW were affected by the strike on its affiliated Class I carrier.

RRVW and DMVW exceeded overall customer service expectations. The railroads were successful in meeting the expectations of shippers regarding car ordering system and the condition of equipment. Class I railroads may improve overall customer service rating by improving delivery times, supplying more/better order information, and reassessing the services provided by their marketing and sales personnel. Improvement in one of these areas may contribute to the satisfaction of shippers in other areas of customer service, creating a higher overall value for resources committed to customer service.

Appendix: Delays & Premiums/Discounts Associated with Car Ordering Programs in 1994

Average Length of Delay for Tariff Rail Cars During 1994

# of Cars in the Order	Car Order(s) for	BN or RRVW Tariff	CP Tariff	CP Long-term Tariff
		- average days of delay for car orders -		
1-24 cars	Mar 94-July 94:	15 days	41 days	27 days
	Aug 94-Dec 94:	27 days	82 days	66 days
25-49 cars	Mar 94-July 94:	24 days	40 days	n.a.
	Aug 94-Dec 94:	23 days	91 days	64 days
Unit Train (50 Cars +)	Mar 94-July 94:	18 days	n.a.	n.a.
	Aug 94-Dec 94:	26 days	94 days	75 days

n.a. not available, sample size too small

Averages and Ranges of Per-Car Premiums Paid for Rail Cars Shipped Via Forward Car Ordering Systems During 1994

	COT	PERX	Guaranteed Freight
1 st Quarter (Jan-Mar)	\$118 (\$0..\$264)	\$118 (-\$150..\$350)	\$119 (\$30..\$264)
2 nd Quarter (Apr-Jun)	\$56 (\$0..\$180)	\$6 (-\$150..\$100)	\$52 (\$0..\$132)
3 rd Quarter (Jul-Sept)	\$131 (\$6..\$330)	\$156 (\$60..\$350)	\$127 (\$30..\$300)
4 th Quarter (Oct-Dec)	\$209 (\$0..\$400)	\$226 (\$60..\$375)	\$177 (\$30..\$396)