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COSTS OF DELIVERING GROCERIES AND FROZEN FOODS TO RESTAURANTS IN COMBINED OR SEPARATE LOADS

by

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This study was initiated because some institutional wholesalers adding frozen foods to their grocery line or vice versa were using refrigerated trucks to deliver frozen foods and straight grocery trucks for groceries, and incurring high costs because delivery costs are related to order size. The larger the order the lower the per case delivery costs. In order to measure the costs of this procedure as compared with shipping the entire order on one delivery vehicle, data was obtained under contract. USDA analyzed the data and prepared the report.

Ownership, operations, and labor costs for two fleets were developed. One dual purpose fleet consisted of 12 vehicles with 18-foot bodies equipped with refrigeration and sliding bulkheads for hauling combined loads. Another, the single purpose fleet, had 10 trucks with 14-foot bodies for hauling groceries and 7 trucks with 10-foot refrigerated bodies for frozen foods.

Costs were developed for these two fleets each delivering 3,900 cases per day to 300 customers. The dual purpose fleet made 300 stops per day while the single purpose fleet required 480 stops to deliver the same goods. The average grocery order was nine cases and frozen food orders averaged four cases.

When all costs for the two fleets were compared, the dual purpose fleet - compartments with sliding bulkheads - had the lower overall cost (\$258,648

vs. \$309,080) for the single purpose fleet, a difference of \$50,432 annually or 19.5 percent.

The largest component of this difference was the higher cost of labor for the single purpose fleet amounting to \$38,386. About 99 percent of this higher cost was due to more travel time on route requiring 7,600 additional man-hours.

The next largest component of the difference was truck operations costing \$18,188 more for the single purpose fleet.

Three other items also were lower for the single purpose fleet; equipment ownership costs (\$2,643), refrigeration operation costs (\$2,409), and the cost of hauling additional weight (\$1,090).

For an operator doing \$6.5 million a year in volume the overall higher cost for the single purpose fleet of \$50,432 would amount to .78 percent of sales (4.5 percent of the average gross margin of 17 percent of sales).

In this study costs were also determined for several alternative methods of shipping mixed loads in 18-foot truck bodies. Major findings were that, at levels up to 40 percent frozen foods, using insulated refrigerated containers produced lowest overall costs. At 40 and 50 percent levels sliding bulkheaded bodies are slightly more costly than fixed bulkheaded bodies but are more flexible. Fully insulated and refrigerated vehicles

produced the highest cost at the volume levels studied.

AN ANALYSIS OF SMALL FOOD STORE SUPPLY SYSTEMS

by

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For those working in food distribution an equally appropriate title might be "The Quantification of Conventional Wisdom about Vendor Direct Delivery." You are aware of the numerous direct deliveries to all types of food outlets made by certain processors and specialty wholesalers. The daily procession of bakery, snack, biscuit, carbonated beverage, milk, ice cream and specialty product deliveries to these outlets is too obvious to be overlooked. It is also apparent that unit delivery costs for this method are relatively high. Consequently, I'm sure that awareness of the existence, persistence and inefficiency from a logistical standpoint, of the vendor direct delivery system can be regarded as "conventional wisdom." This study provides numbers to fill some of the quantitative gaps in this "wisdom."¹ Fragmentation in the physical distribution of many types and brands of food and related products as described in this study is not a condition unique to small grocery stores. Many of the firms engaged in direct delivery to study stores were using the

same equipment, personnel, and methods to serve the entire span of retail outlets in their market area - from the smallest store or lunch counter to the largest supermarket. Therefore, this study measures only a segment of the distribution operations that would be affected by any effort to reorganize and reduce costs only for small grocery stores.

Fragmented delivery operations utilizing a large number of vehicles traversing similar routes in an urban area represent an addition to air pollution and traffic congestion. Increased productivity and energy conservation have become priority objectives in the food industry.

Recognizing the various pressures coming to bear on these problems, a study was initiated to identify and quantify the existing situation. Basically, the study has three purposes:

1. Provide a basic description of the merchandise procurement and receiving