

Forest Industry Transportation Challenges: Log Trucking

► Forest operations involve the harvesting and transportation of timber (trees) from the forest to the processing facilities, where the timber is refined into various wood products. Log trucks play a critical role in this supply chain, ensuring a steady flow of raw materials.



Given the significant economic contributions of the forest industry at both local and regional levels, efficient and reliable log truck transportation is the backbone of this economic activity. However, despite its importance, numerous challenges affect the productivity, safety, and cost-effectiveness of transporting timber. Addressing these challenges with strategic solutions is crucial for maintaining a sustainable and effective timber supply chain.

Forestry in Alabama

Alabama is one of the richest states in the United States in terms of forest resources, with approximately 23 million acres of timberland, ranking third nationally. Of this, 93.4 percent is privately owned, and southern yellow pine dominates the majority of the harvested timber. The forest products industry contributes approximately \$12.5 billion annually to Alabama's economy, highlighting a significant contribution to the state's economy. More than 110 wood processing facilities (mills) across the state need log trucks to deliver timber to their facility. Log trucking plays a critical role in this supply chain, transporting

unprocessed logs from harvest sites to wood processing facilities. However, despite its essential role, the transportation of timber faces numerous challenges. Today, this vital sector is struggling, threatening the stability of the entire forest-based economic cycle, and it is not only an issue in Alabama but also across the United States.



Figure 1. Log truck driver binding a load to get it ready for travel to the mill. This process secures logs with chains, wire ropes, or straps to prevent them from shifting, tipping, or falling off the trailer during transport.



Figure 2. Auburn University log truck and trailer demonstration on transportation challenges and safety in Alabama. Weight and safety inspections, fuel costs, limited turn radius and maneuverability, braking distances, and axle weight and gross vehicle weight limits are some of the challenges.

Challenges in Log Trucking

Rising Operational Costs

Fuel prices, insurance premiums, and maintenance expenses are steadily increasing, making log trucking one of the expensive parts of the supply chain. Fuel alone accounts for a significant portion of the total operating cost, and fluctuating diesel prices create financial uncertainty for loggers that use their own trucks and trucking companies (contract trucking). Additionally, insurance premiums for log trucks have risen due to costly lawsuits after log truck accidents and the limited number of insurance companies that insure log trucks. Expensive lawsuits following log truck accidents exceed the value of premiums paid by log truck owners, forcing insurance companies to leave the market. Further, log trucks typically operate 10 hours a day, 5 days a week, hauling an average of three loads per day. A significant portion of travel occurs on gravel or poorly maintained roads and rural county back roads, which accelerate wear on tires, brakes, and suspension, creating a considerable demand for repair and maintenance. Given these circumstances, it is difficult for log trucking to remain profitable, and many small operators are being pushed out of the market, making the ongoing log trucking situation worse.

Driver Shortages & Workforce Issues

A shortage of skilled and experienced truck drivers is a growing concern in this industry. Approximately 30 percent of log truck drivers are over 55 years old. The aging workforce exacerbates the issue, as many experienced drivers are retiring without

sufficient replacements. Further, hiring young drivers is challenging. The problem is not having enough applicants but finding qualified drivers. For example, drivers are required to be at least 25 years old and have at least 2 years of experience driving a log truck, making it difficult to expand the pool of existing log truck drivers.

Weight Restrictions

Log trucks can legally weigh up to 80,000 pounds on interstate highways, while state and county roadways in Alabama allow a 10 percent allowance, totaling 88,000 pounds. This weight includes the truck, trailer, and payload. As a result, to maximize their payload, log trucks typically use state and county roadways. These routes are often longer, require more fuel, and consequently, result in more carbon emissions. They typically also have lower design standards and thinner pavement, making them more susceptible to wear and tear due to heavy vehicle traffic. On the other hand, using interstate highways with reduced payload presents financial challenges for an industry already burdened by rising operational costs, such as increasing insurance premiums and fuel prices. There are also safety concerns with consistent travel on state and county roadways.

Infrastructure Limitations

Numerous bridges on state and county roadways are either aging or were not designed to support the gross vehicle weight (GVW) of a fully loaded (80,000 plus pound) log truck. Weight limitations (restrictions) on these bridges create logistical hurdles, which lead to the need to find alternate routes, which then leads to increased haul distances and fuel consumption, and also increases safety risks due to longer time on the road. Longer haul distances to mills can also negatively affect stumpage prices for landowners.

Safety & Accident Risks

Log truck transportation can pose safety risks due to the majority of travel being on state and county roadways. These routes often pass through busy urban areas and have numerous stop signs, lights, and intersections. The turn radius on these roadways can be limited, increasing the likelihood of accidents (i.e., turnovers, hitting other vehicles, etc.) and creating a safety risk for both the public and log truck drivers. As noted above, log truck drivers tend to avoid interstates due to the lower weight limit. To limit incidents, log truck drivers conduct safety checks of their trucks, trailers, and loads before traveling on public roads.

Conclusion

Alabama has abundant forest resources and is home to more than 110 wood processing facilities. These facilities contribute significantly to the state's economy, and log trucking plays a vital role in supplying them with timber. However, log trucking has been facing significant challenges with axle and gross vehicle weight limits, higher insurance premiums, higher fuel costs, labor shortages, and many others.

Additional Information

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