



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

IMPLICATIONS OF MODULAR CONTAINERS ON GROCERY DISTRIBUTION COSTS

Chairperson: Dr. Wes Kriebel, Office of Transportation, USDA

TRANSPORTATION PERSPECTIVE

by

Richard H. Burn, Asst. Corporate Traffic Manager
Savannah Foods & Industries, Inc.
Savannah, Georgia

It is a pleasure to be here in Memphis this morning with you to discuss some of the implications of modular containers on transportation cost. Savannah Foods & Industries provides manufactured food, public warehousing and common carrier transportation to companies throughout the United States.

Food manufacturing at Savannah Foods & Industries includes the Savannah Sugar Refinery (Dixie Crystals Sugar), Everglades Sugar Refinery (Evercane Sugar), Wells Pet Food Corporation and Sunaid of Florida, Inc. a packer of various portion control items. Transales Corporation, our public warehousing arm, has facilities in Atlanta, Georgia; Savannah, Georgia and Greenville, South Carolina. Food Carrier, Inc., is an Interstate Commerce Commission regulated motor carrier with over 200 company units with General Commodity Authority throughout 37 states in the Eastern and Central Time Zones in the United States.

Savannah Foods has over 300 railroad cars in its assigned or leased service. We use over 40 common motor carriers and ship over 10,000 loads per year.

Regulation

Though we hear much today about

deregulation, transportation is a regulated business, with a few exceptions. I would like to review interstate and intrastate regulation of railroad and trucking service as it stands in 1983.

Between states, economic regulation of railroad transportation exists on all commodities except fresh fruits and vegetables, no matter the type of equipment used. In other words, it could be any kind of car. In addition, any commodity moving in piggyback service today or in box car service after November 7, 1983, will not be subject to economic regulation by the Interstate Commerce Commission. In my opinion, nearly all railroad rates and services will be negotiated in the food distribution industry with no regulation or delay by November. This economic freedom will permit the development of innovative service in box cars as already has occurred in piggyback. However, railroads will be able to raise charges on services that they do not presently consider profitable.

Within states the Staggers Rail Act of 1980 required that states follow the federal relaxed regulation. However, states can regulate trucking drayage services to and from railroad piggyback ramps when the original origin and final destination are in the same state. For example, Georgia can regulate drayage on piggyback shipments between Savannah and Atlanta.

Motor carrier interstate transportation is under complete economic regulation with the exception of certain agricultural products, and food products when the owner of the truck is the driver of the truck. Rates must be on file with the Interstate Commerce Commission. New rate proposals require 30 days notice to the public, although that time limit is under review. Carriers cannot haul freight without proper operating authority granted by the Interstate Commerce Commission. To receive this authority, the carrier must apply to the Commission with customer support.

One asks, what did the Motor Carrier Act of 1980 change? At the recent Southern Shipper & Motor Carrier Council meeting in September, it was reported that approximately 9,000 motor carrier and broker operating authority certificates were easily obtained because of a significant change in the burden of proof. Prior to 1980 the new applicant had to show need beyond the capabilities of the present transportation facilities. After 1980, the protestants to the new applicant had to show injury to the American Transportation System. One non-valid reason for protest since 1980 is injury to a specific carrier.

However, intrastate motor carrier regulation varies extensively. Arizona, Delaware, Florida, Maine, New Jersey, Virginia and Wisconsin have virtually no economic regulation of motor freight transportation. A company can easily enter the business and offer effective innovative transportation packages. At the other end of the spectrum, states such as Georgia, Pennsylvania and Texas have not significantly changed their regulatory position since prior to World War II. For example, it is very difficult for a new carrier to gain operating authority in Georgia. No motor carrier has authority to haul all commodities between all points in Georgia.

To summarize regulation, food warehouse receivers will soon be dealing with no economic railroad regulation of their products. Interstate truck regulation must be respected, but innovation is welcomed by the regulators. Intrastate trucking requires research to determine if regulation exists, and if it does, whether it is flexible or rigid in relation towards development of transportation innovation.

Advantages of Various Modes

Railroad box car transportation is the oldest of the modes of transportation I would like to discuss. As of November 7, it will be free from economic regulation. I predict that marketing flexibility and backhaul pricing will become important innovations in the railroad box car business.

Advantages of Railroad Box Cars

1. No economic regulation after November 7.
2. Ability for shipper to schedule labor for loading around the producer's schedule rather than transportation company's schedule.
3. Availability of a large number of regular 50 feet box cars.
4. Ability for the receiver to plan unloading as he has between 48 and 71 hours to unload the car with no demurrage charges.
5. Arrangements can usually be made to return shipping containers (i.e., pallets) at little or no cost.

Disadvantages of Railroad Box Cars

1. Larger volumes of produce are required than by other modes.
2. Shipper may be required to use dunnage which has a cost.
3. Service is erratic with only estimated arrival dates.

Railroad piggyback combines many of the advantages of truck with the cost efficiency of rail. Many of the advantages and disadvantages are similar, but I think it is important we look closely at piggyback, as it will probably be the mode of the future, in my opinion.

Advantages of Piggyback

1. No economic regulation.
2. Lower operating costs on rail portion than over-the-road truck.
3. Availability of a large number of 40 and 45 feet trailers in the system which are freely interchanged.
4. Arrangements can usually be made to return shipping containers (i.e., pallets) at little or no cost.
5. Arrangements can be made with suppliers to allow the consignee (i.e., food chain) to perform drayage for compensation at the destination.

In this case, Savannah Foods normally charges the customer full transportation costs to his dock. The warehouse or transportation department invoices the shipper like any other piggyback drayman so that funds are credited to the warehouse budget rather than the buying group budget.

Disadvantages of Piggyback

1. Service quality is not as dependable as with truck.
2. Some damage may occur, as the shipper will not know which end of the trailer will ride forward during train movement.

Motor Transportation-Truckload

Since the Motor Carrier Act of 1980, there has been a great expansion

of motor transportation services. With interstate operating authority easier to obtain, new carriers have emerged in every part of the United States. Many of these carriers are called irregular route carriers because they do not have terminals, except at the headquarters of the company and a few other locations. Many of the new carriers use independent owner-operators or non-union drivers.

Advantages of Truckload Motor Carriers

1. Availability of a carrier on a given date. For example, a carrier may offer attractive rates, but only have trucks in the area on Mondays.
2. Truck sizes vary and cannot be guaranteed to be in the loading area when ordered, unlike piggyback. Trucks use 20 feet steamship containers, 27 feet double, 40 feet trailers, 42 feet trailers, 45 feet trailers and 48 feet trailers. Widths can vary from 96 to 102 inches.
3. Irregular route truckload carriers may have difficulty returning material handling devices such as pallets. The exception would be if pallets are carried on the truck as a few carriers do.

Motor Freight Transportation-Less Than Truckload

Motor freight transportation can also be in less than truckload quantities when smaller amounts are needed.

So far, I have only been addressing volume movements of freight. Often, order size quantities going to the final user are not large enough to fill a complete vehicle.

Traditionally, less-than-truckload regular route motor carrier service was used. This is still a major part of the American freight transportation system, but it has become much more competitive. Discounts for volume of traffic have become common. Many carriers are providing loading allowances so that the

shipper loads the trailer with material handling devices rather than the carrier's labor manually loading. In a few minutes, I will discuss modular less-than-truckload rates.

As alternative to less-than-truckload transportation is distribution consolidation. A warehouse or transportation broker will assemble the load via piggyback or irregular route motor carrier. He will then ship it to a distributor in a key city. The distributor will strip the trailer and deliver it in less-than-truckload quantities to receivers. The financial advantage comes because the long-haul is in a solid load while the short-haul is less-than-truckload.

Now I would like to turn to our topic of the morning and discuss a few things I see.

Innovation in Modularization

At this point, I hope that we have a base of understanding to look towards transportation. I would like to discuss what the Savannah Foods Companies are and also point out some help that shippers need from consignees.

Savannah Foods manufacturing plants ship all products on pallets or slip sheets. If a load is required to be floor loaded, we load it on slip sheets. With pallet exchange (which is closely monitored), we require that motor carriers serving our regular marketing provide pallets before receiving freight. Likewise, we have a material handling group that monitors buyers trucks and buyers arranged common carrier transportation to ensure pallet return. If pallets are not returned, the appropriate sales department is charged. The Sales department examines the customers' pallet exchange records when quoting prices for delivery of product.

Savannah Foods encourages its customers to receive on slip sheets. Our unitized patterns fit well on 40x48

slip sheets, which load well in either railroad cars or trucks.

Pallets

The primary problem with pallets is the cost of the pallet and the difficulty of exchange. When freight is delivered to a receiver, an equal number of the same size pallets are exchanged. In many cases, the quality will be different in the exchange.

A hardwood pallet will last for four (4) trips with minor maintenance. Because of the weight of our product, hardwood pallets are a must. By using the Grocery Manufacturers Association standard 40x48 four way entry hardwood pallet, exchange is usually available.

Using truckload carriers, we find that return of the pallets is often difficult. Some carriers provide low enough rates to allow the customer not to exchange. However, usually, the rate difference between a pallet exchange and non-pallet exchange carrier is not enough to allow pallet disposal. Some motor carriers rent warehouse space and hold pallets for return.

Many carriers try to always have 18 pallets on the truck. If the load is palletized, exchange occurs at loading. If the load is not palletized, the carrier keeps the pallets for exchange at his next loading site.

The previous paragraph sounds simple. Why does it not work? First, our loads consist of 17 to 36 pallets. A truck enroute for loading may not be able to pick up additional pallets before arriving at the loading site. Second, receivers are not returning usable pallets to motor carriers. Third, receivers sometimes have a pallet shortage. Finally, pallet programs increase the operating cost of motor carriers who must then increase rates.

Slip Sheets

Slip sheets are economical for the supplier to purchase and ship. No

control is needed, as they are a throw away item. The warehouse receiver has the advantage of no pallet rotation with incoming trucks and rail cars.

Disadvantages of Slip Sheets

1. Unloading of railroad cars is slower than with pallets.
2. Receiver employees must unload truck as pallet jacks cannot be used. The alternative would be driver hand unloading which is slow and expensive.
3. Special forklift attachments are needed.

Even with the disadvantages, producers are trying to provide economic incentive for slip sheets to reduce pallet management costs.

Modular LTL Rates

In the Southern Motor Carrier Rate Conference Tariff 500, modular less-than-truckload rates have been developed.

In Section 14A, AAA Cooper Transportation, Dothan, Alabama is offering discounted rates on palletized or skidded shipments. The shipments must have a minimum weight of 500 pounds, or the shipper must pay for 500 pounds. The rates only apply if the total shipment is on pallets, skids, or in drums. The pallet is not returnable and must have an average weight of 500 pounds per unit. Each piece must have a density of 10 pounds per cubic foot or more. If the receiver demands that the unitized load be broken, a dismantling fee of 20¢ per piece will be charged.

What are the savings? On a 500 pound shipment, Class 55, going 500 miles, the regular freight charge (no discount) would be \$51.95. On the Section 14A rates, the charges would be \$22.35, or a savings of 57%. Let's look at another example. A Class 100 shipment weighing 2,000 pounds going 1,000 miles normally would cost \$370 for the

shipment. Under Section 14A, it would cost \$236.40. The savings in this case would be 38%.

Another example of modular rates is published by Pilot and Transus (Georgia Highway Express) in Section 16 of the Southern Motor Carrier Bulk Conference 500 Tariff. The description below applies on shipments of less than 5,000 pounds.

The published rates are lower, but each shipment has additional charges. First, if the carrier picks up one shipment, a pick-up charge of \$19 per shipment is assessed. If the carrier picks up two or more shipments, a charge of \$16 per shipment is assessed. Next, a modular charge is charged. For each 25 pounds shipments, a free unit is allowed. Thus if six (6) modular units consisting of 300 packages are shipped weighing 2,000 lbs., no modular charge exists. However, if no modularization is used, 300 units would exist. The shipper would receive 80 free units, but would have a piece charge of 50¢ per unit. Thus, it would cost \$20.50 or \$110 more per shipment. This would raise the per cwt. cost by \$5.50 per cwt. in this example.

Let me show a couple of examples of cost differences with modular rates (Tables 1-4).

Unloading

Unloading trucks is a responsibility of whom? The answer is found in the carrier's tariff on file with the Interstate Commerce Commission or the respective state regulatory body. In the absence of regulation in places such as Florida, the carriers rate sheet governs.

Several years ago, many state wholesale grocers associations indicated there was a law requiring truck drivers to tailgate or unload their freight. There never was such a law to my knowledge.

Unloading is a cost in transportation. Usually, the receiver with motorized equipment handling the freight in a modular manner can do it cheaper than a truck

TABLE 1. SIX MODULAR UNITS, TOTAL WEIGHT 2,000 LBS., SHIPMENT DISTANCE 1,000 MILES

Regular LTL Rates	Class 100	Modular Rates	
	20% Discount LTL	Section 14A	Section 16
\$370.00	\$296.00	\$236.40	\$279.20

TABLE 2. 300 PIECES, TOTAL WEIGHT 2,000 LBS, SHIPMENT DISTANCE 1,000 MILES

Regular LTL Rates	Class 100	Modular Rates	
	20% Discount LTL	Section 14A	Section 16
\$370.00	\$296.00	N/A	\$389.20

TABLE 3. THREE MODULAR UNITS, TOTAL WEIGHT 1,000 LBS., SHIPMENT DISTANCE 300 MILES, CLASS 55

Regular LTL Rates	Class 55	Modular Rates	
	20% Discount LTL	Section 14A	Section 16
\$711.00	\$568.80	\$338.00	\$470.00

TABLE 4. 50 PIECES, TOTAL WEIGHT 1,000 POUNDS, SHIPMENT DISTANCE 300 MILES

Regular LTL Rates	Class 55	Modular Rates	
	20% Discount LTL	Section 14A	Section 16
\$711.00	\$568.80	N/A	\$475.00 (40 free pieces)

driver hand unloading or using a pallet jack. For example, Savannah Foods carriers charge 10-15 cents per cwt. to unload a trailer (\$40-\$60 per load). For our company, the unloading charge is added to product cost if unloading becomes an issue. Thus, there is no free lunch within unloading.

Conclusion

I look forward to improved transportation through modularization. Opportunities will continue with cooperation. Cost incentives must be placed in the right location to permit advantages to be taken.