
Operations Research into Log Transportation

Log transportation can account for over one-half of the cost of harvesting and delivering wood raw material from the forest to the mill. Any opportunities to increase the number of loads delivered with the same trucks, or to deliver the same wood volumes with fewer trucks lowers total logging costs. Improving the utilization of trucking assets, therefore, leads to fewer trucks on the road and higher margins for industry participants.

In late 2004, Forisk initiated a study into the potential gains from sharing log truck resources in a region with unconsolidated and scattered logging activities.¹ The study brought together leading logging firms in Georgia to collect and analyze field data and to develop a set of repeatable procedures for dispatching log trucks in real time. It tracked 18 log trucks from six logging sites to 15 destinations over five days, and simulated a centralized dispatch system using actual inventory and operating data. Results indicated that the same volume of wood could be delivered with 0.92 fewer hours (55 minutes) per truck per day and 36 fewer miles driven per truck per day, with estimated daily cost savings for the 18-truck system of \$500 to \$750 per day.

Forisk has visited and observed other efforts to improve efficiency by de-linking trucking and logging:

Sun Chasers

In Creswell, Oregon, Bill and Betty Farley run a trucking dispatch service for owner operators. Sun Chasers fields orders from loggers each afternoon for trucks needed the following day. Sun Chasers negotiates pay rates, and handles collections, paperwork and payments for 6 to 20 drivers at any given time. All drivers carry additional insurance and participate in random drug-testing. Drivers pay a commission to Sun Chasers in exchange for the services.

Harvest Haul

Frankie and Ray Montalvo operate a log truck service from Magnolia, Mississippi. Harvest Haul owns 40 trucks and hires all drivers. While Harvest Haul owns and operates the trucks, Weyerhaeuser handles the dispatching. Currently, the system delivers 640 loads per week (approximately 3.5 loads per truck per day) delivering to primary Weyerhaeuser sawmill locations at McComb, Holden, Silver Creek, and Bogalusa. As of August 2005, Harvest Haul serves 22 contractors operating on 30 logging sites.

Results from our empirical study indicate ready benefits – particularly in the area of cost reduction – from centralizing log transport resources. Insights also indicate that trucking efficiency does not necessarily correlate with trucking balance. For a centralized dispatch system to work, it must, first and foremost, meet the needs of the participants. Identifying those tracts that will be “orphaned” by the dispatch is straightforward and can be conducted daily in advance. The procedures developed can be broadly applied, and the study itself can be replicated in other geographies.

¹ “Evaluating the Potential for Shared Log Truck Resources in Middle Georgia” by Brooks C Mendell, Jeffrey A Haber, and Tymur Sydor. Forisk Consulting and the Center for Forest Business at the University of Georgia sponsored this research, currently in review at the *Southern Journal of Applied Forestry*.