MULTIPLE CAR RATES AND MERCHANDISING METHODS

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INTRODUCTION

The grain handling and transportation system in North Dakota is experiencing tremendous infrastructural change. Multiple car grain rates, rail line abandonments, energy considerations and technological advances are corollary factors, among others, influencing this transition. Managers of country elevators are faced with decisions concerning capital investment, mergers and/or consolidations, marketing techniques, marketing instruments, plant location, and others. The current response has been to develop a marketing system that will attain efficiencies in both grain handling and transportation. There are economic incentives to develop a system of large country elevators (subterminals) that are capable of shipping grain in multiple car segments. However, many factors must be considered before such a system is developed.

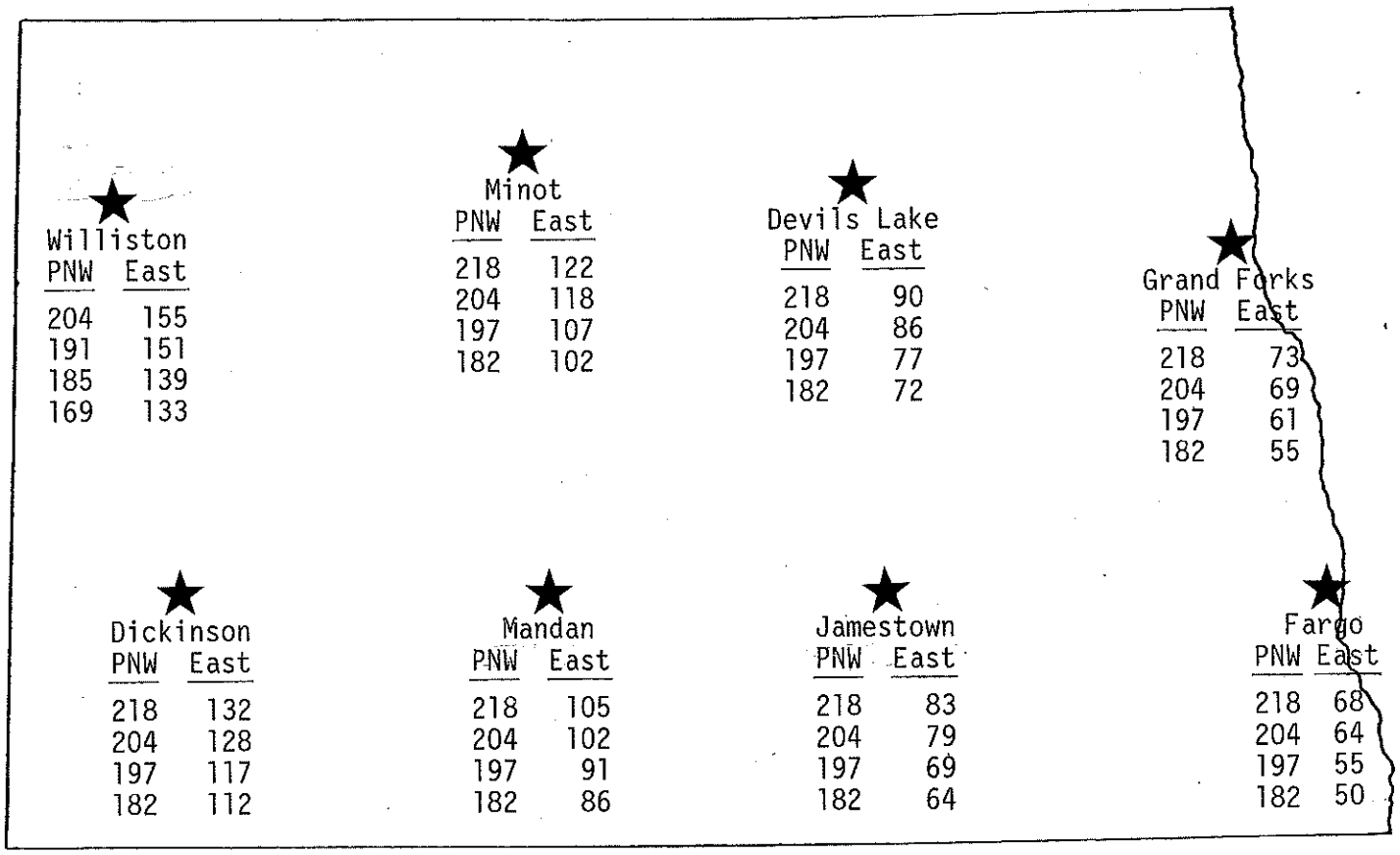
COUNTRY ELEVATOR SYSTEM IN NORTH DAKOTA

Both the number and size of country elevators operating in North Dakota have changed significantly since the 1920s. In 1923 over 1,800 elevators operated in the state (Table 1). These facilities had an average of 30,000 bushels of storage capacity per firm. By 1982 the number of firms declined to 589 while average storage capacity increased to 266,000 bushels. The size of the average trade area served by these country markets increased from 225 square miles in 1920 to 785 square miles in 1982. The number of firms has stabilized since 1978 (600 firms in 1978 versus 589 firms in 1982). Average storage capacity has increases moderately during this same time period (229,000 bushels versus 266,000 bushels), a change of about 16 percent.

TABLE 1. NUMBER AND SIZE OF COUNTRY ELEVATORS OPERATING IN NORTH DAKOTA.			
YEAR	LICENSED ELEVATORS	AVERAGED STORAGE CAPACITY	AVERAGE VOLUME
	- - - - # - - - -	- - - - - - BUSHELS - - - - - -	
1923	1,832	30,000	- - - -
1953	936	68,000	- - - -
1965	789	159,000	- - - -
1970	663	188,000	460,000
1972	650	197,000	460,000
1974	636	207,000	647,000
1976	617	204,000	519,000
1978	600	229,000	598,000
1980	589	248,000	808,000
1981	592	263,000	678,000
1982	589	266,000	784,000

MULTIPLE CAR RATES

Probably one of the most influential factors contributing to subterminal development in North Dakota has been the implementation of multiple car grain rates in December 1980. Country grain shippers are being offered reduced rates for originating larger volumes of grain (Figure 1). For example, rates for shipping grain from Williston to "East" destinations vary from 133¢/cwt. for 52-car shipments to 155¢/cwt. for single car shipments. Shipping in 52-car units would save roughly $22,500 per shipment relative to shipping in single-car lots (calculated as 1,980 hundredweights per car times 52 cars



PNW = Pacific Northwest destinations. Rates are for single-car, 26-car multiple origin, 26-car single origin and 52-car single origin movements, respectively. Rates are quoted in cents per hundredweight.

East = Duluth/Superior and Minneapolis/St. Paul destinations. Rates are for single-car, 3-car, 26-car single origin and 52-car single origin movements respectively. Rates are quoted in cents per hundredweight.

Figure 1. Examples of Wheat Rates from Various North Dakota Origins to Pacific Northwest, Duluth/Superior and Minneapolis/St. Paul Destinations, December 1, 1982.

times the rate savings of 22¢ per hundredweight; 1,980 * 52 * 22¢). The rate savings for shipping to Pacific Northwest destinations from Williston is 35¢/cwt. (52-car movement versus single-car shipment). The 52/single-car rate differential would result in a $36,000 savings to shippers for an equivalent movement (102,960 hundredweights).

EXPLOITING MULTIPLE CAR RATES

The spread between the various grain rates has resulted in the single-car shipper being at a competitive disadvantage to the multiple car shipper with respect to rail grain rates. In order to take advantage of reduced rates, many country elevators must expand their facilities by merging with other elevators, upgrading present facilities or constructing new facilities. Also, increased use of various marketing options facilitates the marketing of grain under the multiple car concept.

Merger

The purpose of a merger is to develop a viable entity that is capable of competing within an industry. Mergers allow country elevators the opportunity to align facilities to exploit efficiencies normally associated with subterminal grain elevators. In particular, mergers allow country elevators to assemble the large volumes of grain necessary for multiple car shipments.

Several cooperative consolidations have taken place in North Dakota to form subterminal-satellite elevator systems. Conceptually, the subterminal is supported by the consolidated elevators which act as "satellite" or feeder stations. Most of the grain handled at the satellite elevators is trucked to the subterminal facility for transshipment in multiple car units (i.e., 26-car, 52-car, etc). The feeder stations are instrumental to the subterminals for procuring sufficient volumes of grain to fill multiple car shipments.

Merchandising Options

Most of the grain delivered to country elevators is presently purchased upon delivery for cash. This allows little discretion to the elevator manager concerning grain inflows and outflows. Alternative merchandising options exist that can be used to procure grain and control inventories in such a way that economies of transportation and throughput can be exploited.

A survey of country elevators in 1981 revealed the relative use of various purchase methods for grain (Table 2). The most common method was the cash sale. Forward contracts were the next most popular alternative followed by the delayed pricing contact (DPC).

TABLE 2. GRAIN PROCUREMENT METHODS USED BY COUNTRY ELEVATORS, NORTH DAKOTA, 1981.

	COMMODITY			
PROCUREMENT METHOD	**HRS**	**DURUM**	**BARLEY**	**SUNFLOWER**
	---------- PERCENT ----------			
Cash	55	74	69	47
Forward Contract	20	14	24	29
Delayed Pricing Contract: Cash Price	14	11	7	16
Basis Price	11	--	--	8

The survey was also used to gather information on methods of sale (Table 3). The spot market was used most often for durum and barley sales (49 and 48 percent respectively). To-arrive sales were the most prevalent method used by country elevators in selling hard red spring wheat and sunflower. Track country station sales were used minimally.

TABLE 3. SALES METHODS USED BY COUNTRY ELEVATORS, NORTH DAKOTA, 1981.				
	COMMODITY			
SALES METHOD	HRS	DURUM	BARLEY	SUNFLOWER
	---------- PERCENT ----------			
Spot Market	39	49	48	32
To-Arrive	48	46	41	50
Track Country Station	13	5	11	17

Seasonality is a factor that limits efficient utilization of country elevator facilities in North Dakota.* Marketings in peak months are typically 160 percent of the annual average while marketings during the off-peak period may be as low as 50 percent of the annual average.** Peak months are commonly late spring and during and immediately following harvest. Various merchandising options may be used to increase facility utilization during these peak and off-peak demand periods.

Peak Demand Periods. Two merchandising options are extremely beneficial to country elevator managers during peak demand periods. First, forward contracts assure elevator managers of throughput and a particular time of delivery. This allows managers the opportunity to arrange for transportation services at a specific time and decreases the length of time storage space is tied up. Second, the delayed pricing contract (DPC) allows

*Wilson, W. W., **Seasonal Behavior of Marketing Patterns for Grain from North Dakota**, Ag. Econ. Report No. 143 and UGPTI Report No. 38, NDSU, Fargo, North Dakota. 1981.

**Ibid.

managers tremendous flexibility in grain marketing. Managers have the option of selling and shipping the grain regardless of when the farmer makes his pricing decision. This flexibility allows managers to increase volume since the grain can be moved at their discretion. It also allows managers flexibility in pricing since the grain may be stored until market conditions favor sale.

Off-Peak Demand Periods. Elevator managers can increase facility utilization by implementing storage hedges during off-peak periods. The basis must strengthen (i.e., cash price must increase relative to futures price) in order for a storage hedge to be profitable. Two basic decisions are to be made: (1) determining how much storage space to allocate, and (2) deciding on which grain(s) to choose so returns to storage may be optimized. The storage hedge allows elevator managers to utilize previously uncommitted storage space. However, the space should not be committed to terms that interfere with peak demand periods.

CONCLUSION

The grain handling and transportation system in North Dakota is in a period of transition as a result of technological and institutional changes. Much of this change can be directly attributed to the introduction of multiple car grain rates by the railroads in December 1980. Present freight rates generally favor investment in 52 car loading facilities. However, many parts of the state may face problems in assembling large volumes of grain necessary for 52-car shipments. Mergers and alternative merchandising options provide a means to managers for procuring sufficient grain volumes. Subterminal-satellite elevator systems allow elevators to consolidate grain at a main transshipment facility. Delayed pricing contracts give managers flexibility in assembling and marketing grain.