



Can An Algorithm Slash Fleet Costs?

How Two Logistics Experts May Have Found a Way to Reduce HOS Costs

The formula allows a fleet to decrease both transportation costs and the risk of accidents.

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8/8/2013 | Michal Olszewski

Fleet companies may be able to reduce the costs of the newly adopted Hours of Service (HOS) rules through optimized algorithm procedure that was methodized by two logistics experts.

After concluding widespread research and analysis of the new HOS rules, Asvin Goel, an International Logistics professor at Jacobs University in Bremen, Germany, and Thibaut Vidal, a researcher at MIT and the Interuniversity Research Centre on Enterprise Networks, Logistics and Transportation in Montréal, Canada, formulated their algorithm.

Their findings show that the recent HOS rule changes reduce the risk of an accident occurring and only come with a very light increase in operating costs.

In their scientific paper, "Hours of Service Regulations in Road Freight Transport: An Optimization-Based International Assessment," Goel and Vidal describe the algorithm as a way to minimize a fleet's transportation costs with regards to normal business hours along with HOS regulations.

The two explained that the algorithm "combines the exploration capacities of population-based metaheuristics, the quick improvement abilities of local search, with forward labeling procedures for checking compliance with complex hours-of-service regulations. Several speed-up techniques are proposed to achieve an overall efficient approach."

Using this newfound algorithm allows a fleet to concurrently decrease transportation costs and the risk of accidents. Goel also mentioned that a company's ability to adapt to new regulations and new processes is often overlooked when government regulations are initially analyzed.

Recently, Goel also looked more in-depth at the HOS rule changes impact and the reduction of daily driving time. In this separate research, he concluded that accident risks will be reduced by 2 percent and that the increase of transportation costs will be less than 0.2 percent.

Beyond looking at the United States, Goel and Vidal concluded that countries in the European Union have driving hours' rules with the best safety, and the regulations in Canada provide the most economic efficiency. The hours of regulation in Australia have unnecessarily high risks compared to operating costs, according to their research.

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