

alternatives are estimated to impose costs of about \$2.3 billion per year.

The analysis of the effects of the rules and alternatives on crash risks showed that these damages could be reduced substantially. The percentage of fatigue-related crashes is substantially higher in long-haul than in short-haul operations. Similarly, the changes in fatigue-related crashes attributable to the alternatives are greater in long-haul than in short-haul. These differences result from the more arduous schedules that long-haul drivers currently have, and from the effects of the rules and alternatives on those schedules.

The ATA alternative provides net benefits in both long-haul and short-haul operations, though its net benefits are much greater in long-haul. Similarly, the PATT alternative has much smaller net costs in long-haul than in short-haul operations, and the FMCSA staff alternative has net benefits in long-haul that are partially offset by its net short-haul costs.

The observation that the alternatives are less cost-effective in short-haul operations was part of the motivation for providing more flexibility in the FMCSA staff alternative for short-haul drivers, allowing one 16-hour shift per week. The RIA assessed the effects of this flexibility by examining the costs and benefits of the staff alternative without allowing any 16-hour shifts.

Our analysis showed that, for short-haul operations, this change would more than triple the annual costs of the FMCSA staff alternative relative to the current rules with full compliance. Costs would increase from \$168 million to \$641 million, or by almost \$500 million per year. These additional costs would translate almost directly into a reduction in net benefits, because the effects of the reduced flexibility on crashes would be very small. The FMCSA estimates that, because the increase in the need for new short-haul drivers would more than offset the slight reduction in fatigue, prohibiting any 16-hour shifts would actually worsen the crash-reduction benefits slightly: total benefits would fall by about \$10 million per year, and fatalities would rise by one or two per year.

With this change to the FMCSA staff alternative, its net benefits compared to current rules with full compliance would drop to about half a billion dollars per year.

The analysis of the economy-wide changes revealed that, as expected for a set of rules that has moderate effects on an industry that itself is only one component of the economy, the alternatives would cause changes well within one tenth of one percent of total

employment, gross domestic product, prices, and disposable income. The impacts on carriers were more noticeable, with the PATT alternative imposing net costs and the ATA and FMCSA staff alternatives having small positive effects on net income and profitability.

#### **Electronic On-Board Recorders (EOBRs)**

The FMCSA based the proposal to require EOBRs for Type 1 and Type 2 operations on two facts:

(1) Data indicated that fatigue-related crashes are much more likely to involve long-haul drivers than local or short-haul drivers; and

(2) Data indicated there is substantial non-compliance with the hours of service regulations, particularly among some segments of long-haul drivers.

The agency assumed that:

(1) EOBR-equipped vehicles used in long-haul movements would significantly improve compliance, which the agency demonstrated in a pilot project;

(2) Improved compliance by long-haul drivers with HOS regulations would help reduce fatigue-related crashes; and

(3) Conforming devices would be available in a sufficient supply at reasonable cost.

On-board recording devices have been in use at least since 1985, when the agency granted a waiver to Frito-Lay, Inc. (50 FR 15269, April 17, 1985) to allow their use as a substitute for handwritten records of duty status. The agency is also aware of substantial investments since the late 1990's made by motor carriers in on-board technology for tracking cargo and equipment performance. Global positioning systems are increasingly in use, and the agency is piloting the application of such a system to monitor drivers' compliance with the HOS rules in cooperation with a large truckload carrier. The agency also believed that once it issued a mandate, market forces would assure that EOBRs would become increasingly available. To allow time for this to happen, the NPRM proposed a phase-in period within which to comply.

The FMCSA also believed that the presence of EOBRs on the vehicles would facilitate enforcement both by reducing the time required to inspect records, and improving the quality of the evidence upon which compliance with the rules would be determined and, when appropriate, violations charged.

#### *Industry Comments*

The industry was not uniformly opposed to the EOBR provision. The ATA raised numerous objections. Several large carriers, however, and even an ATA State association, supported the initiative subject to certain conditions. The industry objections primarily revolved around four concerns:

(1) Many commenters believed that the NPRM failed to consider or understated per-unit costs and other related costs;

(2) Many commenters considered the ability of the available technology to track individual drivers to be suspect;

(3) Several commenters noted that the level of compliance they already achieved, or the rarity of occasions when their drivers would be subject to the requirement, rendered the EOBR requirement irrelevant or redundant in their situations; and

(4) Many comments expressed concern about the use by law enforcement and others of the information incidentally obtained through the EOBRs unrelated to HOS compliance.

The ATA's primary position was that the agency underestimated the costs of the technology and overestimated the benefits. The ATA faulted the agency for proposing the use of devices, while ignoring the promising applications of fatigue monitoring devices to prevent crashes and "black-box" technology to evaluate crash causation. The ATA noted that the agency neglected to include costs of both the "smart card" adaptations, which may be the least expensive means of maintaining driver identity in a mobile industry, and the back-office integration into the carriers' computer systems.

The ATA claimed that the FMCSA reversed its position on EOBR requirements because it first issued a final rule allowing on-board recorders as an alternative to records of duty status on May 19, 1988, 53 FR 18058, and then denied a petition from the Insurance Institute for Highway Safety to mandate use of on-board recording devices. The ATA faulted the FMCSA for failing to gather any data during compliance reviews from the thousands of EOBRs that are presently in use, which might have supported the agency's claim that EOBR use would improve compliance. The ATA noted that the information EOBRs would be required to gather under the NPRM does not even include an identification of the driver.

The ATA contested the claim that EOBRs would facilitate enforcement at roadside. According to ATA, the