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Session 3-A: LTL Motor Carrier Operations

Session chair: Curt Grimm, University of Maryland

Summary by Session Chair:

Two papers were presented in the session. The first, by Phil Smith and colleagues at Viking Freight, explored determinants of stop time at Viking Freight. The author was questioned on how stop data was recorded, with the reply that Viking is not yet computerized for this function so that data is recorded by hand on clipboards. The results focused on variables that will influence the time it takes to pick up LTL freight. House stops, where the driver stops every day without being called, take longer. The author's explanation, in response to a question, was that the company is not as well prepared as others. The author was also asked why his company was active in published research, unlike most LTL companies. He replied that he enjoyed sharing results with us, because he also benefitted from other research; additionally better educating shippers on determinants of stop time could help his company.

The second paper, by Jerry Athearn, presented data to support the argument that LTL service in the West had deteriorated since deregulation and particularly in recent years. One question was the extent to which UPS provided an alternative, with the answer that only for specific shipments (under 70 pounds and meeting other specs). There was also disagreement by some as to whether service had actually declined. In the past more carriers may have served, but less frequently than the smaller number of carriers serve now. Also, prices may be up for these shippers but only reflecting higher costs of serving small communities and rural areas.

An Estimate of Pickup and Delivery Stop Time for a Less-Than-Truckload Motor Carrier, by Phil Smith, et. al.

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Pickup and delivery drivers for less than truckload motor carriers spend much of their day at customers' locations. In order to effectively manage this activity and plan for an efficient operation it is necessary to estimate the time needed to perform the work. Prior studies have been limited in the number of variables used to explain the time used. This study adds a number of important new variables and provides time estimates for the activities required.

The best historical studies reporting regression equation results for LTL stop times have had R^2 values in the .50 to .65 range. This study, by adding variables not available to others, produced an R^2 of .69. Residual analysis failed to show any significant failure of the model to fit the data.

The most significant contribution seems to be the separation of the impact of pieces into loose and palletized categories and then including a term for the weight of the pieces. The equation developed demonstrates the handling advantage of palletization for pickup and delivery of freight. The productivity advantage is not limited to time at the stop; a similar advantage also exists on the motor carrier's dock where shipments are sorted.

The large amounts of time required for paperwork as measured by the time for each additional shipment suggests that methods to reduce paperwork or simplify procedures would have a significant benefit. As the average stop time is 13.5 minutes and the time created by each shipment is in the 4 minute range, paperwork requirements make up as much as one quarter of the driver's stop time.

The study also highlights the weakness of the regression equation method. The hazardous materials shipments and measurement of shipments by drivers are the examples. There are significant additional activities required by the driver in the handling of hazardous materials shipments – the regression equation failed to identify this time. The time required to get a shipment's dimensions, based on engineered studies, is about 4 minutes. The 12 minute estimate probably is a confounding of large shipments (in volume) and the time required to measure. Perhaps the only way to obtain the necessary information is collection by a trained observer.

The study points out the need for paperwork procedures that can be completed more quickly and suggests that handling times for large shipments, especially those of low density, need special consideration.

LTL Service In The West: Long-Term Losses Replace Short-Term Gains, by Folger Athearn, Jr.

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The proponents of deregulation predicted that freedom of entry and increased competition would lead to better service and lower rates for all; including small businesses and small rural communities. Federal deregulation of transportation has permitted those carriers dedicated to serving only major shippers to enhance their own operating efficiency at the expense of the full-service regular common carriers dedicated to providing the type of service essential to the survival of small businesses and small rural communities. This has had an adverse impact upon the operating efficiency and economic welfare of full-service regular common carriers and the ability of small businesses and small rural communities entirely dependent upon them to get their products to markets where they are in competition with their big business competitors.

Based on a study of regular LTL common carrier service provided at all of the 532 county seats in 13 western states, the index of availability of LTL service shows a 39 point drop during the six years of sustained economic prosperity which began in late 1982. By the end of 1988, 2,797 (66 percent) of all 4,236 points in eleven western states listed in the Fall 1976 edition of the National Highway and Airway Carriers and Routes Directory had lost 100 percent of the common carriers that had been providing them with regular LTL service in 1976.

Of the 134 common carriers participating in RMB 118-F and providing service at one or more of California's county seats in 1982, 87 (65 percent) had cancelled participation by October 1988. 47 of those cancelling participation in the Rocky Mountain Bureau (RMB) tariffs were full-service carriers that had been providing regular LTL service. Only one cancelled due to publication of all its rates in its own individual tariff. 32 (68 percent) of these full-service carriers that no longer participate in RMB tariffs went bankrupt or out-of-business.

National carriers abandoned more service than they added. At 26 of the smaller county seats in California where at least one full-service trucker with nationwide operations abandoned their common carrier obligation to serve the public, there was an overall net loss of: 48 percent of essential interstate LTL service, 53 percent of the LTL service previously provided by national carriers and 51 percent of that provided by regional carriers.

After ten years of de facto deregulation of interstate transportation and six years of sustained prosperity, it is clear that there have been very significant decreases in the absolute number of full-service carriers and in the availability of LTL service between city-pairs. The data collected by DOT studies in the first half of the 1980s is now obsolete. The full-service common carrier industry providing essential LTL service to small businesses and small towns and rural communities continues to decline in the western states.