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THE PRICE OF UNCERTAINTY: HOW MUCH COULD DOT'S PROPOSED BILLION DOLLAR SERVICE RULE COST CONSUMERS THIS HOLIDAY SEASON?

HEARING

BEFORE THE

SUBCOMMITTEE ON REGULATORY AFFAIRS STIMULUS OVERSIGHT, AND GOVERNMENT SPENDING

OF THE

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

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THE PRICE OF UNCERTAINTY: HOW MUCH COULD DOT'S PROPOSED BILLION DOLLAR SERVICE RULE COST CONSUMERS THIS HOLIDAY SEASON?

WEDNESDAY, NOVEMBER 30, 2011

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON REGULATORY AFFAIRS, STIMULUS OVERSIGHT, AND GOVERNMENT SPENDING,
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM,
Washington, D.C.

The subcommittee met, pursuant to call, at 10:04 a.m., in Room 2154, Rayburn House Office Building, Hon. Jim Jordan [chairman of the subcommittee] presiding.

Present: Representatives Jordan, DesJarlais, Labrador, Buerkle, Kelly, Issa, (ex officio), Kucinich, and Braley.

Staff Present: Ali Ahmad, Communications Advisor; Michael R. Bebeau, Assistant Clerk; David Brewer, Counsel; Sharon Casey, Senior Assistant Clerk; Christopher Hixon, Deputy Chief Counsel, Oversight; Kristina M. Moore, Senior Counsel; Kristin L. Nelson, Professional Staff Member; Cheyenne Steel, Press Assistant; Sharon Meredith Utz, Research Analyst; Jaron Bourke, Minority Director of Administration; Claire Coleman, Minority Counsel; Carla Hultberg, Minority Chief Clerk; Paul Kincaid, Minority Press Secretary; and Adam Koshkin, Minority Staff Assistant

Mr. JORDAN. We welcome everyone to our hearing this morning, "The Price of Uncertainty: How Much Could DOT's Proposed Billion Dollar Service Rule Cost Consumers?" We want to get started. I'm glad we have our—my friend and ranking member here, Mr. Kucinich. I'll start with our opening statements, and I've got a longer opening statement than normal, so I'll read fast.

This last week ordinary people across this great United States have engaged in the annual tradition of shopping for Christmas gifts, rising at predawn hours to take advantage of Black Friday sales and Cyber Monday deals. The shopping season is vital to the survival of so many small retailers. The vast majority of all retailers and 80 percent of all U.S. Communities depend solely on trucks to deliver and supply the products sold in stores or ordered online. At last count, trucks moved $8.3 trillion worth of goods annually, facilitating nearly 60 percent of the economy.

Unfortunately, these merchants and professional truck drivers who bring the goods to market have a very real reason to be worried this year. The Department of Transportation Federal Motor Carrier Safety Administration has produced a multibillion-dollar

regulation, the Hours of Service rule, that threatens to raise prices and cut revenues this holiday season, further jeopardizing our fragile economic recovery. DOT's Hours of Service rule, which is one of only seven regulations, President Obama admitted, impose an annual cost of at least $1 billion on the economy. It is being reviewed at the White House as we speak. This regulation will hurt an array of job creators, from truckers to grocers to bakers and retailers, all of whom rely on trucking to operate. The rule, which has received nearly 30,000 comments, has been the subject of widespread and bipartisan concern. Critics of the rule include multiple Democratic Senators and the administration's small business watchdog, the Small Business Administration's Office of Advocacy.

At this time I would like to enter into the record a comment letter from the Office of Advocacy to Administrator Ferro. Without objection, so ordered.

[The information follows:]

Advocacy: the voice of small business in government

February 25, 2011

BY ELECTRONIC MAIL
The Honorable Anne S. Ferro
Administrator, Federal Motor Carrier Safety Administration
U.S. Department of Transportation
120 New Jersey Avenue, SE
Washington, DC 20590
Electronic Address: http://www.regulations.gov (RIN 2126-AB26; Docket No. FMCSA-2004-19608)

Re: Comments on FMCSA's Proposed Hours of Service of Drivers Rule

Dear Administrator Ferro:

The U.S. Small Business Administration's (SBA) Office of Advocacy (Advocacy) submits the following comments on the Federal Motor Carrier Safety Administration's (FMCSA's) *Proposed Hours of Service of Drivers Rule*.[1] FMCSA's proposed rule would revise its regulations for hours of service for drivers of property-carrying commercial motor vehicles (CMV) by, among other things, reducing the daily maximum driving limit from 11 hours to ten, reducing the maximum on-duty time within the driving window from 14 hours to 13, requiring the release from duty at the end of the 14-hour driving window, requiring a mandatory break of at least 30 minutes within seven hours of the last off-duty period, and requiring that the current 34-hour restart provision include at least two periods between midnight and 6:00 a.m.[2] A more detailed discussion of the proposed rule is provided below.

Office of Advocacy

Advocacy was established pursuant to Pub. L. 94-305 to represent the views of small entities before federal agencies and Congress. Advocacy is an independent office within SBA, so the views expressed by Advocacy do not necessarily reflect the views of SBA or the Administration. The Regulatory Flexibility Act (RFA),[3] as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA),[4] gives small entities a voice in the rulemaking process. For all rules that are expected to have a significant economic impact on a substantial number of small entities, federal agencies are required by the RFA to assess the impact of the proposed rule on small business and to consider less

[1] 75 Fed. Reg. 82170 (December 29, 2010).
[2] *Id.*
[3] 5 U.S.C. § 601 et seq.
[4] Pub. L. 104-121, Title II, 110 Stat. 857 (1996) (codified in various sections of 5 U.S.C. §601 et seq.).

burdensome alternatives. Moreover, Executive Order 13272[5] requires federal agencies to notify Advocacy of any proposed rules that are expected to have a significant economic impact on a substantial number of small entities and to give every appropriate consideration to any comments on a proposed or final rule submitted by Advocacy. Further, both Executive Order 13272 and a recent amendment to the RFA, codified at 5 U.S.C. 604(a)(3), require the agency to include in the final rule the response of the agency to any comments filed by Advocacy, and a detailed statement of any change made to the proposed rule as a result of the comments.

Background

As indicated above, FMCSA's rule would revise current hours of service regulations for drivers of property-carrying CMVs by, among other things, reducing the daily maximum driving limit, reducing the maximum on-duty time limit, requiring the release from duty at the end of the driving window, requiring mandatory break periods, and altering the 34-hour restart provision.[6] A side-by-side table prepared by FMCSA[7] comparing the current regulations to the proposed rule is attached to this letter for reference. It should be noted that with respect to reducing the daily maximum driving limit from 11 hours to ten, FMCSA has proposed alternatively, due to susceptible data interpretation, to either leave the daily maximum driving limit at 11 hours or to reduce it to ten; however, the agency expresses a preference for reducing it to ten.[8]

According to FMCSA, the purpose of the proposed rule is to improve safety, protect driver health, and provide flexibility.[9] The agency believes that reducing hours of service will lessen fatigue, improve highway safety, and enhance driver health.[10] However, the agency is forthright in acknowledging that there has been no decline in highway safety since the current hours of service rules (which raised the daily maximum driving limit from ten hours to 11) were promulgated in 2003,[11] that the impact of fatigue on safety and crash rates is difficult to infer from the many other factors that contribute to vehicle crashes,[12] that the agency has no data to measure crash risk along all of the dimensions for which the regulations are proposed,[13] that the relationship between hours of service and driver health is difficult to calculate,[14] and that there is no data available that demonstrates that reducing driving time from 11 hours to ten hours will reduce crashes.[15]

---

[5] Executive Order 13272, *Proper Consideration of Small Entities in Agency Rulemaking* (67 Fed. Reg. 53461) (August 16, 2002).
[6] 75 Fed. Reg. 82170.
[7] Available at http://www.fmcsa.dot.gov/rules-regulations/topics/hos-proposed/hos-proposed.aspx.
[8] 75 Fed. Reg. 82179, 82191.
[9] 75 Fed. Reg. 82171, 82175.
[10] 75 Fed. Reg. 82175.
[11] 75 Fed. Reg. 82171, 82191.
[12] 75 Fed. Reg. 82171.
[13] 75 Fed. Reg. 82175.
[14] 75 Fed. Reg. 82177.
[15] 75 Fed. Reg. 82179.

As discussed in the preamble, the hours of service rule has been the subject of ongoing litigation since 2003 and the agency is currently required by a settlement agreement with the petitioners in that litigation to publish a final rule by July 26, 2011 after considering all of the comments it receives on the proposed rule.[16] As such, the agency acknowledges that it has not had time to gather all of the data it needs or would like to have concerning the relationships between hours of service, fatigue, improved highway safety, and enhanced driver health.[17] The agency recognizes the broad diversity of the trucking industry (e.g., large versus small firms, long-haul versus short-haul operations, truckload versus less-than-truckload carriers, etc.), which makes development of hours of service regulations particularly difficult.[18] The agency has determined that, under the RFA, the proposed rule would have a significant economic impact on a substantial number of small entities and prepared and published an Initial Regulatory Flexibility Analysis along with the proposed rule.[19]

Small Entities Have Expressed Serious Concerns About The Proposed Rule

In response to the publication of the proposed rule, Advocacy hosted a small business roundtable on February 9, 2011 to discuss the proposed rule and to obtain small business input on it. Representatives of FMCSA also attended the meeting and provided a background briefing on the proposed rule. Small business representatives at the meeting represented the broad diversity of the trucking industry. The following comments are reflective of the issues raised during the roundtable discussion and in subsequent conversations with small business representatives, and are nearly identical to many of those expressed at FMCSA's public listening session on the proposed rule, held on February 17, 2011, which Advocacy also attended.

1. **The proposed rule is not supported by existing safety and health data.** Small business representatives at both the roundtable and at FMCSA's public listening session uniformly stated that they oppose the proposed rule and would like FMCSA to retain its current regulations. Representatives stated that trucking firms and drivers have adjusted to the existing hours of service rules (that have been in effect since 2003) and that the rules are working well. They pointed to the lack of data to indicate that the proposed rule is needed or that it would result in improved safety or enhanced driver health. Attendees stated that changing the current rules would cause disruptions to current scheduling, reduce driver flexibility, and increase traffic and congestion on the roadways. Further, the attendees expressed concern that the proposed changes are being driven by litigation and that the changes are not justified by existing safety and health data. Based on these comments, Advocacy recommends that FMCSA consider retaining its current regulations while conducting additional research to determine whether changing the current rules will meet the agency's stated objective of improving safety, enhancing driver health, and providing flexibility.

[16] 75 Fed. Reg. 82173.
[17] Fed. Reg. 82175.
[18] 75 Fed. Reg. 82175, 82185.
[19] 75 Fed. Reg. 82190.

2. **The proposed rule would reduce flexibility and could actually impede safety and driver health.** Small business representatives at both the roundtable and at FMCSA's public listening session stated that the proposed rule would reduce flexibility and could actually impede safety and driver health. Representatives were particularly opposed to reducing the current 11-hour driving window, the proposed 34-hour restart provision (i.e., requiring at least two periods between midnight and 6:00 a.m.), and to the mandatory break provision (i.e., required within seven hours of last off-duty period). Representatives stated that many drivers do not drive into the 11th hour, and that many who do are trying to find a place to park, which they said is becoming increasingly difficult as many rest areas have closed and truck parking laws have become more restrictive. Representatives indicated that reducing the driving and duty windows could cause drivers to rush, adding stress and increasing the likelihood of an accident. Similarly, with respect to the proposed 34-hour restart provision, representatives stated that they support the existing restart rule and would like FMCSA to retain it. One driver noted that if he arrived home at 12:05 a.m., he would effectively have to take three days off before he could drive because the proposed rule would set an arbitrary timeframe that drivers would have to fit into. Others oppose the provision because they said they prefer to drive at night when there is less traffic and congestion, especially in urban areas. Representatives also expressed concern over the mandatory break provision, stating that drivers already take breaks when they are tired and that the break provision is arbitrary and unsupported by data. Many indicated that accidents are more likely to occur early in their shift, not later as FMCSA suggests. Based on these comments, Advocacy recommends that the agency reassess its assumptions about whether the proposed rule would improve safety, enhance driver health, and provide flexibility and assess potential unintended effects that could offset the purported benefits of the rule.

3. **The proposed rule would be operationally disruptive and costly.** Small business representatives at both the roundtable and at FMCSA's public listening session stated that the proposed rule would be operationally disruptive and costly by requiring more drivers, more trucks, and less efficient operations. First, representatives stated that reducing the hours of service would require companies to hire additional drivers to maintain current output levels. Representatives said that these additional drivers are not readily available and that they would be less qualified in terms of skills and experience if hired (adding both operational and safety concerns). Another representative stated that many potential drivers would not be able to pass employment screening criteria, such as drug testing or driving record. Second, representatives stated that shortening driving and duty windows could require companies to purchase additional trucks, putting more trucks on the road and increasing traffic and congestion, driver stress, and the likelihood of an accident. Representatives stated that because the proposed rule would narrow the driving and duty windows, more drivers would be forced into more congested pick-up and delivery windows, hampering efficiency and reducing flexibility. A number of representatives stressed that drivers are subject to factors beyond their control, particularly loading dock availability. Finally, changing the hours of service would

cause companies and drivers to have to reprogram their scheduling and distribution systems to comply with the new rules, which they argue is not justified. Based on these comments, Advocacy recommends that the agency carefully evaluate whether these operational disruptions and costs are justified given the admittedly uncertain safety and health benefits of the proposed rule.

4. **Truck-related accidents are decreasing under the current rules, even while truck miles driven have increased.** Small business representatives at both the roundtable and at FMCSA's public listening session argued in favor of retaining the current hours of service rule by pointing out that truck-related accidents have been decreasing even while truck miles driven have increased since the current rules have been in effect. A presentation at the roundtable provided by a representative of the trucking industry indicated that since 2004, truck-related injuries are down 39 percent and truck-related fatalities are down 33 percent, even while truck miles driven (from 2003 – 2008) rose from nearly 221 billion to over 227 billion miles annually.[20] These statistics, coupled with FMCSA's candid acknowledgement of the limitations of its data concerning the link between hours of service, safety, and driver health suggest that the wisdom of changing the current rules is subject to valid debate. Based on these comments, Advocacy recommends that the agency carefully assess the costs, benefits, and possible unintended effects of the proposed rule (such as increased traffic and congestion, driver stress, and operational disruptions) before proceeding.

Conclusion

Thank you for the opportunity to comment on this proposed rule. One of the primary functions of the Office of Advocacy is to assist federal agencies in understanding the impact of their regulatory programs on small entities. In that regard, we hope these comments are both helpful and constructive to the agency's understanding of the industry, and particularly the views of small business. Please feel free contact me or Bruce Lundegren (at (202) 205-6144 or bruce.lundegren@sba.gov) if you have any questions or require additional information.

Sincerely,

/s/

Winslow Sargeant, Ph.D.
Chief Counsel for Advocacy

/s/

Bruce E. Lundegren
Assistant Chief Counsel for Advocacy

[20] PowerPoint presentation entitled, "*Overview of FMCSA's Proposed Hours of Service Rules for Truck Drivers*," American Trucking Associations.

Copy to: The Honorable Cass R. Sunstein, Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget

Attachment

Attachment

FMCSA HOURS-OF-SERVICE RULEMAKING, RIN 2126-AB-26 Primary Changes Proposed for Property-Carrying Drivers			
PROVISION	**CURRENT RULE**	**PROPOSED RULE**	**NOTES**
"DAILY" DUTY PERIOD			
Off-duty period	10 consecutive hrs.	No change	
"Driving Window"	For most drivers, 14 consecutive hrs. (may continue on-duty/not driving after 14 hrs.); "Regional" allowed one 16-hr. period "weekly" but release from duty required after 16 hrs; Non-CDL w/i 150 miles allowed two 16-hr. periods "weekly" (may continue on-duty/not driving after 16 hrs.).	*For all property-carrying CMV drivers(unless excepted):* 14 consecutive hrs. with release from duty required at end of driving window; 16 consecutive hrs. no more than twice "weekly" with release from duty required at end of driving window.	Any on-duty time after 14th hour constitutes use of a 16-hr. period.
Max. on-duty within driving window	Normally 14 hrs; 16 hrs. once per week for "regional" drivers; 16 hrs. twice per week for non-CDL w/i 150 miles.	13 hrs.	Proposal not applicable to non-CDL 150 mile short-haul drivers. 13 hrs. during 14- or 16-hour driving windows for others.
Max. driving within driving window	11 hrs	10 or 11 hrs. (Both being considered)	
Limit on consecutive hours of driving	None	May drive only if it has been 7 hours or less since last off-duty period of at least 30 minutes	Proposal not applicable to non-CDL 150 mile short-haul drivers.
"WEEKLY" DUTY PERIOD			
Max. on-duty hours	60 hrs. in 7 days/ 70 hrs. in 8 days	No change	
"Restart"	34 consecutive hrs.	See "limits on restarts" below.	
Limits on Restarts	None	(1) Must include two periods between Midnight-6 a.m.; (2) May only be used once per week.	Driver must designate the period being used as a restart
SLEEPER BERTH			
When used as substitute for 10 consecutive hrs. off duty	Two periods: One at least 8 consecutive hrs. in SB; other at least 2 hrs. SB or off-duty. The shorter period does NOT extend the driving window.	Continue 8/2 hr. periods, but apply same new driving, on-duty, and duty-period limits as proposed for non-SB drivers.	
DEFINITION OF ON-DUTY TIME			
On-duty time	Includes any time in CMV except sleeper-berth.	Does not include any time resting in a parked CMV. In moving CMV, does not include up to 2 hrs. in passenger seat immediately before or after 8 consecutive hrs. in sleeper-berth.	Also applies to passenger-carrying drivers.
OILFIELD EXEMPTION			
Oilfield exemption	"Waiting time" for certain drivers at oilfields (which is off-duty but does extend 14-hr duty period) must be recorded and available to FMCSA, but no method or details are specified for the recordkeeping.	"Waiting time" for certain drivers at oilfields must be shown on RODS or electronic equivalent as off duty and identified by annotations in "remarks" or a separate line added to "grid."	"Waiting time" is not included in on-duty time or the calculation of the 14 or 16-hr. driving window.

Mr. JORDAN. In February 2011 I joined with a bipartisan group of 122 House Members who wrote the U.S. Department of Transportation Secretary, Mr. LaHood, to express the concern that altering the current Hours of Service rules is unnecessary and would result in more trucks and drivers on the road to transport the same amount of goods, increasing final product costs and congestion on the Nation's already overcrowded highways. This letter points out that the proposed rules could actually decrease safety because they could cause drivers to rush, adding stress, and increasing the likelihood of an accident.

While I support the goals of increased highway safety and reducing the driver fatigue, this rule appears to be a solution in search of a problem. Even DOT admits that, "the data shows no decline in highway safety since the implementation of the 2003 Hours of Service rule and its readoption in 2005, and the 2007 interim final rule." Moreover, trucking-related accidents are at an all-time low. The Department of Transportation's own data shows that 2009 saw the largest annual decline in fatal trucking accidents on record. Meanwhile, the number of truck miles traveled and the number of registered trucks has increased from 221 billion miles in 2004 to 288 billion miles today. The number of registered large trucks has also increased by nearly 3 million. Accordingly, it appears the current rules are working and are striking the appropriate balance.

In order to justify the expensive regulation, it appears the DOT is playing games with the numbers and is using fuzzy math in an attempt to justify their action. One of our witnesses today will explain how DOT is rigging the system.

At this time I would like to also enter into the record a report by Edgeworth Economics entitled "Review of FMCSA's Regulatory Impact Analysis for the 2010–2011 Hours of Service Rule." Again, without objection, so ordered.

[The information follows:]

REVIEW OF FMCSA'S REGULATORY IMPACT ANALYSIS FOR THE 2010-2011 HOURS OF SERVICE RULE

I. Introduction and Summary of Findings

The American Trucking Associations (ATA) asked Edgeworth Economics to review the Regulatory Impact Analysis ("RIA") for the 2010-2011 Hours of Service Rule issued by the Federal Motor Carrier Safety Administration (FMCSA) on December 29, 2010. FMCSA's preferred proposal (designated "Option 2" in the RIA) includes several significant changes to current hours-of-service ("HOS") regulations, including: a restriction of daily on-duty time to a maximum of 13 hours; a reduction of daily driving time to a maximum of 10 hours; and a requirement that the "restart" period include two consecutive off-duty periods from 12 a.m. to 6 a.m.[1] FMCSA also considers an option which retains the 11th driving hour ("Option 3") and one which restricts driving time to 9 hours ("Option 4").

FMCSA estimates the impact of the proposed options on industry productivity, the frequency of fatigue-related crashes, and driver health. FMCSA concludes that Option 2 would generate net benefits of $380 million annually under the agency's central assumptions, with a range based on other assumptions from $1.45 billion to -$750 million per year.[2] FMCSA calculates net benefits of Option 3 in the range of $1.26 billion to -$190 million ($560 million central case) per year and net benefits of Option 4 in the range of $1.37 billion to -$2.32 billion (-$420 million central case) per year. FMCSA concludes that the net benefits of the proposed rule "are likely to be positive" for Options 2 and 3, but not for Option 4.[3]

Our analysis of the proposed rule focuses on the following questions:

- Can FMCSA's analyses be replicated and its conclusions verified using information provided in the RIA or elsewhere in the public record?
- Are the assumptions and methodologies used by FMCSA to calculate the costs and benefits associated with the proposed rule internally consistent within the RIA and consistent with available data and with the precepts of economics and statistics?
- Are the assumptions and methodologies in this RIA consistent with previous FMCSA analyses—in particular, the RIAs issued by FMCSA in 2007 and 2002 for previous versions of HOS rules?
- Do any errors, inconsistencies, or unreasonable assumptions in the RIA affect FMCSA's conclusions regarding the costs and benefits of the proposed rule?

Our analysis is based on the previously issued RIAs and Federal Register notices regarding the various versions of the hours-of-service ("HOS") interim and final rules. We also reviewed source documents cited by FMCSA, when publicly available, as well as other materials available in the public domain related to large-truck crashes, the relationship between work and sleep time, the relationship between sleep and mortality, and other relevant issues.

FMCSA has made a number of substantial changes to its approach since the previous RIA issued in 2007. We find that, in every instance, FMCSA's new methodologies and assumptions increase the apparent net benefits of the

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[1] RIA, pp. 1-5 and 1-6.

[2] RIA, p. ES-4. Dollar amounts in the RIA are generally reported in 2008$.

[3] RIA, pp. ES-3 and ES-4.

proposed rule. However, many of FMCSA's new approaches rely on misapplication of available data, use of outdated information, or lack empirical support entirely. FMCSA also makes a number of errors in its calculations which serve to further overstate its findings. We document these issues in this report. Our main conclusions include the following:

- FMCSA overestimates the total number of hours at issue by misusing the data from the 2005 and 2007 Field Surveys. In particular, the agency fails to consider that carriers sampled in those surveys, particularly those chosen because of poor safety performance, may use drivers more intensely than other carriers. FMCSA also overestimates the extent to which drivers sampled in the surveys actually exceeded 9 hours of driving or 13 hours of work and assumes, inappropriately, that drivers who were measured by the surveys to be out of compliance with current HOS rules would nonetheless comply with the new, more restrictive rules. These factors result in an overstatement of both the costs and benefits of the proposed rule.

- FMCSA has abandoned its model of carrier logistics, which the agency previously had used to calculate the impact of HOS rule changes on industry productivity in the 2007 RIA. Instead, FMCSA estimates costs using a series of assumptions based only on the agency's "judgment and knowledge of the industry." Under these unsupported assumptions, FMCSA estimates that the proposed rule (Option 2) would reduce productivity by 2.8 percent, compared to the agency's previous finding of a 7.1-percent impact for similar changes in HOS policies. This change in approach increases the net benefits of the proposed rule by more than $1.5 billion annually.

- FMCSA overstates the risk of driver fatigue and the extent to which a reduction in driving or work time would reduce such risk. For its estimate of the rate of fatigue risk, FMCSA relies on the finding from the Large Truck Crash Causation Study that 13 percent of crashes had driver fatigue as an "associated factor." This figure is almost double the 7-percent estimate of average fatigue risk used in the 2007 RIA. The LTCCS, however, was based on crash data collected prior to the implementation of current HOS rules, which were designed specifically to reduce fatigue risk. FMCSA fails to adjust the findings of the LTCCS to reflect the impact of current HOS rules. Additionally, FMCSA treats the LTCCS's coding of fatigue as an "associated factor" in a crash as an indication that fatigue was the "cause" of that crash, despite the fact that many crashes have multiple associated factors. FMCSA's approach contradicts the agency's previous analysis of LTCCS data. FMCSA also fails to adjust for oversampling of single-vehicle crashes in the LTCCS, which further inflates the agency's measure of fatigue risk for the industry as a whole. Applying the 7-percent figure rather than FMCSA's new assumption of 13 percent reduces the apparent benefit of the proposed rule by $330 million annually.

- In previous RIAs and in public comments related to those analyses, FMCSA repeatedly asserted that current rules provide sufficient flexibility for drivers to eliminate any concern about fatigue caused by accumulation of on-duty time (as opposed to "acute" fatigue caused by a long tour on a particular day). FMCSA now has reversed its position and estimates substantial crash-reduction benefits associated with reducing weekly work time. The agency, however, again relies inappropriately on an analysis of pre-2004 crash data from the LTCCS for its calculations. FMCSA further errs by assuming that the risk of a crash is the same during a non-driving work hour as it is during a driving hour, which is clearly false, and by rounding up any reductions in work time to a whole hour, even if the calculated effect is only a small fraction of an hour. These two errors alone serve to inflate the apparent benefits of the proposed rule by almost $200 million per year.

- FMCSA calculates the cost of crashes by long-haul drivers using an assumption of 434,000 crashes per year—approximately the level of crashes during the 2000-2003 period. Since that time, however, the frequency of crashes by long-haul drivers has fallen substantially—to 286,000 in 2009. FMCSA's use of outdated crash numbers results in an overstatement of benefits by about 34 percent.

- In previous statements, FMCSA had taken the position that current HOS rules allow drivers to obtain sleep levels "within normal ranges consistent with a healthy lifestyle." In contrast, FMCSA now assumes that the small reductions in work time under the proposed rule will translate into even smaller increases in average sleep levels for long-haul truck drivers, and that this will result in improved driver health. FMCSA bases its calculations on two fundamentally flawed analyses. First, FMCSA assumes that an observed correlation between work time and sleep time for truck drivers can be used as a basis to assume that small reductions in work will result in proportional increases in sleep for drivers. In the Notice of Proposed Rulemaking, FMCSA states that "the Agency has no basis for estimating the extent to which drivers who have an extra hour a day or hours per week off duty will use that time to exercise and sleep"; yet the agency's analysis in the RIA relies on precisely such an assumption. FMCSA fails to consider that the observed correlation may be due, in whole or in part, to differences between drivers rather than responses to changing work patterns. Second, FMCSA attributes reductions in mortality to very small changes in sleep levels for drivers who already obtain a "normal" amount of sleep, despite a lack of adequate support from sleep research and previous acknowledgement by the agency that such benefits were not measurable. FMCSA ignores the conclusions of sleep researchers that the agency itself cites in the RIA, who state that "there is no evidence that sleeping habitually between 6 and 8 [hours] per day in an adult is associated with harm and long term health consequences."

- Where adequate data is available, we correct the errors and unreasonable assumptions in FMCSA's analysis described above. We estimate that FMCSA's Option 2 would result in a net *cost* of $320 million per year. That is, we find that FMCSA has overstated the net benefits of the proposed rule by about $700 million annually and that the proposed rule would impose a net cost on society, rather than a net benefit as claimed by FMCSA. This estimate excludes any health-related benefits associated with increased sleep levels. If health-related benefits are included in the model as calculated by FMCSA, while making the other corrections, we calculate the proposed rule would still result in a net cost to society of $20 million annually—i.e., FMCSA has overstated the net benefits of the proposed rule by $400 million per year. Due to a lack of adequate documentation in the RIA, we were unable to replicate FMCSA's calculations for Options 3 and 4; however, based on our calculations for Option 2, we expect that both policies would result in substantial net costs.

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II. Summary of FMCSA's Methodologies and Assumptions

In this section, we summarize FMCSA's assumptions, methodologies, and results regarding the projected costs and benefits of the proposed rule.

[4] See Mark Berkman and Jesse David, "A Review of the Federal Motor Carrier Safety Administration's Economic Analysis for Its Proposed Hours of Service Standard," August 3, 2000; and NERA Economic Consulting, "A Review of FMCSA's Regulatory Impact Analysis for Hours of Service Options," February 4, 2008.

A. Drivers Affected by the Proposed Rule

FMCSA assumes that only drivers of large trucks who engage in "long-haul" operations—defined by the agency as drivers who travel beyond 100 miles from their base—will be affected by the proposed rule.[5] FMCSA estimates that there are 1.6 million drivers in this category, based on an estimate of total long-haul trucking revenue from the Economic Census and an assumption of $175,000 of revenue per long-haul vehicle.[6] For the purposes of its calculations, FMCSA assumes that the industry will be in complete compliance with the proposed rule.[7]

B. Long-Haul Driver Operating Patterns

FMCSA allocates long-haul drivers to four categories defined by average weekly work time: Moderate (average of 45 hours); High (60 hours); Very High (70 hours); and Extreme (80 hours).[8] Based on the 2005 and 2007 Field Surveys, FMCSA estimates the share of the workforce in each category and makes a series of assumptions to characterize the "typical" work day and work week for drivers in each category.[9] FMCSA then uses findings from the field surveys to estimate the proportion of tours of duty that currently utilize the 10th or 11th driving hour or the 14th work hour—i.e., the share of tours that would be affected by the proposed rule. FMCSA's key assumptions are summarized in Table 1.

Table 1
FMCSA Assumptions Regarding the Operating Patterns of Long-Haul Truck Drivers

Driver Group	*Avg. Weekly Work Time*	*% of Workforce*	*Typical Weekly Work Days*	*Typical Daily Driving Hours*	*Use of 14th Work Hour*[1]	*Use of 11th Driving Hour*[1]	*Use of 10th or 11th Driving Hour*[1,2]
Moderate	45	66%	5	7	2%	10%	25%
High	60	19%	6	8	7%	25%	50%
Very High	70	10%	6	9	25%	50%	75%
Extreme	80	5%	6	10	60%	70%	90%
Weighted Avg.					8.9%	21.1%	39.6%

Source: RIA, pp. 2-5 – 2-8.

Notes: [1] FMCSA estimates the figures for each driver category so that the weighted averages across all drivers match the industry-wide figures from the 2005 Field Survey.

[2] FMCSA's description of these figures as representing use of the 10th *and* 11th driving hours appears to be incorrect. FMCSA's figures correspond to data from the 2005 Field Survey for drivers who use the 11th *or* the 10th/11th driving hours—i.e., driving in excess of 9.0 hours per day. [2005 Field Survey, p. 7]

C. Impact of the Proposed Rule on Drivers

FMCSA then makes a series of assumptions based on the agency's "judgment and knowledge of the industry" about how each category of driver would respond to the restrictions imposed by the proposed rule. We summarize these assumptions in Table 2.

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[5] RIA, p. 2-1.

[6] RIA, p. 2-3.

[7] RIA, p. 1-6.

[8] RIA, pp. 2-5 – 2-8.

[9] "FMCSA Field HOS Survey: Motor Carrier Industry Implementation & Use of the April 2003 Hours of Service Regulations," June 2005 ("2005 Field Survey"); and FMCSA, "2007 Hours of Service Study" ("2007 Field Survey").

Table 2
FMCSA Assumptions Regarding Changing Work Patterns in Response to New HOS Restrictions

Driver Group	*Current Use of 14th Work Hour as a Break*[1]	*Ability to Shift 14th Work Hour to Another Day*	*Portion of 11th-Hour Driving Time Lost Due to 10-Hour Restriction*	*Portion of 10th/11th-Hour Driving Time Lost Due to 9-Hour Restriction*	*Additional Weekly Work Hours Lost Due to Restart Provision*		
					Option 2	*Option 3*	*Option 4*
Moderate	n/a	1	55%	65%	0	0	0
High	0.5 hr	0.5	65%	75%	0	0	0
Very High	0.75 hr	0.33	75%	85%	0.7	0.7	0.7
Extreme	1 hr	0	85%	95%	4.9	7.1	3.0

Source: RIA, pp. 3-4 – 3-10 and D-1.

Note: [1] FMCSA assumes that some fraction of current use of the 14th hour is non-productive break time, which could not be shifted to another day. Drivers in the Moderate category are assumed to be able to fully shift any use of the 14th hour without productivity loss. See RIA, pp. D-1 and D-2 for FMCSA's explanation of these assumptions.

In addition, FMCSA assumes that Option 2 would shift a full hour of driving time for drivers who would have used any part of the 11th hour in the absence of the new rule. FMCSA assumes that Option 4 would shift 1.5 hours of driving time for any driver who would have used any part of the 10th or 11th hours in the absence of the new rule. Finally, FMCSA assumes that under Option 2 one half of the impact of the work-time restriction would be felt through a reduction in driving time. Thus, the additional drive-time restriction would have less of an impact than it would if it was the only change in the rules. FMCSA does not appear to make such an assumption for Option 4.

FMCSA uses these assumptions to estimate an overall reduction in industry productivity of 2.8 percent under Option 2.[10] The figures for Options 3 and 4 are 1.3 percent and 6.4 percent, respectively.

FMCSA monetizes these figures using an estimate of $356 million per 1-percent productivity loss, based on calculations performed in previous RIAs regarding additional driver wages and benefits, capital expenditures, and overhead associated with replacing the work time lost due to the proposed rule.[11] FMCSA calculates an annual cost to the industry of $990 million for Option 2, $480 million for Option 3, and $2.27 billion for Option 4.[12] FMCSA adds $40 million per year for training and reprogramming costs.[13]

D. Safety Benefits from Reduced Daily Driving Time

FMCSA calculates safety-related benefits associated with reduced daily driving time by estimating the share of all large-truck crashes due to fatigue at each hour of driving and then assuming that the proposed rule will shift the relatively high-risk driving at the 10th or 11th hours to relatively lower-risk driving at lower hours.

The first step is estimating the fatigue-risk curve. FMCSA uses 1991-2007 data from the Trucks Involved in Fatal Accidents (TIFA) study to generate a fatigue-risk/driving-hours relationship. FMCSA fits a "logistic" curve to the raw data in order to generate a smooth, upward-sloping relationship between hours of driving and fatigue risk, which reaches approximately 5 percent at 11 hours (i.e., 5 percent of crashes in the 11th hour are caused by fatigue).[14]

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[10] Edgeworth calculations based on descriptions of FMCSA's approach in the RIA.

[11] RIA, p. 3-9; and FMCSA and ICF International, Inc., "Regulatory Impact Analysis for Hours of Service Options," December 7, 2007 ("2007 RIA").

[12] RIA, pp. 6-2 – 6-3.

[13] RIA, pp. 6-3 – 6-4.

[14] RIA, p. 4-21.

Based on work patterns from the 2005 Field Survey, FMCSA calculates an average fatigue-risk of 1.8 percent across all driving hours.[15]

The agency, however, does not believe that the TIFA data provide an accurate overall measure of fatigue-risk. Instead, FMCSA uses a figure of 13 percent taken from 2001-2003 data in the Large Truck Crash Causation Study (LTCCS).[16] This figure represents the share of large-truck crashes in the LTCCS sample where fatigue was determined to be an "associated factor"—i.e., "any of approximately 1,000 conditions or circumstances present at the time of the crash is coded."[17] FMCSA then scales up the risk curve from the TIFA data so that it indicates an average risk of 13 percent. As recognized by FMCSA, the coding of fatigue in the LTCCS could suffer from upward bias due to the tendency of inspectors to record fatigue as a factor if they learn that the driver was on the road for extended hours, without any independent evidence of fatigue, as well as the possibility that the observed increase in fatigue risk at high driving hours may reflect only an increase in the share of crashes associated with fatigue rather than an increase in the frequency of such crashes (which is the relevant factor for analyzing the proposed rule).[18] Despite these issues, FMCSA nonetheless asserts that the 13-percent figure is "conservative" because the LTCCS does not count any crashes as fatigue-related if the associated factors were coded as "unknown."[19] FMCSA also provides additional calculations using an average fatigue risk of 7 percent (the rate used by FMCSA in its previous RIA) and 18 percent (described by FMCSA as "roughly as far above the LTCCS value of 13 percent as the 8.15 percent pre-2003 estimate is below 13 percent").[20]

FMCSA then calculates the reduction in risk from shifting the affected hours to either the same driver on a different day (shifted to hours 6-10 in Option 2 or hours 6-9 for Option 4) or to a different driver who is assumed to have an average level of fatigue-related risk.

Finally, to monetize this reduction in risk, FMCSA calculates an average cost of large-truck crashes equal to $10.33 per hour driven.[21] This figure is based on the following assumptions: 1) an average cost per crash of $148,000; 2) 434,000 large-truck crashes per year; 3) 58 percent of large-truck crashes associated with long-haul routes; and 4) 2,257 hours driven per year per long-haul driver. FMCSA multiplies the risk reductions by the per-hour crash cost to calculate an annual value of the shift in driving time of $180 million for Option 2 and $490 million for Option 4.[22] FMCSA also reports a figure of $20 million for Option 3; however, the agency did not provide enough details to verify this calculation.

E. Safety Benefits from Reduced Cumulative Weekly Work Time

In addition to the benefits from reducing maximum daily driving time, FMCSA estimates a separate component of benefits related to reduction in cumulative weekly work time. FMCSA bases its calculations on a fatigue function developed from the LTCCS data, indicating an upward-sloping relationship between hours worked in the previous week and the likelihood of the presence of fatigue as an associated factor in a crash.[23] FMCSA adjusts the curve slightly so that it is consistent with an average fatigue rate of 13 percent at 52 hours of work per week (the average

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[15] RIA, p. 4-22.

[16] RIA, p. 4-20.

[17] FMCSA, "Report to Congress on the Large Truck Crash Causation Study," March 2006 ("LTCCS Report to Congress"), p. 9.

[18] "Hours of Service of Drivers: Notice of Proposed Rulemaking," Federal Register, v. 75, n. 249, December 29, 2010, ("2010 NPRM") p. 82175.

[19] RIA, p. 4-20.

[20] *Ibid.*

[21] RIA, p. 4-23.

[22] RIA, p. 6-5.

[23] RIA, p. 4-25.

weekly work time across all drivers, based on FMCSA's assumptions described above). As in FMCSA's analysis of daily driving time, here the agency again assumes that the presence of fatigue as an associated factor in crashes implies that fatigue *caused* those crashes.

FMCSA then calculates a reduction in fatigue risk from reducing work time for drivers with an average of 60 or more hours of work time per week by shifting work time to other drivers. FMCSA assumes no reduction in fatigue risk due to reduced weekly work time for drivers in the Moderate category. FMCSA adjusts the lost-time figures downward to account for the impact of the driving-time restriction on work hours.[24]

FMCSA monetizes the reduction in fatigue risk due to reduced work time using the same $10.33 per hour figure described above, which represents the average cost of large-truck crashes per hour of driving. FMCSA calculates a value of these risk reductions of $540 million annually for Option 2, $410 million for Option 3, and $740 million for Option 4.[25]

F. Health Benefits from Reduced Cumulative Weekly Work Time

Finally, FMCSA estimates health benefits associated with increased average sleep time for drivers. FMCSA starts with an estimate of the baseline level of sleep for each type of driver. The agency uses "low" estimates based on a study by Hanowski, *et al.* [2009], "high" estimates based on a study by Balkin, *et al.* [2000], and "medium" estimates which are the average of the other two.[26] FMCSA's medium estimates of baseline sleep range from 6.23 hours per day for drivers in the Extreme category to 7.02 hours per day for drivers in the Moderate category.[27]

FMCSA then uses the results of an internal analysis correlating work hours and sleep hours for long-haul drivers to translate the change in work hours for each driver type and HOS option into a change in sleep level. FMCSA calculates that Option 2 would result in increases in sleep ranging from 0.2 minutes per day for drivers in the Moderate category up to 22.7 minutes per day for drivers in the Extreme category.[28] FMCSA finds that Option 3 would result in slightly smaller sleep increases for drivers in the Moderate to Very High categories and that Option 4 would result in slightly greater sleep increases. FMCSA finds that drivers in the Extreme category would be affected equally under all options.[29]

FMCSA then applies research by Ferrie, *et al.* [2007], which shows a "u-shaped" relationship between average sleep and mortality, to calculate changes in mortality based on the increased amounts of sleep under each option.[30] According to FMCSA's interpretation of Ferrie, mortality rates are lowest for people who average about 6.9 hours of sleep per day, with higher mortality rates associated with either more or less sleep. FMCSA then uses actuarial data to calculate a change in drivers' expected lifespan from the percent change in mortality rates due to increased sleep.

Finally, FMCSA monetizes the change in expected lifespan using a value of $6 million per statistical life, an assumed career length of 35 years, and an assumption that each year of increased sleep over a driver's entire career has an incremental effect equal to 1/35 of the total effect.[31] That is, FMCSA assumes that a change in sleep each year of a

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[24] RIA, p. D-10.

[25] RIA, p. 6-5.

[26] RIA, p. 5-4.

[27] RIA, p. 5-5.

[28] *Ibid.*

[29] *Ibid.*

[30] RIA, pp. 5-6 – 5-8.

[31] RIA, p. 5-9.

driver's career has an incremental effect that, over the driver's entire career, sums to the effect that would pertain if the driver's average sleep level was changed over his entire lifetime.

Based on these assumptions and calculations, FMCSA estimates that Option 2 will generate health-related benefits of $690 million annually under the agency's medium baseline sleep assumption.[32] FMCSA finds greater benefits when it assumes a lower level of baseline sleep and a loss of health-related value under the high baseline sleep scenario. The reduction occurs because, under this scenario, drivers are already obtaining at least optimum sleep levels and the proposed rule would increase sleep further past the optimum. Option 3 shows net benefits under all three baseline sleep assumptions ($100 million to $1.2 billion). Option 4 shows net benefits under the low and medium baseline sleep assumptions and net costs under the high baseline sleep assumption. FMCSA states that "although our analysis shows a negative health benefit for drivers with a high baseline level of sleep, we do not believe that these negative benefits would be realized because drivers are likely to choose other activities rather than sleeping if they are getting enough sleep already."[33]

G. Total Costs and Benefits

Combining the results from FMCSA's central-case cost and benefit calculations results in annual net benefits of $380 million for Option 2, $560 million for Option 3, and -$420 million for Option 4.[34] Table 3 summarizes FMCSA's results.[35] FMCSA concludes that the net benefits of the proposed rule "are likely to be positive" for Options 2 and 3, but not for Option 4.[36]

Table 3
Annualized Costs and Benefits for HOS Options, as Calculated by FMCSA: Central-Case Assumptions (million 2008$)

	Costs		*Benefits*			*Net Benefits*
HOS Option	*Lost Productivity*	*Compliance*	*Safety - Reduced Driving Time*	*Safety - Reduced Work Time*	*Improved Driver Health*	
Option 2 – max. 10 hrs. driving	$990	$40	$180	$540	$690	**$380**
Option 3 – max. 11 hrs. driving[1]	$480	$40	$20	$410	$650	**$560**
Option 4 – max. 9 hrs. driving[1]	$2,270	$40	$490	$740	$660	**-$420**

Source: RIA, pp. 6-4 – 6-8.

Note: [1] Due to a lack of adequate documentation in the RIA regarding its calculations of the benefits associated with Options 3 and 4, we were unable to confirm all the components of FMCSA's analysis.

[32] RIA, p. 5-10.

[33] *Ibid.*

[34] RIA, p. 6-8.

[35] Note, FMCSA also presents results for each combination of its sensitivity analyses, including the high and low baseline sleep assumptions and the high and low fatigue risk assumptions.

[36] RIA, pp. ES-3 and ES-4.

III. Problems with FMCSA's Assumptions and Methods and Differences from Previous RIAs

A. Current Industry Operating Patterns

As described above, FMCSA bases its cost and benefit calculations on several important assumptions about drivers' current driving and work patterns, including: the share of the workforce in each driver category, hours worked and driven per day, days worked per week, use of the 14th hour of work, and use of the 10th and 11th hours of driving. FMCSA states that these assumptions are derived from the 2005 and 2007 Field Surveys. However, without access to the raw data from the surveys, we cannot verify FMCSA's assumptions.

Notwithstanding this issue, we have several concerns about FMCSA's use of the field surveys to estimate industry-wide driving intensity. First, the field surveys primarily report data obtained in the course of compliance reviews (81 percent of the observations in the 2005 survey and 70 percent of the observations in the 2007 survey).[37] FMCSA describes the selection criteria for compliance reviews as "poor safety performance or receipt of a non-frivolous complaint, or in follow-up to previous compliance/enforcement actions."[38] It is reasonable to consider that carriers targeted for review may use their drivers more intensely and may be more frequently up against current driving limits, if not over those limits. The remaining data in the field surveys come from safety audits, which are performed on new carriers during their first 18 months of operation. Neither category of carriers covered by the field surveys—i.e., the targets of compliance reviews or new carriers—are likely to exhibit characteristics that reflect those of the industry as a whole.

FMCSA uses the figure of 21 percent from the 2005 Field Survey as its estimate of the frequency of use of the 11th driving hour.[39] However, in its 2007 Interim Final Rule, FMCSA cited a number of data sources which indicate that the field survey results may not be representative, including:

- an August 2007 survey by ATA of its members, which shows that the 11th driving hour is used in 18 percent of daily trips;
- data from carrier Schneider National, Inc. showing use of the 11th hour in 10.7 percent of daily on-duty periods;
- an affidavit filed by carrier J.B. Hunt, stating that its drivers use the 11th hour or some portion of it about 10.8 percent of their daily driving days; and
- an affidavit from carrier Interstate Distributor Company stating that its drivers use the 11th hour on approximately 10 to 12 percent of days.[40]

FMCSA performs no analysis to determine whether the field surveys are representative of the industry overall, but nonetheless applies the results from the surveys in the RIA without explanation or adjustment.

A second problem with FMCSA's use of the field survey data relates to the agency's assumption that drivers who reported non-compliant work hours in the surveys would nonetheless fully comply with the proposed rule. For example, the 2005 Field Survey reported that 20.7 percent of tours exceeded 10.0 hours of driving per day, including

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[37] 2005 Field Survey, p. 2; and 2007 Field Survey, p. 2.

[38] "Hours of Service of Drivers: Interim Final Rule," Federal Register, v. 72, n. 241, December 17, 2007 ("2007 Interim Final Rule"), p. 71264.

[39] 2005 Field Survey, p. 2.

[40] 2007 Interim Final Rule, pp. 71265-71266.

4.0 percent that exceeded the current legal limit of 11 hours.[41] FMCSA assumes that all of these tours would become compliant under the 10-hour restriction in Option 2. FMCSA offers no explanation for its assumption that drivers currently out of compliance with HOS rules would become compliant under the new rule. Rather, it is possible that compliance rates would actually decline under a more restrictive rule. FMCSA's assumption about work time suffers from the same problem. In its estimate of use of the 14th on-duty hour (i.e., more than 13.0 hours), FMCSA includes the 4.3 percent of tours in the 2005 Field Survey which exceeded 14.0 hours of total work time.[42]

A third issue with FMCSA's use of the field survey data relates to the amount of driving/work time that would be shifted to lower hours under the proposed rule. As described above, FMCSA extracts figures for "use of the 11th (and 10th) driving hour" and "use of the 14th work hour" from the field surveys. The field surveys appear to be recording "use of the 11th hour" in any case where the driver was on the road between 10.0 and 11.0 hours, including, for example, a tour of 10.5 hours. Similarly, the field surveys appear to be recording "use of the 14th hour" in any case where the driver worked between 13.0 and 14.0 hours. However, in its calculations of both costs and benefits, FMCSA assumes that one full hour of driving time would be affected under Option 2 for the share of drivers that are recorded as having used the 11th hour in the field survey.[43] Similarly, FMCSA assumes that one full hour of work time would be affected for the share of drivers that are recorded as having used the 14th hour. Thus, FMCSA has overstated the number of affected hours and, as a result, overstated both the costs and benefits of the proposed rule.

Below, we calculate cost and benefit figures using FMCSA's model after adjusting FMCSA's assumptions to account for partial use of the 11th driving hour and the 14th work hour under current rules as well as to reflect impacts only on drivers who are in compliance with current rules.

B. Impact of the Proposed Rule on Carrier Operations

In the 2007 RIA, FMCSA used a simulation model to estimate the impact of HOS provisions on carrier operations. FMCSA's approach allowed for explicit measurement of the impact of the rules on carriers with a range of characteristics, based on actual data related to origins and destinations of truck hauls, driving speed, loading time, minimum and maximum HOS requirements, and other factors. FMCSA tested the current rules against an option which reduced the maximum consecutive driving time to 10 hours and eliminated the restart provision—i.e., a policy similar to FMCSA's Option 2 in the proposed rule. FMCSA estimated that the restrictions would reduce industry productivity by 7.1 percent.[44]

FMCSA now bases its estimates of the impact on carrier operations on a series of assumptions, which are unsupported by any model or other reference. FMCSA states only that:

> *Data on industry-wide characteristics, combined with data from a limited number of consistent sources on overall intensity, and judgment on how the use of individual rule elements would impact driver schedules gave us a simplified picture of the work and driving characteristics of drivers with varying levels of intensity of work.*[45]

Based on these undocumented assumptions, FMCSA now estimates that Option 2 will cause only a 2.8-percent loss of productivity—less than half the loss calculated in the 2007 RIA for a similar policy change. FMCSA provides no explanation for why it has abandoned its model of carrier logistics nor why its new cost estimates are so much lower than the estimates created by the agency three years ago.

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[41] 2005 Field Survey, p. 7.

[42] *Ibid.*

[43] FMCSA assumes that drivers recorded as using the 10th or 11th hour would lose 1.5 hours of driving time under Option 4.

[44] 2007 RIA, p. ES-4.

[45] RIA, p. 3-2.

Since FMCSA does not base its assumptions regarding the response of drivers to the proposed rule on any data, model, or other replicable analysis, we cannot verify the agency's calculations. However, several of FMCSA's assumptions are clearly unreasonable. As we describe above, FMCSA's assumption that drivers currently in non-compliance with HOS rules would become compliant under the new rules is unfounded. Furthermore, FMCSA's assumption that every driver currently using the 11th driving hour would lose a full hour under Option 2 (with a similar assumption about the 14th work hour) is not reasonable.

A further problem with FMCSA's assumptions is that the agency assumes that every lost hour of driving caused by the proposed rule could be replaced seamlessly by shifting the time to another work day or to another driver. Presumably, drivers' current schedules reflect an optimization of assignments, given circumstances such as origin/destination pairs, delivery time requirements, driver availability, and other factors. If the proposed HOS constraints are imposed, carriers may experience additional productivity losses due to an inability to perfectly substitute alternate drivers for every lost hour. For example, it may be difficult to replace an hour of driving time lost for a driver in the middle of a cross-country route with an hour from another driver. In the previous RIA, FMCSA's carrier logistics model may have accounted for such issues (we are unable to confirm this without access to the detailed workings of the model). However, FMCSA's current methodology clearly does not. For this reason, FMCSA's assumptions may underestimate the productivity impacts of the proposed rule.

An additional problem with FMCSA's calculations of productivity impacts is that the agency assumes that the restart restriction would have no impact on drivers in the Moderate or High categories. Although these drivers may not *typically* use the restart option in the HOS rules, there is no basis to assume that they *never* use it. To the contrary, the 2007 Field Survey reported that 84 percent of drivers used at least one restart period during the reviewed tours.[46] The survey also reported that in 85 percent of the instances in which the restart was used, the driver worked less than 65 hours in the week prior to the restart. Since the Very High and Extreme driver categories comprise only 15 percent of the workforce, there appears to be substantial use of the restart by drivers in the other categories. Thus, FMCSA has underestimated the impact of the proposed restart provision. We do not have sufficient information to calculate impacts due to the restart provision for these other groups of drivers, but the difference could be substantial due to the large number of drivers in these categories. For example, if the restart provision causes drivers in the Moderate and High categories to experience a loss of only 0.175 work hours per week—one quarter of the loss assumed by the FMCSA for drivers in the Very High category—that would increase the productivity impact of Option 2 by more than $100 million annually.[47]

Although we do not apply specific alternate assumptions about lost productivity in our calculations here, it is instructive to consider how FMCSA's new assumptions affect the agency's ultimate findings regarding the net benefits of the proposed rule. In the current RIA, FMCSA calculates a productivity loss of $990 million annually under Option 2—equivalent to a 2.8-percent reduction from current levels. If FMCSA had applied an impact of 7.1 percent, as the agency previously calculated using the carrier logistics model described in the 2007 RIA, the total loss would be $2.52 billion annually. In this scenario, Option 2 would result in a net loss to society of $1.15 billion annually, rather than a gain of $380 million as calculated by FMCSA. In other words, FMCSA's finding that the net benefits of Option 2 are "likely to be positive" is heavily dependent on its new assumptions regarding productivity impacts.

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[46] 2007 Field Survey, pp. 3-4.

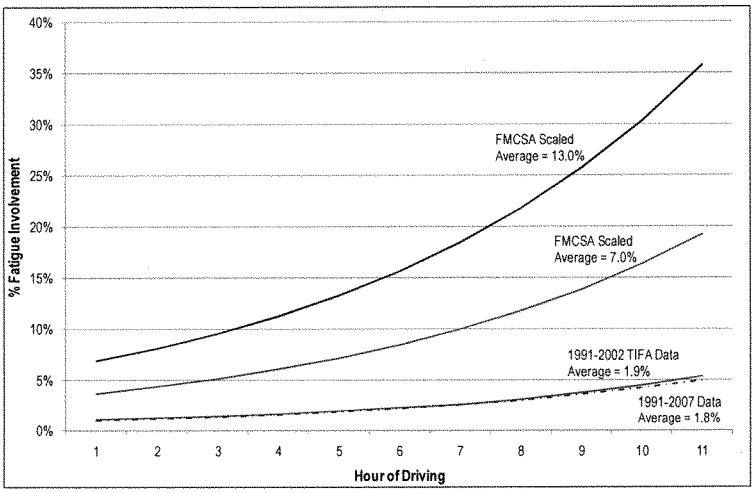
[47] Edgeworth calculations, based on FMCSA's methodology and other assumptions as described in the RIA.

C. *Impact of the Proposed Rule on Large-Truck Crashes*

1. Relationship between Driving Hours and Fatigue Risk

A key component in FMCSA's analysis of crash-related benefits is the relationship between driving hours and fatigue risk (the "fatigue curve"). As described above, FMCSA uses the TIFA data to determine the shape of the fatigue curve, but believes that the average level of risk demonstrated by that data—1.8 percent—is too low. Instead, FMCSA scales the fatigue curve derived from the TIFA data upward to reflect an average fatigue risk of 13 percent, based on the finding from the LTCCS that 13 percent of large-truck crashes showed fatigue as an "associated factor." Figure 1 shows the fatigue curves for: 1) the 1991-2002 TIFA data used in FMCSA's previous RIA; 2) the updated (1991-2007) TIFA data; 3) FMCSA's current model, which adjusts the updated TIFA model to an average of 13 percent; and 4) the TIFA data scaled to an average of 7 percent, which is the risk level estimated by FMCSA in the previous RIA. Note that FMCSA's method of scaling the TIFA findings not only raises the fatigue curve, but also substantially increases the slope of the curve. This inflates the apparent benefit of shifting drive time from the 11th hour to an earlier hour.

Figure 1
Fatigue Curves from FMCSA Analyses



Source: RIA, pp. 4-15 – 4-22.

This approach by FMCSA is problematic for several reasons. First, by treating the coding of fatigue as an associated factor in the LTCCS as identifying the "cause" of a crash, FMCSA implicitly assumes that a policy which reduces the frequency of fatigue as an associated factor in crashes would necessarily eliminate those crashes in direct proportion. This assumption contradicts previous research by FMCSA, which makes clear that an associated factor is not equivalent to the "cause" of the crash. FMCSA's Report to Congress on the LTCCS describes associated factors as "any of approximately 1,000 conditions or circumstances present at the time of the crash is coded."[48] FMCSA further states that when coding the LTCCS data, "[n]o judgment is made as to whether any [associated]

[48] LTCCS Report to Congress, p. 9.

factor is related to the particular crash, just whether it was present."[49] Another FMCSA study specifically differentiates between two definitions of "cause": 1) as a "necessary factor" (had the factor not been present in the crash sequence, the crash would not have occurred); or 2) as a "risk-increasing factor" (the factor increases the risk, or probability, of a crash).[50] FMCSA's prior analyses using the LTCCS data used the latter definition; however, in the RIA the agency now assumes the former.

The fallacy of FMCSA's assumption becomes evident when reviewing the full set of associated factors reported in the LTCCS. The study estimated a total of approximately 430,000 associated factors for 141,000 large-truck crashes—or about three factors per crash. Fatigue was coded as an associated factor in 13 percent of crashes, but those factors represented only 4.2 percent of the total number of associated factors recorded in the study. Thus, FMCSA's treatment of associated factors in the RIA implies that fatigue was the necessary cause of every crash in which it was present, even though there were, on average, approximately two other factors present in that same crash. Furthermore, FMCSA's approach even includes crashes in which the "critical reason"—i.e., the "failure leading to the critical event [crash]"—was not assigned to the truck, but rather to another vehicle.[51] Clearly, eliminating fatigue on the part of the truck driver would not necessarily eliminate such crashes. If one assumes that each associated factor recorded for a particular crash had an equal likelihood of being the "cause" of that crash (defining "cause" in the manner implied by FMCSA's analysis in the RIA), then 4.2 percent, rather than 13 percent, represents a better indicator of average fatigue risk.

A second problem with FMCSA's use of the LTCCS data is that the study oversampled single-vehicle crashes. Single-vehicle crashes make up 27 percent of the observations in the LTCCS sample, yet they comprise only 17.5 percent of the observations in the much more comprehensive Fatality Analysis Reporting System (FARS) database.[52] This sampling issue skews the results related to fatigue, since fatigue is more likely to be an associated factor in single-vehicle crashes than in multiple-vehicle crashes. For example, data from the LTCCS indicates that fatigue was an associated factor in 7.5 percent of two-vehicle crashes, compared to 13 percent in all crashes.[53] Consequently, the LTCCS analysis overestimates the frequency of fatigue as an associated factor relative to the true frequency across all crashes. Knipling [2008] found that the sampling pattern in the LTCCS results in an overstatement of the share of total crashes in which the driver was coded as "asleep at the wheel" by 80 percent.[54]

For these reasons, 13 percent is clearly an overestimate of the ratio of large-truck crashes caused by fatigue. Moreover, this figure is substantially higher than any measure previously used by the agency in its analyses of HOS rules or any other publicly-available measure. For example, in the 2007 RIA, FMCSA stated that FARS provided "consistent data on the causes of crashes." FMCSA performed an "extensive analysis" of FARS and other data and concluded that driver fatigue was a "factor" in 7.25 percent of large-truck crashes. FMCSA added 0.9 percent to account for crashes in which driver "inattention" was coded as a factor to reach a final estimate of 8.15 percent. FMCSA then estimated that the fatigue rate would fall to 7 percent under the current HOS rules. In a response to public comments, FMCSA confirmed its judgment that "the 7 percent figure is accurate, even when recognizing that

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[49] *Ibid.*

[50] James Hedlund and Daniel Blower, "Large Truck Crash Causation Study (LTCCS) Analysis Series: Using LTCCS Data for Statistical Analyses of Crash Risk," FMCSA publication, January 2008.

[51] 45 percent of crashes in the LTCCS had critical reasons assigned to other vehicles. [LTCCS, p. 11]

[52] In the RIA, FMCSA states that single-vehicle crashes make up 21 percent of all LTCCS crashes. [RIA, p. 4-19] FMCSA claims that figure is "within the margin of error" of the 17.5-percent figure from FARS. FMCSA provides no basis for this assertion. In any case, the 21-percent figure appears to be an error, as the LTCCS study clearly states that single-vehicle crashes make up 26.9 percent of the sample. [LTCCS, p. 11]

[53] LTCCS Report to Congress, pp. 15 and 18.

[54] Ronald R. Knipling, "Critique of Large Truck Crash Causation Study (LTCCS) Driver Fatigue Statistics and Analysis," March 17, 2008, p. 3.

the coding of fatigue-related crashes may be underestimated."[55] Other estimates of the share of large-truck crashes in which fatigue played a role tend to be even lower than 7 percent, including:

- 2.2 percent from FMCSA's analysis of 2004-2006 TIFA data in the 2008 Final Rule;[56]
- 2.1 percent from data collected by DriveCam in 2009 using in-cab video recorders;[57]
- 2.6 percent from a study of 1996-2001 fatal commercial vehicle crashes conducted by the Michigan State Police Carrier Enforcement Division;[58] and
- 2.5 percent, calculated by Knipling [2008], based on findings of "asleep at the wheel" in the LTCCS, with an adjustment to correct for oversampling of single-vehicle crashes.[59]

A further problem with FMCSA's approach is that the crashes in the LTCCS sample used to determine the fatigue curve occurred under previous HOS rules (i.e., before 2004). As FMCSA has recognized, under those rules the risk associated with driving extended daily hours may have been higher than under current rules, due to the less restrictive requirements for off-duty time.[60] Furthermore, recent data shows that the overall level of fatigue risk has fallen, from an average of 1.9 percent in the 1991-2002 TIFA data to an average of 1.8 percent when data from 2003-2007 is added. FMCSA does not provide sufficient information about the more recent TIFA data to identify fatigue risk for the 2003-2007 period precisely, but we estimate a decline of approximately 15 percent relative to the 1991-2002 period.[61] FMCSA recognizes that its reliance on data from prior regulatory regimes is problematic, but fails to account for any bias that this method might introduce into its results.[62]

FMCSA's overstatement of the rate of fatigue-related risk has a substantial impact on its results. We calculate that using a rate of 7 percent, rather than 13 percent, would reduce the benefits associated with the proposed rule by $330 million per year, using FMCSA's other central-case assumptions for Option 2.[63]

2. FMCSA's Analysis of Benefits from Reduced Cumulative Work Time

FMCSA's calculation of a separate component of benefits for reduced cumulative work time is an analysis that the agency had not conducted in previous RIAs. To the contrary, FMCSA asserted repeatedly in responses to public comments to the 2007 RIA that the 2003 rule provided sufficient flexibility to eliminate any concerns about cumulative work time. For example, FMCSA stated:

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[55] "Hours of Service of Drivers: Final Rule," Federal Register, v. 73, n. 224, November 19, 2008 ("2008 Final Rule"), p. 69578.

[56] *Ibid.*

[57] DriveCam report for the ATA, dated March 15, 2010, attached to June 3, 2010 letter from Bill Graves to the Honorable Anne Ferro.

[58] James Hedlund and Daniel Blower, "Large Truck Crash Causation Study (LTCCS) Analysis Series: Using LTCCS Data for Statistical Analyses of Crash Risk," FMCSA publication, January 2008.

[59] Knipling (2008), p. 3.

[60] "Hours of Service of Drivers: Final Rule," Federal Register, v. 70, n. 164, August 25, 2005 ("2005 Final Rule"), p. 49981.

[61] Based on an assumption that the annual number of fatal crashes has been (approximately) constant over the entire time period, consistent with current data. [FMCSA, "Large Truck and Bus Crash Facts 2009: Early Release," October 2010 ("Crash Facts 2009"), Tables 4, 7, and 8]

[62] 2010 NPRM, pp. 82179-82180.

[63] Note, as we describe below, FMCSA's assumption regarding average fatigue risk affects the agency's calculation of benefits related to both reducing daily driving time and reducing weekly work time. Our calculation here includes the impacts of both components.

> *The Expert Panel noted that "recovery time periods must take into consideration the necessity for overcoming cumulative fatigue resulting from such schedules and must include sufficient sleep * * * Recovery time should include at least two uninterrupted time periods * * * and such recovery time must be made available at least once in every 7 days." The 2003 rule created a minimum 34-hour recovery period that provides sufficient time for two 8-hour sleep periods and one 16-hour period of intervening wakefulness, allowing the opportunity for recovery from any potential cumulative fatigue that might occur. Although the effect of the 34- hour restart cannot be isolated from all the other factors that affect highway safety, it should be noted that FMCSA's Field Surveys show increased use of the restart provision between 2005 and 2007, at a time when the rate of fatigue related fatal truck crashes remained essentially unchanged and the overall large-truck fatal crash rate dropped to the lowest level ever recorded.*[64]

FMCSA has now reversed its position on this issue, claiming that "the increase in total maximum allowable work per week allowed by the rule, and the short restart, may result in adverse impacts on driver health and safety."[65] However, FMCSA cites no new research or evidence from recent data to support its concerns. Instead, the agency relies on an analysis of the LTCCS data collected *before* implementation of the current rule. Since FMCSA calculates that the benefits associated with reducing fatigue from cumulative work time are approximately three times as great as those associated with reducing daily driving time (under Option 2), the importance of confirming the existence of cumulative fatigue and of any relationship between work time and such fatigue using current data is clear. FMCSA's failure to use data collected under current HOS rules to test for this effect sheds substantial doubt on the agency's findings.

Notwithstanding this general concern about FMCSA's approach, we found additional problems with the agency's calculations of benefits associated with reducing cumulative weekly work time which serve to inflate the net benefits of the proposed rule as calculated by FMCSA. First, when FMCSA calculates the reduction in crash risk associated with reducing weekly work hours, the agency treats any partial hour of reduced time as a full hour.[66] This inflates the apparent benefits of the risk reduction. For example, FMCSA calculates that drivers in the High category will lose 1.04 hours of work time under Option 2, shifting from 60 hours per week to 58.96 hours per week.[67] However, when FMCSA calculates the reduced crash risk associated with that loss of work time, the agency assumes that the new level of work time will be 58.0 hours—a full 2-hour reduction.[68] In supplementary documentation placed in the docket, FMCSA concedes that "[t]he use of this methodology may result in slightly higher estimated benefits for each option, compared to using exact values."[69] We calculate that this method overstates the benefits of Option 2 by about $70 million per year.

An additional problem with FMCSA's new analysis of crash risk associated with cumulative work time is that the agency applies fatigue curves for daily driving time and for weekly work time separately, without recognizing that a reduction in daily driving time could reduce the risk of high weekly work hours and vice versa. In other words, the slopes of FMCSA's fatigue curves are likely to be sensitive to changes in HOS rules. In previous RIAs, FMCSA recognized the interaction between daily work restrictions and cumulative fatigue, for example stating in 2005:

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[64] 2008 Final Rule, p. 69575, citation omitted.

[65] RIA, p. 1-5.

[66] FMCSA does not describe this assumption in the RIA. We obtained supplementary information from FMCSA, now in the public docket, in which the agency explained its methods and assumptions in more detail. [FMCSA memo, "Response to ATA request for Further Information on the Cumulative Fatigue Function used in the Regulatory Evaluation for the 2010 NPRM Proposing Revisions to the Hours of Service Rules," plus accompanying spreadsheets, January 28, 2011 ("FMCSA Cumulative Fatigue Memo")]

[67] RIA, p. D-5.

[68] FMCSA Cumulative Fatigue Memo.

[69] *Ibid.*

> *Under today's rule, most drivers have an adequate opportunity to limit the accumulation of fatigue. Ten hours off duty gives drivers enough time for 7–8 hours of sleep. In addition, adopting a non-extendable 14-hour duty tour (reduced by one or more hours from the pre-2003 rule) will also limit the accumulation of fatigue.*[70]

FMCSA's present analysis, however, is based on the implicit assumption that a reduction in weekly work time would have no impact on the relationship between daily driving hours and fatigue risk, and similarly that a reduction in daily driving hours would have no impact on the relationship between weekly work time and fatigue risk. This assumption is unreasonable. Consider two drivers each averaging 8 hours of driving per day: Driver A, who averages 50 hours of total work per week, and Driver B, who averages 45 hours. It is logical to expect that the increment of fatigue risk between the 10th and 11th driving hours on any particular day will be higher for Driver A than for Driver B. The information provided in the RIA is not sufficient to permit us to estimate the magnitude of these effects, but they could be significant. By omitting such considerations, FMCSA has overstated the benefits of the proposed rule.

3. Crash Cost per Hour of Driving/Work

FMCSA monetizes the change in crash risk by assuming a proportional reduction in the cost of crashes per hour of driving. FMCSA calculates the cost of large-truck crashes per hour of long-haul driving by calculating the average cost of a large-truck crash, multiplying by the total number of crashes by long-haul drivers per year, and then dividing by the annual number of long-haul driving hours per driver per year. The assumptions and calculations used here by FMCSA appear reasonable, with one important exception. FMCSA uses a figure of 434,000 large-truck crashes per year, without any citation. As shown in Figure 2, FMCSA's figure represents approximately the level of large-truck crashes during the 2000-2003 period, which the agency used to determine costs in its 2003 RIA and then adopted again in its 2007 RIA.[71] Since 2003, however, the number of large-truck crashes per year has fallen substantially. In the Notice of Proposed Rulemaking, FMCSA cites a figure of 365,000 crashes in 2008.[72] The most recent figure, from 2009, is 286,000 crashes—34 percent lower than the figure used in the RIA. Preliminary data for 2010 indicates that crash rates are continuing to fall.[73] Clearly, FMCSA's assumption of 434,000 large-truck crashes per year is no longer appropriate. Applying the most recent (2009) data to FMCSA's calculations reduces the crash cost per hour of driving to $6.81. We calculate that making this change alone to FMCSA's calculations would reduce the benefits of the proposed rule by about $250 million per year, using FMCSA's other central-case assumptions for Option 2.

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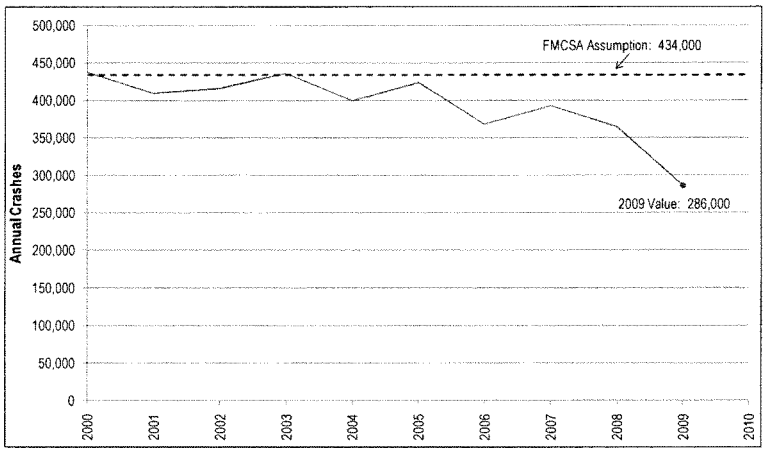
[70] 2005 Final Rule, p. 50023.

[71] ICF Consulting, Inc. and Jack Faucett Associates, "Regulatory Impact Analysis and Small Business Analysis for Hours of Service Options," prepared for the FMCSA, December 2002 ("2002 RIA"), p. 8-37; and 2007 RIA, p. 68.

[72] 2010 NPRM, p. 82176.

[73] See, for example, National Highway Transportation Safety Administration, "Early Estimate of Motor Vehicle Traffic Fatalities for The First Three Quarters (January-September) of 2010," December 2010.

Figure 2
Large Truck Crashes, 2000-2010



Sources: RIA, p. 4-23; and Crash Facts 2009, Tables 4, 7, and 8.

A further problem with FMCSA's use of the per-hour crash cost is the agency's application of the figure to its calculations of reduced crashes associated with cumulative weekly work time. As described above, FMCSA assesses benefits associated with reduced cumulative work in addition to the benefits from reduced daily driving time. However, FMCSA uses the same "crash cost per hour of driving" figure to monetize the reduced risk from shifting weekly work time to drivers with less intensive work schedules. FMCSA has erred in its approach here. Reducing work time must have a smaller per-hour benefit than reducing driving time, since crashes do not occur in non-driving work hours. FMCSA should have calculated a "crash cost per hour of work," which is necessarily less than the "crash cost per hour of driving." Based on FMCSA's assumptions, we calculate that the crash cost per hour of work time is 22 percent lower than FMCSA's figure.[74] We calculate that FMCSA has overstated the benefits of reducing cumulative weekly work time by approximately $120 million per year for Option 2, based on this issue alone.

D. Impact of the Proposed Rule on Driver Health

1. Comparison to Previous RIAs

In previous RIAs, FMCSA concluded that insufficient evidence existed to support a connection between reduction of maximum work or driving time and the health of drivers. In 2005, FMCSA stated:

> *The driver health team found very little research to evaluate specifically the association between long work hours and CMV driver health. No research studies were found that permitted an examination of whether additional hours of driving or nondriving time would impact driver health.*[75]

[74] Based on 40.6 average weekly driving hours and 52.1 average weekly work hours, from FMCSA's assumptions described in Table 1, above.

[75] 2005 Final Rule, p. 49990.

> *[I]n the Agency's best judgment, the difference between a driving limit of 10 and 11 hours is inconsequential from the standpoint of driver health.*[76]

> *[I]n the Agency's best judgment there is no evidence that the number of work hours allowed by the HOS regulation adopted today will have any negative impact on driver health.*[77]

Similarly, in 2008 FMCSA concluded:

> *In summary, as discussed at length in the 2005 rule, the Agency undertook a comprehensive examination of issues related to driver health. The Agency is aware of no new studies, nor have commenters provided any, published since the 2005 rule was promulgated that have changed these underlying conclusions and the regulatory provisions adopted. Driver health research simply is not mature enough to allow the conclusion that a number of extra hours of work would result in increased driver health problems. Also, there are many confounding factors that affect driver health, such as diet, smoking, and exercise. ... The Agency concluded in 2005 that it was unable to quantify or monetize the impacts of that rule on driver health; the same conclusion applies to today's rule.*[78]

In the new RIA, however, FMCSA calculates substantial health-related benefits associated with reducing daily work time. Without such benefits, all of the proposed options would result in net costs to society, according to FMCSA's calculations. For example, excluding health-related benefits leads to a calculation of a net loss to society of $310 million per year, using FMCSA's other central-case assumptions for Option 2.

In order to reach a conclusion that reduced work time would improve driver health, there are two chains of causation that must be demonstrated: first, that reducing work time for drivers would result in an increase in sleep; and second, that increasing sleep would improve drivers' health. FMCSA's analysis of each component is flawed.

2. Relationship between Work Time and Sleep Time

In order to show that reducing work time would result in an increase in drivers' sleep, FMCSA cites an analysis by Balkin, *et al.* [2000] correlating work hours and sleep hours for long-haul drivers.[79] We have several concerns with FMCSA's use of the Balkin results in this manner.

First, the Balkin study was published in 2000;[80] therefore the data was collected from truck drivers operating under previous HOS rules. The measured relationship between drivers' work time and sleep time may no longer pertain, due to changes in HOS restrictions following implementation of current rules in 2003.

Our second concern with FMCSA's methodology is one of *causation*. The observation of a simple correlation between work time and sleep time does not necessarily imply that a reduction in work would result in an increase in sleep in accordance with the observed correlation. In the Notice of Proposed Rulemaking issued concurrently with the RIA, FMCSA makes clear the difficulty in determining the behavioral responses of drivers to the proposed rule,

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[76] 2005 Final Rule, p. 50011.

[77] 2005 Final Rule, p. 49990.

[78] 2008 Final Rule, p. 69574.

[79] RIA, pp. 5-3 – 5-5 citing Balkin, T., Thorne, D., Sing, H., Thomas, M., Redmond, D., Wesensten, N., Williams, J., Hall, S., & Belenky, G., "Effects of Sleep Schedules on Commercial Motor Vehicle Driver Performance," Walter Reed Army Institute of Research, Washington, D.C., May 2000.

[80] Note, the RIA states that Balkin was published in 2002; however, the report in the docket entry cited by FMCSA actually shows a publication date of May 2000.

stating: "the Agency has no basis for estimating the extent to which drivers who have an extra hour a day or extra hours per week off duty will use that time to exercise and sleep."[81] Yet, in the RIA, FMCSA makes precisely that determination, despite the lack of evidence demonstrating a causal link. In particular, the observed correlation between work time and sleep time could be due in part to any or all of the following circumstances:

- Drivers with non-work-related sleep disorders or a preference for lesser amounts of sleep choose to work longer hours. Similarly, drivers who prefer more sleep for reasons unrelated to work choose to work less.
- The observed pattern of work/sleep time across drivers is a function of other driver characteristics that would be unaffected by a change in work time, such as age, family status, or use of pharmaceuticals.
- Individual drivers adjust their time spent on activities other than work or sleep in response to changes in work time in a different manner than reflected in the relationship measured by FMCSA.

Although FMCSA fails to address these questions in its analysis of work/sleep correlation, elsewhere in the RIA the agency apparently recognizes the fact that the observed correlation between work time and sleep time does not necessarily imply that changes in one cause changes in the other in any sort of fixed relationship across the entire population of drivers. In particular, when discussing its findings that some of the options would result in higher driver mortality due to an increase in sleep time above the optimum level, FMCSA states:

> *Although our analysis shows a negative health benefit for drivers with a high baseline level of sleep, we do not believe that these negative benefits would be realized because drivers are likely to choose other activities rather than sleeping if they are getting enough sleep already.*[82]

FMCSA offers no evidence to support this assertion. Moreover, it would be true only if drivers were perfectly aware of their actual and optimum sleep times and chose to convert all reductions in work time to non-sleep activities. In any case, FMCSA's statement shows recognition that individual drivers do not necessarily respond to changes in work in the manner suggested by a simple work/sleep correlation measured from a cross section of the driver population. It would seem apparent that a driver currently obtaining slightly less than the optimum sleep level might maintain that level in response to a decrease in work time, just as a driver currently obtaining slightly more than the optimum level of sleep would do, as suggested by FMCSA. Even drivers with intensive work schedules may make the conscious choice to forgo additional sleep in order to pursue other non-work-related activities.

This issue represents a fundamental flaw in FMCSA's approach. FMCSA's failure to consider characteristics of drivers or their behavioral responses to changes in HOS rules sheds considerable doubt on its results. Moreover, the internal inconsistencies within the RIA and Notice of Proposed Rulemaking demonstrate the lack of sound bases for FMCSA's assumptions.

3. Relationship between Sleep Time and Driver Health

FMCSA's approach to estimating impact on driver health caused by changes in average sleep levels is based on an adaptation of the results from Ferrie [2007]. In that study, researchers analyzed a sample of approximately 10,000 British civil servants in the late-1980s and early-1990s and found a "u-shaped" relationship between average weeknight sleep amounts and subsequent mortality rates.[83] They concluded:

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[81] 2010 NPRM, p. 82190.

[82] RIA, p. 5-10.

[83] Ferrie, J., Shipley, M., Cappuccio, F., Brunner, E., Miller, M., Kumari, M., & Marmot, M., "A Prospective Study of Change in Sleep Duration: Associations with Mortality in the Whitehall II Cohort," *Sleep*, v. 30, n. 12, 2007, pp. 1659-1666.

> *[W]e consistently demonstrate higher rates of all-cause mortality among participants who report short sleep (≤5 hours) or long sleep (≥9 hours) at follow-up, regardless of their sleep duration 5-6 years earlier. A decrease in sleep duration among those regularly sleeping 6, 7, or 8 hours at baseline was associated with a 110% excess risk of cardiovascular mortality. However, an increase in sleep duration among those regularly sleeping 7 or 8 hours at baseline was associated with a 110% excess risk of non-cardiovascular mortality.*[84]

We have several concerns with FMCSA's use of the results from Ferrie. First, FMCSA ignores any potential differences between the population sample studied by Ferrie (British civil servants in the 1980s) and the relevant group here (long-haul truck drivers in the U.S. today). For example, FMCSA fails to consider that truck drivers are subject to HOS rules governing weekly work levels and off-duty time, which were designed specifically to allow recovery from intense work schedules so that cumulative fatigue is avoided. Presumably, British civil servants in the 1980s were not subject to comparable rules. Other important differences between the groups include: 1) the types of people who choose to work as long-haul truck drivers may have different optimal sleep levels than those who choose to be civil servants; and 2) long-haul trucks drivers may have more variable schedules than civil servants, which allows drivers to recover during non-work periods despite (potentially) lower average sleep levels during work periods.

Second, FMCSA imputes a level of precision to the Ferrie study that does not exist in the original research. Ferrie reports mortality figures based on survey responses to the question: "How many hours of sleep do you have on an average week night?" Response categories were "5 hours or less," 6, 7, 8, and "9 hours or more." While Ferrie does find higher mortality associated with the lowest and highest responses relative to the middle responses, the researchers were careful to attribute mortality effects only over ranges of sleep hours at the extremes of the survey responses—i.e., at sleep levels "less than or equal to 5 hours" or "greater than or equal to 9 hours." Ferrie found no statistically significant differences between the mortality rates of people who reported 6, 7, or 8 hours of sleep.[85]

FMCSA's attribution of mortality effects to small changes in sleep levels within the "normal range" contradicts the agency's previous conclusions as well as the broader set of findings by medical researchers. For example, in response to comments on a previous RIA, FMCSA concluded that "the finding of 6.28 hours of sleep per night [the average reported in a 2005 FMCSA study] is within normal ranges consistent with a healthy lifestyle."[86] Additional academic research has consistently supported the same findings. For example, Cappuccio, *et al.* [2010], also cited in the RIA, reported the results of a "meta-analysis" of sleep research comparing the findings of 16 different studies regarding sleep levels and mortality, including the 2007 Ferrie study.[87] The researchers concluded: "Currently, there is no evidence that sleeping habitually between 6 and 8h per day in an adult is associated with harm and long term health consequences."[88] FMCSA ignores this conclusion, citing only Cappuccio's finding of a "slightly higher relative risk for short sleep," which the researchers define as "5 hours or less."[89]

In contrast to this research, FMCSA uses the five data points from Ferrie to identify a purportedly optimum sleep level at a precise point near 6.9 hours, and then attributes mortality impacts to very small changes around that optimum. For example, FMCSA's assumes average baseline sleep levels of 6.2 to 7.0 hours (in its central case) for the four

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[84] *Ibid*, p. 1662.

[85] The differences between the average mortality hazard ratios for people reporting these three sleep levels were well within the 95-percent confidence intervals associated with the sample estimates of those ratios. [Ferrie , p. 1661]

[86] 2005 Final Rule, p. 49983.

[87] Cappuccio, F., D'Elia, L., Strazzullo, P., & Miller, M., "Sleep Duration and All-Cause Mortality: A Systematic Review and Meta-Analysis of Prospective Studies," *Sleep*, v. 33, n. 5, 2010, pp. 585-592.

[88] *Ibid*, p. 591 (italics added).

[89] Cappuccio, *et al.* state: "People reporting consistently sleeping 5 hours or less per night should be regarded as a higher risk group for all-cause mortality" (p. 591).

categories of drivers, with increases under Option 2 of as little as 13 seconds per day for drivers in the Moderate category to at most 23 minutes per day for drivers in the Extreme category. The results from Ferrie and from the broader field of research do not support the attribution of mortality impacts from such small changes in sleep levels for people who currently obtain 6 to 8 hours of sleep.

IV. Adjusted Cost-Benefit Calculations

In order to evaluate the importance of these issues in the overall assessment of the proposed rule, we recalculate the costs and benefits of Option 2 using FMCSA's general approach and central-case assumptions, but we adjust key variables to correct for some of the errors and unreasonable assumptions made by FMCSA.[90] First, we summarize the impact of each of seven adjustments in isolation. We then combine all the adjustments.

1) We assume that the average use of the 11th driving hour by drivers who exceed 10.0 hours is 0.5 hours, rather than one full hour as assumed by FMCSA. Similarly, we assume that the average use of the 14th work hour is 0.5 hours.[91]

   → Reduces the apparent net benefits of Option 2 by $80 million per year.

2) We assume that tours in which driving or work times are currently non-compliant (about 4 percent of tours according to the 2005 Field Survey) would be unaffected by the proposed rule.[92]

   → Reduces the apparent net benefits of Option 2 by $110 million per year.

3) We use a fatigue-risk rate of 7 percent. This rate was applied by FMCSA in the previous RIA and is more consistent with recent trends in fatigue-related crashes and other available data than FMCSA's figure of 13 percent, which is based on a misuse of the "associated factors" tracked by the LTCCS.

   → Reduces the apparent net benefits of Option 2 by $330 million per year.

4) We calculate benefits from reducing weekly work time using the relationship that FMCSA identified from the actual data, rather than FMCSA's approach of inflating partial lost work hours to full lost work hours.

   → Reduces the apparent net benefits of Option 2 by $70 million per year.

5) We calculate total annual crash costs using 2009 data for the number of large-truck crashes—286,000—rather than FMCSA's figure of 434,000 from early in the last decade.

   → Reduces the apparent benefits of Option 2 by $250 million per year.

6) We apply a "crash cost per hour of work" to calculate benefits associated with eliminating the 14th work hour, rather than FMCSA's "crash cost per hour of driving."

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[90] As noted above, due a lack of adequate documentation in the RIA regarding the calculations associated with Options 3 and 4, we were unable to replicate all of the components of FMCSA's analysis. We therefore analyze these issues only with respect to Option 2.

[91] In this scenario, we assume the lost hours due to the restart provision are one-half of the values chosen by FMCSA—i.e., 0.35 hours per week for drivers in the Very High category and 2.44 hours per week for drivers in the Extreme category.

[92] In this scenario, we assume the lost hours due to the restart provision are equal to the values chosen by FMCSA multiplied by the ratio of compliant tours in excess of 13 hours relative to all tours in excess of 13 hours—i.e., 0.36 hours per week for drivers in the Very High category and 2.52 hours per week for drivers in the Extreme category.

→ Reduces the apparent benefits of Option 2 by $120 million per year.

7) We exclude health-related benefits from the analysis, due to FMCSA's lack of support for its claim that small changes in sleep time within the "normal" range would have an adverse effect of drivers' health.

→ Reduces the apparent benefits of Option 2 by $690 million per year.

Note, the impacts of these individual corrections are not additive; when more than one is implemented at the same time, the effect of each correction on the net benefits of the proposed rule is reduced.

When all of these corrections are applied together, we calculate a net *cost* associated with Option 2 of $320 million per year.[93] That is, we find that FMCSA has overstated the net benefits of the proposed rule by about $700 million annually and that the proposed rule would impose a net cost on society, rather than a net benefit as claimed by FMCSA. If health-related benefits are included in the model as calculated by FMCSA, while making the first six corrections described above, we calculate that the proposed rule would still result in a net cost to society of $20 million annually—i.e., FMCSA has overstated the net benefits of the proposed rule by $400 million per year. Table 4 summarizes these results.

Table 4
Annualized Costs and Benefits for HOS Option 2
FMCSA Central-Case Assumptions vs. Edgeworth Adjustments
(million 2008$)

	Costs		*Benefits*			*Net Benefits*	*Change from RIA*
Scenario	*Lost Productivity*	*Compliance*	*Safety - Reduced Driving Time*	*Safety - Reduced Work Time*	*Improved Driver Health*		
FMCSA Assumptions	$990	$40	$180	$540	$690	**$380**	
All Edgeworth Adjustments							
Excluding Health Benefits	$360	$40	$30	$50	$0	**-$320**	***-$700***
Including Health Benefits	$360	$40	$30	$50	$300	**-$20**	***-$400***

Source: Edgeworth calculations, based on assumptions described here and information provided in the RIA.

In addition to these problems with FMCSA's assumptions and methods for which we were able to provide specific calculations of adjusted net benefits, we identified several other problems with FMCSA's approach for which adequate data were not available to calculate exact corrections. These include:

1) FMCSA's failure to consider potential differences between carriers that were sampled in the field surveys and the broader industry.

2) FMCSA's failure to consider logistical issues in its replacement of lost driving time.

3) FMCSA's unfounded assumption that drivers in the Moderate and High categories would not be affected at all by the proposed restart provision.

[93] In this scenario, we assume the lost hours due to the restart provision are equal to the values chosen by FMCSA multiplied by the ratio of compliant tours in excess of 13 hours relative to all tours in excess of 13 hours, then multiplied again by one-half—i.e., 0.18 hours per week for drivers in the Very High category and 1.26 hours per week for drivers in the Extreme category.

4) FMCSA's reliance on data collected during prior HOS regimes to determine fatigue risk.

5) FMCSA's failure to account for the fact that, when holding other factors constant, a reduction in weekly work hours would reduce the risk of fatigue from driving extended hours, and vice versa.

6) FMCSA's failure to evaluate drivers' actual change in sleep habits in response to changes in work time.

Appropriate consideration of these factors would lead to further reductions in the calculated net benefits of the proposed rule.

Mr. JORDAN. This report highlights the inventive methodologies and improbable assumptions DOT uses to increase the apparent net benefits of the rule. When real-world assumptions are used, this study finds that the rule will impose a net cost to society. I also want to emphasize that there is a strong bipartisan agreement on the need to ensure and improve highway safety; however, it is my sincere belief that the regulation as currently proposed could actually have a negative impact on safety.

The purpose of today's hearing is to bring transparency to the rulemaking process so that we understand the full consequences of Federal regulation before it becomes law. And with that, I now yield to the distinguished member from Ohio, Mr. Kucinich.

Mr. KUCINICH. Mr. Chairman, thank you very much for holding this hearing and for the opportunity to make this presentation. This question is being framed around how much the proposed rule, which limits the number of hours commercial truck drivers can be on the road, could cost consumers. But I would respectfully submit there are far more appropriate questions: whether this proposed rule will help ensure that all of our loved ones will be safe and able to enjoy each other's company, which the proposed rule, that is what it's all about, is saving lives.

Truck driver fatigue is a serious safety problem that threatens everyone who gets on a highway every day. Each year on average 4,000 people are needlessly killed and 100,000 are injured, 100,000 are injured in truck crashes. Evidence suggests that truck driver fatigue is a major factor in these crashes.

Under the Hours of Service rule currently in effect, truck drivers can drive more than 77 hours a week. Think about that. You know, we're all used to thinking about a 40-hour week. When Congress is in session we probably put in an 80-hour week, some of us at least, I would say, and you get tired. But if you're driving a truck with all of that machinery and mass in motion, there are consequences when fatigue sets in. There's a human dimension here that cannot be ignored, and under the amounts of driving currently allowed, 65 percent of drivers reported that they often or sometimes felt drowsy while driving; 48 percent say they've fallen asleep while driving the previous year.

I will say this again. You know, some of us here have been in legislatures, some of us had to drive a great distance to legislatures. When you're on a schedule and the legislature is in session, you know, if you have a long drive you can get drowsy. It's happened to me, it's happened to all of us. It happens. And we have to realize that truck drivers are not immune from this. You get the combination of these tired truckers driving loads of 80,000 pounds; it can make a lethal weapon that we don't want alongside our families driving on highways.

There are brave people in the audience today who came to support stricter standards for truck drivers because they've been unfortunate to have felt firsthand the devastating effects of truck driver fatigue.

Now, Ed Slattery is here with his son Peter, and they've submitted a statement for the record, Mr. Chairman, which I would like—but I want to read from parts of his statement so that members of this subcommittee and others will know the real costs of

truck crashes involving tired truckers. And so, you know, without objection, I would like to submit his entire statement for the record.

Mr. JORDAN. So ordered.

[The information follows:]

Statement of Ed Slattery
Submitted to the Committee on House Oversight and Government Reform
Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending
Hearing on "The Price of Uncertainty: How Much Could DOT's Proposed Billion Dollar Service Rule Cost Consumers?"

November 30, 2011

Good morning, Mr. Chairman and Members of the Subcommittee. My name is Ed Slattery and I am here today with my son, Matthew, age 14. I am submitting a statement for the record about an important public health and safety issue affecting everyone on our roads and highways – truck driver fatigue. I traveled with Matthew to today's hearing of the Committee on Oversight and Government Reform Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending because of my deep concern about the growing political pressure by the trucking industry to stop the progress on the truck driver Hours of Service (HOS) Rule and misleading information trucking interests are circulating about the costs and burdens of revisions to this rule. Since I was not invited to testify, I am submitting this statement so that Members of this Subcommittee and others will know the "real" costs of truck crashes involving tired truckers.

The Department of Transportation was required by the U.S. Court of Appeals to issue a new HOS rule. It has taken two law suits by safety groups, victims/survivors and labor organizations and the threat of a third - a total of eight years - to get to this point. Opponents are trying to halt efforts to make commonsense and necessary revisions to the current HOS rule that has the potential to save lives, save taxpayer money and create jobs. Trucking interests are relentlessly pressuring Congress and the White House to keep the current 11 consecutive hours a day rule and the 34-hour restart rule which has resulted in significant increases in the allowable driving and working hours of truck drivers. What happened to my family is clear and compelling proof of why the current rule must be changed and the real costs of fatigue in the trucking industry.

It was a beautiful, clear day on August 16, 2010, when my family's lives were changed forever. My wife, Susan, and our two sons, Peter and Matthew, were returning home from a big family reunion in Rocky River, Ohio, the home of Susan's parents, George and Ginger Palmer. Susan grew up in Cleveland and all of her family still lives in Ohio. In fact, I have six nieces and nephews currently attending Ohio State. Susan and our boys were on the same route that we take every year, and I would have been with them but I wasn't able to travel because I was recovering from shoulder surgery.

As they neared the 190-mile marker on the Ohio Turnpike in Streetsboro at around 11:45 a.m., a truck driver behind the wheel of a triple trailer truck had fallen asleep and crashed into the back of our car. In an instant I lost my wife, and Peter and Matthew

were in emergency surgery. Following the impact with our car, the truck went on to hit two other semis and four more passenger vehicles before stopping in the divider and bursting into flames.

The weeks following the crash were spent juggling surgeries for both boys, meeting with doctors, lawyers and funeral directors, all while ensuring that someone was always at Peter's and Matthew's side. For some time, I spent each day wondering if Matthew would make it to the next. After about a month, the boys were stable enough to return to Baltimore where we began the journey dealing with the long term effects of the crash including the loss of my wife Susan.

Peter, who suffered a broken pelvis and a facial fracture, was conscious and being moved to a helicopter when he overheard the paramedics pronounce his mom dead. He will recover physically, but the long term psychological effects are yet to be determined. Matthew, who was in a coma from massive head trauma, continues to make progress every day but is permanently disabled and requires round-the-clock care. Our lives will never be the same.

Since our crash, I've learned that truck driver fatigue is an industry-wide health crisis. In a recent survey 65% of truckers report that they are often or sometimes drowsy and 48% admit that they have actually fallen asleep while driving during the previous year.

Studies show that truck crash risk increases exponentially after 8 consecutive hours of driving and the highest level of crash risk occurs during both the 10th and 11th hours of consecutive driving. Decreasing truck driver's HOS by one hour would limit the time they are on the road during this period of highest crash risk.

The truck driver HOS rule must be based on scientific studies, not the financial desires of the trucking industry. While the trucking industry may claim that reducing the HOS to 10 consecutive hours would negatively impact their bottom line, I want to point out that it would produce more than $2 billion a year in crash, injury and health cost savings. My family's crash alone cost millions and health care costs for the rest of Matthew's life are estimated at beyond $18 million.

Our lives will never be the same but I can work to reduce truck driver fatigue so that another family will not have to suffer the tremendous loss that my family lives with every single day. If adopted, the proposed rule will save lives, improve driver health, and reduce costs to society. I urge this Subcommittee not to impede the progress the Department of Transportation has made to improve the HOS rule and to protect the safety and well being of our families.

Thank you.

Ed Slattery, Cockeysville, Maryland
edslattery@hotmail.com

Mr. KUCINICH. But I want to quote from something. It's a compelling testimony. Mr. Slattery, thank you and your son for being here.

"It was a beautiful, clear day on August 16, 2010, when my family's lives were changed forever. My wife Susan and our two sons, Peter and Matthew, were returning home from a big family reunion in Rocky River, Ohio, which happens to be in my district. That was the home of Susan's parents, George and Ginger Palmer. Susan grew up in Cleveland, and all of her family still lives in Ohio."

Mr. Slattery writes, "I would have been with them, but I wasn't able to travel because I was recovering from shoulder surgery. As they neared the 190-mile marker on the Ohio Turnpike in Streetsboro at around 11:45 a.m., a truck driver behind the wheel of a triple trailer truck had fallen asleep and crashed into the back of our car."

Mr. Slattery writes, "In an instant I lost my wife, and Peter and Matthew were in emergency surgery. Following the impact with our car, the truck went on to hit two other semis and four more passenger vehicles before stopping at a divider and bursting into flames. The weeks following the crash were spent juggling surgeries for both boys, meeting with doctors, lawyers, and funeral directors, all while ensuring that someone was always at Peter and Matthew's side. For some time, I spent each day wondering if Matthew would make it to the next.

After about a month, the boys were stable enough to return to Baltimore where we began a journey dealing with the long-term effects of a crash, including the loss of my wife Susan. Peter, who was suffering a broken pelvis and facial fracture, was conscious and being moved to a helicopter when he overheard the paramedics pronounce his mother dead. He will recover physically, but the long-term psychological effects are yet to be determined. Matthew, who is in a coma from massive head trauma, continues to make progress every day but is permanently disabled and requires around-the-clock care. Our lives will never be the same, but I can work to reduce truck driver fatigue so that another family will not have to suffer the tremendous loss that my family lives with every single day. If adopted, a proposed rule will save lives, improve driver health, reduce costs to society. I urge this subcommittee not to impede the progress the Department of Transportation has made to improve the HOS rule and protect the safety and well-being of our families."

Mr. Slattery and Peter, who are here, I just want you to know that we are going to be very sensitive to the concerns that are expressed here, and we thank you very much for attending this hearing so that you can listen to the testimony.

Thank you very much. Thank you, Mr. Chairman.

Mr. JORDAN. Let me thank the ranking member for his statement.

[The information follows:]

Opening Statement of Rep. Dennis J. Kucinich
Ranking Member, Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending
Hearing on: "The Price of Uncertainty: How Much Could DOT's Proposed Billion Dollar Service Rule Cost Consumers this Holiday Season?"
November 30, 2011

Good morning, and welcome to all the witnesses who are here today to testify about the Department of Transportation, Federal Motor Carrier Safety Administration's proposed Hours of Service rule for commercial truck drivers.

The majority has framed the question of this hearing around how much the proposed rule – which limits the number of hours commercial truck drivers can be on the road – could "cost consumers this holiday season." But I think a far more appropriate question is whether this proposed rule will help ensure that all of our loved ones will be safe and able to enjoy each other's company this holiday season. That is what this proposed rule on the hours of truck drivers is all about – saving lives.

Truck driver fatigue is a serious safety problem that threatens everyone who gets on the highway, every day. Each year on average, 4,000 people are needlessly killed and 100,000 more are injured in truck crashes. Evidence suggests that truck driver fatigue is a major factor in these crashes.

Under the hours of service rule currently in effect, truck drivers can drive more than 77 hours a week. Under the amounts of driving currently allowed, 65% of drivers reported that they often or sometimes felt drowsy while driving and 48% said they had fallen asleep while driving in the previous year. The combination of tired truckers driving loads up to 80,000 lbs. can make a lethal weapon we do not want alongside families driving on highways.

There are several brave people here in the audience today who have come to support stricter standards for truck drivers because they have been unfortunate to have felt first-hand the devastating effects of truck driver fatigue.

I'd like to recognize Ed Slattery and his son Mathew, who are here today and have submitted a statement for the record, so that, as Mr. Slattery explains "Members of this Subcommittee and others will know the "real" costs of truck crashes involving tired truckers." I'd like to read an excerpt from his statement and ask unanimous consent that it be entered into the record.

> It was a beautiful, clear day on August 16, 2010, when my family's lives were changed forever. My wife, Susan, and our two sons, Peter and Matthew, were returning home from a big family reunion in Rocky River, Ohio, the home of

Susan's parents, George and Ginger Palmer. Susan grew up in Cleveland and all of her family still lives in Ohio.... I would have been with them but I wasn't able to travel because I was recovering from shoulder surgery.

As they neared the 190-mile marker on the Ohio Turnpike in Streetsboro at around 11:45 a.m., a truck driver behind the wheel of a triple trailer truck had fallen asleep and crashed into the back of our car. In an instant I lost my wife, and Peter and Matthew were in emergency surgery. Following the impact with our car, the truck went on to hit two other semis and four more passenger vehicles before stopping in the divider and bursting into flames.

The weeks following the crash were spent juggling surgeries for both boys, meeting with doctors, lawyers and funeral directors, all while ensuring that someone was always at Peter's and Matthew's side. For some time, I spent each day wondering if Matthew would make it to the next. After about a month, the boys were stable enough to return to Baltimore where we began the journey dealing with the long term effects of the crash including the loss of my wife Susan.

Peter, who suffered a broken pelvis and a facial fracture, was conscious and being moved to a helicopter when he overheard the paramedics pronounce his mom dead. He will recover physically, but the long term psychological effects are yet to be determined. Matthew, who was in a coma from massive head trauma, continues to make progress every day but is permanently disabled and requires round-the-clock care.....

Our lives will never be the same but I can work to reduce truck driver fatigue so that another family will not have to suffer the tremendous loss that my family lives with every single day. If adopted, the proposed rule will save lives, improve driver health, and reduce costs to society. I urge this Subcommittee not to impede the progress the Department of Transportation has made to improve the HOS rule and to protect the safety and well being of our families.

So while we debate the marginal costs and benefits of the proposed rule today, I ask that all members keep in mind the story of the Slattery's, and remind ourselves that we have a responsibility to do what we can to stop avoidable accidents. I share the majority's goal of promoting the healthy businesses in this country and protecting consumer interests. But Congress has mandated that we need to put the safety of people out on the road first. I applaud the Federal Motor Carrier Safety Administration for finally taking small but meaningful steps in this direction.

Mr. JORDAN. Let me also express on behalf of the chair and the entire committee our sympathies to the Slattery family and to your son Peter and the loss you have suffered. Obviously, we are all concerned about safety and we just want to make sure that whatever rule is put forward does, in fact, protect people as best we can, but also takes into account the economic concerns that I think are valid as well, so I appreciate that from our ranking member.

Does the gentlelady from New York wish to make an opening statement?

Ms. BUERKLE. No, thank you, I yield back.

Mr. JORDAN. We'll get right—does the gentleman, the doctor from Tennessee have anything?

Mr. DESJARLAIS. No.

Mr. JORDAN. Okay. We'll get right to our witnesses, and let me introduce, first we have Mr. Ed Nagle is president and CEO of Nagle Companies in Walbridge, Ohio, and has been involved in the trucking industry for over 30 years.

We also have Mr. Glen Keysaw, who is the executive director of transportation and logistics for the Associated Food Stores Company.

Mr. Robb MacKie is President and CEO of the American Bakers Association and has served on the food industry coalition for Hours of Service regulation, so worked directly with the issue in front of us.

We have Mr. Frank Miller, director of logistics at Badcock & More, a home furniture company headquartered in Mulberry, Florida, and has worked on transportation issues for over 20 years.

We have with us also Mr. Henry Jasny, he was vice president and general counsel for Advocates for Highway and Auto Safety.

And Dr. Jesse David, who is an economist and senior vice president at Edgeworth Economics with 15 years of experience in regulatory policy evaluations.

Pursuant to the rules of the committee, all witnesses are sworn in, so if you will just please stand and raise your right hands.

Do you solemnly swear or affirm that the testimony you are about to give will be the truth, the whole truth, and nothing but the truth, and if you do, just nod in the affirmative. Let the record show that everyone answered in the affirmative.

STATEMENTS OF ED NAGLE III, PRESIDENT AND CEO, NAGLE COMPANIES; GLEN KEYSAW, EXECUTIVE DIRECTOR OF TRANSPORTATION/LOGISTICS, ASSOCIATED FOOD STORES, INC., ROBB MACKIE, PRESIDENT AND CEO, AMERICAN BAKERS ASSOCIATION; FRANK MILLER, DIRECTOR OF LOGISTICS, BADCOCK & MORE; HENRY JASNY, VICE PRESIDENT AND GENERAL COUNSEL, ADVOCATE FOR HIGHWAY AND AUTO SAFETY; AND JESSE DAVID, PH.D., SENIOR VICE PRESIDENT, EDGEWORTH ECONOMICS

Mr. JORDAN. And we're going to start with Mr. Nagle, and then we'll just move down the line. You guys know the rules, you get 5 minutes, and stay as close to that as you can, and then we'll get to our questions once we've heard from all six of you. Mr. Nagle.

STATEMENT OF ED NAGLE III

Mr. NAGLE. Good morning, Mr. Chairman and members of the subcommittee. In addition to being employed in the trucking industry over 30 years, I grew up in it, as my late grandfather began driving after World War II and then ran several trucking companies, including his own until retirement. Our company, we service most of the top ten food manufacturers as well as the largest food distributors in the United States.

There are two elements of this proposed Hours of Service reform that will critically affect the industry: the reduction in the allowable driving hours from 11 to 10 and combined with the 34-hour restart provision that requires two consecutive midnight to 6 a.m. off duty periods. For our company, this effectively reduces our ability to generate revenue by 17 percent, as in our operation our drivers would be limited to working 50 hours a week from the current 60. Our cost of operations is a fixed cost of $75 an hour with our equipment. Changing it to this proposed 50 hours, our fixed cost now becomes $90 an hour with nothing more than the stroke of a pen.

FMCSA states that "we note that the proposed rule," so on and so forth, without significantly compromising the driver's ability to do their jobs and earn a living. And I need to ask Secretary LaHood what his definition of "significant" is. Basically they're admitting that a driver's ability to perform his duties and earn an income will be compromised. Our truck payments, our drivers' wages, our insurance costs and all the associated costs of business don't go down just because our ability to produce revenue has been restricted.

The current proposal is effectively influenced by the Teamster Union LTL daytime-only drivers. That represents 10 percent of the entire industry workforce, and by placing great emphasis on the studies that are essentially based on an irrelevant percentage of the entire trucking industry is a smokescreen. It is an illusion that was being proposed will be a one-fit-for-all panacea of solutions for an industry that is safer today than at any time in recorded history.

In order for our company just to break even with all the proposed constraints, we would need to raise our rates about 20 percent. That will have a serious hyperinflationary consequence on our economy, and households will be suffering the most.

Since 2003 there have really been no prior—excuse me, since 1938 there have been no substantive changes in the Hours of Service. Since 2003 this will be the fifth proposed change. What has occurred in our industry over the last 8 years requiring so many legislative actions? Sadly, those of us who eat, sleep, breathe, and live transportation feel that politics is becoming the pulse of our industry and not pragmatic supply-chain solutions. Since 2003 there's been a 33 percent drop in truck-related fatalities as well as a 40 percent drop in truck-related injuries; not only a percentage basis, but on a per million-mile-basis has been significantly reduced.

Our company is an irregular route carrier, meaning that we have no predictability in our scheduled freight. Drivers encounter events every day that are unplanned and totally out of their control. We have lost a very important provision starting in 2003 and elimi-

nated in its entirety in 2005, which is the split-sleeper berth provision. That was one fundamental log book provision that gave our drivers the flexibility to comply with Hours of Service in the areas in which they get involved in unpredictable and out-of-control situations. The receivers will not let us drop, you know, our equipment, stay there for 10 hours, and we're being forced at times to run illegally because we're out of hours until we get to a safe haven.

As an industry, we are asking that even though FMCSA acknowledges the lack of available rest areas, provide us the opportunity and the drivers to remain legal with the flexibility of finding a place that can accommodate them comfortably.

So in summary, please keep the 11-hour driving rule, maintain the current 34-hour restart provision that would not include two consecutive midnight to 6 a.m. off duty, and if we can continue to get that sleeper berth provision, that would be a tremendous benefit to the industry.

Thank you very much, and best wishes to you and your families for the holiday season.

Mr. JORDAN. Thank you, Mr. Nagle.

[Prepared statement of Mr. Nagle follows:]

My name is Ed Nagle, President and CEO of our small second generation family owned temperature-controlled trucking company outside of Toledo Ohio. I have been employed in the trucking industry over 33 years and grew up in trucking as my late grandfather drove immediately following World War II, who then ran several trucking companies, including his own until retirement. For more than 30 years we have been servicing most of the 10 largest food manufacturers: Kraft, Nestle, Sara Lee, Campbell Soup, Heinz, Unilever, Del Monte, Dole, along with two of the largest foodservice distributors; Sysco and U.S. Foods.

There are two elements of FMCSA's proposed HOS changes that will critically affect the industry: They are a reduction in allowable driving hours from 11 hours a day to 10 hours a day, combined with a dramatically revise restart provision requiring two consecutive midnight to 6am off-duty periods. For our company, this effectively reduces our ability to generate revenue by 17 percent as drivers would be limited to working 50 hours a week from the current 60. For every truck, we need to generate $4,500.00 per week plus fuel to meet fixed overhead. The cost per truck is $75.00 per hour currently. With the proposed change to 50 hours a week, the $4,500.00 per week stays the same, but now our fixed cost becomes $90.00 per hour with nothing more than the stroke of a pen.

FMCSA states, *"We note as well, that the proposed rule...without* ***significantly compromising*** *drivers' ability to do their jobs and earn a living".* May I ask what Secretary LaHood's definition of significant is? This one statement alone admits that driver's ability to perform their duties and earn a living will be compromised. A driver needs to earn $50,000 plus a year whether he is working 60 hours or 50 hours per week. Our truck payments, building payments, office payroll, license plates, insurance and a host of other costs don't go down just because we are further restricted in our ability to produce revenue.

Horribly egregious is the requirement of the proposed HOS changes mandating two consecutive midnight to 6am off-duty periods if the restart is used. With very little predictability in what drivers encounter every day, they are rarely assured of being home by midnight. The consequence of this would have the drivers waiting up to 54 hours before they could return to driving. Many drivers would get stuck away from home during these periods and, as will be discussed later, more than likely at a location that has no services, comforts, restrooms, or hot prepared meals. Not only will this destroy many families, but it will have severe consequences on a driver's physical and mental health.

Additionally, many drivers will refuse work toward the end of their week fearing a possibility of returning home Friday after midnight where he would be penalized and lose an additional day of work as a result of the restart period. Not only does this further erode our ability to generate revenue (increasing that fixed cost per hour even more), but it will reduce the drivers wages and put substantially greater pressure on an industry already suffering from a shortage of qualified and motivated workforce.

This current proposal is predominantly influenced by Teamster union LTL daytime-only drivers that represent less than 10 percent of the industry. Placing such great emphasis on statistics and studies based on an irrelevant percentage of the entire trucking industry is a smokescreen. It is an illusion that what is being proposed will be the one-fit-for-all, the panacea of solutions for an industry that is safer than at any time in recorded history. In order for our company just to break even with the proposed constraints, we would need to raise the rates we charge shippers 20 percent , which in turn will have serious hyper-inflationary consequences on our economy with households suffering the most.

This approach towards an entire industry completely flies in the face of reason when attempting to improve efficiencies and reduce costs. It is going absolutely in the wrong direction. There is a saying in the trucking industry, "If you got it, a truck brought it." Everything that you see here today, what you have at home, what you are wearing, what you have to eat, the fuel for your vehicle, the gifts you will be giving friends and family this holiday season were on a truck, in some form probably several times before you acquired it. When you consider we are competing in a global economy, you cannot increase the cost of doing business, unjustifiably so if the United States is going to survive and thrive in today's world.

The cost/benefit of this proposal is skewed in the wrong direction. Prior to 2003, there had been no substantive changes in the HOS since 1938. Since 2003, this will be the fifth proposed change (2003, 2005, 2007 [interim final rule], 2008, and now the current proposal. What has changed so drastically in the last 8 years that is requiring consistently changing regulations? Sadly, those of us who eat, sleep, bleed, and live transportation and logistics feel that politics is becoming the pulse of our industry and not pragmatic supply chain solutions.

Since 2003 there has been a 33% reduction in truck involved fatalities and a 40% drop in truck-related injuries. We are the safest with the lowest number of accidents in recorded history. However, without ANY basis in fact, Secretary LaHood is *"cautious about inferring causal relationships between the HOS requirements and trends in improved motor carrier safety."* That would be no different than saying "I would be cautious of any causal relationship between how drunk a person may become and how much liquor they have just consumed." I hope you can depict how ridiculous both of those statements are.

Reliable sources indicate that fatigue is responsible for between 1.5% and 7.5% of all truck crashes. When you take into consideration that approximately 70% truck involved fatal crashes and at least half of all truck-involved crash are initiated or caused by drivers of the other vehicles, this type of regulation is expensive overkill aimed at a relatively small cause of truck crashes. Further, the *"Trucks in Fatal Accidents"* database shows that a large majority of truck crashes occur in the first few hours of driving, not the last.

FMCSA and Congress have been presented with information that demonstrates the proposed HOS changes are not needed, are overly burdensome, and extremely costly. These points have been made without addressing the issue of reduced industry capacity by a minimum of 10%. There is a serious driver shortage that over the next ten years (attrition alone), will be disastrous for the physical distribution component of the supply chain. Reducing that further with this HOS proposal the dynamics of supply-and-demand on pricing will increase costs greatly to manufacturers, distributors, and ultimately the consumer.

We are an irregular route carrier suggesting every day is different and we have no predictable scheduled freight. We represent the majority of the types of carriers that operate today. There are more than 500,000 trucking companies, 95% of which are small businesses operating less than 20 trucks. We do not have the luxury of knowing what each day may bring beforehand. As such, in order for us to operate effectively and efficiently, we need some additional flexibility in an area we had before – the split sleeper berth provision.

In addition to proposing a reduction in number of hours a driver may work, the extremely important split sleeper-berth provision has been eroded away. First defined and limited in 2003, then eliminated entirely in 2005. Honorable friends, in the last 8 years, we have lost the one fundamental and vital log book provision that provided the drivers the flexibility to comply with the HOS rules in situations that are both unpredictable and out of their control. We service the East Coast and frequently get detained past the point of a driver's available on-duty time available. Those receivers will not let our driver shut down on their property for the required 10 hour break thus forcing them to retreat to a safe haven, typically requiring our employees to run illegally for a period of time in and around the big cities till they can find a place that will accommodate them. If we are involved in a not-at-fault accident, we WILL get sued, and we WILL LOSE in court as they can prove if the driver were not there illegally, the accident would not have occurred.

Currently, and for all practical purposes, our drivers are required to take 10 straight hours off duty, which includes the sleeper. Forcing a driver to remain in a space basically the area between the bottom bunk bed and the top bunk is both inhumane and cruel. If we did that to our own children we would have charges filed against us for abuse and the children sent to foster care through Children's Protective Services. However, the Department of Transportation has seen it in their power to require us to do that to our fellow human beings.

Per FMCSA, *"Drivers also raised several issues that affect them, but are outside of FMCSA's statutory authority. The numbers of available areas where truck drivers can safely stop and rest, although never adequate, has been reduced in the last few years as some States have closed rest areas for budgetary reasons. Drivers stated that the lack of rest areas make it difficult for them to find a place to take their 10-hour off-duty period."* Additionally, *"FMCSA acknowledges these complaints; but as explained in previous HOS rulemakings, the Agency does not have the statutory authority to address these issues."*

As an industry, we are asking that while FMCSA acknowledges the lack of available rest areas, to provide us with a rule that gives drivers the ability to remain legal with the flexibility of finding a place that can comfortably provide them the opportunity to get the much needed rest that they require so that we may continue to improve upon our stellar safety record. Returning the split sleeper berth allowance of "6 and 4" for single drivers and "5 and 5" for teams is a huge step in that direction. This does NOT permit additional on-duty or driving hours, just enough flexibility for a driver to do their job in an ever-changing work environment. It does not force a driver to sleep less; in fact it will allow them to get better rest.

Since deregulation in 1980, supply chain efficiency gains have been on the backs of trucking companies. There is essentially no inventory carried. Almost everything is "Just-In-Time" to the extreme. This occurs not just for low inventory carrying costs, but consumers are extremely fickle. The newest "must have" fashions and the hottest toys only stay "must have" for very short periods so it does not make sense to build and carry that inventory. FMCSA's proposal destroys entire distribution networks that have consistently been improving for years. And, FMCSA's proposal will have little or no safety and health-related benefits.

I am honestly humbled to address one of the most powerful bodies in the world to testify on behalf of an industry that I love deeply to the core of my existence. In summary, please do not allow FMCSA to change the 11 hour driving rule. Secondly, FMCSA must maintain the current 34 hour restart provision that would NOT require two consecutive midnight to 6am off-duty periods since the Agency does not have sufficient research to make such a change, nor does FMCSA understand the cost, safety and operational implications of such a change. And, lastly, FMCSA must return the split sleeper-berth provision to facilitate better driver rest. These three elements will allow us to continue to improve our safety record, and improve on cost and service efficiencies in supply chains that will make American goods and products more competitive globally. Adopting the HOS proposal as presented will have a completely opposite effect.

Thank you once again and best wishes are extended to you and your families for the holiday season.

Mr. JORDAN. Mr. Keysaw.

STATEMENT OF GLEN KEYSAW

Mr. KEYSAW. Mr. Chairman and members of the subcommittee, my name is Glen Keysaw. I'm the director of transportation and logistics for Associated Food Stores based in Salt Lake City, Utah. Associated is a retail cooperative founded in 1940. We're a privately held company that provides grocery products and services to about 500 independently owned retail supermarkets in eight Western States from three warehouse distribution centers.

Thank you for inviting me today, today's hearing on pending Hours of Service rules. My testimony is presented on behalf of Associated Food Stores and the Food Marketing Institute, which represents retail supermarkets and food wholesalers throughout the United States. I plan to summarize and ask that my entire written testimony and attachments be made a part of the record.

Mr. Chairman, Associated Foods strongly supports the current Hours of Service regulations. We do not support the new Hours of Service rules that are being proposed by the Department of Transportation for the following important reasons: Pending Hours of Service rules will not be good for the grocery store industry as they will not be good for my company, and, in particular, our truck drivers.

The proposed Hours of Service rules will also negatively impact consumers who shop for groceries in our stores. If DOT decides to finalize this rulemaking, it will adversely affect my company in terms of costs. I've done a quick economic estimate on the proposed rules to our Farr West warehouse. Under the HOS proposal, if we're to maintain the same level of service to our retail accounts from our Ogden facility, we will need to make a capital investment of $1.7 million for new equipment, namely tractors and trailers. A new tractor with a sleeper costs about $116,000 and the trailer costs about $75,000. We will incur increased costs, such as salaries and benefits for additional drivers, totaling more than $200,000 annually. In this regard, I'm very worried from a strict safety perspective that we won't have enough qualified drivers available to fill our future needs under the new HOS rules.

I should mention that since the inception of the current HOS rules, Associated truck fleet has traveled 52 million miles. During this time we have had eight preventible DOT reportable accidents. This translates to 1.5 accidents per million miles compared to the national average of 0.7 accidents per million miles. In addition, Associated has not had a single inspection resulting in our equipment or drivers being put out of service. We are proud of our safety record and don't want to see any changes that might negatively impact it.

My company will also incur additional fuel and maintenance costs for newly acquired equipment over $100,000 along with expenditures for insurance and miscellaneous fixed costs. As such, the total costs of the rulemaking for our Ogden warehouse will be well over $2 million. For an industry that operates on a profit margin of 1 percent, any new costs resulting from the Hours of Service proposal will be felt immediately.

Earlier I mentioned that the DOT rulemaking won't be good for our truck drivers. With its reduced drive time, the rules will mean more layovers for them. My company is proud of the fact that over 65 percent of our drivers are able to go home and be with their families after they complete their shift, but this won't be the case under the Hours of Service proposal. This means our drivers' quality of life will suffer.

I have a letter from one of our drivers who traditionally does a route from the Farr West warehouse to stores in Twin Falls, Idaho, that I would like to enter into the record. This run takes about 10 to 11 hours. The reason he likes this job and this route is that he gets to spend the night at home with his family, but under the new rules he will have to sleep in his truck 2 to 3 nights a week.

Consumers, unfortunately, will be paying more for groceries because our transportation costs will increase. The proposed rules will also mean increased transportation costs for all agriculture-related sectors, from farmers all the way to retail.

Sadly, consumers who live in rural areas will be hurt most in terms of how much they will be paying for their groceries because of this rulemaking. With the current economic recession, we can't afford any unnecessary and costly regulations such as the new Hours of Service proposal. Higher prices for groceries will be tough for families who are already struggling financially, especially the 14 million Americans who are unemployed, the millions of seniors living on fixed incomes, and for those who are dependent on domestic feeding programs such as WIC, whose benefits won't buy as much when food prices go up. It's difficult to project how much the proposed Hours of Service rules will ultimately cost consumers, but we know there will be increased costs that will unfortunately have to be passed along.

To conclude, we believe that current Hours of Service rules are working well, and we see no quantifiable reason to change them. The rules that are on the books are easily understood, they are promoting safety and compliance. Over the past 7 years since the current Hours of Service rules were put in place, fatalities and injuries involving large commercial vehicles are down by more than one-third. As a matter of fact, fatality and injury statistics are at their lowest levels, even though the number of miles driven is increasing. Our industry strongly supports the current Hours of Service framework, and it should be retained. Thanks for allowing me to participate.

Mr. JORDAN. Thank you, Mr. Keysaw.

[Prepared statement of Mr. Keysaw follows:]

INTRODUCTION

Mr. Chairman and Members of the House Oversight and Government Reform Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending, my name is Glen Keysaw, and I am Director of Transportation and Logistics for Associated Food Stores, Inc., based in Salt Lake City, Utah.

Associated is a retail cooperative founded in 1940. Associated proudly provides grocery products and services to over 500 independently owned retail supermarkets throughout eight western states from our three warehouse distribution centers.

I want to thank the Chairman for inviting me to today's hearing on the pending rules regarding Hours-of-Service (HOS). The pending rules are a result of a signed settlement agreement between the U. S. Department of Transportation (DOT), Public Citizen and the Teamsters. Under this agreement, DOT agreed to have the Federal Motor Carrier Safety Administration (FMCSA) publish new proposed rules which are likely to be finalized in the very near future. My testimony is presented on behalf of Associated Food Stores and the Food Marketing Institute (FMI), a national trade association which represents retail supermarkets and food wholesalers throughout the United States[1].

INDUSTRY CONCERNS OVER HOS RULEMAKING

[1] FMI is a national trade association that conducts programs in public affairs, food safety, research, education and industry relations on behalf of its 1,500 member companies – food retailers and wholesalers – in the United States and around the world. FMI's members in the United States operate approximately 26,000 retail food stores and 14,000 pharmacies. Their combined annual sales volume of $680 billion represents three-quarters of all retail food store sales in the United States. FMI's retail membership is composed of large multi-store chains, regional firms, and independent supermarkets.

Mr. Chairman, our industry is very concerned about the proposed Hours-of-Service rulemaking on a couple of fronts, but clearly the most troubling aspect is a reduction in the number of hours a driver can be on the road in spite of continued annual reductions in accidents and increases in miles traveled at the current 11 hour limit. Virtually every product found on grocery store shelves is delivered by commercial motor vehicles. This universe of products includes dry goods, fresh fruits and vegetables, dairy items, meats, poultry, seafood, bakery, personal care products, household cleaning items, prescription and over-the-counter medications, among others.

With most grocery stores open for business close to 365 days out the year, our challenge at Associated is to provide efficient, cost effective service to our retail customers so that their grocery store shelves remain fully stocked. Additionally, this industry operates on a razor thin margin, around 1% for the each of the past 60 years, so any increase in operating costs will have to be passed on to customers in the form of higher prices.

THE CURRENT HOS RULES ARE WORKING EXTREMELY WELL

In our view, the current Hours-Of-Service rules are working extremely well. These rules are easily straightforward and understood, promoting safety and compliance. Most importantly, during the seven years that the current HOS rules have been in place, fatalities and injuries involving large commercial vehicles have declined by more than one-third. This is a direct result of the current HOS rules along with improved equipment

on trucks, such as antilock brakes, better technology and improved driver training. Fatality and injury statistics are now at their lowest levels ever according to the Department of Transportation (DOT) while the number of miles driven has increased. Since the inception of the current HOS rules Associated has traveled 52 million miles. During this same time period we have had eight (8) preventable DOT recordable accidents. This translates to .15 accidents per million miles, compared to the national average of .47 accidents per million miles. In addition, Associated has not had a single inspection resulting in our equipment or driver being put Out of Service. Clearly, no change is warranted based on this data and instead; a change could negatively impact this impressive accident reduction trend.

PROPOSED HOS RULES WILL TRIGGER HIGHER FOOD PRICES

Mr. Chairman, if the Department of Transportation decides to finalize its proposed HOS rules, it will mean higher prices for food products and all other items sold in grocery stores. This is a given because the proposed changes will hurt productivity and efficiencies in our industry. The HOS proposed rules will not only impact grocery stores and warehouses, but all agriculturally related sectors including farmers, shippers, food manufacturers, and processors in terms of increased transportation costs.

I did a quick economic estimate on the impact the proposed rule would likely have on the operations of our Farr West Warehouse, located in Ogden, Utah. For starters, the rules

will reduce drive hours significantly, by over 100 hours per day, for our Farr West Warehouse truck fleet.

The proposed rules will also require more drivers and equipment for my company, which impacts us financially as the average cost of these trucks with trailers is $190,000, as well as from a safety standpoint. One of the reasons, accident rates are down is the training afforded to our drivers and the benefits offered to them. I am worried that there will not be enough *qualified* drivers to fill our future needs under the new regulations. Furthermore, the rules are too rigid in terms of when rest breaks must be taken, particularly as the rules make no distinction between short hauls versus long hauls, which are two very different types of trips.

Additionally, the HOS proposal will hurt our ability to turn the equipment for reuse as we currently do and allow our drivers to spend the majority of their week spending the night at home. I have a letter from one of our drivers who traditionally does a route from the Farr West warehouse to stores in the Twin Falls, ID area which takes approximately 10 to 11 hours that I would like to enter into the record. Forget the financial impact or the potential safety impact; there would also be a significant impact on a personal level for our drivers. The reason he likes this job and this route is that he gets to spend the night at home with his family, under the new rules he would have to sleep in the truck 2 to 3 nights a week. The proposal will extend current single layover trips into double layovers when delivering groceries to stores located in remote rural areas. At our Farr West Warehouse, we will need to make a capital investment of $1.7 million for new tractors

and trailers. A new truck cab with sleeping birth costs about $116,000 and a new trailer runs about $75,000. We will incur increased costs, such as salaries and benefits for additional drivers totaling more than $200,000. We will incur additional fuel and maintenance costs for newly acquired equipment of over $100,000. There will also be other expenditures relating to insurance, licensing fees and miscellaneous fixed costs. For an industry that operates on a net profit margin of one percent, any new costs resulting from the proposed HOS rules will be felt immediately.

CONSUMERS WILL BE PAYING MORE FOR GROCERIES

What will the proposed HOS rules potentially mean to our customers? In terms of our expected increased costs, my company estimates a 3% increase in freight to all of our grocery stores. We deliver many rural grocery stores that pay $3 to $6 on freight for every $100 spent on groceries. For those stores located closer to one of our distribution centers, they will pay about $1 more for every $100. The rural stores pay a higher cost to get groceries to them and would also pay a higher percentage of the increased cost of the proposed HOS rules. Please note our projections do not include USDA projections that the Consumer Price Index (CPI) for food-at-home is expected to increase some 3.5 to 4.5 percent during 2011.

With the current economic recession, we cannot afford an unnecessary and costly regulation such as the HOS proposal. Higher prices for groceries will be devastating to families who are already struggling financially, especially the 14 million Americans who are unemployed, the millions of seniors living on fixed incomes, and for those who depend on domestic feeding programs such as SNAP and WIC whose benefits will not buy as much when food prices go up. Almost all of our stores are authorized to participate in both the SNAP and WIC programs.

As you may know, in order to maintain our authorization, we have to maintain a certain amount of available stock of eligible products or a secret shopper will write the store up. Three of these errors and the store may lose its authorization for the program. In a rural area, this gives customers no options. This is already a challenge for perishable items, such as whole wheat bread in stores where distance and weather conditions often impact deliveries, but it will be compounded by an hour to make the delivery before a mandatory overnight stop.

Mr. Chairman, the proposed HOS rules will result in more trucks on our nation's roads, highways and interstates to maintain the same level of service to retail grocery stores. And these rules with their 34-hour restart provision will acutely affect our industry because many of our trucks do nighttime delivery to retail food stores. If we cannot make nighttime deliveries, this will mean sending our trucks out at peak driving times causing more congestion on our roads.

Reductions in deliveries to retail stores resulting from the HOS proposal will mean shortages of grocery items on store shelves, and in some cases, unavailability of products during the peak shopping days.

In summary, our industry strongly supports the current HOS regulations and they should be retained. Our industry, however, does not support the proposed new HOS rule, and we have formally asked DOT and its Federal Motor Carrier Safety Administration to withdraw it because we have not been shown any compelling research, data or any other reason to justify finalizing this proposed rulemaking.

Mr. Chairman, on behalf of Associated Food Stores and the Food Marketing Institute, thank for the opportunity to participate in this important hearing. I would be happy to answer your questions.

November 24, 2011

CONGRESS

Re: pending regulations at the Department of Transportation proposing a decrease in driving hours of service from 11 to 10 hours.

To whom it may concern;

My name is Ed Everhart. I have been driving truck for 20 years. My current employment for the past 10 years has been with Associated Foods in Farr West Utah. I have recently learned of the pending regulations at the Department of Transportation to change the allowed driving hours of service from an 11 hour duration to a 10 hour duration. I strongly disagree with this proposal and ask that the rules NOT pass.

This proposal, while I'm sure proposed in an effort to improve safety, will actually have the opposite effect for me and I'm certain for many others. The loss of 1 hour of drive time on my runs will affect more than half of the runs I have each week. They are tight on drive time anyway, but as it stands, I can make it safely back to the warehouse in time. However, if this new 10 hours of service is implemented, I would have to rush, risking safety, to make it back in time; or I would have to layover. This would cause me to lose out on important and critical family time, which I am sure you can appreciate is sparse for a truck driver anyway. The only other alternative, which is a strong possibility, would for my employer to shorten my routes, which of course would result in a detrimental wage decrease for me of at least $800.00 (or 13%) a month, which would not allow me to adequately provide for my family.

I'm sure these effects and concerns are shared by most if not all of my fellow drivers and we ask that the rules NOT pass.

Thank you for your consideration.

Sincerely,

Ed Everhart

March 4, 2011

Submitted Electronically

The Honorable Ray Lahood
Secretary of Transpiration
U.S. Department of Transportation
West Building
1200 New Jersey Avenue, SE
9th Floor
Washington, DC 20590

RE: Hours of Service of Drivers

Docket No. FMCSA-2004-19608

On December 29, 2010, the Federal Motor Carrier Safety Administration (FMCSA) published in the Federal Register for comment a proposed rule which would revise the regulations for hours of service (HOS) for drivers of property-carrying commercial motor vehicles (the "Proposed Rule).[1] The Proposed Rule changes the restart period and contemplates reducing maximum driving hours among other things.

The Food Marketing Institute (FMI) appreciates the opportunity to respond to the request of FMCSA for comments on the Proposed Rule.

FMI is the national trade association that conducts programs in public affairs, food safety, research, education and industry relations on behalf of its 1,500 member companies – food retailers and wholesalers – in the United States and around the world. FMI's members in the United States operate approximately 26,000 retail food stores and 14,000 pharmacies. Their combined annual sales volume of $680 billion represents three-quarters of all retail food store sales in the United States. FMI's retail membership is composed of large multi-store chains, regional firms, and independent supermarkets. Our international membership includes 200 companies from more than 50 countries. FMI's associate members include the supplier partners of its retail and wholesale members.

[1] 75 Fed. Reg. 82170 (December 29, 2010).

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I. Introduction

Virtually every product that is found on grocery store shelves is delivered by commercial motor vehicles. The universe of products that are typically found in your neighborhood supermarket includes dry goods, perishables, dairy, soft drinks, juices, deli items, meats, poultry, seafood, bakery, prescription drugs, household cleaning items, personal care products and over-the-counter medications among others.

Grocery stores are open 365 days of the year. Many supermarkets are open 24 hours a day. Truck deliveries occur at all hours as stores continuously receive and restock products. Our customers visit their neighborhood grocery stores 2.1 times a week on average and they expect to find store shelves fully stocked with a wide variety of products, especially fresh fruits and vegetables. The median number of items carried in your neighborhood grocery store is 48,750, up from about 30,000 ten years ago. Transportation logistics have become more important than ever to success in the industry. Our nation has the best system of food distribution in the world, and the Proposed Rule has the potential to significantly disrupt it.

FMI is concerned that the Proposed Rule will have dire consequences, likely resulting in higher prices for food products and other items sold in grocery stores.

II. Analysis

Current Rules are Working

FMI does not believe there is a need to move forward with the Proposed Rule. The current HOS rules are working extremely well. Since the rules were put in place seven years ago, fatalities and injuries involving large trucks have declined by more than one-third. This is the lowest level ever since the Department of Transportation (DOT) began collecting data. Indeed FMCSA has acknowledged that safety has improved by citing that data shows no decline in highway safety since the implementation of the 2003 rule and its re-adoption and the total number of crashes has been declining.

Clearly, no change is needed in the HOS regulations.

Maximum Driving Hours

FMCSA has proposed reducing the maximum driving time limit of 11 hours to 10 hours. However, the Agency extensively cites in the Proposed Rule a study sponsored by Department of Transportation (DOT) and conducted by the Virginia Tech Transportation Institute which found no increase in risk between the 10th and 11th hours of driving. Eliminating the extra hour of driving

time would impose significant burdens on the supermarket industry. This reduction in drive time would among other things impact driver routes that exceed 250 round trip miles with multiple stops. A number of FMI members have indicated such a reduction would cause increased lay-overs for drivers and increase the number of trucks needed to deliver products to retail stores in order to maintain current levels of service and product availability. As the number of crashes has continued to decline under the current rule which permits 11 hours of driving, FMI does not believe the agency should reduce the maximum amount of driving hours.

Restart Provision

The Proposed Rule amends the existing 34 hour restart provision to require that any restart include "two periods between midnight and 6:00 AM." As previously mentioned in our comments, grocery stores are open 365 days of the years, and many supermarkets are open 24 hours a day. Consequently, truck deliveries occur at all hours of the day as stores continuously receive and restock products on store shelves. It should be noted that back in the mid-1960s when HOS regulations limited drivers to 10 hours of driving time, the average size of a grocery store was 4,881 square feet and the typical store carried approximately 6,800 products. In today's marketplace, the average size of a grocery store has grown to 46,235 square feet and carry some 48,750 items. As such, larger store-formats with greater product selection necessitate more frequent truck deliveries in order to keep store shelves fully stocked.

FMCSA has stated it believes a majority of drivers work a traditional day-time schedule, but this is not necessarily true. In our industry, a number of FMI's member companies estimate that between 40 and 50 percent of drivers have a day-time work schedule, but a corresponding percentage of drivers do not. The net effect is that those drivers without day-time schedules would need to take more than the 34 hours in order to get to the 2 nighttime periods between midnight and 6:00 AM. To meet this requirement, most drivers who do not have a day-time work schedule would have to extend their restarts to 48 hours or longer. As such, driver time would be reduced by some 16 percent over each one week period. The net effect will be that many FMI member companies with large trucking fleets will need to hire additional drivers and purchase additional trucks and equipment.

The Proposed Rule Will Trigger Higher Food Prices

Should the Proposed Rule be finalized by FMCSA the following will likely happen:

1. Food prices will rise because the Proposed Rule will hurt productivity and efficiency in the supermarket industry. Currently, USDA is projecting the Consumer Price Index (CPI) for food will increase four percent in 2011. At a time when consumers can least afford it, the Proposed Rule will further increase their costs at check out. The Proposed Rule will impact

not only grocery stores but all other agricultural-related sectors including farmers, grocery manufacturers, food processors and wholesalers.

2. Higher prices for groceries will be devastating to families that are already struggling financially, especially the 14 million Americans who are unemployed. The same holds true for seniors living on limited incomes and the most needy who depend on domestic feeding programs, such as SNAP and WIC whose benefits will not buy as much when food prices go up because of the Proposed Rule. Many military families also rely on domestic feeding programs and they will be impacted as well.

3. The Proposed Rule will hit hardest on rural communities where small, independent grocery stores rely on getting their products delivered by wholesalers who are often located hundreds of miles away. Farmers will also be adversely affected because of added costs incurred by wholesalers who backhaul their agricultural commodities.

4. The Proposed Rule will not be the only cost factor that will trigger higher food prices. Diesel fuel prices are also expected to increase in the next two years from the current price of about $3.35 a gallon to $5.00 gallon. As transportation costs increase, so will food prices in grocery stores.

5. The Proposed Rule will result in more trucks being on the nation's roads, highways and interstates causing more pollution and congestion. To maintain the same level of service to retail grocery stores, more trucks will be needed and the costs are substantial. A single new 18-wheel commercial motor vehicle can cost well over $100,000. That figure does not include salary and benefits for additional drivers, insurance, fuel, operating maintenance, registration and licensing fees and other fixed costs.

6. A reduction in deliveries to retail stores resulting from the Proposed Rule will mean shortages of grocery items on store shelves. Shortages and unavailability of product will be particularly acute during the busy holiday season from just before Thanksgiving, through Christmas, New Year's Day and all the way up to the Super Bowl. Unavailability of product will significantly inconvenience consumers.

III. Conclusion

FMI Requests the Proposed Rule Be Withdrawn

If we want to avoid unnecessary increases in retail food prices, FMI urges FMCSA to abandon the effort to promulgate new HOS rules. The Proposed Rule is not needed as the current regulatory framework governing the amount of time a driver may operate a commercial motor vehicle is working extremely well. On behalf of our retail and wholesaler members, as well as the customers they serve, FMI respectfully requests FMCSA to withdraw the Proposed Rule.

We appreciate the opportunity to comment on this important matter.

Sincerely,

Erik R. Lieberman
Regulatory Counsel

Mr. JORDAN. Mr. MacKie.

STATEMENT OF ROBB MACKIE

Mr. MACKIE. Mr. Chairman, members of the subcommittee, my name is Robb MacKie, and I'm the President and CEO of the American Bakers Association. ABA is the voice of the wholesale baking industry and advocates on behalf of the $102 billion baking industry, employing 630,000 skilled employees and more than 700 baking and supplier facilities around the country. ABA members produce bread, rolls, Thanksgiving pies, tortillas, and many other wholesome, nutritious, baked products for America's families.

The wholesale baking industry currently operates the fourth largest fleet of vehicles behind the Postal Service, FedEx,and UPS. ABA greatly appreciates this opportunity to provide its perspective on the Federal Motor Carrier Safety Administration's Hours of Service regulation.

The majority of ABA members utilize their own fleets of vehicles for the interstate distribution of baked goods to their customers. The industry views itself as bakers and not as trucking companies. Driving is incidental to the true function of route sales representatives, which is sales and customer service. The wholesale baking industry makes its living on delivering the freshest possible product to grocery stores and restaurants. In addition to the safety of the industry's employees and the public, the idea of a truck with a company or family name on the side of it involved in a traffic accident is a huge incentive to operate in a safe manner.

The nature of many bakers' distribution systems involve operators making repeated and sometimes lengthy stops during the course of their work day. Route sales representatives may make a couple of dozen stops in a single day. They spend more than half of their time in nondriving activities, servicing the customer, stocking shelves or in-store marketing activities.

The rule at the heart of today's hearing marks the fourth major rewrite of this regulation by FMCSA in the past 12 years. The current Hours of Service regulations have been effective in improving safety, as demonstrated by the current crash data trends. The safety performance of trucks has improved at unprecedented rates under the current Hours of Service regulations. The number of fatal accidents and injuries involving large trucks have declined by more than a third to historically low levels. Given these facts, we find it difficult to understand the rationale for added regulation, especially one that even FMCSA recognizes would disproportionately and negatively impact the short-haul segment of the trucking industry, of which bakers are part.

Typically DOT has treated the vehicles that our industry operates similarly even though, as you can see, they're very different vehicles indeed. According to FMCSA, the relative costs and benefits differ considerably between the long-haul and the short-haul segments. Most of the costs arise on the short-haul segment, but all of the purported benefits come from reducing long-haul crashes. Fatigue and fatigue-related crashes are considerably less common in short-haul operations, where the operator is typically returning home at the end of their work day.

FMCSA crash data indicates that commercial motor vehicles less than 26,000 pounds account for 52 percent of registered trucks but account for 10 percent of fatal accidents and 14 percent of nonfatal accidents. Clearly, any fatality is too many, but logic and cost-benefit analysis dictates that any regulatory effort be proportional to the risk.

Another undue burden would be created by the proposed change in the 34-hour restart provision, requiring drivers to rest a minimum of two consecutive complete nights. This would do little to promote driver safety in short-haul operations and wreak havoc with finely tuned distribution systems. A typical route sales representative will not have two consecutive days off, as bakeries are down on Tuesdays and Sundays. Also, most deliveries by bakers take place in the early morning, the very hours required by the rule that they be at rest, to ensure that local grocery store shelves are well stocked with the freshest possible product for customers. Many baked goods have 4 to 5 days of shelf life, making timely delivery critical.

The change to the 34-hour restart provision outlined in the rule could also require short-haul operators to deploy more equipment and resources during peak commuter driving hours. This could adversely impact safety and air emissions while also negatively impacting productivity for both the drivers and the customers. This may result in lost sales as well as production delays.

If the new Hours of Service regulations become effective, it will be more difficult and costly to deliver products, increase traffic during the most congested times of the day, and result in more dangerous roads.

In conclusion, there is little safety benefit or rationale to change the existing rules. Again, the proposal would require significant changes to baking industry distribution systems, would impact employee work hours, and increase the cost of delivering fresh bakery products. Ultimately, the consumer will feel these costs at the checkout aisle. With the high unemployment and high food inflation, now is the worst time to be pushing regulation for regulation sake.

The ABA appreciates this opportunity to provide input to the subcommittee and be happy to answer any questions.

Mr. JORDAN. Thank you, Mr. MacKie.

[Prepared statement of Mr. MacKie follows:]

STATEMENT OF ROBB MACKIE, PRESIDENT & CEO, AMERICAN BAKERS ASSOCIATION
HOUSE COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM
SUBCOMMITTEE ON REGULATORY AFFAIRS, STIMULUS OVERSIGHT, AND GOVERNMENT SPENDING
NOVEMBER 30, 2011

Mr. Chairman, members of the Subcommittee. Good morning and thank you for the opportunity to be with you. My name is Robb MacKie and I am President and CEO of the American Bakers Association.

ABA is the voice of the wholesale baking industry. ABA advocates on behalf of more than 700 baking facilities and baking company suppliers. ABA members produce bread, rolls, crackers, bagels, sweet goods, tortillas, and many other wholesome, nutritious, baked products for America's families.

The baking industry generates more than $102 billion in economic activity annually and employs over 630,000 highly-skilled people. The wholesale baking industry currently operates the fourth largest fleet of vehicles behind the United States Postal Service, Federal Express, and United Parcel Service to deliver the freshest possible products to our customers. ABA appreciates this opportunity to provide its perspective today on the Federal Motor Carrier Safety Administration's Hours of Service (HOS) regulations.

The majority of ABA members utilize their own fleets of vehicles for the interstate distribution of baked goods to their customers. Clearly, the industry thinks of itself as bakers and not trucking companies. The driving is incidental to the true function of the route sales representative, which is sales and customer service. The wholesale baking industry makes its living on delivering the freshest possible product to grocery stores and food service providers. In addition to the well-being of the industry's operators and the general motoring public, the idea of a truck with the company name and product on its side involved in an accident is a huge incentive to operate in a safe manner.

The nature of many of our members' distribution operations is such that operators make repeated and sometimes lengthy stops during the course of their workday. For example, route sales representatives may make a couple dozen or more stops in a day with the operators spending more than half of their available time in non-driving activities such as servicing the customer, stocking store shelves, or in-store marketing activities.

The rule at the heart of today's hearing marks the fourth major rewrite of this regulation by the FMCSA in the past 12 years. Yet the current hours of service regulations, properly enforced, have been effective in improving safety as demonstrated by current crash data trends. For example, the safety performance for trucks has improved at an unprecedented rate while operating under the current HOS regulations. The number of fatal accidents and injuries involving large trucks have declined more than one-third, and are now at historically low levels.

Given these facts, we find it difficult to understand the rationale for additional regulation, especially one that even FMCSA recognized would disproportionately negatively impact the short-haul segment of the trucking industry of which the baking industry is a part.

According to FMCSA, the relative costs and benefits differ considerably between the long-haul and short-haul segments. Most of the costs arise in the short-haul segment, but all of the benefits come from reducing long-haul crashes. Fatigue and fatigue-related crashes are considerably less common in short-haul operations.

ABA has long contended that commercial motor vehicles (CMVs) under 26,000 pounds Gross Vehicle Weight (GVW), where the operator is returning home at the end of every work period, are involved in a much smaller number of accidents and fatalities than larger CMVs. In fact, FMCSA's own crash data indicates that while CMVs less than 26,000 pounds GVW account for 52% of registered trucks, they account for 10% of fatal accidents and 14% of non-fatal accidents. Clearly any fatality is too many, but simple logic and cost-benefit analysis dictates that the regulatory emphasis and scarce resources should be devoted to areas of greatest risk.

An additional undue burden would be created by the proposed change in the 34 hour restart provision requiring drivers to rest a minimum of two consecutive complete nights. This would do very little to promote driver safety in the short haul industry but wreak havoc with our business operations. Most deliveries in the baking industry take place in the early morning hours – the very hours required by the rule for "rest" – to ensure local grocery store shelves are well-stocked with the freshest possible products for customers.

The change to the 34 hour restart provision outlined in the rules could also require short haul operators to deploy more equipment and resources during peak commuter driving hours. This could adversely impact safety and air emissions while also negatively impacting productivity both for the drivers and customers. This may result in lost sales, as well as production delays.

If the new HOS regulations become effective, it will be more difficult and costly to deliver our products, actually increase drivers and traffic during the most congested times of the day, and ultimately result in more dangerous roads and highways.

CONCLUSION

In conclusion, there is no safety benefit or documented rationale to change the existing rules. The proposal, as written, would require significant changes to current baking industry distribution systems; would affect employee work hours; and increase the cost of transporting and delivering fresh bakery products. Ultimately, the consumer would feel these costs at the checkout aisle. With high unemployment, high food inflation, and record bread prices, now is the worst time to be pushing regulation for regulation's sake.

ABA appreciates this opportunity to provide input to the Subcommittee on the proposed changes to the Hours of Service regulations. I am happy to answer any questions you may have. Thank you.

American Bakers Association

Serving the Baking Industry Since 1897

March 3, 2011

Docket Management Facility (M–30)
U.S. Department of Transportation
West Building Ground Floor
Room W12–140
1200 New Jersey Avenue, SE.
Washington, DC 20590–0001

Re: Docket No. FMCSA–2004–19608; Notice of Proposed Rulemaking
Hours-of-Service Regulations
75 Fed. Reg. 82170 (December 29, 2010)

Dear Sir or Madam:

These comments are submitted on behalf of the members of the American Bakers Association (ABA). ABA is the Washington D.C.-based voice of the wholesale baking industry. Since 1897, ABA has represented the interests of bakers before the U.S. Congress, federal agencies, and international regulatory authorities. ABA advocates on behalf of more than 700 baking facilities and baking company suppliers. ABA members produce bread, rolls, crackers, bagels, sweet goods, tortillas and many other wholesome, nutritious, baked products for America's families. The baking industry generates more than $70 billion in economic activity annually and employs close to half a million highly-skilled people. ABA appreciates this opportunity to submit these comments on the notice of proposed rulemaking (NPRM) to the Hours of Service (HOS) regulations.

The wholesale baking industry currently operates the fourth largest fleet of vehicles behind the United States Postal Service, Federal Express and United Parcel Service to deliver the freshest possible products to our customers. A single bread line can manufacture up to 10,000 loaves an hour. Our bakers are producing 1.2 million loaves per week per line and the vast majority of ABA member companies are running at least two lines. For example, bakers typically deliver five days a week. Bakers typically deliver product every day except Wednesdays and Sundays. However, our member companies are increasingly being requested to provide more deliveries to meet both consumer and store demands for fresh baked goods. Our members are committed to timely delivery of a wide variety of fresh, wholesome products that play a vital role in a healthy, balanced daily diet as recommended in the USDA/HHS Dietary Guidelines for Americans. Changes to the HOS regulations could hinder the availability of these healthy, nutritious products to consumers.

ABA and its member companies are committed to both the safety of the driving public, as well as, the health and safety of our industry's drivers. As a result, ABA and its member companies have been closely following the HOS regulations over the years. In fact, we note that this is the

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fourth major re-write of this regulation in 15 years coupled with multiple lawsuits. Most recently, ABA has been in communication with the Department of Transportation (DOT), Federal Motor Carrier Safety Administration (FMCSA) and Congress to articulate our concerns regarding the proposed HOS rules. In October 2010, ABA and other concerned partners held a meeting with the Office of Information and Regulatory Affairs in the United States Office of Management and Budget to reiterate our concerns about the proposed changes to the HOS regulations. In an effort to keep lines of communication open, on January 25, 2010, ABA's Distribution Task Force, comprised of senior level baking industry distribution, logistics and transportation executives, met with FMCSA's Associate Administrator William Quade to discuss the Association's perspective on upcoming safety initiatives from the Agency. ABA is committed to staying abreast of, and complying with, all safety initiatives while continuing to voice concerns when such rules would not improve safety and in fact could inadvertently harm our business model.

Specifically, ABA has the following concerns with the proposed HOS rules:

1. The midnight to 6:00 am time-frame limitations would be ruinous for the industry
2. The rules, as proposed, are confusing;
3. The rules do not allow for flexibility;
4. The exemption rule is not sufficient for our industry;
5. The rules place an undue burden on short haul (less than 150 miles) drivers; and
6. The 34 hour restart provision would be devastating to the baking industry.

Midnight to 6:00 am Time-Frame Limitations.

A major issue for the baking industry is the midnight to 6 a.m. time-frame limit. It would make it significantly more difficult, if not impossible, for the baking industry to adequately service customers in a timely manner. Major retailers, convenience stores, restaurants and institutions all require their bakery products be delivered prior to the daily opening of their businesses. Our industry bases its business on daily deliveries of fresh perishables. Common industry practice has companies beginning their delivery routes prior to 6:00 am and making warehouse deliveries overnight to meet market needs.

In addition, many localities have ordinances that determine when deliveries may be made and were designed to reduce traffic congestion and environmental emissions. This proposal would be in direct violation of these ordinances.

The proposed rules are confusing for both industry and law enforcement, with too many interrelated variables.

The 14 hour "driving window" is actually 13 hours of on-duty time. It includes a mandatory minimum 30 minute break each seven hours. ABA believes this will incentivize drivers to work harder to finish more quickly. This could lead to increased injuries while unloading due to rushing. More injuries typically mean higher workers compensation costs for employers.

For example, a co-driver who used to be able to work beyond the 14th hour, and who wasn't going to drive again that day, will be restricted and <u>WILL</u> try to squeeze all the work into the 13 hours. This will also increase risk-taking which again, could result in increased injuries.

ABA anticipates the proposed rules will increase the need for additional equipment and drivers. At a time when American industry, businesses both large and small, are striving to be more efficient and when consumers are already stretching their budgets as far as possible, increasing the cost of doing business will have a negative impact on the baking industry. Consumers could possibly be affected as well through higher prices at the grocery store, further harming the fragile US economy.

The proposed rules could result in a significant and unnecessary redesign of the industry's distribution system. This would be very disruptive to our businesses. Our current processes have worked efficiently and safely for many years.

The proposed rules do not allow the flexibility needed for product delivery or team driver operations.

Many ABA member companies' employees work a split day. They work in the morning servicing stores, take a mid-day break of up to 4 hours, and then service stores again in the evening. Without the ability to split the off-duty time in a logical manner, overhead costs are likely to increase, which could eventually lead to higher product costs in the marketplace.

Another concern for the baking industry involves flexibility for team driving. Team driving is a process in which two drivers share the responsibility of driving freight across long distances. While one person drives, the other typically rests or sleeps in the truck's sleeper berth. A study carried out by the FMCSA in 2002 showed that team drivers tended "to drive much less aggressively, make fewer errors, and rely effectively on their relief drivers to avoid instances of extreme drowsiness while driving" (Publication No. FMCSA-MCRT-02-070). The same study states that, "Unlike extremely tired single drivers who may have felt compelled to continue to drive even when it was dangerous to do so, the individual drivers in a team operation generally had no similar compulsion to operate the vehicle when they were extremely tired." These findings recognize that team-driver operations create safer trucking operations. Unfortunately, this area of the regulations was not addressed in previous rule changes and should be given serious consideration at this time. Under the proposed rules, there will be more single driver activities for team drivers (unloading product, rollers, fueling, etc.) due to being relieved of duty after the 14th hour.

Requiring drivers to go "off duty" for a team operation that could keep working with more flexible rules will cause inefficiencies in scheduling, prevent drivers from being able to spend sufficient time servicing customer needs, and lengthen trip times. This issue has been thoroughly debated and resolved over the past 15 years.

Applying for exemptions is not as an answer to our members' problems.

Many of ABA's member companies employ third-party transporters for goods, ingredients and packaging. Some have suggested these companies might be able to qualify for an exemption from the proposed rules. However, since an exemption issued to the member companies would not exempt our strategic partners, this is not a viable solution for our industry. Frankly, if FMCSA conducts the rule making process properly, exemptions should not be necessary.

These rules are extremely cumbersome for "short-haul" drivers.

The proposed change in the 34 hour restart provision requiring drivers to rest a minimum of two consecutive complete nights may do very little to promote driver safety in the short haul industry. We are unaware of driver safety issues among short haul operators resulting from driver fatigue. Short haul operators frequently drive through urban areas that include stop lights and traffic signals and perform other functions, such as restocking store shelves, while on duty. The nature of this type of work helps to greatly reduce driver fatigue that may be a factor in the long haul industry.

ABA believes the 34 hour restart provision will impose a large cost and burden to the industry. This provision will seriously undermine business practices designed to mitigate urban congestion, promote safety and reduce emissions. Today, many short haul functions occur at night when trucks do not compete with commuters on urban roadways. Separating this traffic eases congestion, reduces idle emissions and increases safety while also providing the many business that rely on short haul services more predictable delivery schedules. The change to the 34 hour restart provision outlined in the proposed rules could require short haul operators to deploy more equipment and resources during peak commuter driving hours that may have an adverse impact on safety and emissions while also negatively impacting productivity for truckers and their customers. This may result in lost sales both in the U.S. and in foreign markets, as well as cause production delays for manufacturers receiving inputs.

For instance, many ABA member companies have route sales personnel and independent distributors who do little actual driving. Much of their time is spent servicing stores through stocking shelves, interacting with store management, and seeking potential sales opportunities. This would mean having to curtail business operations to ensure that they do not run out of hours of service which could mean stores will be without product for consumers.

The 34 hour restart proposal would also negatively impact fresh bakery operations.

The proposed 34 hour restart rule would also significantly impact fresh bakery operations and require a substantial, and potentially devastating, change to existing business models. It would result in companies having to add additional drivers to ensure each one had at least two consecutive days off while still being able to provide customers fresh deliveries.

Conclusion

In conclusion, the current hours of service regulations, properly enforced, have been effective in improving safety as demonstrated by current crash data trends. For example, the trucking industry's safety performance has improved at an unprecedented rate while operating under the current HOS regulations. The number of fatal accidents and injuries involving large trucks have declined more than one-third, and are now at their lowest levels in history. Therefore, there is no safety benefit or documented rationale to change the existing rules. The proposal, as written, would require significant changes to current business models that would affect employee work hours and increase the cost of transporting and delivering fresh bakery products.

ABA believes that providing single drivers an opportunity to take a rest break that does not count against on duty time would provide an additional incentive for drivers to take needed rest breaks without mandating a required minimum amount of time as part of the regulation.

Additionally, ABA believes more flexibility should also be granted to team drivers in the use of the sleeper berth. ABA recommends that the FMCSA maintain the current requirement for total sleeper berth of 10 hours while allowing team drivers to break their sleeper berth into periods of not less than five hours.

FMCSA has made a number of substantial changes to its approach since the previous regulatory impact analysis (RIA) issued in 2007. ABA finds that, in every instance, FMCSA's new methodologies and assumptions increase the apparent net benefits of the proposed rule. However, many of FMCSA's new approaches rely on misapplication of available data, use of outdated information, or lack empirical support entirely. FMCSA also makes a number of errors in its calculations which serve to further overstate its findings. These substantial findings and concerns are clearly outlined in the Edgeworth Economics analysis report commissioned by the American Trucking Association. This report is attached as an appendix to our comments.

ABA appreciates this opportunity to provide comments on the proposed changes to the Hours of Service regulations, which are of substantial importance to the baking industry. ABA is confident that the concerns outlines above will be useful as the Agency finalizes its HOS regulation. Should FMCSA have questions or need additional information, please contact me.

Respectfully submitted,

Lee Sanders
Senior Vice President
Government Relations and Public Affairs

Attachment

APPENDIX 1

ABA's March 2011 Comments re FMCSA 2004–19608 Notice of Proposed Rulemaking- Hours-of-Service Regulations

1225 19th Street, NW
8th Floor
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(202) 559-4381

REVIEW OF FMCSA'S REGULATORY IMPACT ANALYSIS FOR THE 2010-2011 HOURS OF SERVICE RULE

Prepared for the American Trucking Associations

By Edgeworth Economics

February 15, 2011

REVIEW OF FMCSA'S REGULATORY IMPACT ANALYSIS FOR THE 2010-2011 HOURS OF SERVICE RULE

I. Introduction and Summary of Findings

The American Trucking Associations (ATA) asked Edgeworth Economics to review the Regulatory Impact Analysis ("RIA") for the 2010-2011 Hours of Service Rule issued by the Federal Motor Carrier Safety Administration (FMCSA) on December 29, 2010. FMCSA's preferred proposal (designated "Option 2" in the RIA) includes several significant changes to current hours-of-service ("HOS") regulations, including: a restriction of daily on-duty time to a maximum of 13 hours; a reduction of daily driving time to a maximum of 10 hours; and a requirement that the "restart" period include two consecutive off-duty periods from 12 a.m. to 6 a.m.[1] FMCSA also considers an option which retains the 11th driving hour ("Option 3") and one which restricts driving time to 9 hours ("Option 4").

FMCSA estimates the impact of the proposed options on industry productivity, the frequency of fatigue-related crashes, and driver health. FMCSA concludes that Option 2 would generate net benefits of $380 million annually under the agency's central assumptions, with a range based on other assumptions from $1.45 billion to -$750 million per year.[2] FMCSA calculates net benefits of Option 3 in the range of $1.26 billion to -$190 million ($560 million central case) per year and net benefits of Option 4 in the range of $1.37 billion to -$2.32 billion (-$420 million central case) per year. FMCSA concludes that the net benefits of the proposed rule "are likely to be positive" for Options 2 and 3, but not for Option 4.[3]

Our analysis of the proposed rule focuses on the following questions:

- Can FMCSA's analyses be replicated and its conclusions verified using information provided in the RIA or elsewhere in the public record?
- Are the assumptions and methodologies used by FMCSA to calculate the costs and benefits associated with the proposed rule internally consistent within the RIA and consistent with available data and with the precepts of economics and statistics?
- Are the assumptions and methodologies in this RIA consistent with previous FMCSA analyses—in particular, the RIAs issued by FMCSA in 2007 and 2002 for previous versions of HOS rules?
- Do any errors, inconsistencies, or unreasonable assumptions in the RIA affect FMCSA's conclusions regarding the costs and benefits of the proposed rule?

Our analysis is based on the previously issued RIAs and Federal Register notices regarding the various versions of the hours-of-service ("HOS") interim and final rules. We also reviewed source documents cited by FMCSA, when publicly available, as well as other materials available in the public domain related to large-truck crashes, the relationship between work and sleep time, the relationship between sleep and mortality, and other relevant issues.

FMCSA has made a number of substantial changes to its approach since the previous RIA issued in 2007. We find that, in every instance, FMCSA's new methodologies and assumptions increase the apparent net benefits of the

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[1] RIA, pp. 1-5 and 1-6.

[2] RIA, p. ES-4. Dollar amounts in the RIA are generally reported in 2008$.

[3] RIA, pp. ES-3 and ES-4.

proposed rule. However, many of FMCSA's new approaches rely on misapplication of available data, use of outdated information, or lack empirical support entirely. FMCSA also makes a number of errors in its calculations which serve to further overstate its findings. We document these issues in this report. Our main conclusions include the following:

- FMCSA overestimates the total number of hours at issue by misusing the data from the 2005 and 2007 Field Surveys. In particular, the agency fails to consider that carriers sampled in those surveys, particularly those chosen because of poor safety performance, may use drivers more intensely than other carriers. FMCSA also overestimates the extent to which drivers sampled in the surveys actually exceeded 9 hours of driving or 13 hours of work and assumes, inappropriately, that drivers who were measured by the surveys to be out of compliance with current HOS rules would nonetheless comply with the new, more restrictive rules. These factors result in an overstatement of both the costs and benefits of the proposed rule.

- FMCSA has abandoned its model of carrier logistics, which the agency previously had used to calculate the impact of HOS rule changes on industry productivity in the 2007 RIA. Instead, FMCSA estimates costs using a series of assumptions based only on the agency's "judgment and knowledge of the industry." Under these unsupported assumptions, FMCSA estimates that the proposed rule (Option 2) would reduce productivity by 2.8 percent, compared to the agency's previous finding of a 7.1-percent impact for similar changes in HOS policies. This change in approach increases the net benefits of the proposed rule by more than $1.5 billion annually.

- FMCSA overstates the risk of driver fatigue and the extent to which a reduction in driving or work time would reduce such risk. For its estimate of the rate of fatigue risk, FMCSA relies on the finding from the Large Truck Crash Causation Study that 13 percent of crashes had driver fatigue as an "associated factor." This figure is almost double the 7-percent estimate of average fatigue risk used in the 2007 RIA. The LTCCS, however, was based on crash data collected prior to the implementation of current HOS rules, which were designed specifically to reduce fatigue risk. FMCSA fails to adjust the findings of the LTCCS to reflect the impact of current HOS rules. Additionally, FMCSA treats the LTCCS's coding of fatigue as an "associated factor" in a crash as an indication that fatigue was the "cause" of that crash, despite the fact that many crashes have multiple associated factors. FMCSA's approach contradicts the agency's previous analysis of LTCCS data. FMCSA also fails to adjust for oversampling of single-vehicle crashes in the LTCCS, which further inflates the agency's measure of fatigue risk for the industry as a whole. Applying the 7-percent figure rather than FMCSA's new assumption of 13 percent reduces the apparent benefit of the proposed rule by $330 million annually.

- In previous RIAs and in public comments related to those analyses, FMCSA repeatedly asserted that current rules provide sufficient flexibility for drivers to eliminate any concern about fatigue caused by accumulation of on-duty time (as opposed to "acute" fatigue caused by a long tour on a particular day). FMCSA now has reversed its position and estimates substantial crash-reduction benefits associated with reducing weekly work time. The agency, however, again relies inappropriately on an analysis of pre-2004 crash data from the LTCCS for its calculations. FMCSA further errs by assuming that the risk of a crash is the same during a non-driving work hour as it is during a driving hour, which is clearly false, and by rounding up any reductions in work time to a whole hour, even if the calculated effect is only a small fraction of an hour. These two errors alone serve to inflate the apparent benefits of the proposed rule by almost $200 million per year.

- FMCSA calculates the cost of crashes by long-haul drivers using an assumption of 434,000 crashes per year—approximately the level of crashes during the 2000-2003 period. Since that time, however, the frequency of crashes by long-haul drivers has fallen substantially—to 286,000 in 2009. FMCSA's use of outdated crash numbers results in an overstatement of benefits by about 34 percent.

- In previous statements, FMCSA had taken the position that current HOS rules allow drivers to obtain sleep levels "within normal ranges consistent with a healthy lifestyle." In contrast, FMCSA now assumes that the small reductions in work time under the proposed rule will translate into even smaller increases in average sleep levels for long-haul truck drivers, and that this will result in improved driver health. FMCSA bases its calculations on two fundamentally flawed analyses. First, FMCSA assumes that an observed correlation between work time and sleep time for truck drivers can be used as a basis to assume that small reductions in work will result in proportional increases in sleep for drivers. In the Notice of Proposed Rulemaking, FMCSA states that "the Agency has no basis for estimating the extent to which drivers who have an extra hour a day or hours per week off duty will use that time to exercise and sleep"; yet the agency's analysis in the RIA relies on precisely such an assumption. FMCSA fails to consider that the observed correlation may be due, in whole or in part, to differences between drivers rather than responses to changing work patterns. Second, FMCSA attributes reductions in mortality to very small changes in sleep levels for drivers who already obtain a "normal" amount of sleep, despite a lack of adequate support from sleep research and previous acknowledgement by the agency that such benefits were not measurable. FMCSA ignores the conclusions of sleep researchers that the agency itself cites in the RIA, who state that "there is no evidence that sleeping habitually between 6 and 8 [hours] per day in an adult is associated with harm and long term health consequences."

- Where adequate data is available, we correct the errors and unreasonable assumptions in FMCSA's analysis described above. We estimate that FMCSA's Option 2 would result in a net *cost* of $320 million per year. That is, we find that FMCSA has overstated the net benefits of the proposed rule by about $700 million annually and that the proposed rule would impose a net cost on society, rather than a net benefit as claimed by FMCSA. This estimate excludes any health-related benefits associated with increased sleep levels. If health-related benefits are included in the model as calculated by FMCSA, while making the other corrections, we calculate the proposed rule would still result in a net cost to society of $20 million annually—i.e., FMCSA has overstated the net benefits of the proposed rule by $400 million per year. Due to a lack of adequate documentation in the RIA, we were unable to replicate FMCSA's calculations for Options 3 and 4; however, based on our calculations for Option 2, we expect that both policies would result in substantial net costs.

This report was prepared by Jesse David with assistance from Chuck Fields at Edgeworth Economics. Edgeworth is a consulting firm that provides analysis and advice on economic and regulatory issues for companies, individuals, industry groups, and government agencies. Dr. David holds a Ph.D. in Economics from Stanford University and has 14 years of experience as a professional economist. Dr. David specializes in the evaluation of regulatory policies, economic impact analysis, and the valuation of assets and businesses in complex commercial transactions and disputes. He has testified before regulatory agencies, such as the Federal Energy Regulatory Commission and the National Energy Board of Canada, as well as in Federal and State courts on a variety of economic issues. Dr. David also has served as a peer reviewer for the Environmental Protection Agency's STAR grant program. Dr. David has prepared studies for entities such as the National Football League Players Association, the San Diego County Water Authority, the New York Power Authority, and the Ocean Conservancy. Dr. David analyzed previous RIAs issued by FMCSA for HOS rules in public comments sponsored by the ATA.[4]

II. Summary of FMCSA's Methodologies and Assumptions

In this section, we summarize FMCSA's assumptions, methodologies, and results regarding the projected costs and benefits of the proposed rule.

[4] See Mark Berkman and Jesse David, "A Review of the Federal Motor Carrier Safety Administration's Economic Analysis for Its Proposed Hours of Service Standard," August 3, 2000; and NERA Economic Consulting, "A Review of FMCSA's Regulatory Impact Analysis for Hours of Service Options," February 4, 2008.

A. *Drivers Affected by the Proposed Rule*

FMCSA assumes that only drivers of large trucks who engage in "long-haul" operations—defined by the agency as drivers who travel beyond 100 miles from their base—will be affected by the proposed rule.[5] FMCSA estimates that there are 1.6 million drivers in this category, based on an estimate of total long-haul trucking revenue from the Economic Census and an assumption of $175,000 of revenue per long-haul vehicle.[6] For the purposes of its calculations, FMCSA assumes that the industry will be in complete compliance with the proposed rule.[7]

B. *Long-Haul Driver Operating Patterns*

FMCSA allocates long-haul drivers to four categories defined by average weekly work time: Moderate (average of 45 hours); High (60 hours); Very High (70 hours); and Extreme (80 hours).[8] Based on the 2005 and 2007 Field Surveys, FMCSA estimates the share of the workforce in each category and makes a series of assumptions to characterize the "typical" work day and work week for drivers in each category.[9] FMCSA then uses findings from the field surveys to estimate the proportion of tours of duty that currently utilize the 10th or 11th driving hour or the 14th work hour—i.e., the share of tours that would be affected by the proposed rule. FMCSA's key assumptions are summarized in Table 1.

Table 1
FMCSA Assumptions Regarding the Operating Patterns of Long-Haul Truck Drivers

Driver Group	*Avg. Weekly Work Time*	*% of Workforce*	*Typical Weekly Work Days*	*Typical Daily Driving Hours*	*Use of 14th Work Hour*[1]	*Use of 11th Driving Hour*[1]	*Use of 10th or 11th Driving Hour*[1,2]
Moderate	45	66%	5	7	2%	10%	25%
High	60	19%	6	8	7%	25%	50%
Very High	70	10%	6	9	25%	50%	75%
Extreme	80	5%	6	10	60%	70%	90%
Weighted Avg.					8.9%	21.1%	39.6%

Source: RIA, pp. 2-5 – 2-8.

Notes: [1] FMCSA estimates the figures for each driver category so that the weighted averages across all drivers match the industry-wide figures from the 2005 Field Survey.

[2] FMCSA's description of these figures as representing use of the 10th *and* 11th driving hours appears to be incorrect. FMCSA's figures correspond to data from the 2005 Field Survey for drivers who use the 11th *or* the 10th/11th driving hours—i.e., driving in excess of 9.0 hours per day. [2005 Field Survey, p. 7]

C. *Impact of the Proposed Rule on Drivers*

FMCSA then makes a series of assumptions based on the agency's "judgment and knowledge of the industry" about how each category of driver would respond to the restrictions imposed by the proposed rule. We summarize these assumptions in Table 2.

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[5] RIA, p. 2-1.

[6] RIA, p. 2-3.

[7] RIA, p. 1-6.

[8] RIA, pp. 2-5 – 2-8.

[9] "FMCSA Field HOS Survey: Motor Carrier Industry Implementation & Use of the April 2003 Hours of Service Regulations," June 2005 ("2005 Field Survey"); and FMCSA, "2007 Hours of Service Study" ("2007 Field Survey").

Table 2
FMCSA Assumptions Regarding Changing Work Patterns in Response to New HOS Restrictions

Driver Group	Current Use of 14th Work Hour as a Break[1]	Ability to Shift 14th Work Hour to Another Day	Portion of 11th-Hour Driving Time Lost Due to 10-Hour Restriction	Portion of 10th/11th-Hour Driving Time Lost Due to 9-Hour Restriction	Additional Weekly Work Hours Lost Due to Restart Provision		
					Option 2	Option 3	Option 4
Moderate	n/a	1	55%	65%	0	0	0
High	0.5 hr	0.5	65%	75%	0	0	0
Very High	0.75 hr	0.33	75%	85%	0.7	0.7	0.7
Extreme	1 hr	0	85%	95%	4.9	7.1	3.0

Source: RIA, pp. 3-4 – 3-10 and D-1.

Note: [1] FMCSA assumes that some fraction of current use of the 14th hour is non-productive break time, which could not be shifted to another day. Drivers in the Moderate category are assumed to be able to fully shift any use of the 14th hour without productivity loss. See RIA, pp. D-1 and D-2 for FMCSA's explanation of these assumptions.

In addition, FMCSA assumes that Option 2 would shift a full hour of driving time for drivers who would have used any part of the 11th hour in the absence of the new rule. FMCSA assumes that Option 4 would shift 1.5 hours of driving time for any driver who would have used any part of the 10th or 11th hours in the absence of the new rule. Finally, FMCSA assumes that under Option 2 one half of the impact of the work-time restriction would be felt through a reduction in driving time. Thus, the additional drive-time restriction would have less of an impact than it would if it was the only change in the rules. FMCSA does not appear to make such an assumption for Option 4.

FMCSA uses these assumptions to estimate an overall reduction in industry productivity of 2.8 percent under Option 2.[10] The figures for Options 3 and 4 are 1.3 percent and 6.4 percent, respectively.

FMCSA monetizes these figures using an estimate of $356 million per 1-percent productivity loss, based on calculations performed in previous RIAs regarding additional driver wages and benefits, capital expenditures, and overhead associated with replacing the work time lost due to the proposed rule.[11] FMCSA calculates an annual cost to the industry of $990 million for Option 2, $480 million for Option 3, and $2.27 billion for Option 4.[12] FMCSA adds $40 million per year for training and reprogramming costs.[13]

D. Safety Benefits from Reduced Daily Driving Time

FMCSA calculates safety-related benefits associated with reduced daily driving time by estimating the share of all large-truck crashes due to fatigue at each hour of driving and then assuming that the proposed rule will shift the relatively high-risk driving at the 10th or 11th hours to relatively lower-risk driving at lower hours.

The first step is estimating the fatigue-risk curve. FMCSA uses 1991-2007 data from the Trucks Involved in Fatal Accidents (TIFA) study to generate a fatigue-risk/driving-hours relationship. FMCSA fits a "logistic" curve to the raw data in order to generate a smooth, upward-sloping relationship between hours of driving and fatigue risk, which reaches approximately 5 percent at 11 hours (i.e., 5 percent of crashes in the 11th hour are caused by fatigue).[14]

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[10] Edgeworth calculations based on descriptions of FMCSA's approach in the RIA.

[11] RIA, p. 3-9; and FMCSA and ICF International, Inc., "Regulatory Impact Analysis for Hours of Service Options," December 7, 2007 ("2007 RIA").

[12] RIA, pp. 6-2 – 6-3.

[13] RIA, pp. 6-3 – 6-4.

[14] RIA, p. 4-21.

Based on work patterns from the 2005 Field Survey, FMCSA calculates an average fatigue-risk of 1.8 percent across all driving hours.[15]

The agency, however, does not believe that the TIFA data provide an accurate overall measure of fatigue-risk. Instead, FMCSA uses a figure of 13 percent taken from 2001-2003 data in the Large Truck Crash Causation Study (LTCCS).[16] This figure represents the share of large-truck crashes in the LTCCS sample where fatigue was determined to be an "associated factor"—i.e., "any of approximately 1,000 conditions or circumstances present at the time of the crash is coded."[17] FMCSA then scales up the risk curve from the TIFA data so that it indicates an average risk of 13 percent. As recognized by FMCSA, the coding of fatigue in the LTCCS could suffer from upward bias due to the tendency of inspectors to record fatigue as a factor if they learn that the driver was on the road for extended hours, without any independent evidence of fatigue, as well as the possibility that the observed increase in fatigue risk at high driving hours may reflect only an increase in the share of crashes associated with fatigue rather than an increase in the frequency of such crashes (which is the relevant factor for analyzing the proposed rule).[18] Despite these issues, FMCSA nonetheless asserts that the 13-percent figure is "conservative" because the LTCCS does not count any crashes as fatigue-related if the associated factors were coded as "unknown."[19] FMCSA also provides additional calculations using an average fatigue risk of 7 percent (the rate used by FMCSA in its previous RIA) and 18 percent (described by FMCSA as "roughly as far above the LTCCS value of 13 percent as the 8.15 percent pre-2003 estimate is below 13 percent").[20]

FMCSA then calculates the reduction in risk from shifting the affected hours to either the same driver on a different day (shifted to hours 6-10 in Option 2 or hours 6-9 for Option 4) or to a different driver who is assumed to have an average level of fatigue-related risk.

Finally, to monetize this reduction in risk, FMCSA calculates an average cost of large-truck crashes equal to $10.33 per hour driven.[21] This figure is based on the following assumptions: 1) an average cost per crash of $148,000; 2) 434,000 large-truck crashes per year; 3) 58 percent of large-truck crashes associated with long-haul routes; and 4) 2,257 hours driven per year per long-haul driver. FMCSA multiplies the risk reductions by the per-hour crash cost to calculate an annual value of the shift in driving time of $180 million for Option 2 and $490 million for Option 4.[22] FMCSA also reports a figure of $20 million for Option 3; however, the agency did not provide enough details to verify this calculation.

E. Safety Benefits from Reduced Cumulative Weekly Work Time

In addition to the benefits from reducing maximum daily driving time, FMCSA estimates a separate component of benefits related to reduction in cumulative weekly work time. FMCSA bases its calculations on a fatigue function developed from the LTCCS data, indicating an upward-sloping relationship between hours worked in the previous week and the likelihood of the presence of fatigue as an associated factor in a crash.[23] FMCSA adjusts the curve slightly so that it is consistent with an average fatigue rate of 13 percent at 52 hours of work per week (the average

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[15] RIA, p. 4-22.

[16] RIA, p. 4-20.

[17] FMCSA, "Report to Congress on the Large Truck Crash Causation Study," March 2006 ("LTCCS Report to Congress"), p. 9.

[18] "Hours of Service of Drivers: Notice of Proposed Rulemaking," Federal Register, v. 75, n. 249, December 29, 2010, ("2010 NPRM") p. 82175.

[19] RIA, p. 4-20.

[20] *Ibid.*

[21] RIA, p. 4-23.

[22] RIA, p. 6-5.

[23] RIA, p. 4-25.

weekly work time across all drivers, based on FMCSA's assumptions described above). As in FMCSA's analysis of daily driving time, here the agency again assumes that the presence of fatigue as an associated factor in crashes implies that fatigue *caused* those crashes.

FMCSA then calculates a reduction in fatigue risk from reducing work time for drivers with an average of 60 or more hours of work time per week by shifting work time to other drivers. FMCSA assumes no reduction in fatigue risk due to reduced weekly work time for drivers in the Moderate category. FMCSA adjusts the lost-time figures downward to account for the impact of the driving-time restriction on work hours.[24]

FMCSA monetizes the reduction in fatigue risk due to reduced work time using the same $10.33 per hour figure described above, which represents the average cost of large-truck crashes per hour of driving. FMCSA calculates a value of these risk reductions of $540 million annually for Option 2, $410 million for Option 3, and $740 million for Option 4.[25]

F. Health Benefits from Reduced Cumulative Weekly Work Time

Finally, FMCSA estimates health benefits associated with increased average sleep time for drivers. FMCSA starts with an estimate of the baseline level of sleep for each type of driver. The agency uses "low" estimates based on a study by Hanowski, *et al.* [2009], "high" estimates based on a study by Balkin, *et al.* [2000], and "medium" estimates which are the average of the other two.[26] FMCSA's medium estimates of baseline sleep range from 6.23 hours per day for drivers in the Extreme category to 7.02 hours per day for drivers in the Moderate category.[27]

FMCSA then uses the results of an internal analysis correlating work hours and sleep hours for long-haul drivers to translate the change in work hours for each driver type and HOS option into a change in sleep level. FMCSA calculates that Option 2 would result in increases in sleep ranging from 0.2 minutes per day for drivers in the Moderate category up to 22.7 minutes per day for drivers in the Extreme category.[28] FMCSA finds that Option 3 would result in slightly smaller sleep increases for drivers in the Moderate to Very High categories and that Option 4 would result in slightly greater sleep increases. FMCSA finds that drivers in the Extreme category would be affected equally under all options.[29]

FMCSA then applies research by Ferrie, *et al.* [2007], which shows a "u-shaped" relationship between average sleep and mortality, to calculate changes in mortality based on the increased amounts of sleep under each option.[30] According to FMCSA's interpretation of Ferrie, mortality rates are lowest for people who average about 6.9 hours of sleep per day, with higher mortality rates associated with either more or less sleep. FMCSA then uses actuarial data to calculate a change in drivers' expected lifespan from the percent change in mortality rates due to increased sleep.

Finally, FMCSA monetizes the change in expected lifespan using a value of $6 million per statistical life, an assumed career length of 35 years, and an assumption that each year of increased sleep over a driver's entire career has an incremental effect equal to 1/35 of the total effect.[31] That is, FMCSA assumes that a change in sleep each year of a

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[24] RIA, p. D-10.

[25] RIA, p. 6-5.

[26] RIA, p. 5-4.

[27] RIA, p. 5-5.

[28] *Ibid.*

[29] *Ibid.*

[30] RIA, pp. 5-6 – 5-8.

[31] RIA, p. 5-9.

driver's career has an incremental effect that, over the driver's entire career, sums to the effect that would pertain if the driver's average sleep level was changed over his entire lifetime.

Based on these assumptions and calculations, FMCSA estimates that Option 2 will generate health-related benefits of $690 million annually under the agency's medium baseline sleep assumption.[32] FMCSA finds greater benefits when it assumes a lower level of baseline sleep and a loss of health-related value under the high baseline sleep scenario. The reduction occurs because, under this scenario, drivers are already obtaining at least optimum sleep levels and the proposed rule would increase sleep further past the optimum. Option 3 shows net benefits under all three baseline sleep assumptions ($100 million to $1.2 billion). Option 4 shows net benefits under the low and medium baseline sleep assumptions and net costs under the high baseline sleep assumption. FMCSA states that "although our analysis shows a negative health benefit for drivers with a high baseline level of sleep, we do not believe that these negative benefits would be realized because drivers are likely to choose other activities rather than sleeping if they are getting enough sleep already."[33]

G. Total Costs and Benefits

Combining the results from FMCSA's central-case cost and benefit calculations results in annual net benefits of $380 million for Option 2, $560 million for Option 3, and -$420 million for Option 4.[34] Table 3 summarizes FMCSA's results.[35] FMCSA concludes that the net benefits of the proposed rule "are likely to be positive" for Options 2 and 3, but not for Option 4.[36]

Table 3
Annualized Costs and Benefits for HOS Options, as Calculated by FMCSA: Central-Case Assumptions (million 2008$)

	Costs		*Benefits*			*Net Benefits*
HOS Option	*Lost Productivity*	*Compliance*	*Safety - Reduced Driving Time*	*Safety - Reduced Work Time*	*Improved Driver Health*	
Option 2 – max. 10 hrs. driving	$990	$40	$180	$540	$690	**$380**
Option 3 – max. 11 hrs. driving[1]	$480	$40	$20	$410	$650	**$560**
Option 4 – max. 9 hrs. driving[1]	$2,270	$40	$490	$740	$660	**-$420**

Source: RIA, pp. 6-4 – 6-8.

Note: [1] Due to a lack of adequate documentation in the RIA regarding its calculations of the benefits associated with Options 3 and 4, we were unable to confirm all the components of FMCSA's analysis.

[32] RIA, p. 5-10.

[33] *Ibid.*

[34] RIA, p. 6-8.

[35] Note, FMCSA also presents results for each combination of its sensitivity analyses, including the high and low baseline sleep assumptions and the high and low fatigue risk assumptions.

[36] RIA, pp. ES-3 and ES-4.

III. Problems with FMCSA's Assumptions and Methods and Differences from Previous RIAs

A. Current Industry Operating Patterns

As described above, FMCSA bases its cost and benefit calculations on several important assumptions about drivers' current driving and work patterns, including: the share of the workforce in each driver category, hours worked and driven per day, days worked per week, use of the 14th hour of work, and use of the 10th and 11th hours of driving. FMCSA states that these assumptions are derived from the 2005 and 2007 Field Surveys. However, without access to the raw data from the surveys, we cannot verify FMCSA's assumptions.

Notwithstanding this issue, we have several concerns about FMCSA's use of the field surveys to estimate industry-wide driving intensity. First, the field surveys primarily report data obtained in the course of compliance reviews (81 percent of the observations in the 2005 survey and 70 percent of the observations in the 2007 survey).[37] FMCSA describes the selection criteria for compliance reviews as "poor safety performance or receipt of a non-frivolous complaint, or in follow-up to previous compliance/enforcement actions."[38] It is reasonable to consider that carriers targeted for review may use their drivers more intensely and may be more frequently up against current driving limits, if not over those limits. The remaining data in the field surveys come from safety audits, which are performed on new carriers during their first 18 months of operation. Neither category of carriers covered by the field surveys—i.e., the targets of compliance reviews or new carriers—are likely to exhibit characteristics that reflect those of the industry as a whole.

FMCSA uses the figure of 21 percent from the 2005 Field Survey as its estimate of the frequency of use of the 11th driving hour.[39] However, in its 2007 Interim Final Rule, FMCSA cited a number of data sources which indicate that the field survey results may not be representative, including:

- an August 2007 survey by ATA of its members, which shows that the 11th driving hour is used in 18 percent of daily trips;
- data from carrier Schneider National, Inc. showing use of the 11th hour in 10.7 percent of daily on-duty periods;
- an affidavit filed by carrier J.B. Hunt, stating that its drivers use the 11th hour or some portion of it about 10.8 percent of their daily driving days; and
- an affidavit from carrier Interstate Distributor Company stating that its drivers use the 11th hour on approximately 10 to 12 percent of days.[40]

FMCSA performs no analysis to determine whether the field surveys are representative of the industry overall, but nonetheless applies the results from the surveys in the RIA without explanation or adjustment.

A second problem with FMCSA's use of the field survey data relates to the agency's assumption that drivers who reported non-compliant work hours in the surveys would nonetheless fully comply with the proposed rule. For example, the 2005 Field Survey reported that 20.7 percent of tours exceeded 10.0 hours of driving per day, including

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[37] 2005 Field Survey, p. 2; and 2007 Field Survey, p. 2.

[38] "Hours of Service of Drivers: Interim Final Rule," Federal Register, v. 72, n. 241, December 17, 2007 ("2007 Interim Final Rule"), p. 71264.

[39] 2005 Field Survey, p. 2.

[40] 2007 Interim Final Rule, pp. 71265-71266.

4.0 percent that exceeded the current legal limit of 11 hours.[41] FMCSA assumes that all of these tours would become compliant under the 10-hour restriction in Option 2. FMCSA offers no explanation for its assumption that drivers currently out of compliance with HOS rules would become compliant under the new rule. Rather, it is possible that compliance rates would actually decline under a more restrictive rule. FMCSA's assumption about work time suffers from the same problem. In its estimate of use of the 14th on-duty hour (i.e., more than 13.0 hours), FMCSA includes the 4.3 percent of tours in the 2005 Field Survey which exceeded 14.0 hours of total work time.[42]

A third issue with FMCSA's use of the field survey data relates to the amount of driving/work time that would be shifted to lower hours under the proposed rule. As described above, FMCSA extracts figures for "use of the 11th (and 10th) driving hour" and "use of the 14th work hour" from the field surveys. The field surveys appear to be recording "use of the 11th hour" in any case where the driver was on the road between 10.0 and 11.0 hours, including, for example, a tour of 10.5 hours. Similarly, the field surveys appear to be recording "use of the 14th hour" in any case where the driver worked between 13.0 and 14.0 hours. However, in its calculations of both costs and benefits, FMCSA assumes that one full hour of driving time would be affected under Option 2 for the share of drivers that are recorded as having used the 11th hour in the field survey.[43] Similarly, FMCSA assumes that one full hour of work time would be affected for the share of drivers that are recorded as having used the 14th hour. Thus, FMCSA has overstated the number of affected hours and, as a result, overstated both the costs and benefits of the proposed rule.

Below, we calculate cost and benefit figures using FMCSA's model after adjusting FMCSA's assumptions to account for partial use of the 11th driving hour and the 14th work hour under current rules as well as to reflect impacts only on drivers who are in compliance with current rules.

B. Impact of the Proposed Rule on Carrier Operations

In the 2007 RIA, FMCSA used a simulation model to estimate the impact of HOS provisions on carrier operations. FMCSA's approach allowed for explicit measurement of the impact of the rules on carriers with a range of characteristics, based on actual data related to origins and destinations of truck hauls, driving speed, loading time, minimum and maximum HOS requirements, and other factors. FMCSA tested the current rules against an option which reduced the maximum consecutive driving time to 10 hours and eliminated the restart provision—i.e., a policy similar to FMCSA's Option 2 in the proposed rule. FMCSA estimated that the restrictions would reduce industry productivity by 7.1 percent.[44]

FMCSA now bases its estimates of the impact on carrier operations on a series of assumptions, which are unsupported by any model or other reference. FMCSA states only that:

> *Data on industry-wide characteristics, combined with data from a limited number of consistent sources on overall intensity, and judgment on how the use of individual rule elements would impact driver schedules gave us a simplified picture of the work and driving characteristics of drivers with varying levels of intensity of work.*[45]

Based on these undocumented assumptions, FMCSA now estimates that Option 2 will cause only a 2.8-percent loss of productivity—less than half the loss calculated in the 2007 RIA for a similar policy change. FMCSA provides no explanation for why it has abandoned its model of carrier logistics nor why its new cost estimates are so much lower than the estimates created by the agency three years ago.

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[41] 2005 Field Survey, p. 7.

[42] *Ibid.*

[43] FMCSA assumes that drivers recorded as using the 10th or 11th hour would lose 1.5 hours of driving time under Option 4.

[44] 2007 RIA, p. ES-4.

[45] RIA, p. 3-2.

Since FMCSA does not base its assumptions regarding the response of drivers to the proposed rule on any data, model, or other replicable analysis, we cannot verify the agency's calculations. However, several of FMCSA's assumptions are clearly unreasonable. As we describe above, FMCSA's assumption that drivers currently in non-compliance with HOS rules would become compliant under the new rules is unfounded. Furthermore, FMCSA's assumption that every driver currently using the 11th driving hour would lose a full hour under Option 2 (with a similar assumption about the 14th work hour) is not reasonable.

A further problem with FMCSA's assumptions is that the agency assumes that every lost hour of driving caused by the proposed rule could be replaced seamlessly by shifting the time to another work day or to another driver. Presumably, drivers' current schedules reflect an optimization of assignments, given circumstances such as origin/destination pairs, delivery time requirements, driver availability, and other factors. If the proposed HOS constraints are imposed, carriers may experience additional productivity losses due to an inability to perfectly substitute alternate drivers for every lost hour. For example, it may be difficult to replace an hour of driving time lost for a driver in the middle of a cross-country route with an hour from another driver. In the previous RIA, FMCSA's carrier logistics model may have accounted for such issues (we are unable to confirm this without access to the detailed workings of the model). However, FMCSA's current methodology clearly does not. For this reason, FMCSA's assumptions may underestimate the productivity impacts of the proposed rule.

An additional problem with FMCSA's calculations of productivity impacts is that the agency assumes that the restart restriction would have no impact on drivers in the Moderate or High categories. Although these drivers may not *typically* use the restart option in the HOS rules, there is no basis to assume that they *never* use it. To the contrary, the 2007 Field Survey reported that 84 percent of drivers used at least one restart period during the reviewed tours.[46] The survey also reported that in 85 percent of the instances in which the restart was used, the driver worked less than 65 hours in the week prior to the restart. Since the Very High and Extreme driver categories comprise only 15 percent of the workforce, there appears to be substantial use of the restart by drivers in the other categories. Thus, FMCSA has underestimated the impact of the proposed restart provision. We do not have sufficient information to calculate impacts due to the restart provision for these other groups of drivers, but the difference could be substantial due to the large number of drivers in these categories. For example, if the restart provision causes drivers in the Moderate and High categories to experience a loss of only 0.175 work hours per week—one quarter of the loss assumed by the FMCSA for drivers in the Very High category—that would increase the productivity impact of Option 2 by more than $100 million annually.[47]

Although we do not apply specific alternate assumptions about lost productivity in our calculations here, it is instructive to consider how FMCSA's new assumptions affect the agency's ultimate findings regarding the net benefits of the proposed rule. In the current RIA, FMCSA calculates a productivity loss of $990 million annually under Option 2—equivalent to a 2.8-percent reduction from current levels. If FMCSA had applied an impact of 7.1 percent, as the agency previously calculated using the carrier logistics model described in the 2007 RIA, the total loss would be $2.52 billion annually. In this scenario, Option 2 would result in a net loss to society of $1.15 billion annually, rather than a gain of $380 million as calculated by FMCSA. In other words, FMCSA's finding that the net benefits of Option 2 are "likely to be positive" is heavily dependent on its new assumptions regarding productivity impacts.

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[46] 2007 Field Survey, pp. 3-4.

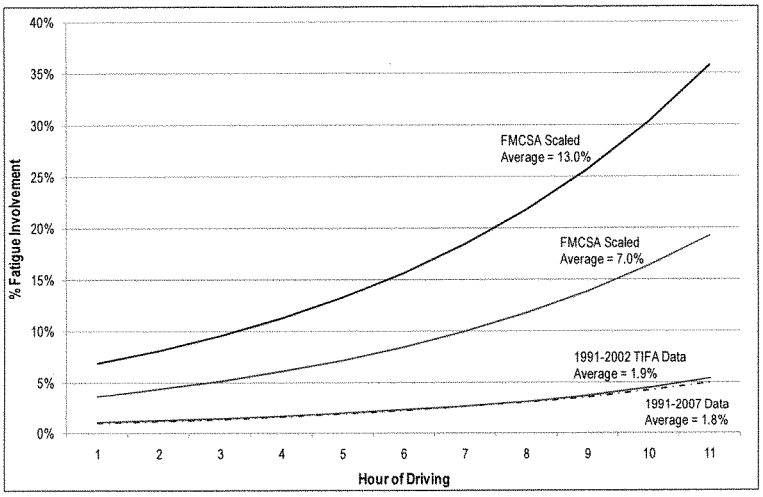
[47] Edgeworth calculations, based on FMCSA's methodology and other assumptions as described in the RIA.

C. *Impact of the Proposed Rule on Large-Truck Crashes*

1. Relationship between Driving Hours and Fatigue Risk

A key component in FMCSA's analysis of crash-related benefits is the relationship between driving hours and fatigue risk (the "fatigue curve"). As described above, FMCSA uses the TIFA data to determine the shape of the fatigue curve, but believes that the average level of risk demonstrated by that data—1.8 percent—is too low. Instead, FMCSA scales the fatigue curve derived from the TIFA data upward to reflect an average fatigue risk of 13 percent, based on the finding from the LTCCS that 13 percent of large-truck crashes showed fatigue as an "associated factor." Figure 1 shows the fatigue curves for: 1) the 1991-2002 TIFA data used in FMCSA's previous RIA; 2) the updated (1991-2007) TIFA data; 3) FMCSA's current model, which adjusts the updated TIFA model to an average of 13 percent; and 4) the TIFA data scaled to an average of 7 percent, which is the risk level estimated by FMCSA in the previous RIA. Note that FMCSA's method of scaling the TIFA findings not only raises the fatigue curve, but also substantially increases the slope of the curve. This inflates the apparent benefit of shifting drive time from the 11th hour to an earlier hour.

Figure 1
Fatigue Curves from FMCSA Analyses



Source: RIA, pp. 4-15 – 4-22.

This approach by FMCSA is problematic for several reasons. First, by treating the coding of fatigue as an associated factor in the LTCCS as identifying the "cause" of a crash, FMCSA implicitly assumes that a policy which reduces the frequency of fatigue as an associated factor in crashes would necessarily eliminate those crashes in direct proportion. This assumption contradicts previous research by FMCSA, which makes clear that an associated factor is not equivalent to the "cause" of the crash. FMCSA's Report to Congress on the LTCCS describes associated factors as "any of approximately 1,000 conditions or circumstances present at the time of the crash is coded."[48] FMCSA further states that when coding the LTCCS data, "[n]o judgment is made as to whether any [associated]

[48] LTCCS Report to Congress, p. 9.

factor is related to the particular crash, just whether it was present."[49] Another FMCSA study specifically differentiates between two definitions of "cause": 1) as a "necessary factor" (had the factor not been present in the crash sequence, the crash would not have occurred); or 2) as a "risk-increasing factor" (the factor increases the risk, or probability, of a crash).[50] FMCSA's prior analyses using the LTCCS data used the latter definition; however, in the RIA the agency now assumes the former.

The fallacy of FMCSA's assumption becomes evident when reviewing the full set of associated factors reported in the LTCCS. The study estimated a total of approximately 430,000 associated factors for 141,000 large-truck crashes—or about three factors per crash. Fatigue was coded as an associated factor in 13 percent of crashes, but those factors represented only 4.2 percent of the total number of associated factors recorded in the study. Thus, FMCSA's treatment of associated factors in the RIA implies that fatigue was the necessary cause of every crash in which it was present, even though there were, on average, approximately two other factors present in that same crash. Furthermore, FMCSA's approach even includes crashes in which the "critical reason"—i.e., the "failure leading to the critical event [crash]"—was not assigned to the truck, but rather to another vehicle.[51] Clearly, eliminating fatigue on the part of the truck driver would not necessarily eliminate such crashes. If one assumes that each associated factor recorded for a particular crash had an equal likelihood of being the "cause" of that crash (defining "cause" in the manner implied by FMCSA's analysis in the RIA), then 4.2 percent, rather than 13 percent, represents a better indicator of average fatigue risk.

A second problem with FMCSA's use of the LTCCS data is that the study oversampled single-vehicle crashes. Single-vehicle crashes make up 27 percent of the observations in the LTCCS sample, yet they comprise only 17.5 percent of the observations in the much more comprehensive Fatality Analysis Reporting System (FARS) database.[52] This sampling issue skews the results related to fatigue, since fatigue is more likely to be an associated factor in single-vehicle crashes than in multiple-vehicle crashes. For example, data from the LTCCS indicates that fatigue was an associated factor in 7.5 percent of two-vehicle crashes, compared to 13 percent in all crashes.[53] Consequently, the LTCCS analysis overestimates the frequency of fatigue as an associated factor relative to the true frequency across all crashes. Knipling [2008] found that the sampling pattern in the LTCCS results in an overstatement of the share of total crashes in which the driver was coded as "asleep at the wheel" by 80 percent.[54]

For these reasons, 13 percent is clearly an overestimate of the ratio of large-truck crashes caused by fatigue. Moreover, this figure is substantially higher than any measure previously used by the agency in its analyses of HOS rules or any other publicly-available measure. For example, in the 2007 RIA, FMCSA stated that FARS provided "consistent data on the causes of crashes." FMCSA performed an "extensive analysis" of FARS and other data and concluded that driver fatigue was a "factor" in 7.25 percent of large-truck crashes. FMCSA added 0.9 percent to account for crashes in which driver "inattention" was coded as a factor to reach a final estimate of 8.15 percent. FMCSA then estimated that the fatigue rate would fall to 7 percent under the current HOS rules. In a response to public comments, FMCSA confirmed its judgment that "the 7 percent figure is accurate, even when recognizing that

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[49] *Ibid.*

[50] James Hedlund and Daniel Blower, "Large Truck Crash Causation Study (LTCCS) Analysis Series: Using LTCCS Data for Statistical Analyses of Crash Risk," FMCSA publication, January 2008.

[51] 45 percent of crashes in the LTCCS had critical reasons assigned to other vehicles. [LTCCS, p. 11]

[52] In the RIA, FMCSA states that single-vehicle crashes make up 21 percent of all LTCCS crashes. [RIA, p. 4-19] FMCSA claims that figure is "within the margin of error" of the 17.5-percent figure from FARS. FMCSA provides no basis for this assertion. In any case, the 21-percent figure appears to be an error, as the LTCCS study clearly states that single-vehicle crashes make up 26.9 percent of the sample. [LTCCS, p. 11]

[53] LTCCS Report to Congress, pp. 15 and 18.

[54] Ronald R. Knipling, "Critique of Large Truck Crash Causation Study (LTCCS) Driver Fatigue Statistics and Analysis," March 17, 2008, p. 3.

the coding of fatigue-related crashes may be underestimated."[55] Other estimates of the share of large-truck crashes in which fatigue played a role tend to be even lower than 7 percent, including:

- 2.2 percent from FMCSA's analysis of 2004-2006 TIFA data in the 2008 Final Rule;[56]
- 2.1 percent from data collected by DriveCam in 2009 using in-cab video recorders;[57]
- 2.6 percent from a study of 1996-2001 fatal commercial vehicle crashes conducted by the Michigan State Police Carrier Enforcement Division;[58] and
- 2.5 percent, calculated by Knipling [2008], based on findings of "asleep at the wheel" in the LTCCS, with an adjustment to correct for oversampling of single-vehicle crashes.[59]

A further problem with FMCSA's approach is that the crashes in the LTCCS sample used to determine the fatigue curve occurred under previous HOS rules (i.e., before 2004). As FMCSA has recognized, under those rules the risk associated with driving extended daily hours may have been higher than under current rules, due to the less restrictive requirements for off-duty time.[60] Furthermore, recent data shows that the overall level of fatigue risk has fallen, from an average of 1.9 percent in the 1991-2002 TIFA data to an average of 1.8 percent when data from 2003-2007 is added. FMCSA does not provide sufficient information about the more recent TIFA data to identify fatigue risk for the 2003-2007 period precisely, but we estimate a decline of approximately 15 percent relative to the 1991-2002 period.[61] FMCSA recognizes that its reliance on data from prior regulatory regimes is problematic, but fails to account for any bias that this method might introduce into its results.[62]

FMCSA's overstatement of the rate of fatigue-related risk has a substantial impact on its results. We calculate that using a rate of 7 percent, rather than 13 percent, would reduce the benefits associated with the proposed rule by $330 million per year, using FMCSA's other central-case assumptions for Option 2.[63]

2. FMCSA's Analysis of Benefits from Reduced Cumulative Work Time

FMCSA's calculation of a separate component of benefits for reduced cumulative work time is an analysis that the agency had not conducted in previous RIAs. To the contrary, FMCSA asserted repeatedly in responses to public comments to the 2007 RIA that the 2003 rule provided sufficient flexibility to eliminate any concerns about cumulative work time. For example, FMCSA stated:

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[55] "Hours of Service of Drivers: Final Rule," Federal Register, v. 73, n. 224, November 19, 2008 ("2008 Final Rule"), p. 69578.

[56] *Ibid.*

[57] DriveCam report for the ATA, dated March 15, 2010, attached to June 3, 2010 letter from Bill Graves to the Honorable Anne Ferro.

[58] James Hedlund and Daniel Blower, "Large Truck Crash Causation Study (LTCCS) Analysis Series: Using LTCCS Data for Statistical Analyses of Crash Risk," FMCSA publication, January 2008.

[59] Knipling (2008), p. 3.

[60] "Hours of Service of Drivers: Final Rule," Federal Register, v. 70, n. 164, August 25, 2005 ("2005 Final Rule"), p. 49981.

[61] Based on an assumption that the annual number of fatal crashes has been (approximately) constant over the entire time period, consistent with current data. [FMCSA, "Large Truck and Bus Crash Facts 2009: Early Release," October 2010 ("Crash Facts 2009"), Tables 4, 7, and 8]

[62] 2010 NPRM, pp. 82179-82180.

[63] Note, as we describe below, FMCSA's assumption regarding average fatigue risk affects the agency's calculation of benefits related to both reducing daily driving time and reducing weekly work time. Our calculation here includes the impacts of both components.

> *The Expert Panel noted that "recovery time periods must take into consideration the necessity for overcoming cumulative fatigue resulting from such schedules and must include sufficient sleep * * * Recovery time should include at least two uninterrupted time periods * * * and such recovery time must be made available at least once in every 7 days." The 2003 rule created a minimum 34-hour recovery period that provides sufficient time for two 8-hour sleep periods and one 16-hour period of intervening wakefulness, allowing the opportunity for recovery from any potential cumulative fatigue that might occur. Although the effect of the 34- hour restart cannot be isolated from all the other factors that affect highway safety, it should be noted that FMCSA's Field Surveys show increased use of the restart provision between 2005 and 2007, at a time when the rate of fatigue related fatal truck crashes remained essentially unchanged and the overall large-truck fatal crash rate dropped to the lowest level ever recorded.*[64]

FMCSA has now reversed its position on this issue, claiming that "the increase in total maximum allowable work per week allowed by the rule, and the short restart, may result in adverse impacts on driver health and safety."[65] However, FMCSA cites no new research or evidence from recent data to support its concerns. Instead, the agency relies on an analysis of the LTCCS data collected *before* implementation of the current rule. Since FMCSA calculates that the benefits associated with reducing fatigue from cumulative work time are approximately three times as great as those associated with reducing daily driving time (under Option 2), the importance of confirming the existence of cumulative fatigue and of any relationship between work time and such fatigue using current data is clear. FMCSA's failure to use data collected under current HOS rules to test for this effect sheds substantial doubt on the agency's findings.

Notwithstanding this general concern about FMCSA's approach, we found additional problems with the agency's calculations of benefits associated with reducing cumulative weekly work time which serve to inflate the net benefits of the proposed rule as calculated by FMCSA. First, when FMCSA calculates the reduction in crash risk associated with reducing weekly work hours, the agency treats any partial hour of reduced time as a full hour.[66] This inflates the apparent benefits of the risk reduction. For example, FMCSA calculates that drivers in the High category will lose 1.04 hours of work time under Option 2, shifting from 60 hours per week to 58.96 hours per week.[67] However, when FMCSA calculates the reduced crash risk associated with that loss of work time, the agency assumes that the new level of work time will be 58.0 hours—a full 2-hour reduction.[68] In supplementary documentation placed in the docket, FMCSA concedes that "[t]he use of this methodology may result in slightly higher estimated benefits for each option, compared to using exact values."[69] We calculate that this method overstates the benefits of Option 2 by about $70 million per year.

An additional problem with FMCSA's new analysis of crash risk associated with cumulative work time is that the agency applies fatigue curves for daily driving time and for weekly work time separately, without recognizing that a reduction in daily driving time could reduce the risk of high weekly work hours and vice versa. In other words, the slopes of FMCSA's fatigue curves are likely to be sensitive to changes in HOS rules. In previous RIAs, FMCSA recognized the interaction between daily work restrictions and cumulative fatigue, for example stating in 2005:

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[64] 2008 Final Rule, p. 69575, citation omitted.

[65] RIA, p. 1-5.

[66] FMCSA does not describe this assumption in the RIA. We obtained supplementary information from FMCSA, now in the public docket, in which the agency explained its methods and assumptions in more detail. [FMCSA memo, "Response to ATA request for Further Information on the Cumulative Fatigue Function used in the Regulatory Evaluation for the 2010 NPRM Proposing Revisions to the Hours of Service Rules," plus accompanying spreadsheets, January 28, 2011 ("FMCSA Cumulative Fatigue Memo")]

[67] RIA, p. D-5.

[68] FMCSA Cumulative Fatigue Memo.

[69] *Ibid.*

> *Under today's rule, most drivers have an adequate opportunity to limit the accumulation of fatigue. Ten hours off duty gives drivers enough time for 7–8 hours of sleep. In addition, adopting a non-extendable 14-hour duty tour (reduced by one or more hours from the pre-2003 rule) will also limit the accumulation of fatigue.*[70]

FMCSA's present analysis, however, is based on the implicit assumption that a reduction in weekly work time would have no impact on the relationship between daily driving hours and fatigue risk, and similarly that a reduction in daily driving hours would have no impact on the relationship between weekly work time and fatigue risk. This assumption is unreasonable. Consider two drivers each averaging 8 hours of driving per day: Driver A, who averages 50 hours of total work per week, and Driver B, who averages 45 hours. It is logical to expect that the increment of fatigue risk between the 10th and 11th driving hours on any particular day will be higher for Driver A than for Driver B. The information provided in the RIA is not sufficient to permit us to estimate the magnitude of these effects, but they could be significant. By omitting such considerations, FMCSA has overstated the benefits of the proposed rule.

3. Crash Cost per Hour of Driving/Work

FMCSA monetizes the change in crash risk by assuming a proportional reduction in the cost of crashes per hour of driving. FMCSA calculates the cost of large-truck crashes per hour of long-haul driving by calculating the average cost of a large-truck crash, multiplying by the total number of crashes by long-haul drivers per year, and then dividing by the annual number of long-haul driving hours per driver per year. The assumptions and calculations used here by FMCSA appear reasonable, with one important exception. FMCSA uses a figure of 434,000 large-truck crashes per year, without any citation. As shown in Figure 2, FMCSA's figure represents approximately the level of large-truck crashes during the 2000-2003 period, which the agency used to determine costs in its 2003 RIA and then adopted again in its 2007 RIA.[71] Since 2003, however, the number of large-truck crashes per year has fallen substantially. In the Notice of Proposed Rulemaking, FMCSA cites a figure of 365,000 crashes in 2008.[72] The most recent figure, from 2009, is 286,000 crashes—34 percent lower than the figure used in the RIA. Preliminary data for 2010 indicates that crash rates are continuing to fall.[73] Clearly, FMCSA's assumption of 434,000 large-truck crashes per year is no longer appropriate. Applying the most recent (2009) data to FMCSA's calculations reduces the crash cost per hour of driving to $6.81. We calculate that making this change alone to FMCSA's calculations would reduce the benefits of the proposed rule by about $250 million per year, using FMCSA's other central-case assumptions for Option 2.

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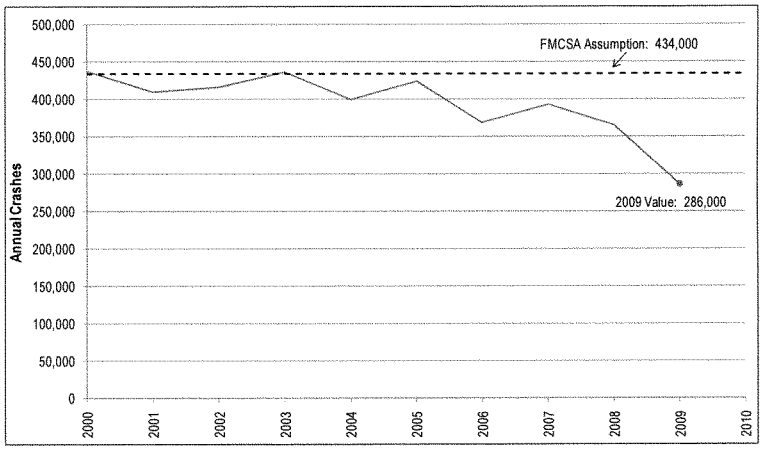
[70] 2005 Final Rule, p. 50023.

[71] ICF Consulting, Inc. and Jack Faucett Associates, "Regulatory Impact Analysis and Small Business Analysis for Hours of Service Options," prepared for the FMCSA, December 2002 ("2002 RIA"), p. 8-37; and 2007 RIA, p. 68.

[72] 2010 NPRM, p. 82176.

[73] See, for example, National Highway Transportation Safety Administration, "Early Estimate of Motor Vehicle Traffic Fatalities for The First Three Quarters (January-September) of 2010," December 2010.

Figure 2
Large Truck Crashes, 2000-2010



Sources: RIA, p. 4-23; and Crash Facts 2009, Tables 4, 7, and 8.

A further problem with FMCSA's use of the per-hour crash cost is the agency's application of the figure to its calculations of reduced crashes associated with cumulative weekly work time. As described above, FMCSA assesses benefits associated with reduced cumulative work in addition to the benefits from reduced daily driving time. However, FMCSA uses the same "crash cost per hour of driving" figure to monetize the reduced risk from shifting weekly work time to drivers with less intensive work schedules. FMCSA has erred in its approach here. Reducing work time must have a smaller per-hour benefit than reducing driving time, since crashes do not occur in non-driving work hours. FMCSA should have calculated a "crash cost per hour of work," which is necessarily less than the "crash cost per hour of driving." Based on FMCSA's assumptions, we calculate that the crash cost per hour of work time is 22 percent lower than FMCSA's figure.[74] We calculate that FMCSA has overstated the benefits of reducing cumulative weekly work time by approximately $120 million per year for Option 2, based on this issue alone.

D. Impact of the Proposed Rule on Driver Health

1. Comparison to Previous RIAs

In previous RIAs, FMCSA concluded that insufficient evidence existed to support a connection between reduction of maximum work or driving time and the health of drivers. In 2005, FMCSA stated:

> *The driver health team found very little research to evaluate specifically the association between long work hours and CMV driver health. No research studies were found that permitted an examination of whether additional hours of driving or nondriving time would impact driver health.*[75]

[74] Based on 40.6 average weekly driving hours and 52.1 average weekly work hours, from FMCSA's assumptions described in Table 1, above.

[75] 2005 Final Rule, p. 49990.

> *[I]n the Agency's best judgment, the difference between a driving limit of 10 and 11 hours is inconsequential from the standpoint of driver health.*[76]

> *[I]n the Agency's best judgment there is no evidence that the number of work hours allowed by the HOS regulation adopted today will have any negative impact on driver health.*[77]

Similarly, in 2008 FMCSA concluded:

> *In summary, as discussed at length in the 2005 rule, the Agency undertook a comprehensive examination of issues related to driver health. The Agency is aware of no new studies, nor have commenters provided any, published since the 2005 rule was promulgated that have changed these underlying conclusions and the regulatory provisions adopted. Driver health research simply is not mature enough to allow the conclusion that a number of extra hours of work would result in increased driver health problems. Also, there are many confounding factors that affect driver health, such as diet, smoking, and exercise. ... The Agency concluded in 2005 that it was unable to quantify or monetize the impacts of that rule on driver health; the same conclusion applies to today's rule.*[78]

In the new RIA, however, FMCSA calculates substantial health-related benefits associated with reducing daily work time. Without such benefits, all of the proposed options would result in net costs to society, according to FMCSA's calculations. For example, excluding health-related benefits leads to a calculation of a net loss to society of $310 million per year, using FMCSA's other central-case assumptions for Option 2.

In order to reach a conclusion that reduced work time would improve driver health, there are two chains of causation that must be demonstrated: first, that reducing work time for drivers would result in an increase in sleep; and second, that increasing sleep would improve drivers' health. FMCSA's analysis of each component is flawed.

2. Relationship between Work Time and Sleep Time

In order to show that reducing work time would result in an increase in drivers' sleep, FMCSA cites an analysis by Balkin, *et al.* [2000] correlating work hours and sleep hours for long-haul drivers.[79] We have several concerns with FMCSA's use of the Balkin results in this manner.

First, the Balkin study was published in 2000;[80] therefore the data was collected from truck drivers operating under previous HOS rules. The measured relationship between drivers' work time and sleep time may no longer pertain, due to changes in HOS restrictions following implementation of current rules in 2003.

Our second concern with FMCSA's methodology is one of *causation*. The observation of a simple correlation between work time and sleep time does not necessarily imply that a reduction in work would result in an increase in sleep in accordance with the observed correlation. In the Notice of Proposed Rulemaking issued concurrently with the RIA, FMCSA makes clear the difficulty in determining the behavioral responses of drivers to the proposed rule,

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[76] 2005 Final Rule, p. 50011.

[77] 2005 Final Rule, p. 49990.

[78] 2008 Final Rule, p. 69574.

[79] RIA, pp. 5-3 – 5-5 citing Balkin, T., Thorne, D., Sing, H., Thomas, M., Redmond, D., Wesensten, N., Williams, J., Hall, S., & Belenky, G., "Effects of Sleep Schedules on Commercial Motor Vehicle Driver Performance," Walter Reed Army Institute of Research, Washington, D.C., May 2000.

[80] Note, the RIA states that Balkin was published in 2002; however, the report in the docket entry cited by FMCSA actually shows a publication date of May 2000.

stating: "the Agency has no basis for estimating the extent to which drivers who have an extra hour a day or extra hours per week off duty will use that time to exercise and sleep."[81] Yet, in the RIA, FMCSA makes precisely that determination, despite the lack of evidence demonstrating a causal link. In particular, the observed correlation between work time and sleep time could be due in part to any or all of the following circumstances:

- Drivers with non-work-related sleep disorders or a preference for lesser amounts of sleep choose to work longer hours. Similarly, drivers who prefer more sleep for reasons unrelated to work choose to work less.
- The observed pattern of work/sleep time across drivers is a function of other driver characteristics that would be unaffected by a change in work time, such as age, family status, or use of pharmaceuticals.
- Individual drivers adjust their time spent on activities other than work or sleep in response to changes in work time in a different manner than reflected in the relationship measured by FMCSA.

Although FMCSA fails to address these questions in its analysis of work/sleep correlation, elsewhere in the RIA the agency apparently recognizes the fact that the observed correlation between work time and sleep time does not necessarily imply that changes in one cause changes in the other in any sort of fixed relationship across the entire population of drivers. In particular, when discussing its findings that some of the options would result in higher driver mortality due to an increase in sleep time above the optimum level, FMCSA states:

> *Although our analysis shows a negative health benefit for drivers with a high baseline level of sleep, we do not believe that these negative benefits would be realized because drivers are likely to choose other activities rather than sleeping if they are getting enough sleep already.*[82]

FMCSA offers no evidence to support this assertion. Moreover, it would be true only if drivers were perfectly aware of their actual and optimum sleep times and chose to convert all reductions in work time to non-sleep activities. In any case, FMCSA's statement shows recognition that individual drivers do not necessarily respond to changes in work in the manner suggested by a simple work/sleep correlation measured from a cross section of the driver population. It would seem apparent that a driver currently obtaining slightly less than the optimum sleep level might maintain that level in response to a decrease in work time, just as a driver currently obtaining slightly more than the optimum level of sleep would do, as suggested by FMCSA. Even drivers with intensive work schedules may make the conscious choice to forgo additional sleep in order to pursue other non-work-related activities.

This issue represents a fundamental flaw in FMCSA's approach. FMCSA's failure to consider characteristics of drivers or their behavioral responses to changes in HOS rules sheds considerable doubt on its results. Moreover, the internal inconsistencies within the RIA and Notice of Proposed Rulemaking demonstrate the lack of sound bases for FMCSA's assumptions.

3. Relationship between Sleep Time and Driver Health

FMCSA's approach to estimating impact on driver health caused by changes in average sleep levels is based on an adaptation of the results from Ferrie [2007]. In that study, researchers analyzed a sample of approximately 10,000 British civil servants in the late-1980s and early-1990s and found a "u-shaped" relationship between average weeknight sleep amounts and subsequent mortality rates.[83] They concluded:

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[81] 2010 NPRM, p. 82190.

[82] RIA, p. 5-10.

[83] Ferrie, J., Shipley, M., Cappuccio, F., Brunner, E., Miller, M., Kumari, M., & Marmot, M., "A Prospective Study of Change in Sleep Duration: Associations with Mortality in the Whitehall II Cohort," *Sleep*, v. 30, n. 12, 2007, pp. 1659-1666.

> *[W]e consistently demonstrate higher rates of all-cause mortality among participants who report short sleep (≤5 hours) or long sleep (≥9 hours) at follow-up, regardless of their sleep duration 5-6 years earlier. A decrease in sleep duration among those regularly sleeping 6, 7, or 8 hours at baseline was associated with a 110% excess risk of cardiovascular mortality. However, an increase in sleep duration among those regularly sleeping 7 or 8 hours at baseline was associated with a 110% excess risk of non-cardiovascular mortality.*[84]

We have several concerns with FMCSA's use of the results from Ferrie. First, FMCSA ignores any potential differences between the population sample studied by Ferrie (British civil servants in the 1980s) and the relevant group here (long-haul truck drivers in the U.S. today). For example, FMCSA fails to consider that truck drivers are subject to HOS rules governing weekly work levels and off-duty time, which were designed specifically to allow recovery from intense work schedules so that cumulative fatigue is avoided. Presumably, British civil servants in the 1980s were not subject to comparable rules. Other important differences between the groups include: 1) the types of people who choose to work as long-haul truck drivers may have different optimal sleep levels than those who choose to be civil servants; and 2) long-haul trucks drivers may have more variable schedules than civil servants, which allows drivers to recover during non-work periods despite (potentially) lower average sleep levels during work periods.

Second, FMCSA imputes a level of precision to the Ferrie study that does not exist in the original research. Ferrie reports mortality figures based on survey responses to the question: "How many hours of sleep do you have on an average week night?" Response categories were "5 hours or less," 6, 7, 8, and "9 hours or more." While Ferrie does find higher mortality associated with the lowest and highest responses relative to the middle responses, the researchers were careful to attribute mortality effects only over ranges of sleep hours at the extremes of the survey responses—i.e., at sleep levels "less than or equal to 5 hours" or "greater than or equal to 9 hours." Ferrie found no statistically significant differences between the mortality rates of people who reported 6, 7, or 8 hours of sleep.[85]

FMCSA's attribution of mortality effects to small changes in sleep levels within the "normal range" contradicts the agency's previous conclusions as well as the broader set of findings by medical researchers. For example, in response to comments on a previous RIA, FMCSA concluded that "the finding of 6.28 hours of sleep per night [the average reported in a 2005 FMCSA study] is within normal ranges consistent with a healthy lifestyle."[86] Additional academic research has consistently supported the same findings. For example, Cappuccio, *et al.* [2010], also cited in the RIA, reported the results of a "meta-analysis" of sleep research comparing the findings of 16 different studies regarding sleep levels and mortality, including the 2007 Ferrie study.[87] The researchers concluded: "Currently, there is no evidence that sleeping habitually between 6 and 8h per day in an adult is associated with harm and long term health consequences."[88] FMCSA ignores this conclusion, citing only Cappuccio's finding of a "slightly higher relative risk for short sleep," which the researchers define as "5 hours or less."[89]

In contrast to this research, FMCSA uses the five data points from Ferrie to identify a purportedly optimum sleep level at a precise point near 6.9 hours, and then attributes mortality impacts to very small changes around that optimum. For example, FMCSA's assumes average baseline sleep levels of 6.2 to 7.0 hours (in its central case) for the four

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[84] *Ibid*, p. 1662.

[85] The differences between the average mortality hazard ratios for people reporting these three sleep levels were well within the 95-percent confidence intervals associated with the sample estimates of those ratios. [Ferrie , p. 1661]

[86] 2005 Final Rule, p. 49983.

[87] Cappuccio, F., D'Elia, L., Strazzullo, P., & Miller, M., "Sleep Duration and All-Cause Mortality: A Systematic Review and Meta-Analysis of Prospective Studies," *Sleep*, v. 33, n. 5, 2010, pp. 585-592.

[88] *Ibid*, p. 591 (italics added).

[89] Cappuccio, *et al.* state: "People reporting consistently sleeping 5 hours or less per night should be regarded as a higher risk group for all-cause mortality" (p. 591).

categories of drivers, with increases under Option 2 of as little as 13 seconds per day for drivers in the Moderate category to at most 23 minutes per day for drivers in the Extreme category. The results from Ferrie and from the broader field of research do not support the attribution of mortality impacts from such small changes in sleep levels for people who currently obtain 6 to 8 hours of sleep.

IV. Adjusted Cost-Benefit Calculations

In order to evaluate the importance of these issues in the overall assessment of the proposed rule, we recalculate the costs and benefits of Option 2 using FMCSA's general approach and central-case assumptions, but we adjust key variables to correct for some of the errors and unreasonable assumptions made by FMCSA.[90] First, we summarize the impact of each of seven adjustments in isolation. We then combine all the adjustments.

1) We assume that the average use of the 11th driving hour by drivers who exceed 10.0 hours is 0.5 hours, rather than one full hour as assumed by FMCSA. Similarly, we assume that the average use of the 14th work hour is 0.5 hours.[91]

   → Reduces the apparent net benefits of Option 2 by $80 million per year.

2) We assume that tours in which driving or work times are currently non-compliant (about 4 percent of tours according to the 2005 Field Survey) would be unaffected by the proposed rule.[92]

   → Reduces the apparent net benefits of Option 2 by $110 million per year.

3) We use a fatigue-risk rate of 7 percent. This rate was applied by FMCSA in the previous RIA and is more consistent with recent trends in fatigue-related crashes and other available data than FMCSA's figure of 13 percent, which is based on a misuse of the "associated factors" tracked by the LTCCS.

   → Reduces the apparent net benefits of Option 2 by $330 million per year.

4) We calculate benefits from reducing weekly work time using the relationship that FMCSA identified from the actual data, rather than FMCSA's approach of inflating partial lost work hours to full lost work hours.

   → Reduces the apparent net benefits of Option 2 by $70 million per year.

5) We calculate total annual crash costs using 2009 data for the number of large-truck crashes—286,000—rather than FMCSA's figure of 434,000 from early in the last decade.

   → Reduces the apparent benefits of Option 2 by $250 million per year.

6) We apply a "crash cost per hour of work" to calculate benefits associated with eliminating the 14th work hour, rather than FMCSA's "crash cost per hour of driving."

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[90] As noted above, due a lack of adequate documentation in the RIA regarding the calculations associated with Options 3 and 4, we were unable to replicate all of the components of FMCSA's analysis. We therefore analyze these issues only with respect to Option 2.

[91] In this scenario, we assume the lost hours due to the restart provision are one-half of the values chosen by FMCSA—i.e., 0.35 hours per week for drivers in the Very High category and 2.44 hours per week for drivers in the Extreme category.

[92] In this scenario, we assume the lost hours due to the restart provision are equal to the values chosen by FMCSA multiplied by the ratio of compliant tours in excess of 13 hours relative to all tours in excess of 13 hours—i.e., 0.36 hours per week for drivers in the Very High category and 2.52 hours per week for drivers in the Extreme category.

→ Reduces the apparent benefits of Option 2 by $120 million per year.

7) We exclude health-related benefits from the analysis, due to FMCSA's lack of support for its claim that small changes in sleep time within the "normal" range would have an adverse effect of drivers' health.

→ Reduces the apparent benefits of Option 2 by $690 million per year.

Note, the impacts of these individual corrections are not additive; when more than one is implemented at the same time, the effect of each correction on the net benefits of the proposed rule is reduced.

When all of these corrections are applied together, we calculate a net *cost* associated with Option 2 of $320 million per year.[93] That is, we find that FMCSA has overstated the net benefits of the proposed rule by about $700 million annually and that the proposed rule would impose a net cost on society, rather than a net benefit as claimed by FMCSA. If health-related benefits are included in the model as calculated by FMCSA, while making the first six corrections described above, we calculate that the proposed rule would still result in a net cost to society of $20 million annually—i.e., FMCSA has overstated the net benefits of the proposed rule by $400 million per year. Table 4 summarizes these results.

Table 4
Annualized Costs and Benefits for HOS Option 2
FMCSA Central-Case Assumptions vs. Edgeworth Adjustments
(million 2008$)

	Costs		*Benefits*			*Net Benefits*	*Change from RIA*
Scenario	*Lost Productivity*	*Compliance*	*Safety - Reduced Driving Time*	*Safety - Reduced Work Time*	*Improved Driver Health*		
FMCSA Assumptions	$990	$40	$180	$540	$690	**$380**	
All Edgeworth Adjustments							
Excluding Health Benefits	$360	$40	$30	$50	$0	**-$320**	***-$700***
Including Health Benefits	$360	$40	$30	$50	$300	**-$20**	***-$400***

Source: Edgeworth calculations, based on assumptions described here and information provided in the RIA.

In addition to these problems with FMCSA's assumptions and methods for which we were able to provide specific calculations of adjusted net benefits, we identified several other problems with FMCSA's approach for which adequate data were not available to calculate exact corrections. These include:

1) FMCSA's failure to consider potential differences between carriers that were sampled in the field surveys and the broader industry.

2) FMCSA's failure to consider logistical issues in its replacement of lost driving time.

3) FMCSA's unfounded assumption that drivers in the Moderate and High categories would not be affected at all by the proposed restart provision.

[93] In this scenario, we assume the lost hours due to the restart provision are equal to the values chosen by FMCSA multiplied by the ratio of compliant tours in excess of 13 hours relative to all tours in excess of 13 hours, then multiplied again by one-half—i.e., 0.18 hours per week for drivers in the Very High category and 1.26 hours per week for drivers in the Extreme category.

4) FMCSA's reliance on data collected during prior HOS regimes to determine fatigue risk.

5) FMCSA's failure to account for the fact that, when holding other factors constant, a reduction in weekly work hours would reduce the risk of fatigue from driving extended hours, and vice versa.

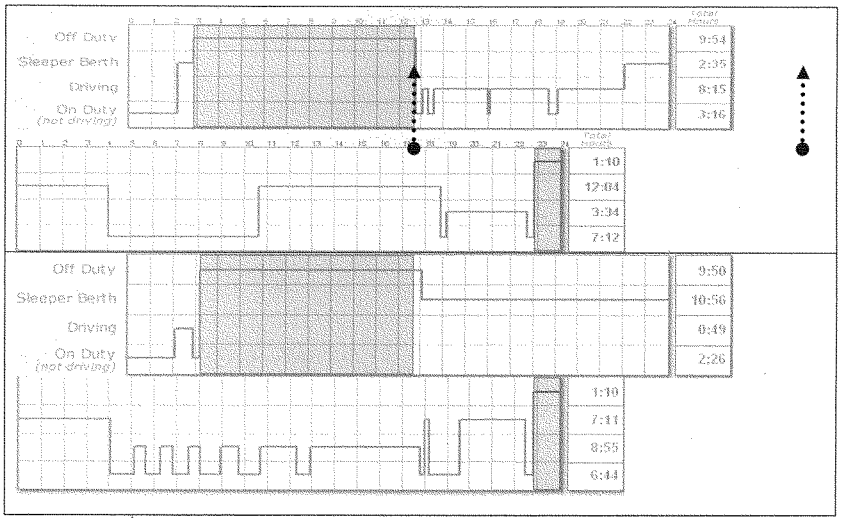
6) FMCSA's failure to evaluate drivers' actual change in sleep habits in response to changes in work time.

Appropriate consideration of these factors would lead to further reductions in the calculated net benefits of the proposed rule.

APPENDIX 2

Actual Team Driver Log- Courtesy of ABA Member Company

Typical Scenario Driver A (top log) Driver B (bottom log) 10/30/2011 to 10/31/2011



The above logs are a copy of an actual trip for a delivery team. The times and durations of the trip are representative of the majority of our trips. Delivering product requires both drivers to be on duty at the customer's warehouse. From 04:00 until 10:30 Driver A remains on duty while Driver B Drives between stops and both unload the product.

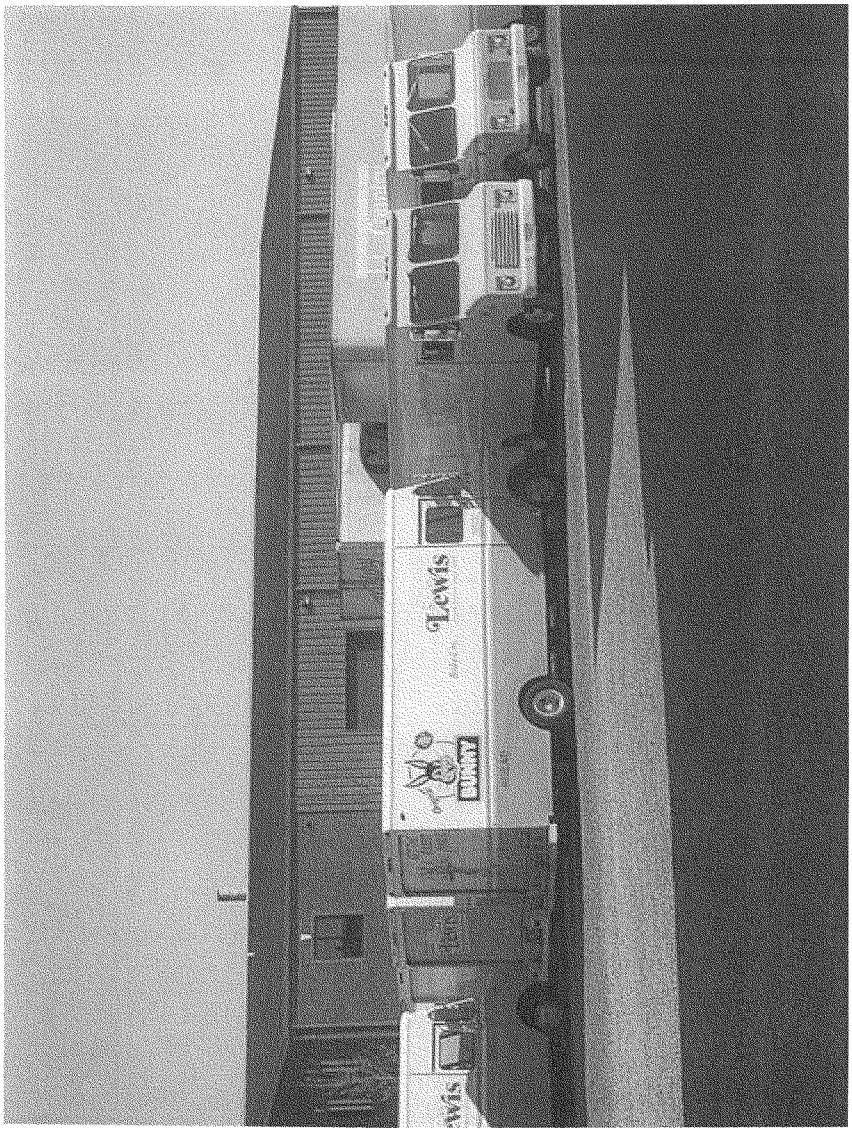
When Driver A arrived at the warehouse at 22:00 on 10/30, Driver B could have come out of the sleeper and the team would have worked through the night. Driver A chose to take a short sleeper berth during the midnight hours even though it did not qualify for a rest break and continued to count against his 14 hours of on duty time. The red arrows identify the beginning and end of his first 14 hours on duty.

According to the proposed regulations Driver A would not be allowed to come out of the sleeper at 4 am to unload with Driver B, even though he was going immediately back to the sleeper (without driving) for a qualifying eight hours. Remaining in the sleeper until he completed an 8 hour qualifying break would have required Driver B to be in the sleeper continuously for 17 hours.

If the drivers began the unloading process upon arrival at the first warehouse, Driver A would have run out of time after unloading for 4 1/2 hours. Since it took 6 ½ hours to complete the unloading process, Driver B would have had to shut down and wait until Driver A completed a qualifying 10 hour rest break. This would have resulted in a late delivery to the remaining customers and missing the scheduled backhaul appointment.

APPENDIX 3

Visual Reference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Mr. JORDAN. Mr. Miller.

STATEMENT OF FRANK MILLER

Mr. MILLER. Chairman Jordan, members of the subcommittee, my name is Frank Miller, and I'm the director of logistics for W.S. Badcock Corporation. Thank you very much for the opportunity to come here today to testify on the Department of Transportation's proposed changes to the drivers' Hours of Service regulations.

Today I will testify on behalf of W.S. Badcock Corporation and the National Retail Federation. Badcock, the NRF, and its members strongly support the current Hours of Service regulations and question the need to make changes. The Federal Motor Carrier Safety Agency must consider significant economic impact that changes to the current Hours of Service will have across the industry, including the impact to retail operations at both the store and distribution center level. Unfortunately, we do not believe the proposed changes meet these requirements and will have a significant negative impact on the industry, the economy, and potentially driver safety.

W.S. Badcock Corporation is one of the largest privately owned home furniture retailers in the United States. Founded in 1904, Badcock has been operating for more than a hundred years with 300 stores and 1,200 associates located throughout the Southeast. As the world's largest retail trade association and the voice of retail trade worldwide, NRF represents retailers of all types and sizes, including chain restaurants, industry partners from the United States, and more than 45 countries abroad. Retailers operate more than 3.6 million U.S. establishments that support one in four U.S. jobs; 42 million working Americans contributing $2.5 trillion to annual GDP, retail is truly the daily barometer for the Nation's economy.

Badcock's transportation network consists of more than 45 tractor-trailers which run more than 4 million miles annually in eight southeastern States and a fleet of delivery trucks operating from Badcock stores to the customers' homes. In addition, Badcock tenders more than $3 million in freight annually with U.S.-based common carriers. We estimate that the proposed change in Hours of Service rules could increase transportation costs for Badcock by 10 to 20 percent annually. For Badcock, this would result in an estimated increase of approximately $2.8 million annually. We are also concerned about the possibility for adverse unintended consequences as a result of the proposed changes that could lead to further increases in cost.

For Badcock, a reduction in driving time from 11 hours to 10 hours would affect an estimated 11 percent of loads, resulting in an approximate cost of $1.5 million, force the company to increase driver compensation to retain drivers, and increase its fleet size and pay higher rates for trucking. The changes to the 34-hour restart could affect an estimated 6.6 percent of Badcock loads a year, resulting in an additional annual cost of $940,000. Those common carriers utilized by the company would most certainly also be impacted by the change. We feel the changes will result in more lost carrier productivity that will be passed directly to the consumer as millions of dollars in rate increases.

In addition, it is important to note that distribution networks are experiencing increased demand, which is expected to grow substantially. This is significant as the economy continues to recover from one of the worst recessions in history.

Additional trucks and drivers will be necessary to meet this growing demand regardless of the Hours of Service requirements. Adding new capacity will be extremely difficult, as there is currently a shortage of available safe, qualified drivers.

We are also concerned about the potential adverse impact on road and highway safety and on many environmental investments in the supply chain and transportation industry. The proposed changes to the Hours of Service rules may increase the number of trucks deployed to move the same freight while restricting the ability to move a portion of this freight during nonpeak commuting hours.

In the transportation sector, many retailers are actively pursuing strategies to greatly reduce their carbon footprint in the supply chain. Many of these initiatives involve efforts to reduce hauls and deploy trucks as productively as possible during nighttime hours.

To conclude, on behalf of W.S. Badcock Corporation and the National Retail Federation, I again would like to thank you for this opportunity to testify during today's hearing. On behalf of America's retailers, we urge the FMCSA to maintain the current Hours of Service regulations which are working, and I look forward to answering any questions the members of the committee may have. Thank you.

Mr. JORDAN. Thank you, Mr. Miller.

[Prepared statement of Mr. Miller follows:]

Chairman Jordan, Ranking Member Kucinich, Members of the Subcommittee, my name is Frank Miller and I am the Director of Logistics for **W.S. Badcock Corporation.** Thank you very much for the opportunity to come here today to testify on the Department of Transportation's proposed changes to the Driver's Hours of Service Regulations (HOS). Today I will be testifying on behalf of W.S. Badcock Corporation and the National Retail Federation (NRF).

Badcock, NRF and its members strongly support the current HOS regulations and question the need to make changes. If changes to the current HOS regulations are necessary, they should be based on sound science and studies of safety and driver health. In addition, the FMCSA must consider the significant economic impact that changes to the current HOS will have across the industry, including the impact to retail operations at both the store and distribution center level. Unfortunately we do not believe the proposed changes meet any of these requirements and will have a significant negative impact on industry, the economy and potentially driver safety.

To give you some background, W.S. Badcock Corporation is one of the largest privately-owned home furniture retailers in the United States. Founded in 1904, Badcock has been operating for more than 100 years. Badcock is headquartered in Mulberry, Florida, and employs more than 1,200 corporate employees. There are more than 300 Badcock stores in eight states which offer customers a full range of furniture, bedding, appliances, electronics, accessories and floor coverings. More than 80 percent of our stores are individually owned through our unique dealership business model. Because we consign all of our merchandise to the dealers and do not require a franchise fee, our model offers the benefits of business ownership and allows for a quicker start-up than the traditional franchise model.

As the world's largest retail trade association and the voice of retail worldwide, NRF represents retailers of all types and sizes, including chain restaurants and industry partners, from the United States and more than 45 countries abroad. Retailers operate more than 3.6 million U.S. establishments that support one in four U.S. jobs – 42 million working Americans. Contributing $2.5 trillion to annual GDP, retail is a daily barometer for the nation's economy. NRF's Retail Means Jobs campaign emphasizes the economic importance of retail and encourages policymakers to support a Jobs, Innovation and Consumer Value Agenda aimed at boosting economic growth and job creation.

Background

Safe and efficient supply chains are critical to the success of a retailer's operations. The ability to transport products to distribution centers and retail stores in a timely, efficient and safe manner is critical to ensure products will be on store shelves for consumers. This is a fundamental requirement for the continued health of the retail sector. The efficient movement of goods not only benefits the retailer, but their vendor partners, their consumers and the U.S. economy as a whole.

While many in industry were concerned about the impact of the HOS regulations when they first went into effect in January 2004, U.S. industry, including retailers, have adapted their operations to comply with these requirements. However, removing the current rules and reverting back to

the old rules or some variation thereof, would result in significant cost increases for the industry as a whole and would adversely impact the U.S. economy across all sectors.

Badcock's transportation network consists of more than 45 tractor trailers which run more than four million miles annually in eight southeastern states and a fleet of delivery trucks operating from the Badcock stores to the customer's home. In addition, Badcock tenders more than $3,000,000 in freight annually with U.S. based common carriers. We estimate that the impact of the proposed change in hours of service rules could increase transportation costs by 10 to 20 percent annually depending on the specific retailer's network and operation. For Badcock this would result in an estimated increase of approximately $2.8 million annually.

We are also concerned about the possibility for adverse unintended consequences as a result of the proposed changes that could lead to further cost increases. The reduction in transportation productivity and driver capacity owing to the rule change could substantially undermine supply chain performance in the retail sector. The proposed changes will also exacerbate the current driver shortage and may lead some companies to put less qualified drivers on the road.

Enhanced Driver Safety

In the Notice of Proposed Rulemaking issued by FMCSA, the agency discussed numerous studies that have measured the results of the existing HOS regulations and the impact on driver safety. As pointed out both by the DOT studies and those conducted by industry, including the American Trucking Associations (ATA), there is significant evidence that the 11-hour on-duty rule has resulted in enhanced driver safety, not less as some have claimed. All of the studies have pointed to fewer fatalities due to accidents involving large trucks.

The latest statistics from the FMCSA's "Large Truck and Bus Crash Facts 2009, states that "in 2009, 3,215 large trucks were involved in fatal crashes, a 21 percent decrease from 2008 and the largest annual decline since records have been kept. Combined with the 12 percent decline from 2007 to 2008 (the second-largest decline), the number of large trucks involved in fatal crashes declined by 31 percent from 2007 to 2009. The number of passenger vehicles involved in fatal crashes declined by 19 percent over the same period."

If the 11-hour drive time limit were to be reduced to the previous 10-hour limit, we anticipate there will be a need for significantly more trucks and drivers on the road to fulfill the demands of what is currently being accomplished under the 11-hour on-duty time. While there will be a greater need for more truckers, that need will go unfilled as there already exists a significant shortage of properly trained and qualified truck drivers in the U.S or it could result in some companies utilizing less qualified drivers.

We also have similar concerns over the proposed change to the 34 hour restart rule that would include two consecutive nights (midnight – 6:00 am) of rest. These changes could reduce road safety resulting from the need for additional trucks on the road during peak commuter hours. Other impacts could include increased diesel emissions, additional congestion and more wear and tear on infrastructure. This change will also force drivers to take their breaks at government

mandated times rather than when the driver's body determines that it needs sleep. Under the current regulations the drivers have some flexibility in this area.

In addition, these changes will have an economic impact on current drivers by limiting the time they are able to drive, which could potentially reduce their take home pay since they are typically paid by the number of miles they drive. Both of these changes will reduce the number of hours and miles that drivers will be able to drive.

11-Hour Daily Driving Limit

Badcock, along with NRF's members, operate intricate supply chains, which include an interwoven network of distribution centers and retail stores which are serviced by both private and contract motor carrier fleets. We all rely on significant on-time delivery rates to get our merchandise onto the store floor for retail sale. This is critical in the scheduling of labor for both distribution centers and retail stores. Greater on-time deliveries allow for the seamless flow of products through the distribution system with delivery of the right products to the right place at the right time. The existing 11-hour daily driving limit is critical to accomplishing this goal.

As a result of the current 11-hour daily driving limit, U.S. retailers have been able to achieve significant efficiencies within their supply chains and distribution networks. They have been able to work with their transportation providers to appropriately plan for the safe and efficient delivery of goods to their distribution centers and retail stores with a significantly high on-time delivery rate. Any change to this daily driving limit will upset the careful balance and efficiencies that have been achieved and require changes to current systems and processes. In addition, such changes could result in significantly higher transportation costs and could lead to less safety as additional drivers and trucks will be required to make up for the shortfall. These changes would impact retailer costs—increases that would ultimately be passed on to the consumer.

For Badcock, a reduction in driving time from 11 hours to 10 would affect an estimated 11 percent of loads resulting in an approximate cost of $1.5 million, forcing the company to increase its fleet size and pay higher rates for trucking.

34 Hour Restart Provision

In addition to the change to the maximum allowable drive time, Badcock, along with others in the retail sector, are concerned about proposed changes to the 34 hour restart provision that includes two consecutive nights (midnight to 6 am) of rest. Many retailers with stores located in urban areas use nighttime hours to efficiently reach stores and restock shelves during less congested hours. The use of nighttime hours provides many retailers greater reliability over their supply chain by reducing congestion related delays. The deployment of more trucks during the night also separates truck and automobile interactions contributing to increased safety. The proposed change to the 34 hour restart provision to include two consecutive nights of rest reduces the ability to schedule deliveries at night placing more trucks on the road during normal commuting hours. This adversely impacts a retailer's supply chain performance, potentially

increasing congestion related delays and increasing the likelihood of accidents as a result of greater truck and automobile interactions.

For Badcock, the changes to the 34 hour restart could affect an estimated 6.6 percent of Badcock loads a year resulting in an estimated additional annual cost of $940,000. Those common carriers utilized by Badcock would most certainly also be impacted by the change. We feel the change will result in more lost carrier productivity that would be passed directly to the consumers as millions of dollars in rate increases.

Other Impacts

In addition, it is important to note that distribution networks are experiencing increased demand, which is expected to grow substantially. This is significant as the economy continues to recover from one of the worst recessions in history. Additional trucks and drivers will be necessary to meet this growing demand regardless of changes to the HOS requirements. Unfortunately, adding new capacity to the network will be extremely difficult as there is currently a shortage of available qualified drivers that is anticipated to continue. The capacity shortfall will be further exacerbated as we expect an increase in the number of bankruptcies of smaller trucking companies due to an inability to make the necessary investments to meet new clean engine emissions laws.

A change in the current HOS regulations will not only lead to further capacity reductions because of less driving time, but could also increase congestion on the roads and require retailers to carry additional inventory, at additional costs, in order to ensure that they have products on their store shelves, since reliability of service could be interrupted. The proposed changes to the existing hours of service rules that limit drive time and the hours retailers may dispatch drivers may reduce take home pay of drivers as well since they are typically paid by the miles they drive. Reducing driving time by one hour could potentially represent a ten percent reduction in a drivers take home pay. Increased transportation costs will result from the need to hire additional drivers and purchase additional equipment to make up for the expected capacity shortfall. Again, both will be difficult because of the current driver shortage. We fear that a reduction in driver pay, due to a reduction in driving time, may contribute to the expected capacity shortfall by making truck driving less attractive and more burdensome to potential new drivers.

We are also concerned about the potential adverse impact on road and highway safety and on many environmental investments in the supply chain and transportation industry. The proposed changes to the hours of service rule may increase the number of trucks deployed to move the same freight while restricting the ability to move a portion of this freight during non-peak commuting hours. This increases vehicle interactions with motorists and reduces safety, and also complicates many environmental initiatives implemented by retailers. In the transportation sector, many retailers are actively pursuing strategies to greatly reduce the carbon footprint of the supply chain. Many of these initiatives involve efforts to reduce hauls and deploy trucks and drivers as productively as possible including during nighttime.

HOS Investments

The transportation industry as a whole has invested millions of dollars on compliance with current HOS regulations. This includes considerable investments by U.S. retailers in their systems and operations, including training, to ensure compliance with the current regulations. Many carriers such as Badcock are investing thousands of dollars in training, internal auditing and electronic log systems for compliance. Badcock's training and log auditing costs currently exceed $17,830 per year and are soon to exceed $40,880 per year once the implementation of an electronic log system is complete.

Any changes to the current HOS regulations will once again require substantial investment to enable companies to readjust and retrain an entire workforce, including a large number of new drivers, to be able to comply with new rules. This will result in significant increases in transportation costs, which could be millions of dollars per company. In addition, this could result in increased costs for other services, including a potential requirement to carry additional inventory to ensure products are on the store shelves. These increased costs will be passed from the transportation provider to their customer and ultimately to the end consumer.

CSA 2010

The Federal Motor Carrier Safety Administration and the trucking community are in the midst of one of the most sweeping changes to motor carrier compliance enforcement the industry has experienced; Compliance, Safety, Accountability 2010, better known as "CSA 2010". This program dramatically changes the way carriers are monitored by both the Federal Motor Carrier Safety Administration and their compliance partners at the state level. The program also provides less technically proficient carriers with an exceptional tool to monitor their fleet's safety and compliance performance.

We strongly support CSA 2010. However, there does not appear to be any validated public data available at this time to judge the improvement that CSA 2010 has made on the trucking industry's safety record. The question needs to be asked if many of the goals and objectives that are being touted by the proposed hours of service changes will in fact be accomplished through the improved compliance monitoring provided by CSA 2010.

Regulatory Impact Analysis

In addition to the issues that NRF and others within the transportation industry have raised about the operational impact the proposed HOS changes will have on the industry, we are extremely concerned that these factors were not considered in the regulatory impact analysis that was conducted by the agency. According to the agency, they do not believe the proposed changes will have an impact on short haul trucking, so that segment of the industry was not included in the agency's calculations. We fully believe this is an inaccurate statement, as evidenced by my testimony today and the impact the proposed changes will have on Badcock. We support the findings from the study conducted by Edgeworth Economics released on February 15, 2011 which questions the results of the FMCSA regulatory impact analysis.

Conclusion

On behalf of W.S. Badcock Corporation and the National Retail Federation, I would like to thank you again for the opportunity to testify during today's hearing. On behalf of America's retailers we urge the FMCSA to maintain the current HOS regulations. The current rules are working as shown by the continued decline in large truck accidents. We believe this decrease will only continue with the progression of CSA 2010. We fully support efforts to continue to improve the safety of trucks on America's roads. However, we must ensure the rules are enacted in a prudent way, and not in a manner that will negatively impact the nation's recovering economy without providing the desired safety improvements. I look forward to answering questions members of the Committee may have.

Mr. JORDAN. Mr. Jasny.

STATEMENT OF HENRY JASNY

Mr. JASNY. Good morning, Chairman Jordan, Ranking Member Kucinich, and members of the Subcommittee on Regulatory Affairs, and thank you for inviting me to testify today. I am Henry Jasny, vice president and general counsel for Advocates for Highway and Auto Safety, a nonprofit coalition of public health, safety, consumer groups, and insurers dedicated to advancing highway safety.

Advocates has worked on truck safety issues, and driver fatigue in particular, for 20 years, participating in national summits, the Hours of Service regulatory docket, which we filed many comments on, and in the legal litigation that's been ongoing. Truck crashes are a serious and deadly problem that kill thousands and injure tens of thousands of people each year. Even with the recent decline in large truck crashes, over 3,380 people were killed and 73,000 injured in 2009. This is equivalent to a major airplane crash every other week of the year. The annual cost to society remains over $40 billion.

To put a face to these statistics, I know that Mr. Slattery was introduced, and his son Matthew, earlier by ranking member Kucinich. Also in the audience is Marchelle Wood who lost her college-aged daughter and a friend to a tired trucker crash in 2002.

The DOT estimates that crashes involving truck driver fatigue kill as many as 500 people a year, but the actual number we think may be twice that figure. We think that this shopping Christmas season, consumers will want to know that when they go to pick up their bargains that they can return home safely without running into a tired trucker.

The research and the science support reform of the HOS rule. Studies have found that since the current HOS rule went into effect, large numbers of truckers admit to falling asleep behind the wheel while operating commercial motor vehicles that weigh up to 80,000 pounds. We saw one side with statistics regarding nearly half of the truckers who were polled in 2006, after this current rule went into effect, said they had fallen asleep at least once in the prior year. Those statistics are a clear warning that driver fatigue remains a major safety problem that needs to be addressed by a change in the rules.

The 2003 final rule on which the current rules are based contradicts the scientific research and evidence regarding fatigue and the FMCSA's own findings of fact. The basic principles are straightforward. Driving and working long hours causes fatigue, as shown in truck crash data. Crash risk increases geometrically after the 8th consecutive hour of driving a truck. Driving during the 11th consecutive hour exposes both drivers and the public to an additional hour of danger when the crash risk is at its highest level.

Allowing only 34 hours off duty instead of taking more time for rest and recovery, as was allowed in the prior rule before 2004, results in cumulative fatigue due to lack of sufficient sleep. And finally, truck drivers need between 7 and 8 hours of sleep each night between shifts to be alert while driving. FMCSA found that drivers get less than 6 hours of sleep on average between work shifts under the current rule, since the current HOS rule violates those

basic principles of science and it is fundamentally flawed and needs to be revised.

Furthermore, claims that there is no safety problem under the current rules or that the current rules have contributed to safety are false, have no scientific support, and no basis in fact. They are literally junk science.

The legal decisions also support reform of the HOS rule. The two unanimous decisions of the U.S. Court of Appeals that vacated the rule reinforced the view that the current rule was unsafe and needs to be reformed. The initial decision held that the lack of analysis of the driver health issue was fatal to the rule. The court went on, however, to point out that many legal deficiencies in the agency's reasoning abounded. Among them, the court questioned the legal sufficiency of the agency's justification to the 11-hour limit and rebuked the agency for not addressing cumulative fatigue resulting from the short 34-hour restart provision. The judge who wrote that initial opinion was nominated to the Federal Court bench by Senator Jesse Helms.

The cost of reform of the rule. Not reforming the Hours of Service rule will cost consumers and taxpayers billions of dollars in deaths, injuries, and crash costs as well as driver health costs and shortened life spans. The benefits to society of the option supported by Advocates, the 10-hour rule, far outweigh the costs and result in an economic benefit to the country of between $380 million and $1.2 billion annually from reduced impacts on driver health, coupled with the prevention of numerous deaths and injuries and crashes.

The reform option supported by Advocates also would create 40,000 new driver jobs. This is a major benefit to society at a critical time for job creation. This is in stark contrast to the current HOS rule, which eliminated nearly 50,000 jobs since it took effect in 2004. Unfortunately, not all companies have good safety records like Mr. Keysaw's company, so they need to be governed by regulations that will keep them in line.

And finally, in closing, I would like to say that the Edgeworth analysis that you've introduced to the record recommends that there be no calculation for driver health and safety costs, medical costs. And we think that that's an unreasonable position, and that if that was adopted by the agency, that that would build in an arbitrary and capricious argument if the rule goes up on review to the court once again.

With that, Mr. Chairman, I would like to introduce my written statement to the record.

[Prepared statement Mr. Jasny follows:]

Reform of the Truck Driver Hours of Service Rule Is Essential for Highway Safety

Chairman Jordan, ranking member Kucinich, and Members of the Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending of the House Committee on Oversight and Government Reform, thank you for inviting me to testify before you today. I am Henry Jasny, Vice President and General Counsel of Advocates for Highway and Auto Safety (Advocates), a non-profit organization that promotes safety on our roads and highways by advocating for laws and regulations that reduce traffic crashes, fatalities and injuries. Advocates is a coalition of public health, safety, and consumer organizations, and insurers and insurer agents that advances highway safety through the adoption of safety policies and regulations, and the enactment of state and federal traffic safety laws. Advocates is a unique coalition dedicated to improving traffic safety by addressing motor vehicle crashes as a public health issue.

Introduction

Advocates has been involved in the issue of motor carrier safety and truck driver Hours of Service (HOS) regulations for over 20 years. Truck crashes are a serious and deadly problem. Until recently, about 4,000 people died and another 100,000 were injured in truck crashes each year. Despite the decline in recent years, large truck fatalities still took a toll of 3,380 lives and caused 73,000 injuries in 2009.[1] This is equivalent to a major airplane crash every other week of the year. The annual cost to society remains over $40 billion.[2] Truck driving continues to be identified as one of the most dangerous occupations in the United States with 529 drivers dying in crashes in 2009.[3] Recent decreases in truck crash deaths and injuries are welcomed by Advocates. However, as discussed later in this testimony, the decline in truck crashes and fatalities is not related to the current HOS rule as suggested by some in the industry.

During the past 20 years, Advocates has participated in the 1995 National Truck and Bus Safety Summit[4] of experts and stakeholders that identified driver fatigue was the number one safety issue in the trucking industry, filed numerous, detailed and well-documented comments on the HOS rule at every step in the regulatory process since 1997, litigated the scientific validity and legality of the current HOS rule in federal court, and served as an invited party participant in this year's National Transportation Safety Board (NTSB) Truck and Bus Safety Forum.

When an air traffic controller fell asleep on the job earlier this year at Reagan National Airport, and in 2009 when two pilots flew past their destination because they were dozing, the public, the media and Members of Congress were justifiably outraged over these transgressions and the Secretary of Transportation took immediate action to rectify the problems. Yet, the current HOS rule for truck drivers promotes driver fatigue while tired truckers fall asleep behind the wheel across the country on a regular basis, leading to hundreds of crashes and fatalities every year. Several family members and survivors of crashes caused by weary truck drivers who fell asleep while driving are in attendance at this hearing today including Ed Slattery whose wife was killed and two

sons were injured including Matthew who suffers serious, costly and lifelong disabling injuries in a crash involving a truck driver who fell asleep at the wheel.

Studies have found that, since the current HOS rule went into effect, large numbers of truck drivers admit to falling asleep behind the wheel while operating commercial motor vehicles that may weigh 80,000 pounds or more. The Federal Motor Carrier Safety Administration (FMCSA) estimates that crashes involving truck driver fatigue kill as many as 500 people a year, a conservative estimate that actually may be twice that number or more.

Background

Driver fatigue was a major safety concern under the HOS rule that was in place for nearly 70 years, from 1937 until 2003. Even though that rule limited drivers to just 10 consecutive hours of driving without a rest break, and did not permit a "reset" or "restart" during the week, driver fatigue and driving while tired were recognized as serious safety problems that led to both fatal and injury crashes. The 1995 National Truck and Bus Safety Summit, sponsored by the U.S. Department of Transportation (DOT), convened experts and stakeholders to discuss all aspects of truck operations and safety issues. The participants, including truck drivers, representatives of motor carriers, researchers, members of the safety community, victims and survivors of truck crashes and government officials, concluded that "driver fatigue" was the number one safety problem in the trucking industry. In response, Congress enacted section 408 of the Interstate Commerce Commission Termination Act (ICCTA)[5] which required DOT to deal with fatigue-related issues and adopt necessary "countermeasures for reducing fatigue-related incidents and increasing driver alertness[]."

Despite this congressional directive to reduce fatigue and improve driver alertness, the FMCSA, in 2003, adopted a final rule that increased the maximum limit on consecutive hours from 10 to 11 hours and instituted the 34-hour restart that effectively reduces the end-of-week rest and recovery period for drivers who use up their maximum weekly hours before the end of the week. Both of these changes to the original rule exacerbate driver fatigue by dramatically extending driving tours of duty later into the day and by adding to cumulative fatigue or sleep debt that drivers suffer from when driving on short sleep from shift-to-shift and from week-to-week.

In addition, in its analysis accompanying the 2003 HOS final rule, FMCSA failed to consider the impact that allowing longer driving hours and less rest would have on individual drivers and the driver population as a whole. Federal law, enacted in 1984,[6] requires the Secretary of Transportation to take into account the impact of regulations on the health and physical condition of truck drivers. This congressional mandate was completely ignored by the agency when proposing the significant increases in driving and working hours of truck drivers.

Because the 2003 FMCSA final rule contradicted both the scientific evidence and research regarding fatigue and the agency's own findings of fact, and neglected to analyze the effect of the rule on driver health, Advocates joined with other health and

safety groups to litigate these issues in federal court. In 2004, the U.S. Court of Appeals for the District of Columbia Circuit ruled against the agency and remanded the HOS rule for necessary revisions.[7] The Court ruled that, by ignoring the mandatory issue of driver health, the HOS final rule violated federal law and had to be vacated. The Court went on to state that there were serious problems with the agency's rationale for extending the longstanding 10 hour consecutive driving limit to 11 hours and for failing to address the inherent problem of cumulative fatigue in allowing drivers to take as few as 34 hours off-duty to rest between weekly driving tours of duty. The Court stated that "the agency's failure to address [the increase in the number of weekly driving hours] . . . makes this aspect of the rule's rationality questionable."[8]

The reintroduction of those same flawed provisions in the subsequent 2005 and 2008 versions of the HOS final rule remain at odds with the scientific research, the agency's findings of fact, and the legal criticism voiced by the Court of Appeals. After filing a third lawsuit in 2009,[9] the parties reached a settlement agreement with DOT in order to avoid prolonged litigation and to provide an opportunity to revise the HOS rule to conform to the overwhelming body of safety research and the deficiencies identified in the 2004 decision of the Court of Appeals.

The proposed HOS reform rule was issued by DOT on December 29, 2010,[10] and a final rule is now under review at the Office of Management and Budget (OMB).

Needed Reforms

The current, unsafe and illegal HOS rule adopted in 2003 substantially increased maximum daily and weekly driving and working hours for truckers in two ways.

First, driving time allowed for each shift was increased from the traditional, long standing, limit of 10 consecutive hours of driving per shift to 11 consecutive hours. By extending the limit to 11 hours, the current HOS rule increases the time drivers are on the road when they are most tired, at the end of their shift. More important, historical data clearly shows that crash risk among truck drivers increases exponentially after eight hours of driving, and is at high danger levels during the 10th and 11th hours of driving. Nevertheless, the agency tacked the additional hour onto the maximum driving limit, permitting another hour of exposure at the end of the driving shift – when crash risk is at its highest. This action not only contradicted the scientific data and research but also, as the Court of Appeals pointed out, called into question the legality of the rule since it exposes drivers and the public to an unreasonable risk of crash involvement. The Court of Appeals 3-judge panel stated that "[w]e have our doubts about whether [the agency's] two justifications [for the 11-hour limit] are legally sufficient."[11]

In addition, the 11 hours of driving can take place any time within an overall 14 hour work day, so that drivers who perform 3 hours of other work during the work day, such as loading and unloading a truck, can still operate large trucks late in the day, 10 or more hours after first reporting for duty. Research in the agency record makes it abundantly clear that fatigue is enhanced when a driver operates a truck late in the 14-hour driving window. Concern for driver fatigue reaches critical levels when drivers

operate vehicles more than 10 hours after reporting for duty – during their 11th, 12th, 13th and 14th hours after starting work – and even later from the time they awoke.

Second, the danger posed by these provisions to the health and safety of truck drivers and the motoring public are made even worse by the 34-hour "restart" provision. The restart undermines what was previously a "hard number" 60-hour weekly driving cap (or 70 hours for drivers on an 8-day schedule). Instead, the current rule permits drivers to reset their accumulated weekly driving hours to zero and start a new driving week, at any point during the work week they choose, after taking only a 34-hour off–duty break, merely one day and 10 hours off. This permits drivers who use the restart provision to cram an extra 17 hours of driving into a 7-day schedule, actually operating their trucks for up to a total of 77 hours in seven calendar days instead of the stated limit of 60 hours. Drivers operating on an 8-day schedule can drive an extra 18 hours in 8 days for a total of up to 88 driving hours instead of the legal limit of 70-hours. These hours of working and driving, week after week, month after month, are dangerous and deadly compared to the typical 40 hour work week of most Americans.

The restart permits truckers to drive and work excessive hours which promote driver fatigue. Instead of having a full weekend of 48 to 72 hours off-duty for rest and recovery, as was required under the previous HOS rule, the 34-hour restart permits drivers to trade rest time for extra driving hours in order to accommodate freight scheduling. Fewer hours of rest and more hours of driving and work dramatically increase truck driver crash risk exposure.

The FMCSA acknowledges that sleep research shows that humans need at least seven (7) to eight (8) hours of sleep each night to perform well and avoid sleep deprivation.[12] Studies conducted since the current HOS rule went into effect show that drivers are actually getting *less* than six (6) hours of sleep, on average on work days and only slightly more than six (6) hours on days off.[13] This means that under the current HOS rule drivers are frequently driving even though sleep deprived resulting in high rates of tired, fatigued drivers behind the wheel of trucks that weigh up to 80,000 pounds.

Beyond this, the current HOS rule did not take into consideration the impact it would have on the health of truck drivers. In 2003, FMCSA completely ignored the issue and the Court of Appeals held that doing so violated federal law and the Court remanded the rule to the agency. The next time around, FMCSA analyzed the driver health issues and, despite finding that the HOS regulations have an impact on numerous diseases and ailments common among truck drivers, including heart disease, hypertension, sleep disorders, back problems, etc., the agency refused to include in its regulatory analysis any costs associated with allowing drivers to operate trucks for more hours every shift, each week, from month-to-month, year-in and year-out. Although the Court of Appeals vacated and remanded this second version of the HOS rule due to the agency's failure to disclose its analysis of crash risk during the 11th hour of driving, the Court reiterated its admonitions on the other safety issues in the case, including the effects on driver health. This flaw in the agency's cost-benefit analysis for the current rule is another reason it was necessary for the FMCSA to revise the HOS rule and its accompanying analysis.

Scientific Evidence and Research

Over the past 20 years, scientific research has documented the adverse effects of long working hours, especially in industries involving shift work. Advocates has highlighted the numerous research studies and scientific findings which conclude that there is an increased risk of crashes associated with more driving and working hours among commercial drivers.[14] Advocates' bibliography of relevant scientific studies and sleep research is attached to my testimony as **Appendix A**. Among the findings and conclusions in the scientific evidence are the following:

- Crash risk increases geometrically after the eighth (8th) consecutive hour of driving;
- Under the current HOS rule drivers are not getting sufficient sleep, obtaining, on average, less than six (6) hours of sleep on work nights;
- Because humans have a biological diurnal schedule that normally requires nighttime sleep, attempts to sleep during daytime result in shorter and less restful sleep periods as compared to nighttime sleep;
- Lack of sufficient sleep from day-to-day and week-to-week results in cumulative sleep deprivation, or sleep debt, that can only be overcome through extended periods of off-duty time for rest and recovery.

Despite unfounded assertions that the current HOS rule is working well and contributing to safety, fatigue is still a major problem that drivers readily acknowledge. Studies have found that a substantial percentage of truck drivers admit to high levels of fatigued driving and actually falling asleep behind the wheel. FMCSA-sponsored studies revealed that nearly *48 percent* of drivers admitted that they had fallen asleep while driving in the previous year. About 45 percent of the drivers said they sometimes or often had trouble staying awake while driving and about 13 percent reported that they often or sometimes fell asleep while driving. Nearly two-thirds of drivers, 65 percent, reported that they often or sometimes felt drowsy while driving. A third of the drivers reported that they became fatigued on a half or more of their trips.[15] These statistics, acquired after the current HOS rule went into effect, are a clear indicator that driver fatigue remains a major safety problem that needs to be addressed by reform of the HOS rule.

The Court Decisions

In two separate unanimous decisions, in 2004 and again in 2007, the U.S. Court of Appeals vacated the current HOS rule and remanded the rule to the agency for changes consistent with the Court's rulings. In each case, the Court questioned the basis for the agency's decision-making in allowing longer driving hours despite the safety threat, adverse health effects and the increased crash risk posed by the rule, indicating that the current HOS rule was not based on sound reasoning.[16]

In the 2004 decision, the Court held the HOS rule invalid because of the FMCSA's failure to address the impact of the rule on driver health, a statutorily mandated concern. The Court, however, went on to point out, issue by issue, the many

deficiencies in the agency's reasoning and the problems in logic and law that the Court perceived the agency would need to address in order to correct the flaws in the HOS rule.

The Court's 2007 decision turned on a critical point of administrative law, the agency's failure to make its statistical analysis available to the public for comment. However, the Court reiterated its previous statements from the prior decision regarding the safety issues that were still pending. Attached to my testimony **as Appendix B** is a document that quotes excerpts from the Court decisions regarding each of the safety issues.[17]

Despite back-to-back judicial decisions overturning the rule in each case, FMCSA refused to make changes to the maximum daily and weekly driving and work hours allowed by the current HOS rule.

In response to the latest re-issuance of the current, flawed HOS final rule in 2008, Advocates, Public Citizen, the Truck Safety Coalition and the International Brotherhood of Teamsters filed a third lawsuit challenging the rule in 2009.[18] In an effort to expedite the issuance of what safety advocates, truck crash victims and survivors and the Teamsters hope will be a new, safer HOS rule, and to allow the DOT an opportunity to revise the HOS rule to comport with the scientific evidence and the prior Court decisions, the safety and labor litigants negotiated a settlement agreement[19] under which the FMCSA agreed to develop a revised HOS rule. That is the rule that is currently under review at OMB's Office of Information and Regulatory Analysis (OIRA).

Cost/Benefit Analysis

Although the pending proposed HOS reform rule has been widely publicized as costing nearly one billion dollars, this is only one side of the scales and does not reflect the benefits that would flow to society from adoption of the rule. The financial benefits to the public will be substantial and will outweigh the estimated cost. According to the agency's Regulatory Impact Analysis (RIA), the overall net benefit of the proposed rule with a 10-hour daily driving limit (Option 2) would range from $380 million to $1.17 billion annually under the assumptions that drivers are currently obtaining low or medium amounts of sleep.[20] The gross benefits from Option 2 alone, assuming 13 percent of crashes due to fatigue, would range from $1.41 billion to $2.21 billion under the medium and low sleep assumptions accordingly.[21] Truck crashes currently cost the nation over $40 billion.[22]

Moreover, the previous FMCSA regulatory analyses of the HOS rule were flawed because they did not take into account the health issues and related costs associated with allowing truck drivers to drive more and work longer hours. In response to the agency's publication of the Interim Final Rule (IFR) in 2007[23] (the third and current version of the HOS rule), Dr. Michael Belzer, a professor of economics at Wayne State University and a recognized expert and author on motor carrier economic and labor issues, submitted comments on FMCSA's RIA.[24] In his comments Dr. Belzer identified a number of economic factors which the 2007 RIA failed to include among them was truck driver health.[25] Dr. Belzer concluded that "the policy that extends daily driving time to 11 hours

and extends weekly labor time to as many as 84 hours may cost the economy more than $17 billion in premature death alone. This does not even count the additional cost of premature illness."[26] Dr. Belzer reinforced his argument for the calculation of the significant health effects of the current rule when he noted that "[t]he U.S. Court of Appeals for the District of Columbia Circuit threw out the FMCSA's original truck driver HOS regulation because the regulatory evaluation failed [to] consider the effects of the rule on truck driver health, an important consideration when implementing a regulation that substantially changed the number of hours during which a truck driver could work legally."[27]

Indeed, Congress mandated that the FMCSA must take the health of drivers into consideration when proposing new regulations. Since the agency did not do this in the 2003 final rule, the Court of Appeals held that the agency had violated the law and sent the rule back to the agency. In the next two versions of the current HOS rule the agency acknowledged that an increase in driving and working hours has an impact on driver health and medical status. However, the agency irrationally refused to quantify the costs associated with the longer driving and working hours allowed under the current HOS rule. The failure to include reasonable costs of health-related effects in previous RIA cost-benefit analyses is not just merely illogical, and unsound from an economic standpoint, it is an inherent legal flaw that is indicative of arbitrary and capricious rulemaking.

The current HOS reform proposal seeks to cure that legal problem by including, at last, a reasonable estimate of all of the benefits, including driver health, that are attributable to potential changes in the HOS regulation. A regulatory analysis that excludes a quantification of the reasonable costs or benefits of the health effects on drivers from changes to the HOS rule would again leave the agency regulation open to legal challenge for violating federal law and failing to provide a comprehensive cost-benefit analysis of the rule change.

Job Creation

The proposed HOS reform rule not only will advance safety and save lives but it will also create new jobs for truck drivers. The FMCSA RIA indicates that the proposed rule with a 10-hour daily driving limit (Option 2) would create 38,636 positions for new drivers.[28] By reducing the overall hours that drivers can operate trucks to a safe, less-fatiguing limit, the rule would create opportunities for the hiring of new drivers, especially those who left the industry as a result of recent economic conditions or as a result of the reduction in workforce created by the current HOS rule.

In fact, the rule change would actually restore some of the driving jobs that were eliminated when the current HOS rule was adopted. It was the 2003 final rule that actually eliminated 48,000 trucking jobs by allowing the current longer maximum driving hours.[29] *The 2002 RIA made it abundantly clear that the nearly $1 billion in benefits to the trucking industry that resulted from the adoption of the 2003 final rule was a direct result of the elimination of more than 48,000 trucking jobs.*[30]

"Junk Science" Claims Link The HOS Rule To Fewer Truck Crashes and Deaths

Opponents of the proposed HOS reforms have attempted to draw the erroneous conclusion that because there have been recent reductions in overall truck crashes and fatalities, there is no reason to change the current HOS rule. The claims appear to link safety improvements to the HOS rule despite the FMCSA's clear statement to the contrary. According to the agency, "The recent decline in crashes is welcome; but it cannot be attributed to any single factor affecting crashes, including implementation of the 2003 rule."[31] There is, in fact, no study that shows that fatigue-related truck crashes have declined or that the current HOS rule is responsible for any improvement in truck crash statistics.

In a presentation entitled "2009: Historic Truck Crash Declines,"[32] the head of the FMCSA's Analysis Division, Ralph Craft, Ph. D., in explaining the improvement in truck crash and fatality data, highlighted the correlation between recessions and periods of fatality declines, specifically noting that the there were "recessions in each of the three periods of 10 or more quarters of fatality declines" and "the economy now is recovering from the worst recession since 1975, and longest period of consecutive quarterly fatality declines."[33] In addition to citing economic influences, the presentation also noted that the decline in freight transportation coupled with an increase in overall transportation safety and enforcement efforts could have contributed to the recent declines.[34] An excerpt from Dr. Craft's analysis is attached to this testimony, as **Appendix C**.

In addition to the FMCSA analysis, historical data from the Trucks in Fatal Accidents (TIFA)[35] database from 2003 through 2008 indicate that the percentage of truck drivers in fatal crashes officially reported as drowsy or asleep has remained constant with almost exactly the same percentage reported in 2008 as was recorded in 2003. Even though the TIFA data greatly underestimates fatigue involvement in truck crashes, that database should reflect year-to-year crash trends. In fact, the TIFA database shows that, over the last six years (for which data is available), a consistent percentage of collisions are identified as involving a driver who was drowsy or asleep. This indicates that, despite the decline in overall truck crashes and fatalities, the current HOS rule has done nothing to reduce the relative occurrence of fatigue in truck crash involvement.

Moreover, passenger vehicle crashes, fatalities and injuries have also experienced reductions of a similar magnitude to those that have occurred in commercial vehicles over the same time period.[36] Yet, the HOS rule has no application whatsoever to driver fatigue and safety in passenger vehicles. This shows that factors other than the HOS rule, that are common to both passenger and commercial vehicle operation, such as the economy and possibly safety equipment such as seat belts and air bags, must be driving the downturn in crashes and fatalities and *not* the current HOS regulation.

The fact remains that recent reductions in fatalities have not been shown to be directly correlated with implementation of the current HOS rule. The FMCSA has clearly stated as much and suggested that factors such as the economy have played a major role in driving down truck crash statistics. Furthermore, results from data analyses indicate that there has been no relative decline in the involvement of fatigue in fatal truck crashes

during the implementation of the current rule. Combined, these facts provide strong support for arguments against any link between declines in truck related fatalities and the current HOS rule. Repeated claims that the current HOS rule has increased truck safety are junk science and are not credible.

In conclusion, the reformed HOS rule will have a positive impact on safety and the economy. The current HOS rule has been struck down two times by the Court of Appeals and truck driver fatigue remains a serious problem that is killing and injuring too many motorists and truck drivers. It is time that Congress and the Executive Branch provide the same, high level of safety that the American public and the airline industry have come to expect, and indeed realize, in the aviation industry. During this past Thanksgiving week there were no commercial airplane crashes, yet nearly an estimated 100 people died, and over 1,400 more were injured in truck crashes. Chronic worker fatigue, falling asleep on the job and threats to health and safety would never be tolerated in any other sector of the transportation industry and neither should it be tolerated in the trucking industry where thousands are killed annually.

Thank you for the opportunity to testify before the Subcommittee and I would be pleased to respond to any questions you may have.

Endnotes.

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[1] *Motor Carrier Safety Progress Report (as of December 31, 2010)*, FMCSA last accessed on Nov. 27, 2011 from http://www.fmcsa.dot.gov/facts-research/art-safety-progress-report.htm.

[2] *Large Truck and Bus Crash Facts 2009*, FMCSA-RRA-11-025, FMCSA, page 69, Table 71 (Oct. 2011).

[3] *Id.*, page 4.

[4] 68 FR 22456 (Apr. 28, 2003), reissued in substantially the same form at 73 FR 69567 *et seq.* (Nov. 19, 2008).

[5] Interstate Commerce Commission Termination Act, Pub. L. 104-88, § 408 (Dec. 29, 1995).

[6] The Motor Carrier Safety Act of 1984, Pub. L. 98-554, Title II, 98 Stat. 2832 (Oct. 30, 1984) *codified at* 49 U.S.C. § 31136(a), requires that regulations prescribing minimum safety standards for commercial motor vehicles shall, at a minimum, ensure that:

(1) commercial motor vehicles are maintained, equipped, loaded, and operated safely;
(2) the responsibilities imposed on operators of commercial motor vehicles do not impair their ability to operate the vehicles safely;
(3) the physical condition of operators of commercial motor vehicles is adequate to enable them to operate the vehicles safely; and,
(4) the operation of commercial motor vehicles does not have a deleterious effect on the physical condition of the operators.

[7] *Public Citizen, et al., v. FMCSA*, 374 F.3d 1209 (D.C. Cir. 2004).

[8] *Id.*, page 1223.

[9] *Public Citizen et al., v. FMCSA*, No. 09-1094 (D.C. Cir. 2009).

[10] Hours of Service of Drivers, Proposed Rule, 75 FR 82170 (Dec. 29, 2010).

[11] *Public Citizen v. FMCSA*, 374 F.3d 1218.

[12] 75 FR 82176.

[13] *Id.*, citing Hanowski, et al., "The Sleep of Commercial Vehicle Drivers Under the 2003 Hours-of-Service Regulations," *Accident Analysis and Prevention,* Vol. 39, No. 6, pp. 1140-1145, Nov. 2007. The study documents that between work shifts drivers are currently getting only 5.6 hours of sleep a night, only just slightly more than five (5) and one-half hours each night.

[14] *See* Research Reports and Studies Showing The Adverse Health and Safety Effects of Longer Working Hours and Inadequate Rest Time, Advocates for Highway and Auto Safety (2011).

[15] 75 FR 82177 citing Dinges, D.F. and Maislin, G., "Truck Driver Fatigue Management Survey," May 2006 (FMCSA–2004–19608–3968).

[16] *Owner-Operator Independent Drivers Ass'n v. FMCSA,* 494 F.3d 188 (D.C. Cir. 2007); *Public Citizen v. FMCSA,* 374 F.3d 1209 (D.C. Cir. 2004).

[17] Truck Driver Hours of Service (HOS) Rule Overturned Twice by Unanimous Decisions, Advocates for Highway and Auto Safety (Dec. 2010).

[18] *Public Citizen et al., v. FMCSA,* No. 09-1094 (D.C. Cir.).

[19] *Id., see* Settlement Agreement dated Oct. 26, 2009 and Order dated March 3, 2010.

[20] 2010-2011 Hours of Service Rule, Regulatory Impact Analysis (2010 RIA), FMCSA, page 6-12, Exhibit 6-23 (Dec. 20, 2010).

[21] *Id.*, Exhibit 6-22.

[22] *Large Truck and Bus Crash Facts 2009, op cit.*

[23] Interim Final Rule, 72 FR 71247 (Dec. 17, 2007).

[24] Regulatory Impact Analysis for Hours of Service Options (2007 RIA), prepared by FMCSA & ICF International, Inc. (Dec. 7, 2007).

[25] Comments of Michael H. Belzer, Ph.D., Sound Science, Inc., dated March 28, 2008, filed in docket FMCSA-2004-19608-3475.

[26] *Id.* page 12.

[27] *Id.* page 13.

[28] 2010 RIA, page 6-17, Exhibit 6-26.

[29] Regulatory Impact Analysis and Small Business Analysis for Hours of Service Options (2002 RIA), FMCSA, page 5, Exhibit ES-2 (Dec. 2002) (The 2002 RIA actually estimated the loss of 58,500 positions in the long-haul sector but that 10,500 positions would be offset by the creation of new positions in other sectors).

[30] 2002 RIA, page 7, Exhibit ES-6. (95% of the $1.133 billion "net benefit" of the rule came from the $1.073 billion saved by eliminating the more than 48,000 trucking jobs).

[31] 75 FR 82176.

[32] Available at http://www.fmcsa.dot.gov/facts-research/art-webinars-desc.aspx?webID=49.

[33] *Id.* page 13.

[34] *Id.* page 12.

[35] The Trucks in Fatal Accidents database, maintained by the University of Michigan Transportation Research Institute (UMTRI), http://www.umtri.umich.edu/project.php?wipID=64.

[36] *Traffic Safety Facts 2009,* Early Edition, page 14 (Figure 1- fatal crashes; Table 2 - crash severity), and Page 15 (Table 2 – persons killed and fatality rate; person injured and injury rate), DOT HS 811 402 NHTSA available at http://www-nrd.nhtsa.dot.gov/pubs/811402ee.pdf.

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RESEARCH REPORTS AND STUDIES SHOWING THE ADVERSE HEALTH AND SAFETY EFFECTS OF LONGER WORKING HOURS AND INADEQUATE REST TIME

Jovanis, P., Wu, K., Chen, C.; *Hours of Service and Driver Fatigue: Driver Characteristics Research*, FMCSA, May 2011:

◊ Examined the patterns of driving and work in the week before a crash.
◊ "There is a consistent increase in crash odd as driving time increases."
◊ "LTL drivers experienced increased crash odds after the 6th hour of driving."
◊ "Breaks from driving reduced crash odds."
◊ "There was an increase in crash odds associated with the return to work after a recovery period of 34 hours or more."
◊ TL drivers who drive during the day have increased odds of a crash with long driving hours.
◊ LTL drivers:
- Driving time substantially associated with crash odds.
- Highest odds in the 11th hour.
- Consistent increase in odds after the 5th through the 11th hours.

◊ Decrease in odds of a crash were significant for two breaks (sleeper or off duty).
◊ Using all of the data the crash exposure ratio gradually increases, especially after the 6th hour of driving.

Blanco, M., Hanowski, R., Olson, R., Morgan, J., Soccolich, S., Wu, S., Guo, F.; *The Impact of Driving, Non-Driving Work, and Rest Breaks on Driving Performance in Commercial motor Vehicle Operations*, FMCSA, May 2011:

◊ Studies 100 drivers, 4 companies, naturalistic data collection over 4 weeks for each driver.
◊ Analyses of driving hours/safety-critical event (SCE) risk found a time-on-task effect across hours.
◊ Analysis on work hours found an increase risk of SCE as work hours increased.
◊ SCE risk increased with driving late into the 14-hour workday.
◊ Breaks from driving were effective to counteract the negative effects of time on task.
◊ SCE rate in the 11th hour was statistically significantly higher than in hours 8, 9, or 10.
◊ No statistically significant difference between SCE rate in 11th and 10th.
◊ As work hour increases from beginning to end, there is a statistically significant increase in SCE rate.
◊ Rest breaks of at least 30 minutes were shown to decrease the SCE rate in the hour after the break compared to the hour before.
◊ Off duty break provided the greatest benefit.
◊ *Analysis of all of the data indicated increase in SCE risk with increasing driving time.*

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Sando, T., Mtoi, E., Moses, R.; *Potential Causes of Driver Fatigue: A Study on Transit Bus Operators in Florida*, Transportation Research Board 2011 Annual Meeting, Nov. 2010:
◊ Studied data from transit agencies in Florida.
◊ "Scientifically and average person needs eight hours sleep every 24-hours cycle."
◊ "Most of the accidents (56.69%) occur when the operators are exposed to red fatigue conditions" ("red fatigue" is a highly fatigued state identified by the software utilized in the study, the Fatigue Audit Interdynamics (FAID) program).
◊ "The survey also revealed that the minimum off duty period of eight hours might not be adequate. It is likely that this could be another cause of fatigue among operators because it leads to inadequate rest and sleep."
◊ A fatiguing work schedule includes: split schedules, less sleep, long driving hours and early starting – late ending schedule patterns.
◊ Fatigue is cumulative, "after the accumulation of fatigue, the operator needs enough off duty period to recover from critical fatigue condition. To start with a green fatigue condition (full recovery) in a weekly schedule the operator needs at least two days off duty."
◊ "there is a statistically strong association between fatigue condition and crash occurrence."

Sando, T., Angel, M., Mtoi, E., Moses, R.; *Analysis of the Relationship Between Operator Cumulative Driving Hours and Involvement in Preventable Collisions*, Transportation Research Board 2011 Annual Meeting, Nov. 2010:
◊ Studies four transit agencies from the state of Florida.
◊ "The results show a discernable pattern of an increased propensity of collision involvement with an increase in driving hours. . . According to the findings of this study, it is clear that the present regulation that limits driver's on-duty time to a maximum of seventy hours per week should be revisited."
◊ Bus driver with straight schedules in preventable collisions drove an average of 49.8 hours in the week before the collision (95% confidence interval).
◊ Bus driver with split schedules in preventable collisions drove an average of 53.7 hours in the week before the collision (95% confidence interval).
◊ On average, drivers who were involved in preventable collisions drove over six hours more per week than that of the general population of drivers.
◊ Preventable collisions are more prevalent as the length of the driving period increases.

Park, S., P.P., Jovanis., *Hours of Service and Truck Crash Risk: Findings from 3 national U.S. Carriers during 2004.*Presented at 89th Annual Meeting of the Transportation Research Board, Washington, D.C., 2010.
◊ "The study reported a non-linear increase in crash odds after the 6th hour of driving. According to the study, the odds ratios increase from 50% to 200% in the 10th and 11th hour."

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F. Saccomano, M. Yu, and J. Shortread, Effect of Driver Fatigue On Truck Accident Rates, *Urban Transport and the Environment For the Twenty-First Century* (ed. L.J. Sucharov), Computational Mechanics Publications, Southhampton, U.K., 1995, 439-446; and,
F. Saccomano and J. Shortread, "Truck Safety: Perceptions and Reality, *The Institute for Risk Research*, Ontario, 1996, 157-174.
◊ Found a significant increase in crash rates for truck driving shifts of more than 9 hours.
◊ The strong relationship between single-vehicle truck crashes and length of continuous driving time held regardless of the time of day.
◊ Findings confirmed earlier Federal Highway Administration research.

T. Lin, P. Jovanis, and C. Yang, Modeling the Effect of Driver Service Hours On Motor Carrier Accident Risk Using Time Dependent Logistic Regression, 72nd Annual Meeting of the Transportation Research Board, Washington, DC, 1993; and,
T. Lin, P. Jovanis, and C. Yang, Time of Day Models of Motor Carrier Accident Risk, *Transportation Research Record* 1467: 1-8, Transportation Research Board, National Academy of Sciences, 1994.
◊ Found a consistent elevation of crash risk from about the 8th to the 9th hour of driving.
◊ Found a dramatically increased risk if driving exceeded 9 continuous hours.
◊ Confirmed earlier Federal Highway Administration research.

T. Kaneko and P. Jovanis, *Multiday Driving Patterns and Motor Carrier Accident Risk: A Disaggregate Analysis*, U. of CA at Davis, Research Report UCD-TRG-90-9, April 1990.
◊ Driving patterns over the previous 7 days significantly affected crash risk on the 8th day.
◊ Consecutive driving hours have a consistent crash risk relationship.

T. Kaneko and P. Jovanis, Multiday Driving Patterns and Motor Carrier Accident Risk: A Disaggregate Analysis, *Accident Analysis and Prevention*, 25:5, 1992, 437-456.
◊ Consecutive hours of driving were the most significant predictor of accident risk.

I. Jones and H. Stein, *Effect of Driver Hours of Service on Tractor-Trailer Crash Involvement*, Insurance Institute for Highway Safety, Arlington, VA, 1987; and,
I. Jones and H. Stein, Defective Equipment and Tractor-Trailer Crash Involvement, *Accident Analysis and Prevention*, 21: 469-481.
◊ Study used case-control design (3 matching controls for each case), controlled for time of day.
◊ Widely regarded as one of the most rigorous in-depth studies of fatigue ever conducted (*e.g.*, Haworth, Triggs, and Grey (1988)).
◊ Found a substantial increase in crash risk if drivers exceeded 8 continuous hours of driving.
◊ Crash risk for drivers whose reported driving time exceeded 8 hours was almost twice that for drivers who had driven fewer hours.
◊ Crash risk estimates conservative because number of driving hours based on driver self-reporting.

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W. Frith, A Case-Control Study of Heavy Vehicle Drivers Working Time and Safety, *Proceedings of the 17th Australian Road Research Board Conference*, 1994, 17(5): 17-30.
◊ Case-control methodology, matched-pairs.
◊ Crash risk substantially increased for drivers with greater than 8 hours of driving but less than 9 hours.
◊ Crash risk rose even higher if driving exceeded 9 hours.
◊ Emphasized that his findings confirmed the 1987 research of Jones and Stein, and the 1993 research of Lin, Jovanis, and Yang.

S. Folkard, Time On Shift Effects In Safety: A Mini-Review, Abstract in the *Shiftwork International Newsletter*, May 1995, 12:1, Timothy Monk, ed., presentations from the 12th International Symposium On Night- and Shiftwork, Ledyard, CN, June 13-18, 1995.
◊ Major meta-analysis of relative risk of performance lapses over the course of various shift durations.
◊ Increase in relative risk of crashes over time was exponential.
◊ Risk was approximately doubled after 12 hours of work and trebled after 14 hours of work.
◊ Found that safest work duration is 6 to 9 hour long shifts.

P. Krauth, et al., "Systematic Selection of Shift Plans for Continuous Production With the Aid of Work-Physiological Criteria, *Applied Ergonomics*, 1979, 10:1, 9-15.
◊ Working times of more than 8 hours must be avoided because of long-term deleterious effects on worker health.
◊ Longer shift times found to reduce effective daily recuperation, produce adverse impacts on sleep length and quality [*e.g.*, see Smiley and Heslegrave (1997], and reduce desirable leisure activities.
◊ Showed that research literature consistently demonstrates that only in exceptional cases have 12 hours shifts, in particular, proved successful without measurable deterioration in safety, sleep quality, and worker health.
◊ Cites corroborative research findings, such as Rutenfranz (1973); Knauth and Rutenfranz (1972); Rutenfranz et al. (1974).

C. Abrams, T. Shultz, and C. Wylie, *Commercial Motor Vehicle Driver Fatigue, Alertness, and Countermeasures Survey*, Report FHWA-MC-99-067, Federal Highway Administration, U.S. Department of Transportation, August 1997.
◊ Survey of 511 commercial motor vehicle drivers undertaken concurrently with the 1997 Driver Fatigue and Alertness Study.
◊ Twenty-eight (28) percent of surveyed drivers admitted falling asleep at the wheel during the previous month.
◊ One-third of these fall-asleep drivers admitted falling asleep at the wheel from 3 to 6 times in the prior month.
◊ The majority of drivers who fell asleep at the wheel reported that they sometimes or always are aware of the danger of falling asleep, but nevertheless continue to drive.
◊ Nearly 47 percent of surveyed drivers stated that they sometimes cut their sleep short to make delivery schedules.

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◊ Drivers often begin trips already fatigued, *e.g.*, more than 38 percent have already been awake for 6 to 12 hours before beginning to drive.
◊ More than a third of drivers surveyed said that loading/unloading contributed to their fatigue and lowered their alertness.
◊ Ninety-one (91) percent of surveyed drivers slept in tractor sleeper berths, 6.7 percent in motels.
◊ About one-quarter of sleeper berth drivers split their sleeping time and overall slept fewer hours than drivers who rested in one period.
◊ Most drivers use breaks for other than napping purposes, *e.g.*, eating, fueling, restroom use, *etc.*
◊ Authors conclude that fatigue, drowsiness, difficulty of preventing falling asleep at the wheel may be more prevalent in the driver community than previously thought.

J. Rutenfranz and P. Knauth, Hours of Work and Shiftwork, *Ergonomics*, 19:3, 1976, 331-340.
◊ Found that the primary protection afforded workers against undue health risks were achieved by limitation of working hours as a direct means of curtailing risk exposure.
◊ A daily working time limit of 8 hours is shown to be optimal.

Simon Folkard, Black Times: Temporal Determinants of Transport Safety, *Accident Analysis and Prevention*, 29:4, 1997, 417-430.
◊ Showed that circadian rhythms are insufficient to account for the variation in crash risk over the 24-hour day.
◊ Deleterious effects of time on task overarch those derived from circadian effects (time of day).
◊ Safest continuous task duration, except for very short duty periods of about 2.5 hours, is about 8 to 10 hours of maximum shift length.

E. Grandjean, *Fitting the Task to the Man: An Ergonomic Approach*, London 1982.
◊ Shows that many studies have demonstrated that shortening the work day actually raises worker efficiency.
◊ Making the working day longer causes worker hourly efficiency to decline.
◊ Shows that many studies of actual workplace productivity demonstrate that increasing daily working hours beyond 10 hours actually results in a decline in productivity as a natural product of increasing fatigue which more than offsets the increased working hours.
◊ Found that working time of 8 hours per day cannot be increased to 9 hours or more without ill effects.

D. Linklater, Fatigue and Long Distance Truck Drivers, *Australian Road Research Board Proceedings*, 10:4, 193-201, 1980.
◊ Interviewed drivers of all types of vehicles at roadside restaurants and found that relative crash rates of truck drivers increased when weekly driving time exceeded 55 hours.
◊ Cites U.S. Bureau of Motor Carrier Safety finding in 1969 that 30 percent of single-vehicle truck crashes involved commercial drivers asleep at the wheel with 13 percent of those drivers verified to have exceeded maximum permitted hours of driving.
◊ New South Wales commercial drivers limited to a maximum of 72 hours driving per week, yet the crash risk of drivers has already begun to rise before this limit is reached.

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Mark Rosekind, et al., From Laboratory to Flightdeck: Promoting Operational Alertness.
◊ All estimates of fatigue-related accidents in transportation are underestimated.
◊ Many shiftwork studies have found reductions in performance, lowered alertness, and increased proneness to error and injuries for 12 hour shifts.
◊ Cite many supporting research studies such as Rosa (1991); Rosa and Bonnet (1993); Rosa (1995).
◊ Authors point out that in Rosa (1995), analysis of a national occupational-injury database showed a constant accident/injury rate through 9 hours of work, but then a rapid and progressive increase to three times the rate at the end of 16 hours of work.

Raymond Fuller, *Prolonged Heavy Vehicle Driving Performance: Effects of Unpredictable Shift Onset and Duration, and Convoy vs. Independent Driving Conditions*, U.S. Army Research Institute for the Behavioral and Social Sciences, Tech. Report 585, Sept. 1983.
◊ Found that symptoms of fatigue were most typical near the end of the driving shift, becoming evident from about the 9th hour of driving.
◊ Asserts that his research shows that prudence dictates a driving regime of no more than 8 or 9 hours long.

Gunther Hildebrandt, "12 & 24 H Rhythms In Error Frequency of Locomotive Drivers and the Influence of Tiredness, *International Journal of Chronobiology*, Vol. 2, 175-180 (1974).
◊ Tiredness was shown to play an important role in error frequency by train engineers, especially in the afternoon.
◊ Found that the increase in error frequency was linearly related to the number of hours previously worked.

Federal Highway Administration Report to Congress On Commercial Driver Hours of Service, November 1990.
◊ Openly endorses research findings showing the adverse effects of longer continuous driving times and of cumulative fatigue resulting from several consecutive days of driving.
◊ Asserts at the outset that the risk of crashes increases with the number of hours driven.
◊ Supports the 10-hour maximum regulatory restriction on continuous driving time because it is consistent with research showing that the potential for crashes rises as the hours of driving increase due to increasing driver fatigue.
◊ Favorably cites the Jones and Stein (1987) study by the Insurance Institute for Highway Safety that driving in excess of 8 hours may be associated with a significantly increased risk of crash involvement.
◊ Asserts that this increase in relative risk with increasing time of driving also confirms the 1978 FHWA study of Mackie and Miller.
◊ States that research has shown a cumulative fatigue effect after several successive days of driving.
◊ States that research indicates that time spent on-duty may be a more important factor in driver loss of alertness.

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◊ These statements repeat previous assertions to the same effect made in 1980 (45 FR 82284, 82286, 82288, 82290).
◊ FHWA in 1987 again endorsed the findings that both increased consecutive driving hours and consecutive days of driving directly contribute to driver errors and crashes (52 FR 45215).
◊ Assertions to the same effect were made by FHWA in its November 29-30, 1988, Proceedings of the Federal Highway Administration Symposium On Truck and Bus Driver Fatigue.

W. Harris and R. Mackie, *A Study of the Relationships Among Fatigue, Hours of Service, and Safety of Operations of Truck and Bus Drivers*, Bureau of Motor Carrier Safety, Federal Highway Administration, BMCS-RP0-71-Z, June 1971-November 1972; and,
R. Mackie and J. Miller, *Effects of Hours of Service Regularity of Schedules and Cargo Loading On Truck and Bus Driver Fatigue*, Federal Highway Administration, DOT-HS-803-799, May 1975-October 1978.
◊ Classic federal studies funded through the Federal Highway Administration whose findings have been sustained by numerous later studies.
◊ Found that drivers suffered increased risk of crashes whether they were on regular or irregular driving schedules.
◊ Even on regular daytime schedules, adverse safety effects were clearly seen after about 8.5 hours of driving.
◊ Significant increases in driver errors and significant decreases in driver level of alertness began to show as early as the 4th hour of driving time on irregular schedules in particular (at about 8 hours on regular schedules) and increased throughout the trip.
◊ Frequency of crashes increased disproportionately after 7 hours of driving and remained significantly higher than expected for all driving times longer than 7 hours.
◊ Amount of driver recovery declined with each successive rest break; drivers taking a third rest break, after about 9 hours, showed no recovery and an actual further decline in alertness [See Lisper, Laurell, and VanLoon (1986): taking breaks had no lasting effects on reducing sleepiness among drivers].
◊ About twice as many crashes per mile traveled occurred in the second half of the trip as in the first half.
◊ Significant increases in driver errors and decreases in alertness occurred within the current 10-hour consecutive driving limit.
◊ Cumulative effects of fatigue appeared after the first 4 consecutive days on duty.
◊ Later U.S. Department of Transportation study (J.P. Eicher (1982)) relies heavily on the findings of these two studies.
◊ These findings further evaluated and relied on by the Office of Technology Assessment of the United States Congress in its September 1988 report (OTA-SET-382).

Benjamin F. Jones, et al., *Fatigue and Hours of Service of Interstate Truck Drivers*, U.S. Public Health Service, Public Health Bulletin No. 265, Washington, DC, 1941.
◊ Tests conducted showed lowered functional efficiency with increasing hours of work per week.

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EEC Council Regulation No. 3820/85 (December 1985); EEC Council Regulation No. 98/0319SYN Amending Reg. 3820/85 and Directive 93/104/EC.

◊ Regulations establishing the European Economic Community policy on worker hours as based on extensive research and consensus agreements among member states.

◊ Regulations curtail weekly driving time to an average of no more than 48 hours per week as averaged over 4 months, with some derogations permitted (48 hours a week averaged over 6 months, 39 hours a week over 9 months, and 35 hours averaged over 12 months).

◊ Another EEC publication of November 18, 1999, emphasizes that 18 percent of fatal crashes in the European Union involve trucks or motor coaches, with 45,000 people killed each year.

F. van Ouwerkerk, Sub-Topic 4: Quality of Life and Social Costs - c) Working Conditions, *Resources For Tomorrow's Transport: Introductory Reports and Summary of Discussions*, ECMT, Brussels, September 12-14, 1988.

◊ Found serious, adverse health and social impacts from truck driver hours of service demands.

◊ High percentages of drivers admit to falling asleep or almost falling asleep at the wheel.

◊ Sixty (60) percent of drivers report anxiety, chronic heart problems, and hypertension.

◊ Relies heavily on B. Jansen (1987) study which showed that shiftwork produces pervasive problems of fatigue, sleep deprivation, gastrointestinal complaints, low family contact time, no community life, personal isolation, inability to pursue education, inadequate access to commonly available public facilities and activities such as public transportation/schools/sports, etc.

◊ Drivers have little leisure time and are disengaged from common social activities.

◊ More than one-quarter of drivers are not home on one of two weekend days.

◊ Drivers cannot schedule reasonable social time because much of their weekends are spent recovering from fatigue and sleep deprivation accrued from previous week's driving.

◊ Drivers report adverse impacts on spouses and households where the net effect of international driving is a one-parent home.

◊ Nearly half of all drivers have high rates of domestic discord with spouses and children.

◊ Drivers have more problems and more severe problems than the general population.

◊ Relatively high percentage of drivers reporting crash involvement due to falling asleep at the wheel of a moving truck probably a considerably low estimate because many drivers fell asleep and died in the crashes.

Torbjorn Akerstedt, Readily Available Countermeasures Against Operator Fatigue, *Managing Fatigue In Transportation: International Conference Proceedings*, April 29-30, 1997, 105-117.

◊ Valuable review of research literature on shift work, sleep/fatigue, and related risk.

◊ Allowing the same minimum off-duty or layover time for driver recovery following successive nights of driving are not equivalent to the restorative effects of the same amount of time allowed for recovery from the fatigue of daytime driving.

◊ Stresses other major research findings on the effects of extended shiftwork hours (Kurumatani (1994): very high correlation between length of free time between shifts and proportional sleep duration; Hamelin (1987): fast rise in crashes beginning before the 11th hour of driving).

◊ Emphasizes that all studies since 1971 show rest breaks induce only very short-lived increases in alertness with a return to sleepiness and error proneness almost immediately afterwards.

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C.D. Wylie et al., *Commercial Motor Vehicle Driver Fatigue and Alertness Study*, FHWA Report No. MC-97-001, U.S. Department of Transportation, 1997; and,
C.D. Wylie et al., *Commercial Motor Vehicle Driver Rest Periods and Recovery of Performance*, Transportation Research Centre, TP 12850E, Transport Canada, Montreal, Canada, 1997.

◊ Major study effort conducted over 5 years by the Trucking Research Institute of the American Trucking Associations in cooperation with Transport Canada.
◊ Prospective cohort study of commercial operators driving different schedules, truck equipment, time of year, and routes in U.S. and Canada.
◊ Severe methodological deficiencies, including threshold errors in sample size and subject selection, also unrecorded sleep and unmonitored naps.
◊ Many data gathering inadequacies, including acquisition of data from intermittent vigilance tests of drivers, *e.g.*, authors failed to acknowledge the well-known phenomenon resulting from use of secondary task techniques which provide extratask stimulus (alerting effect) offsetting effects of fatigue on alertness and capacity (see, *e.g.*, Brown (1978); Brown, Simmonds, and Tickner (1967); Brown, Tickner, and Simmonds (1966); Home and Wilkinson (1985); Haworth, Triggs, and Grey (1988); Dinges and Kribbs in Monk (ed.) (1991)).
◊ Study adversely criticized by peer review panels and in peer review journals for study design.
◊ *Post hoc* statement by researchers of hypothesis of interest, *viz.*, whether time of day of driving (circadian effect) overarches driving duration or time-on-task.
◊ Evidence of drowsiness in drivers not found in physiological testing but through visual interpretation of drivers' faces recorded on camera; drowsiness judgments uncorroborated in research community because face videos protected from disclosure.
◊ Primary reliance on judgments made from face videos confuses drowsiness indicators with fatigue -- drivers can be fatigued, *i.e.*, increasingly unable to perform a task well or safely, without appearing drowsy because of, *e.g.*, drooping eyelids.
◊ Due to lack of adequate data and multiple research design failures, study could not demonstrate a dominant circadian effect in comparison with performance and alertness deficits associated with duration of time-on-task.
◊ The follow-up study by Wylie et al. for Transport Canada studied 25 of the original 40 Canadian drivers participating in the DFAS, but statistical power of the follow-up is quite low (primarily from small sample size), especially as regards the study premise of whether adequate driver recovery from fatigue and sleep debt following 60 hours of driving within a seven-day period occurs after no (actually a nominal 12 hours), one (actually a nominal 36 hours), or two workdays (nominally 48 hours) of off-duty time.
◊ The follow-up study also relied on EEG, face video interpretation, vehicle lane tracking, and surrogate performance testing data as collected for the DFAS, all of which had various major deficiencies as described above.
◊ Use of these drivers during the layover days during the DFAS study further confounded the findings of both the DFAS and the follow-up study, and constitute a major research design failure.

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◊ However, the initial study and its follow-up produced corollary information which is nevertheless highly suggestive:

(1) No objective evidence that drivers could sufficiently recover from consecutive days of driving with a 36-hour or even a 48-hour off-duty period [*e.g.*, see Smiley and Heslegrave (1997)];

(2) All driver cohorts, whether driving 10-hour or 13-hour shifts, suffered severe and chronic sleep deprivation throughout the length of the study.

A. Smiley and R. Heslegrave, *A 36-Hour Recovery Period for Truck Drivers: Synopsis of Current Scientific Knowledge*, Transportation Development Centre, Transport Canada, 1997.

◊ Excellent literature review of studies specifically relating to driver recovery time needs.
◊ Evaluation of known research (*e.g.*, Lille (1967)) indicates serious concerns over the sufficiency of a 36-hour driver clock reset provision after several consecutive days of driving – drivers still fatigued and carrying unresolved sleep debt, resulting in quickly deteriorating performance when resuming work.
◊ Thirty-six- (36) hour layover especially inadequate following night shift work.
◊ Several studies strongly indicate inadequacy of even 48 hours off for full performance recovery (*e.g.*, Hildebrandt, Rohmert, and Rutenfranz (1975); Mallette (1994)).
◊ Authors conclude that commercial drivers need minimum of 48 hours off after several consecutive days of driving, but this still does not secure full performance and alertness recovery -- 72 hours or more are needed.
◊ Research literature also consistently shows that long work shifts result in accumulation of sleep debts.
◊ Concludes that Wylie study strongly indicates that even four 13-hour consecutive driving shifts results in significant performance deterioration.
◊ Long work shifts and associated inadequate sleep/recovery results in family and social dysfunction, increased substance abuse and health problems.

Roger Rosa and Michael Colligan, Extended Workdays: Effects of 8-Hour and 12-Hour Rotating Shift Schedules On Performance, Subjective Alertness, Sleep Patterns, and Psychological Variables, *Work and Stress*, 1989, 3:1, 21-32.

◊ Demonstrated the lower performance and alertness produced by an extra 4 hours added to shifts which result in more sleep reduction, disruption of personal activities, and increased self-reported stress.
◊ Use of a 12-hour rather than an 8-hour shift caused an increasing accumulation of unresolved sleep debt, as shown by substantial diminishment of sleep latency.
◊ None of these adverse effects was found on an 8-hour shift.
◊ Shift workers make inroads on sleeping time to perform normal personal activities within less off-duty time.

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Roger Rosa, Performance, Alertness, and Sleep After 3-5 Years of 12 H Shifts: A Follow-Up Study, *Work and Stress*, 1991, 5:2, 107-116.
◊ Confirmed findings of earlier study.
◊ Also showed the adverse health effects of 12-hour versus 8-hour work shifts.

Roger Rosa and Michael Bonnet, Performance and Alertness On 8 H and 12 H Rotating Shifts At a Natural Gas Utility, *Ergonomics*, 1993, 36:10, 1177-1193.
◊ A review of the data of the 1991 study confirming the lowered performance, decreased alertness, reduced quality of social life, and increased health complaints associated with 12-hour shifts.

Ivan Brown, Driver Fatigue, *Human Factors*, June 1994, 36:2, 298-314.
◊ Drivers may be fatigued, yet sustain performance effectiveness, but at an increasing cost of experienced fatigue until performance begins to collapse.
◊ Long work shifts produce reactive inhibition in which the human brain becomes disinclined to continue producing the same repeated response to the same environmental stimuli.
◊ Typical 8-hour shift has no adverse implications for drivers.
◊However, research has long established that extended work periods both impair task performance and increase sickness absence and injuries (*e.g.*, Vernon (1921)).
◊ Daily hours and weekly hours must be balanced to avoid fatigue and performance degradation (*e.g.*, Rosa et al. (1985) showed that a 12 hour/4-day week more detrimental to performance and produces more self-reports of drowsiness and fatigue than 8-hour/6-day week).
◊ The longer the duty period, more stressful the task, and more hazardous the working conditions, the more restitutive sleep a driver will be obliged to take.
◊ Performance deterioration more severe in performance of tasks which are long, familiar, monotonous, and complex such as driving.

T. Sanquist, et al., *Fatigue and Alertness In Merchant Marine Personnel: A Field Study of Work and Rest Sleep Patterns*, U.S. Coast Guard Report No. CG-D-06-97, June 1996.
◊ One hundred forty-one (141) mariners in commercial maritime industry studied for their work and sleep patterns on shipboard duty.
◊ Major fatigue/sleep deprivation problem in commercial maritime industry.
◊ Mariners averaged 6.6 hours of sleep in each 24 hours and quickly accumulated large sleep debts with pervasive symptoms of fatigue, including critically low alertness levels and extremely short sleep latencies.
◊ Response of Congress to sleep deprivation of watch mate prior to grounding of Exxon Valdez was enactment of legislation limiting tank vessel personnel to 15 hours duty time in each 24 hour period, 36 hours duty in 72 hour period.
◊ This statutory regime promotes sleep deprivation and accumulated sleep debt coupled with deteriorating performance over consecutive days.
◊ Minimum off-duty period of 9 hours provides insufficient opportunity for enough sleep by mariners.
◊ Once diurnal alertness is achieved, even with some accumulated sleep debt, mariners avoid afternoon naps in particular because of high sleep inertia following them.

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◊ Conversely, mariners often report poor sleep following duty periods because of work inertia, resulting in insufficient sleep even with enough time available to secure needed sleep.
◊ Cites numerous research findings that fragmenting sleep into shorter, intermittent periods [*e.g.*, in truck sleeper berths] results quickly in sleep deprivation, reduced alertness, and lowered performance, a practice explicitly avoided for flight crew in commercial aviation because FAA regulations require 9 consecutive hours of rest following a flight of 8 hours or less.
◊ Cites research (*e.g.*, Kecklund and Akerstedt (1995)) showing that at least 16 hours between work shifts in necessary to consistently achieve sleep durations of 7-8 hours.

A. Fletcher and D. Dawson, Cabin Safety and Hours of Work: Developing a General Risk-Control Model for Fatigue, *Journal of Centre for Sleep Research*, 2: 9-26, 1997.
◊ Surveys research literature showing that the longer a work period, the more fatiguing it is likely to be.
◊ Fatigue impact of longer working hours is compounded by also abbreviating the available time for rest and restorative sleep.
◊ Confirms previous studies that laboratory-based studies such as those showing no differences in performance between shifts of varying lengths are unreliable for making generalizations applying to specific workplaces.
◊ Experimental studies typically oversimplify the complex psycho-social context in which shiftwork occurs and fail to model real-world shift schedules.
◊ Stresses that many organizations view financial and service imperatives as overriding determinants of shift schedules.
◊ Without reliable empirical tools to accurately quantify actual relationships between fatigue and organizational costs, there is little incentive to implement coherent hours of work schedules.
◊ In developing fatigue policies, organizations will ignore objective scientific information not suiting their economic goals.

Patrick Hamelin, Lorry Driver's Time Habits In Work and Their Involvement In Traffic Accidents, *Ergonomics*, 1987, 30:9, 1323-1333.
◊ Cites MacDonald (1984) and concludes that, based on a comparison with exposure to risk, both long hours of work and driving at night are associated with a much higher rate of accidents than shorter hours and daytime driving.
◊ The accident rate in the second half of driving trips is twice as high as in the first half.
◊ Risk rate linked to work span duration is probably underestimated.
◊ Points out that several authors (*e.g.*, Pokorny et al. (1981)) have show the existence of a slight excess-risk rate immediately after work resumption following a break.

James C. Miller, *Fundamentals of Shift Work Scheduling*, 2nd ed., c1992.
◊ Manual sets forth quantitatively-based recommendations for shift work scheduling, including shift rotations.
◊ Most current work schedules are not based on worker efficiency and health needs, but on productivity goals which have been abstracted from the workers' needs.
◊ Stresses that real-world policy investigations of shiftwork impacts have clearly shown that 12 hour shifts are not appropriate for continuous operations (citing P.M. Lewis, *Recommendations*

for NRC Policy On Shift Scheduling and Overtime At Nuclear Plants, U.S. Nuclear Regulatory Commission, NUREG/CR-4248, PNL-5435, 1985).

◊ Also cites J.T. Mets, "Adverse Effects of Working 12-Hour Shifts, *Proceedings of the 2nd Annual Conference of the Ergonomics Society of Southern Africa,* Cape Town, April 14-15, 1986, who showed the increased injury rates for workers in auto manufacturing plants when management changed plant policy from 9 to 12 hour shift lengths.

◊ Also cites Gardner and B.D. Dagnall, "The Effect of 12-Hour Shift Working On Absence Attributed to Sickness, *British Journal of Industrial Medicine*, 1977, 34, 148-150, who showed the consistent increase in work absence rates for sicknesses among process workers in an oil refining/petrochemical plant as a direct consequence of switching from 8 hour to 12 hour shifts.

P.M. Lewis, *Shift Scheduling and Overtime: A Critical Review of the Literature,* Nuclear Regulatory Commission Contract DE-AC06-76-RLO, 1985; and,
P.M. Lewis, *Recommendations for NRC Policy On Shift Scheduling and Overtime At Nuclear Power Plants*, Division of Human Factors Safety, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC, 1985.

◊ Found that the number of hours worked in a 7-day period must be limited.

◊ Basis of recommendations was a comparison of findings from studies of work/risk relationships in other industries.

◊ Relied on federal regulations limiting airline pilots and flight crew to 30 hours aloft in 7-day period.

◊ Cites Nicholson's (1972) findings of total duty time of 55 hours in 7 days and Mohler's (1976) physiological index for pilots and crew indicating that 56 hours/7days is a high work load and that 84 hours in 7 days is far too much.

David Dinges and Nancy Kribbs, Performing While Sleepy: Effects of Experimentally-Induced Sleepiness, *Sleep, Sleepiness, and Performance*, Timothy H. Monk, ed., John Wiley and Sons, Ltd., c1991, 97-128.

◊ Inadequate sleep is endemic in industrialized societies that prize irregular hours and view sleep as a potential source of additional work time.

◊ More attention has been paid to the physiological, neurological, and psychopathological effects of sleep loss than to performance effects.

◊ The most powerful determinant of lapsing [on tasks] and decreased performance in a sleepy person is the required task duration -- the longer the task duration, the greater likelihood that performance will show evidence of impairment early on during sleep deprivation.

◊ Cites several studies to support this conclusion, including Williams, Kearney, and Goodnow (1959) who consistently found that reaction time was an increasing monotonic function of task duration.

◊ Even providing enough time for gaining off-duty sleep cannot by itself offset the increased risk from longer exposure to high-risk tasks such as driving a commercial motor vehicle because many drivers will still get inadequate sleep.

◊ Research literature consistently shows that increased exposure time will correspondingly produce more performance lapses (failures), especially if workers get inadequate sleep.

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Gregory Belenky, The Effects of Restricted Sleep On Performance and Subsequent Recovery: Implications for Managing Sleep to Sustain Performance, *Fourth International Conference On Fatigue In Transportation*, Freemantle, Australia, Mary 19-22, 2000.
◊ Reviews studies conducted by the U.S. Army and Walter Reed Hospital showing that anything less than eight to nine hours of sleep per night leads to degraded work performance over time.
◊ The longer a person suffers from restricted sleep, the longer it takes them to recover even when given optimal conditions for sleep.

T. Balkin *et al.*, *Effects of Sleep Schedules on Commercial Motor Vehicle Driver Performance*, Walter Reed Army Institute of Research, Report No. DOT-MC-00-133, Federal Motor Carrier Administration, U.S. Department of Transportation, May 2000.
◊ Study comprised two separate research efforts, one a field study using wrist actigraphy to determine sleep duration and timing in long- and short-haul commercial drivers over 20 consecutive days, the other a sleep dose/response laboratory study on commercial drivers to determine the effects on performance of differing times spent in bed each night (3, 5, 7, 9 hours) over 7 consecutive days.
◊ Overall purpose of the study was the attempt to quantify the relationship between different amounts of sleep and subsequent performance during wakefulness.
◊ Field portion of the study showed that daily sleep duration was strongly correlated with the amount of off-duty time.
◊ In the field portion, long- and short-haul drivers averaged about 7.5 hours of sleep.
◊ Long-haul drivers obtained almost half of their daily sleep during work shift hours principally in sleeper berths which suggests that they spend a significant portion of the work shift in a state of partial sleep deprivation.
◊ Even for small reductions in average nighttime sleep duration to about 6.3 hours in the 7-hours of sleep group, there was measurable performance decrements on several tests, including the psychomotor vigilance test.
◊ The performance deterioration for even small amounts of sleep restriction was maintained over the entire 7 consecutive days of sleep restriction suggesting that there is no compensatory or adaptive response to even mild amounts of sleep loss.
◊ For more severe sleep restriction, it was found that recovery of performance is not complete even after three consecutive nights of attempted recovery sleep based on 8 consecutive hours of time in bed each night, showing that expunging substantial sleep debt takes extended periods of recovery sleep over several days.
◊ These findings also suggest that the extant level of daytime alertness and performance capability is a function not only of an individual's circadian rhythm, amount of time since his/her last sleep period, and the duration of that sleep period, but is also a product of that person's long-term sleep history extending back several days.
◊ Temporal concordance between electroencephalograph defined lapses in alertness and performance on simulated driving was low, indicating that sleepiness-induced performance reductions most often occur in the absence of visually observed electrophysiological evidence of impaired alertness.

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N. Haworth, T. Triggs, and E. Grey, *Driver Fatigue: Concepts, Measurement and Crash Countermeasures*, Australia Transport and Communications, Federal Office of Road Safety, Report CR72, June 1988.

◊ Massive, detailed evaluation of prior research and speculation on nature, origin, effects, and measurement of fatigue.

◊ Precise estimation of contribution of fatigue to road crashes in Australia cannot be made, but there are strong indications that the effects are far greater than hitherto believed, with 5 - 10 percent in all crashes, 20 - 30 percent in casualty crashes, 25 - 35 percent in fatal crashes, and perhaps up to 50 percent in single-vehicle tractor-semi-trailer fatal crashes.

◊ Authors' review of prior research shows that drivers' relative risk of crashes increase with increasing work duration and is compounded by drivers taking more risks as fatigue increases.

◊ In-depth studies of fatigue effects, even as rigorous as the Jones and Stein (1987) study, may still underestimate the contribution of fatigue to crash causation.

◊ Probable that most fatigue-related crashes are unidentified because they do not result in serious injuries or deaths, therefore are unreported and/or disregarded for investigation (see, *e.g.*, Hampson, *Contributing Factors In Road Crashes*, Working Document No. WD78, Federal Office of Road Safety, Australia).

◊ Cites studies showing the poor relationship between breaks or naps and recovery of alertness, *e.g.*, Lisper, Laurell, and van Loon (1986) (drivers fell asleep again soon after a five-minute walk break); Lisper and Eriksson (1980) (no difference in recovery of alertness after one, two, or five rest pauses as compared with control who had no pause); Lisper et al. (1979) (no difference between breaks of 15 and of 60 minutes for restoration of alertness).

◊ Discusses repeated findings that commercial drivers, including U.S. truck drivers, widely use amphetamines to increase alertness and performance to offset the fatiguing effects of long driving hours, which use, however, also measurably increases risktaking behavior (*e.g.*, Guinn (1983); Baumler (1975) in Seppala et al. (1979)) and increases crash rates (*e.g.*, Smart, Schmidt, and Bateman (1969)).

◊ Prolonged hours of service, including both driving and non-driving duty time, is an important cause of fatigued commercial drivers and reduction of excessive driving hours is an effective countermeasure.

J. Stutts, J. Wilkins, and B. Vaughn, *Why Do People Have Drowsy Driving Crashes?: Input From Drivers Who Just Did*, AAA Foundation for Traffic Safety, Wash., DC, Nov. 1999.

◊ Case-control study of drowsy driving crashes, with a very large sample size of over 1,400 cases and controls.

◊ Cases were drivers involved in police-reported crashes in North Carolina whose condition following the crash was explicitly characterized as asleep or fatigued, two control cohorts of non-sleepy crash-involved drivers and non-crash-involved drivers.

◊ Both cases and controls interviewed by telephone (interviewers blinded to case or control status of each interviewed driver) with survey results analyzed descriptively and through multiple logistic regression models.

◊ Very high percentages of both cases and controls interviewed regard drowsiness in driving to be a major cause of motor vehicle crashes, second in importance only to alcohol consumption.

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◊ Study importantly recognizes distinction between sleepiness and fatigue: the former is the inclination to sleep, the latter a disinclination or inability to continue performing a task.
◊ Drivers in sleep- and fatigue-related crashes were behind the wheel significantly longer prior to the crash, were awake for longer the day of their crashes, and had slept fewer hours the night before (both asleep and fatigued crash-involved drivers averaged about 6.5 hours of sleep per day).
◊ Twenty-seven (27) percent of the asleep crash-involved drivers and 20.6 percent of the fatigued crash-involved drivers work more than 60 hours each week; 43.4 percent asleep drivers and 37.3 percent fatigued drivers 50 or more hours per week; and 88 percent asleep drivers and 83.3 percent fatigued drivers 40 or more hours per week.
◊ Working more than 60 hours a week increased the odds of having a crash by 40 percent.
◊ More than half of all asleep crash-involved drivers and almost half of all fatigued crash-involved drivers have regular daytime work schedules.
◊ Half of the fatigued and asleep drivers reported feeling only slightly drowsy or not at all drowsy prior to their crashes.
◊ There was evidence that fatigue-related crashes are underreported, as well as drivers unable or unwilling to recognize the influence of drowsiness or fatigue in their crashes.

***The National Highway Traffic Safety Administration and National Center On Sleep Disorders Research Program to Combat Drowsy Driving: Report to the House and Senate Appropriations Committees Describing Collaboration Between the National Highway Traffic Safety Administration and the National Center on Sleep Disorders Research, National Heart, Lung and Blood Institute, National Institutes of Health, March 15, 1999; and, Drowsy Driving and Automobile Crashes*, NCDSR/NHTSA Expert Panel Report on Driver Fatigue and Sleepiness, DOT HS 808 707, April 1998.**

◊ Report jointly authored by NHTSA and NCSDR to comply with the mandates of the Fiscal Year 1996 and Fiscal Year 1997 Senate Appropriations Committee Conference Reports which stated that police statistics on fatigue-related crashes represent underreporting of the prevalence of these crashes, as well as a failure to identify driver inattention problems leading to crashes.
◊ The FY96 Report asserted that NHTSA has not devoted sufficient resources to understanding and addressing driver fatigue, sleep disorders, and driver inattention.
◊ The FY97 conference agreement supplied $1,000,000.00 to NHTSA to analyze the role of driver fatigue, sleep disorders, and inattention in cooperation with NCSDR.
◊ One of the risk factors identified by the Expert Panel was shift workers accruing long daily working hours, including drivers driving long hours each day.
◊ The Panel emphasized that periods of work longer than 8 hours have been shown to impair performance and increase crashes (*e.g.*, performance is worse on 12 hours per day work schedules than 8 hours per day (Ivan Brown (1994)).
◊ The Panel explicitly distinguished from fatigue, recognizing that fatigue is a disinclination to continue performing a task at hand whereas sleepiness is a neurobiological drive or need to sleep.
◊ The Panel found that sleepiness can contribute to fatigue- and inattention-related crashes, but that fatigue-related crashes do not necessarily involve sleepiness [See Stutts, Wilkins, Vaughn (1999)].

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T. Dingus, *et al.*, *Impact of Sleeper Berth Usage on Driver Fatigue: Final Project Report*, Virginia Tech Transportation Institute, Federal Motor Carrier Safety Administration Contract DTFH61-96-C-00068, USDOT, July 2002.

◊ Prospective study of 56 commercial drivers in 13 team cabs and 30 solo drivers working for 4 for-hire, over-the-road trucking firms, using Class 8 tractors with semi-trailers.

◊ Multiple data acquisition systems including PERCLOS (videoed driver face drowsiness interpretation as percentage of eye closure), steering movements, lane maintenance and departures, braking, automated piezo-electric sleep-monitoring system, subjective driver sleep self-ratings, Karolinska Sleepiness Scale (trained observer interpretative use), sleeper berth data noise/vibration/temperature.

◊ Study preceded by 10 focus group interview sessions in 1997-1998 comprising 74 drivers.

◊ Several drivers in focus groups admitted to illegal conduct related to their commercial driving.

◊ The focus group driver admissions of violations were confirmed later in the study participants: there were a significant number of cases where study drivers, even though they knew they were being observed, violated hours of service regulations by driving in excess of 10 consecutive hours without taking the required minimum 8 hours off-duty rest period.

◊ Excessive (illegal) consecutive hours of driving ranged from 11 hours to 15 hours, and most violations were committed by solo drivers.

◊ However, the 5 percent of the shifts that illegally exceeded 10 consecutive hours of driving had very few recorded critical incidents, and although there were 22 cases where a drive drove over 14 hours in a single shift, there were no occurrences of a critical incident or driver error in any of these cases, according to the authors.

◊ Study authors could only verify whether violations of driving hours were committed because logbooks and truck data collection systems cannot verify on-duty not-driving time.

◊ Drivers in the focus groups are required to stay awake while waiting in line for long periods of time to load/unload and would like to sleep, but don't for fear of losing their place in the loading/unloading queue.

◊ Drivers in the focus groups mentioned that they often cannot load/unload within schedules, and if schedules are not adhered to, they would like to be able to sleep.

◊ Drivers in every focus group claimed that carrier dispatchers coerce them to continue driving even when the drivers feel they need to rest.

◊ Drivers in the focus groups complained that trucking companies do not give them enough anticipation of a driving tour of duty to enable the drivers to get sufficient sleep before going on the road.

◊ Drivers in the focus groups emphasized that they were paid by the mile, were not paid for any time when their trucks were immobile (*e.g.*, during waiting to load/unload), and that this practice impelled them to violate hours of service requirements and to speed.

◊ Authors suggest that this industry practice leads drivers to falsify their logbook entries to conceal violations.

◊ Low study participant (driver) interaction with data collection systems, but drivers had to don Nightcap sleep monitoring system and attach piezoelectric film to one eyelid.

◊ One study participating driver subverted the data collection systems by placing opaque tape over the cab-mounted video camera.

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◊ Critical incident recordation protocol (video and computer storage) governing indications of fatigue, performance lapses, safety-related events, potentially hazardous driving behavior.
◊ Solo drivers were found to be greatly affected by drowsiness which compromises their ability to safely operate large trucks.
◊ Solo drivers were greatly affected by their level of drowsiness which translated into dangerous driving behavior.
◊ Solo drivers had many more critical incidents at all levels of severity as compared with team drivers and the differences were large at all trigger severity levels.
◊ The ratio of critical incidents to timed triggers in the extremely drowsy category for solo drivers was far greater than expected and hypothesized.
◊ Solo drivers were found to be extremely drowsy in almost 2.5 times as many incidents as hypothesized.
◊ Solo drivers were involved in 4 times the instances of very/extremely drowsy observer ratings than were team drivers (20 occurrences solo drivers, 3 occurrences team drivers).
◊ Six (6) of the extreme fatigue occurrences took place when drivers had <5 hours sleep in previous 24 hours.
◊ Authors note that only 9 of the extreme drowsiness drivers had more than 7 hours of sleep in the previous 24 hours.
◊ However, only 3 of the extremely drowsy drivers had rated themselves subjectively for prior quality of sleep as worse than Level 4 (slept fairly well) [Note GAD: a finding that accords with several studies over the years showing that drivers cannot accurately judge or predict how drowsy they are or will be while driving].
◊ Solo drivers were more alert in the morning and gradually became fatigued as the day progressed.
◊ Solo drivers experienced high rate of extreme drowsiness after the second or third bout (authors use the term shift) of driving after the first day of several days of consecutive driving.
◊ The authors believe that this high rate of extreme drowsiness is the combination of long consecutive driving hours and multiple days of consecutive driving, and several measures indicate that this extreme drowsiness is the product of cumulative fatigue.
◊ The impact of drowsiness on single drivers increased as the days of a duty tour accumulated.
◊ Solo drivers in the extremely drowsy category were involved in over 20 times as many abrupt steering incidents than hypothesized, a result that was much larger than expected by the authors.
◊ The authors believe the combination of long driving shifts over multiple days creates a high potential for significant drowsiness for commercial drivers, especially in the final days of several consecutive days of driving.
◊ Quality and depth of sleep during a tour of duty were worse than home sleep, especially for team drivers who had difficulty especially sleeping in sleeper berths while trucks were moving.
◊ Team drivers got more sleep during the study than solo drivers, but the sleep was overall of poorer quality.
◊ Both solo and team drivers reported having a harder time falling asleep in sleeper berths than at home.
◊ Both solo and team drivers slept more deeply during a tour of duty as the days of consecutive driving elapsed due perhaps to the presence of a growing, cumulative sleep debt.

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◊ Solo drivers, unlike team drivers, continued to push their driving when very tired and judged to be extremely drowsy.
◊ Solo drivers on average reported one hour less sleep per day than team drivers during a tour of duty.

B. Wright and E. Fogel, *On-Board Recorders: Literature and Technology Review*, Cambridge Systematics, Inc., FMCSA Contract No. DTFH61-99-Z-00083, July 2002.
◊ Literature review of 4 studies:

- Deborah Freund, *Agency Working Paper: On-Board Automated Recording for Commercial Vehicle Driver's Hours-of-service Compliance: The European Experience.*
- Federal Highway Administration Global Positioning System Pilot Program 1998 (unpublished materials reviewed by authors), derived from GPS Technology Notice of Interpretation with Request for Participation in Pilot Demonstration Program, 65 FR 16697 (April 6, 1998).
- K. Campbell and S. Lang, *Electronic Recorder Study: Final Report*, University of Michigan Transportation Research Institute, Federal Highway Administration, June 1998.
- *Field-Testing of On-Board Recorder, Smart Card, and Digital Signature Technology: Phase I*, Public Works and Government Services Canada Western Quebec Region and TECSULT, September 2001.

◊ Technologies include digital tachographs, engine control modules (widely used and installed by engine manufacturers, GPS, and wireless communication system.
◊ Technologies need to record number of hours driver has rested, number of hours driver has been awake and the time s/he awoke, number of hours driver on duty but not driving.
◊ About 4.2 million commercial drivers subject to logbooks.
◊ Authors note early on concerns regarding sufficiency of relying exclusively on GPS data for determining RODS and hours-of-service compliance.
◊ Authors recommend that RODS and compliance need to be governed by effective combinations of technologies, not just one type.
◊ 49 CFR Pt. 395.15, adopted in 1988, cannot be fulfilled by GPS because reg specifically requires any non-logbook technology to be integrally synchronized with specific vehicle operations, therefore must record engine use, road speed, miles driven, date, and time of day.
◊ Special pilot program necessary in 1998 because GPS does not use engine data to create RODS reports.
◊ Clear from GPS pilot program that technologies chosen must protect the regulatory interests of the federal government.

◊ **Deborah Freund agency working paper review**: European Union has made advances in promoting use of on-board recordation technologies along with defining their requirements for monitoring compliance with hours-of-service requirements.
◊ EU specifies that buses carrying more than 9 passengers and trucks weighing more than 7,700 lbs. must have automatic recording devices for distance traveled, speed, driving times, non-driving work time, and rest time.
◊ EU reg. Annex 1 prescribes requirements for development, testing, installation, and periodic inspection of the recording devices (includes design specs even for cable types and insulation).

APPENDIX A

◊ Digital tachographs poised to replace tamper-prone mechanical tachographs in near future.
◊ Digital tach uses electronic recording on a smart card, and permits printouts of daily, weekly, monthly info of date, time, names of drivers and inspectors, driving times, breaks, rest periods, standby times, start-finish times of all transportation-related activities.
◊ Authors concluded that few on-board technologies are available in the market designed specifically to capture Record of Duty Status (RODS) because they cannot record activity of driver while not in a driving mode, cannot distinguish between on-duty/not-driving and off-duty activities.
◊ Some European interest groups opposed to use (International Road Transport Union).

◊ **GPS pilot program** conducted 1995-1998, 2000 drivers, written logbooks used alongside GPS.
◊ System calculates driving time by determining time and distance between truck location updates not direct recordation of driving time.
◊ GPS operates on several algorithmic default assumptions – if vehicle idle >2 hours, system codes sleeper berth; if vehicle idle for <2 hours, driver status coded off-duty; no driving time recorded if truck and trailer travels <15 miles or tractor alone travels <25 miles; if driver fails to record how long on-duty not-driving, GPS automatically records default of 15 minutes for loading/unloading.
◊ Inspection and enforcement personnel can examine either display or printed hard copy of RODS.
◊ No FMCSA claims either supporting or opposing company claims about value or accuracy of RODS with GPS.
◊ However, Cambridge Systematics interviewed several FMCSA personnel about GPS pilot program.
◊ FMCSA personnel said that technology needed because commercial driver so not always accurately log on-duty times per regs and provide other economic/administrative benefits.
◊ FMCSA do not believe that there has been any documented improvements in compliance or safety due to GPS use in the pilot program.
◊ FMCSA personnel observed that 40% of HOS OOS citations were for no log or log not up to date, not falsified entries.
◊ FMCSA personnel cautioned that default assumptions governing GPS in pilot program could lead to an inaccurate picture of a driver's working time and total distance traveled.
◊ One FMCSA staffer questions accuracy of sleeper berth default judgment (two hours motionless vehicle).
◊ FMCSA personnel think GPS not enough, need use with other engine-related EOBRs.
◊Some GPS pilot program drivers found ways to tamper with data, compromise safety.
◊ FMCSA personnel admitted that some carriers don't want EOBRs because they regularly violated HOS limits, want to avoid enforcement.
◊ FMCSA personnel do not believe an EOBR mandate is imminent because, among other things, current Administration is pro-business.

◊ **UMTRI electronic recorder study** conducted 1998 on benefits/costs of EOBRs by interviewing major trucking organizations and independent owner-operators.
◊ Low response rate (1,200 responses of 10,000 distributed survey forms).

APPENDIX A

◊ Of respondents, only 175 use EOBRs.
◊ Multiple purposes of EOBR use, not just regulatory.
◊Larger firms = more common use.
◊ Private fleets use more than for-hire.
◊ 57 percent have HOS function for EOBRs.
◊ Only 37 fleets of 1,200 use EOBRs for HOS compliance and RODS tracking.
◊ But no for-hire and owner-operators used EOBRs for HOS compliance.
◊ EOBR buy/install $2,000 or less, <$200 annual operating costs.
◊ Fleets cite driver paperwork timesaving, better fleet management.
◊ Most carriers don't want them, won't get them.
◊ UMTRI authors concluded no economic benefits to EOBR use.

◊ **Transport Canada October 2001 Study EOBRs, Smart Cards, Digital Signatures** Phase 1 conducted with several national and provincial transportation agencies and one motor carrier.
◊ 16 companies providing EOBRs, smart cards, and digsigs evaluated.
◊ No company could prove that its technology could meet regulatory requirements.
◊ But part of problem is the lack of clear legal framework to tailor technical specs.
◊ Study (Phases 2-4) will proceed to other phases of actual in-service testing, specification of actual processes for recordation.

APPENDIX B

TRUCK DRIVER HOURS OF SERVICE (HOS) RULE OVERTURNED TWICE BY UNANIMOUS DECISIONS

U.S. COURT OF APPEALS HAS VACATED KEY ASPECTS OF HOS RULE IN TWO PREVIOUS DECISIONS AND HELD THIRD CASE IN ABEYANCE PENDING OUTCOME OF NEW RULEMAKING

The U.S. Court of Appeals for the District of Columbia Circuit (Washington, D.C.) has twice ruled that prior versions of the Hours of Service (HOS) rule issued by the Federal Motor Carrier Safety Administration (FMCSA) were adopted in violation of federal law.

In the first case, a unanimous 3-judge panel of the appellate Court held in a 2004 decision that the FMCSA failed to consider the effect of longer driving and work hours permitted by the HOS rule on the health of truck drivers. Federal law required the agency to examine the impact of regulations on driver health. The Court went on to analyze and criticize every other aspect of the HOS rule including:

- increasing in the limit on consecutive driving hours from 10 to 11 hours of driving, even though data shows that crash risk increases geometrically after 8 hours of driving;
- allowing drivers to restart their maximum weekly driving hours after only 34-hours off duty, even though the agency found that drivers need two nights of sleep in order to be fresh and alert for driving;
- permitting a continuation of split sleeper berth off-duty time, where drivers can take two five hour breaks instead of one 10-hour off duty period, even though data shows that drivers cannot get a full night sleep or adequate rest in shorter off duty periods;
- failing to address the need to require automatic on-board recorders (EOBR) that accurately collect information on truck engine operation and driver on and off duty compliance.

The Court stated that the FMCSA had not provided reasoned explanations for the increases in maximum driving and on-duty time, casting doubt on the safety of the 11-hour daily driving limit and the 34-hour restart requirements. The Court remanded the rule to the FMCSA which began a separate rulemaking process for the EOBR issue.

In 2005, the FMCSA reissued nearly the identical rule except that the revised rule required drivers using sleeper berths to take at least 8 hours off-duty in a single rest period, allowing an 8/2 split of the 10 hour off duty period but no shorter split sleeper berth rest periods.

In the second lawsuit, another unanimous 3-judge panel of the Court, in a 2007 decision, ruled that the 11 hour limit on consecutive driving hours and the 34-hour restart provision must be sent back to FMCSE because the agency had acted illegally in failing to disclose during the public comment period critical information in its cost-benefit analysis and by failing to explain the assumptions and methodology used by FMCSA in arriving at the statistical models on which the HOS rule cost-benefit analysis relied. The HOS rule was, once again, returned to the agency for further action and, once again, FMCSA issued the same, exact rule in 2008.

The third lawsuit was filed in March, 2009, but just as the briefs were due in Court the parties and the government reached a settlement agreement in which FMCSA agreed to issue a new revised HOS rule by the end of July, 2011. The third lawsuit is pending but held in abeyance until the FMCSA issues the new HOS rule. If the HOS rule is essentially the same as the HOS rule issued in 2008 then the Court can reinstate the lawsuit and the briefing would proceed.

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Six federal judges of the appellate court that is directly below the U.S. Supreme Court have found the prior iterations of the HOS rule illegal. Beyond the specific legal holding in each case, the Court in both decisions criticized other shortcomings of a number of critical aspects of the FMCSA HOS rule. The attached side-by-side includes quotations from each Court opinion about the various issues considered by the Court panels in the two cases.

ISSUE	ANALYSIS of July *2004* COURT OF APPEALS DECISION	ANALYSIS of July *2007* COURT OF APPEALS DECISION
Driver Health	"The FMCSA points to nothing in the agency's extensive deliberations establishing that it considered the statutorily mandated factor of drivers' health in the slightest" "[The FMCSA's] failure to [explain its reasons for not considering the effect of the rule on driver health], standing alone, requires us to vacate the entire rule as arbitrary and capricious, as the agency's failure to consider this factor, to borrow a phrase from the agency's brief, 'permeated the entire rulemaking process.' "	**N/A**
Cost-Benefit Analysis (Operator-Fatigue Model Methodology)	"[T]his analysis assumes, dubiously, that time spent driving is equally fatiguing as time spent resting – that is, that a driver who drives for ten hours has the same risk of crashing as a driver who has been resting for ten hours, then begins to drive. [citation omitted]. In other words, the model disregarded the effects of 'time on task' because, the agency said, it did not have sufficient data on the magnitude of such effects." "The exponential increase in crash risk that comes with driving greater numbers of hours, presumably caused by time-on-task effects, raises eyebrows about the agency's increase in daily driving time. Yet the agency excluded time-on-task effects from the cost-benefit analysis. That analysis, then, assumes away the exact effect that the agency attempted to use it to justify. The agency's reliance on the cost-benefit analysis to justify this increase is therefore circular, and the rationality of that explanation is correspondingly doubtful."	"FMCSA's decision to plot the data point for Hour 13 and beyond at Hour 17 – instead of at Hour 13 (or some other point) – was entirely unexplained in the RIA [regulatory impact analysis] and final rule. This complete lack of explanation of an important step in the agency's analysis was arbitrary and capricious." "Although we apply a deferential standard of review to an agency's use of a statistical model, we cannot uphold a rule based on such a model when an important aspect of its methodology was wholly unexplained." "FMCSA gives no explanation for the failure of its operator-fatigue model to account for cumulative fatigue due to the increased weekly driving and working hours permitted by the 34-hour restart provision. . . . [t]he agency's failure of explanation renders the restart provision arbitrary and capricious."
Increase in Maximum Driving Time from Ten to Eleven Hours	"The exponential increase in crash risk that comes with driving greater numbers of hours . . . raises eyebrows about the agency's increase of daily driving time." "[P]etitioners' challenge raises very real concerns."	"First, we expressed 'very real concerns' about the increase in the daily driving limit from 10 to 11 hours. [cite omitted]. We noted that the 'agency freely concedes that 'studies show [] that performance begins to degrade after the 8th hour on duty and [the

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Increase in Maximum Driving Time from Ten to Eleven Hours (Continued)	"We have our doubts about whether [the agency's] two justifications are legally sufficient." "The agency freely concedes that 'studies show[ ] that [driver] performance begins to degrade after the 8th hour on duty and increases geometrically during the 10th and 11th hours' on duty. Despite this finding, the agency cited absolutely no studies in support of its notion that the decrease in daily driving-eligible tour of duty from fifteen to fourteen hours will compensate for these conceded and documented ill effects from the increase [in consecutive driving hours]." "The agency did refer generally to studies, but that generalized reference is of doubtful legal sufficiency." ". . . the effects from the increased weekly driving hours may offset any decrease in fatigue flowing from the fact that drivers have overall [one hour] shorter tours of duty. For these [] reasons, it is unlikely that we would find the agency's first explanation legally sufficient." "The agency's reliance on the cost-benefit analysis to justify this increase [in driving hours] is therefore circular, and the rationality of that explanation is correspondingly doubtful."	degradation] increases geometrically during the 10th and 11th hours'.' " "Second, we also found suspect the agency's claim that the increase in daily driving limit to 11 hours could be justified by 'the cost-benefit analysis it conducted.' "
34-Hour Restart Provision	". . . this provision has the effect of increasing the number of hours drivers can work [i.e., drive] each week." "While the agency's explanation seems sound enough as far as it goes, it does not even acknowledge, much less justify, that the rule . . . dramatically increases the maximum permissible hours drivers may work [i.e., drive] each week." "And the agency's failure to address it [the increase in the number of weekly driving hours] . . . makes this aspect of the rule's rationality questionable."	"[W]e regarded as 'problematic' the fact that FMCSA's justification for the 34-hour restart provision '[did] not even acknowledge, much less justify, that the rule . . . dramatically increases the maximum permissible hours drivers may work [i.e. drive] each week.' [citation omitted]. That increase, we said, 'is likely an important aspect of the problem[,] [a]nd the agency's failure to address it . . . makes this aspect of the [2003] rule's rationality questionable.' "
Electronic On-Board Recorders (EOBRs)	"The agency's justification for not requiring EOBRs to monitor driver compliance is another aspect of the final HOS rule of questionable rationality." "The agency's explanation in all likelihood does not conform to [its] statutory requirement." "The agency concedes that it 'did not test the	**N/A**

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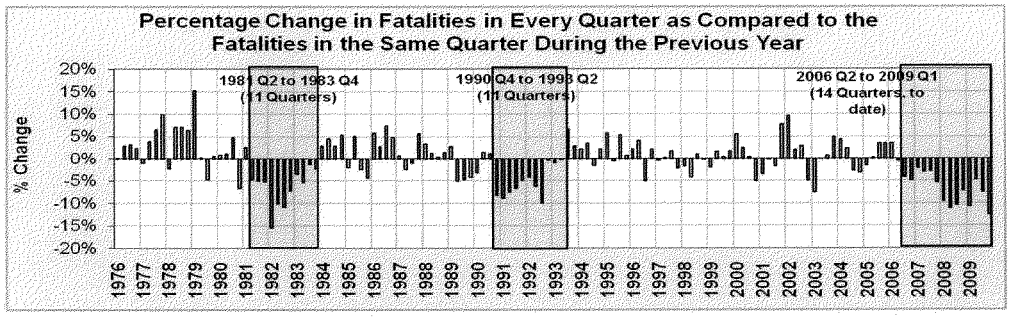
	(very few) EOBRs currently available.' The agency offers no excuse for not doing so, and we can think of none that would suffice to fulfill the agency's duty to 'deal [] with' the issue of EOBRs." "We cannot fathom, therefore, why the agency has not even taken the seemingly obvious step of testing existing EOBRs on the road, or why the agency has not attempted to estimate their benefits on imperfect empirical assumptions." "The agency has given no good reason for treating this problem with such passivity."	
Sleeper Berth Exception	"Despite the premise [that each driver should have an opportunity for eight consecutive hours of uninterrupted sleep every day], the agency offered several justifications for nevertheless permitting drivers to obtain the required continuous period of rest in two chunks, all of which are quite weak." "In sum, we have grave doubts about whether the agency's explanation for retaining the sleeper-berth exception would survive arbitrary and capricious review."	**N/A**

Long Term Quarter to Quarter Changes in All Fatalities



- Recessions in each of the three periods of 10 or more quarters of fatality declines
- Economy now is recovering from the worst recession since 1975, and longest period of consecutive quarterly fatality declines

Source: FARS

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Excerpted from "2009: Historic Truck Crash Declines," Powerpoint Presentation, Ralph Crafty, Ph.D., FMCSA Office of Analysis, Research and Technology (9/29/2010)

Mr. JASNY. I would also ask that the statement of Marchelle Wood—I would like to submit that to the record, and I would be ready to answer any questions.

Mr. JORDAN. Without objection.

[Prepared statement of Ms. Wood follows:]

Statement of Marchelle Wood
Submitted to the Committee on House Oversight and Government Reform
Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending
Hearing on "The Price of Uncertainty: How Much Could DOT's Proposed Billion Dollar Service Rule Cost Consumers?"

November 30, 2011

Good morning, Mr. Chairman and Members of the Subcommittee. My name is Marchelle Wood. I am here today to submit a statement to the public record in support of a revised and safer Hours of Service (HOS) rule for truck drivers. The current HOS rule allows too many fatigued drivers on our roadways. Unfortunately I know firsthand the destruction that results from fatigue and inattention behind the wheel.

My daughter Dana and a friend were returning to East Carolina University after spending the fall break of their freshman year with us at home in Falls Church, Virginia. As they were driving on I-95 in Virginia, a truck slammed into their car, pushing it 1,500 feet down the highway – the length of more than 4 football fields - or over a quarter of a mile before coming to a complete stop. Dana and her friend were both killed in the crash.

The truck driver could have either stopped or changed lanes, but he didn't brake and he smashed into Dana's car. During the investigation of this crash, numerous violations came to light from the truck driver and the trucking company, one of which was a HOS violation. The truck driver produced two sets of log books, and they were both inaccurate. Paper logbooks are typically referred to as "comic" books because they do not truthfully reflect the hours many truck drivers are actually behind the wheel. He was on his normal route from North Carolina to Baltimore, Maryland and back. The number of miles round trip is almost 700 with an estimate of 12 hours driving, not including any traffic in Richmond, Washington, DC, or Baltimore. According to two experts in crash reconstruction, this crash could have been avoided and it was likely due to fatigue. Like many crashes, we will never know the full truth because the HOS violator is the only survivor.

I would also like to dispel the inaccurate information being spread by some members of the trucking industry who are falsely claiming that recent reductions in annual truck crash fatalities are somehow linked to the current HOS rule. Trucking interests have misleadingly claimed that the current HOS rule is responsible for recent reductions in truck crash deaths when there is no evidence or data supporting that position. Recent decreases in truck crash deaths are primarily the result of improvements in automobile safety and challenging economic times. In fact, during the first two years of the current HOS rule, 2004 and 2005, truck crash deaths actually went up but trucking interests have conveniently failed to mention that statistic.

The economic downturn has also resulted in the loss of between 120,000 and 180,000 trucking jobs according to government data. The changes in the HOS rule, however, will create nearly 40,000 additional jobs in the trucking industry for out-of-work drivers. At a time when the President and Congress are trying to create jobs, the new rule will be beneficial for truck drivers and the economy.

Additionally, the new rule will improve safety by requiring the most fatigued truck drivers, those who drive continuously and use up their driving hours as quickly as possible, to take more than the minimum 34-hour rest after driving as much as 77 or more hours in a week. The direct health benefit to drivers is estimated to result in a savings of between $840 million and $1.24 billion. In summary, an improved rule will save lives, produce jobs and reduce health care costs. I urge you not to stand in the way of this win-win-win solution.

There are truly no words to describe the lifelong pain and daily suffering that a fatigued truck driver inflicted upon my family and me, and thousands of other families every year. Our family just spent another holiday without our beautiful daughter. In Dana's loving memory we are fighting to protect the lives of other innocent motorists. It is essential that a safer HOS rule is established. The safety of our families depends on it. In fact, all our lives depend on it.

Thank you for your time and consideration.

Marchelle Wood
Falls Church, Virginia
marchelle@verizon.net

Mr. JORDAN. Thank you, Mr. Jasny. Let me also express, on behalf of the chair and the committee, our sympathies to the Wood family, and thank you for being here today.

Dr. David.

STATEMENT OF JESSE DAVID, PH.D.

Dr. DAVID. Thank you, Mr. Chairman, members of the subcommittee. I'm an economist and a vice president at Edgeworth Economics, a consulting firm here, based here in Washington. I have a Ph.D. with a specialization in public finance and environmental economics and 15 years of experience in regulatory policy evaluation. I was retained, my firm was retained by the ATA to analyze the cost-benefit calculations in FMCSA's RIA. My report focuses on whether the agency's methods are accurate and consistent with current data and compares the agency's approach to the approach taken in previous RIAs.

To summarize, the proposal to restrict driving time to 10 hours a day from the current limit of 11 hours, FMCSA estimates lost productivity costs of about $1 billion per year and benefits of about $1.4 billion per year related to reduced crashes and improved driver health. So the net benefits estimated by the agency for that option are about $380 million per year.

To obtain these results, FMCSA made several changes to their previous approaches used in previous RIAs. I find that in every instance the new methods increased the purported benefits of the proposed rule. However, many of these new approaches misapply available data, use outdated information or lack empirical support entirely, and I'll describe here three of the most significant issues.

First, FMCSA uses outdated information on large truck crashes. Since the proposed rule is intended to reduce crash frequency, obviously this is a key input to the analysis. FMCSA uses a figure of 434,000 crashes per year, which is approximately the rate of crashes 10 years ago before the current HOS rules were implemented. Large truck crashes, however, have fallen steadily since then, recently falling to 286,000 in 2009. That's 34 percent lower than the agency's figure. I'll note that decline was occurring before as well as during the current economic downturn, as you can see from a chart which I attached to my testimony. FMCSA's use of old data inflates the benefit of the proposed rule by about $250 million per year.

A second issue relates to FMCSA's calculation of the fraction of crashes caused by driver fatigue. Obviously this is another critical assumption since that proposed rule would affect only those types of crashes. In the 2007 RIA, FMCSA concluded that fatigue was a factor in about 7 percent of crashes. The agency now uses different methods and data, in particular the large truck crash causation study or LTCCS and calculates a figure about twice as high, 13 percent.

However, the agency's new method is flawed. FMCSA inappropriately assumes that each associated factor identified in the LTCCS for a particular crash was the cause of the crash, even if multiple factors were present. So, for example, suppose investigators identified three associated factors for a crash, a particular crash—prescription drug use, speeding, and fatigue. The agency assumes that

eliminating only driver fatigue would have caused that crash to be avoided. This new method contradicts FMCSA's own conclusions in the LTCCS report when it had acknowledged that each associated factor should not be considered to represent an independent cause of the crash. Increasing the assumed fraction of crashes caused by fatigue from 7 percent in the previous RIA to the unsupportable 13 percent figure inflates the benefits of the proposed rule by $330 million per year.

A third issue relates to the benefits of increased sleep time for driver health. Previously FMCSA had concluded that existing HOS rules did not adversely affect driver health. The agency now, however, includes substantial health benefits from small increases in sleep time within the normal range of 6 to 8 hours, and in fact according to FMCSA about half of the total benefits of the rule would come from this rather than from reduced crashes.

One problem with FMCSA's approach relates to the application results from a study by Ferrie, a sleep researcher. Ferrie measured mortality rates for a cohort of British civil servants in the 1980s who had reported sleep levels in the categories of 5 hours or less, 6, 7, 8, and 9 hours or more. While Ferrie did find increased mortality associated with the lowest and highest sleep levels, the researchers found no statistically significant differences between the mortality rates of people who reported between 6 and 8 hours of sleep.

Other academic research confirms this conclusion. For example, Cappuccio found there is no evidence that sleeping habitually between 6 and 8 hours per day in an adult is associated with harm and long-term health consequences. FMCSA cites the Cappuccio study but ignores this key finding. I understand that Professor Cappuccio has submitted a report into this docket stating that the agency misinterpreted his research to support its conclusions.

FMCSA's unsupported assumptions about reduced driver mortality inflate the benefits of the proposed rule by $690 million annually.

In addition to these three issues, there are other unsupported assertions and methodological errors in the RIA which further inflate the apparent benefits of the proposed rule. If these problems are corrected, I find that the new rule would result in a net cost of about $320 million annually rather than a net benefit of $380 million, as calculated by the FMCSA.

I note that Mr. Jasny stated that we had a recommendation that the new rule not include benefits from improved driver health. That's certainly not my position. I just believe the calculation should be done based on the most accurate and the best available data. I thank you for your time, and I encourage you to read my report for additional information on these questions.

Mr. JORDAN. Thank you, Doctor.

[Prepared statement of Mr. David follows:]

TESTIMONY OF JESSE DAVID, PH.D. ON THE 2010-2011 HOURS OF SERVICE RULE

NOVEMBER 30, 2011

Mr. Chairman and Members of the Subcommittee:

I am an economist and a Senior Vice President at Edgeworth Economics, a consulting firm based here in D.C. I have a Ph.D. in economics, with specialization in public finance and environmental economics, and 15 years of experience as a practitioner in the area of regulatory policy evaluation.

I was retained by the American Trucking Associations to analyze the cost-benefit calculations in the RIA issued by FMCSA last December for this proposed rule.[1] My analysis focuses on whether the agency's methods were accurate and consistent with current data and the precepts of economics, and compares FMCSA's approach to RIAs issued for prior HOS proposals.

I will first summarize FMCSA's results on the cost-benefit question. For Option 2, which would restrict driving time to 10 hours per day from the current limit of 11 hours, FMCSA estimates costs to the industry of $990 million per year due to lost productivity. The agency also includes compliance costs of $40 million per year. FMCSA estimates benefits in two areas: reduced crash frequency ($720 million per year), and improved driver health due to increased sleep ($690 million per year). In total, FMCSA calculates net benefits of $380 million per year for Option 2. (See Exhibit 1.)

In my report, which I understand has been entered into the record here, I identify several problems with FMCSA's assumptions and calculations. The agency has made a number of substantial changes to its approach since the previous RIA issued in 2007. I find that, in every instance, the new methodologies increase the apparent net benefits of the proposed rule. However, many of these new approaches rely on misapplication of available data, use of outdated information, or lack empirical support entirely. I will describe three of the most significant issues here.

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[1] Edgeworth Economics, "Review of FMCSA'S Regulatory Impact Analysis for the 2010-2011 Hours of Service Rule," prepared for the American Trucking Associations, February 15, 2011. Complete references for all statements in this testimony are included in the Edgeworth report.

First, FMCSA bases its calculations on an outdated figure for the frequency of large-truck crashes. Since the benefits of the proposed rule relate to reducing crash frequency, the current rate of crashes is a key input to the analysis. FMCSA uses a figure of 434,000 crashes per year, which is approximately the rate of crashes 10 years ago, before the current HOS rule was implemented. (See Exhibit 2.) Large-truck crashes have declined steadily, falling to 286,000 in 2009—34 percent lower than FMCSA's figure. This assumption alone inflates the benefits of the proposed rule by about $250 million per year.

A second issue relates to FMCSA's calculation of the fraction of crashes that are caused by driver fatigue. Only these types of crashes could be affected by the proposed rule, so again this is a critical assumption.

In its 2007 RIA, FMCSA concluded that driver fatigue was a factor in about 7 percent of all crashes. FMCSA now uses a new method and a different source of data (the Large Truck Crash Causation Study or "LTCCS") and calculates a much larger fraction of crashes associated with driver fatigue—13 percent, almost twice as high as the agency's previous conclusion. However, the agency's new method is unsound. FMCSA inappropriately assumes that each "associated factor" identified in the LTCCS for a particular crash was the "cause" of the crash, even when multiple factors were present. For example, suppose investigators identified three "associated factors" for a particular crash: prescription drug use by the driver, speeding, and fatigue. The agency assumes that eliminating driver fatigue would have caused that crash to be avoided. This new method contradicts FMCSA's own conclusions in the LTCCS report, when it acknowledged that each "associated factor" could not be considered to represent an independent cause of a crash.

I calculate that increasing the assumed fraction of crashes caused by fatigue from the 7 percent figure used in the previous RIA to the unsupportable 13 percent figure inflates the net benefits of the proposed rule by about $330 million per year.

A third problem with FMCSA's methods relates to assumptions about the benefits of increased sleep time for driver health. In previous RIAs, FMCSA had concluded that existing HOS rules did not have any adverse impact on driver health. In the new RIA, however, FMCSA calculates substantial benefits based on the assumption that very small increases in sleep time within the normal daily range of 6 to 8 hours will result in improved health.

A significant problem with FMCSA's new approach relates to the agency's application of results from a study by Ferrie, et al. on the mortality rates associated with varying levels of sleep. Ferrie calculated mortality rates for a cohort of British civil servants in the 1980s who had reported daily sleep levels in the categories of "5 hours or less," 6, 7, 8, and "9 hours or more." While Ferrie did find increased mortality associated with the lowest and highest responses, the researchers found no statistically significant differences between the mortality rates of people who reported between 6 and 8 hours of sleep.

Other academic research has confirmed these conclusions. For example, Cappuccio, et al. concluded: "Currently, there is no evidence that sleeping habitually between 6 and 8h per day in an adult is associated with harm and long term health consequences." FMCSA cites the Cappuccio study in the RIA, but ignores this key finding. I understand that Professor Cappuccio has submitted a report into this docket stating that the agency misinterpreted and misused his research to support its conclusions.

FMCSA's unsupported assumptions about reduced driver mortality inflate the net benefits of the proposed rule by $690 million annually.

These three issues are the most significant ones that I found with the RIA, in cost-benefit terms, but there are numerous additional unsupported assertions and methodological errors which further inflate the apparent benefits of the proposed rule. When I correct for these issues, I find that the new rule would result in a net *cost* of $320 million annually, rather than a net *benefit* of $380 million annually, as calculated by FMCSA.

Thank you for your time. I encourage you to read my report for additional detail on the issues I have discussed here.

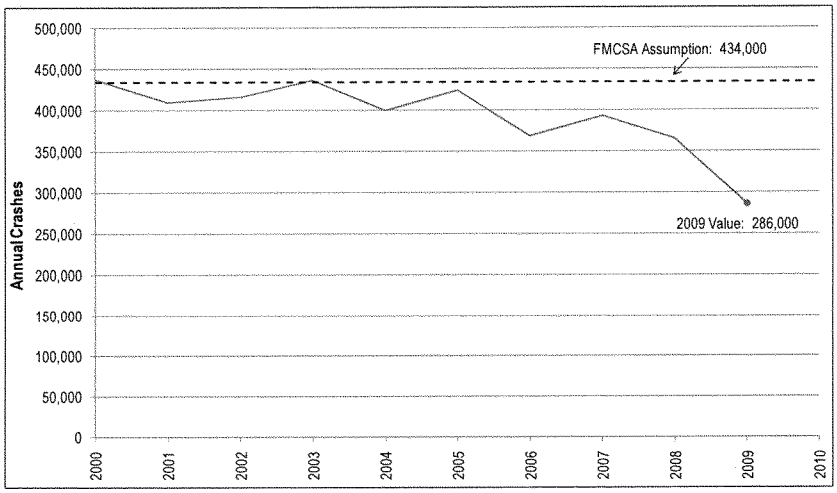
Exhibit 1

Annualized Costs and Benefits for HOS Option 2
FMCSA Assumptions vs. Edgeworth Adjustments
(million 2008$)

	Costs		*Benefits*			*Net Benefits*
	Lost Productivity	*Compliance*	*Safety - Reduced Driving Time*	*Safety - Reduced Work Time*	*Improved Driver Health*	
FMCSA	$990	$40	$180	$540	$690	**$380**
Edgeworth	$360	$40	$30	$50	$0	**-$320**

Exhibit 2

Large Truck Crashes, 2000-2010



Mr. JORDAN. Let me just start with you. Mr. Jasny, in his testimony, said that this new proposal would create 40,000 jobs. And we just heard from four witnesses, the first four witnesses who said it's going to cost them more money, this new rule, yet Mr. Jasny said it's going to create more jobs. As an economist, what's your take on what may happen with the new rule?

Dr. DAVID. Well, the goods still have to be transported, so under the FMCSA's assumption, the drivers who are now driving are going to drive fewer hours. Those hours would need to be replaced. I assume that their income would go down, and possibly someone else's income would go up. Perhaps there would be some new drivers. I think the overall amount of driving probably wouldn't change that much.

Mr. JORDAN. Okay, let me come to Mr. MacKie. It seems to me the current rules are working. We've got—the safety numbers have been good. That's with increased miles, we've seen increased trucking miles over the last decade. I mean, is in fact the current rule working in your estimation just the way it's supposed to?

Mr. MACKIE. Well, it's certainly not perfect as it applies to short haul, and we continue to work with DOT on some issues around the edges, but by and large it works, and the data, as we've heard today, clearly illustrates that. I mean, it's a pretty substantial reduction, 30, 33, 34 percent reduction in those accidents involving trucks. So it seems to be working pretty well.

Mr. JORDAN. And would you also agree that there's the potential, at least, if the new rule is put in place, that we could see potentially more accidents, we could see a harm to the safety record because, as Dr. David just talked about, there will now be more drivers on the road. My understanding is the way the rule would work as well, there would potentially be more drivers on the road during the daytime hours when there's also more just people, nontruck drivers out, going, doing the shopping, going to work, doing the things they do. Is that a fair assessment?

Mr. MACKIE. It absolutely is. I think you will get a few—our members indicate they would have to hire swing drivers to cover those additional hours, frankly, to be on the margin of safety and error so they don't run the risk of going over the reduced hours that would be available.

Similarly, the—particularly in our industry, as Mr. Keysaw can attest to, you know, we are delivering products in the early morning hours, 4 or 5 a.m., so that when the customer walks in the store the first thing in the morning they have got fresh bread.

Mr. JORDAN. Right.

Mr. MACKIE. And so you're going to push those hours into the daytime hours, and it's going to be——

Mr. JORDAN. What about the midnight rule? Do you think there's also the potential—we would like to not think this, but also the—possibly the potential that some drivers may want to drive a little faster to beat that deadline?

Mr. MACKIE. I think that is—I don't have any data to back that up, but clearly——

Mr. JORDAN. But it's——

Mr. MACKIE. —human nature indicates they're going to want to get home sooner.

Mr. JORDAN. —fair to assume that they may try to, when increased speed means increased chances of accident, increased chances of harm?

Mr. MACKIE. Absolutely.

Mr. JORDAN. All right. And then so it seems to me the current rule is working, there's the potential for increased safety concerns under the new rule, and as we've heard from the first four witnesses, all this is going to create more cost, and I would still argue that there's—you know, the idea that we're going to have more jobs, I mean, just basic economics says, okay, let's—what's the example you always get in economics class? Let's go break everyone's windows so that we'll have to hire more people to come fix the windows. We created jobs, but did that really add to the overall economy, add to wealth, add to what we want to have happen in our economy? I would argue this is in some ways moving in that direction, so it just doesn't make sense to me.

Mr. Nagle, talk to me briefly about the 34—moving from the 34-hour rule to the consecutive nights and what that may mean. And it seems to me that's the one that could be a potential big cost to trucking companies.

Mr. NAGLE. That is potentially a real problem because of the fact that you may have a driver that gets in after midnight, it could be 12:15, 12:30, and he now has to literally go 54 hours until his next available driving time, so he's going to lose an entire day of productivity, ultimately a day of his wage, and the company itself is going to have the same loss of revenue, increasing our fixed costs per hour even further. Drivers are going to stay away from home longer. FMCSA states that even though they don't have the statutory authority to address the lack of available rest areas and accommodations for truck drivers, it's going to cause these guys or force these guys to stop in areas where there are no accommodations. They're going to be in shopping mall parking lots, they're going to be just pulled off the road on some of the major highways. They're not going to have rest; you know, essentially forcing a guy to stay 54 hours in an area the size between the top and lower bunks of your children's homes is inhumane and cruel. They're not going to have any restroom facilities, they're not going to be able to have hot food or any of the accommodations. How somebody can rest better under those conditions is beyond my reasoning.

So the quality of life is going to diminish further, and for our area of service, we're a regional carrier that services primarily the East Coast from Baltimore-D.C. up to Portland, Maine, it's going to just reduce our productivity substantially.

Mr. JORDAN. Thank you, Mr. Nagle. My time is up. I'll yield now to the ranking member.

Mr. KUCINICH. Thank you very much, Mr. Chairman. You know, since the debate here is really monetizing the costs of regulation versus monetizing the cost of not having effective or better regulation, I just want to submit for the record two documents.

[None submitted.]

Mr. KUCINICH. One speaks to the regulatory impact analysis for the HOS proposed rule estimates that, based on a 10-hour work day, the monetized annual safety benefits and driver health improvement benefits range from below $300 million to more than

$2.4 billion in quantifiable benefits from reduced crash and injury costs, lower medical and health payments, and longer, healthier driver life expectancy.

One of the—you know, you can't just talk about the cost of regulation which—without looking at the compensating factors if you don't have the extra costs from these crashes.

Now, how do you monetize the cost, going beyond that, to the Slattery family or the Wood family? You know, actually juries do, which is one of the reasons why the Insurance Institute of Highway Safety filed—the research arm of the industry filed an amicus brief in a lawsuit that supports and affirms the problem of fatigue and our insurance companies that are members of Advocates for Auto and Highway Safety, they support reducing fatigue. If we're going to have a hearing on the costs, and I think it's a legitimate question, what are the costs, but you've got to weigh it in terms of what are the costs to society on the other side. If you don't do both, you don't really get a fair reading.

Now, Mr. Nagle, I want to ask you questions about a company that my staff has identified. My staff found that there's a Nagle Toledo, Inc., which is listed on the Federal Motor Carrier Safety Administration safety measurements system as DOT 423609. You're here as the CEO of the Nagle Companies. I have a copy of the bio that was submitted to this committee that goes over your involvement in the industry, and it has you as CEO of Nagle Companies, and it also lists Nagle Toledo, Inc. as one of the companies that you lead. Is that correct?

Mr. NAGLE. Yes, sir, it is.

Mr. KUCINICH. Okay. Well, you know, I want to discuss something with you because the Federal Motor Carrier Safety Administration's compliance review, which I have a copy of here, of Nagle Toledo reviews—or reveals serious Hours of Service and other safety violations. Now, according to the Federal Motor Carrier Safety Administration, Nagle Toledo has received 12 unsafe driving violations within the past year and 23 over the past 2 years. Now that's in this report. Is that information accurate?

Mr. NAGLE. That is correct.

Mr. KUCINICH. And the Motor Carrier Safety Management System also shows that Nagle Toledo has received 13 fatigued driving violations within the past year, 32 over the past 2 years; in the past year, 9 of the 13 violations resulted in an out-of-service order, including seven violations for requiring or permitting the driver to drive after 14 hours on duty, one false report of driver's record of duty status, and one violation for requiring or permitting the driver to drive more than 11 hours. Is this information that was given to the government, is that correct?

Mr. NAGLE. That is correct, sir.

Mr. KUCINICH. And is it also true that Nagle Toledo has been involved in two Department of Transportation reported truck crashes over the past year and five in the past 2 years; is that correct?

Mr. NAGLE. I would have to defer that the report's probably correct.

Mr. KUCINICH. Okay. Let me ask you this. You know, I understand you're here opposed to going back to the 10-hour limit on consecutive driving. But help us in this committee, in terms of your

own experience, your own experience, how is that practical and how can I take your testimony, based on the record that's in here—you know, help me square your— the record that's in here with your testimony, Mr. Nagle, please.

Mr. NAGLE. Thank you for those points, and I'm glad to address the issue. First of all, the stepped-up CSA enforcement at the beginning of the year, we also did the same on our internal controls. What that report doesn't tell you is there were 7 or 8 offenders during that time period. Prior to that audit, we had fired four or five of those individuals because of those violations, and that was prior to the audit. The other two or three were on their final warning and had since been terminated before we even received that report back from the PUCO.

Mr. NAGLE. Now, we take that very seriously.

Mr. KUCINICH. Well, listen, I imagine. I mean, you are running a company, you have to take it seriously because——

Mr. NAGLE. Correct.

Mr. KUCINICH. —there is a bottom line you have to be concerned about. You have to be concerned about your insurance costs.

But what I'm wondering, as a boss, you've got workers who are putting in all these more hours. Don't you have some concern that they might be working too many hours and it makes your company vulnerable—if not just your company, you know, the people in the larger community? I mean, don't you have a concern about that at all?

Mr. NAGLE. Sir, I have a tremendous concern about that. In fact, I personally spend time educating the general public about sharing the road and also communicating to them that our drivers are not just these killer trucks that some of the people try to portray. It's more than just a cost-benefit analysis, okay? I have a moral obligation to make sure that our drivers operate in a safe fashion.

Now, part of the issues that came up—fatigue is probably one of the most misnamed things. And several of those were literally a clerical error, where the driver mis-added his hours of service. But, more importantly, with the split-sleeper-berth issue that I mentioned briefly before—and it's in my written report—when one of our drivers will go into an area that's, you know, heavily populated, we get detained above and beyond the hours of service. Well, they're not allowed to stay at a customer in Brooklyn or wherever the place may be. We're forced at times, during a period of time, to drive illegally to go to a safe haven.

So I would say half of those violations were a result of the logbook changes that have occurred over the last 5 years.

Mr. KUCINICH. Mr. Chairman, I appreciate your indulgence in giving the witness time to respond because I know that expanded the time that I had.

I just want to add this, if I may, with the chair's indulgence.

Mr. JORDAN. Sure.

Mr. KUCINICH. You got rid of some of these employees so there——

Mr. NAGLE. Correct.

Mr. KUCINICH. —would be a little bit more than a clerical error.

And the only point I'm making, Mr. Chairman—and I want to thank you for being fair here—and that is that, you know, it's im-

portant to hear from Mr. Nagle, but, look, there are issues of fatigue here that we can't gloss over. That's my point.

You know, I didn't rip you apart——

Mr. NAGLE. Right.

Mr. KUCINICH. —for this record. You know, we can do dramatics here, but I'm not interested in that. I just want to point out that this issue is a legitimate issue of driver fatigue.

Thank you, Mr. Chairman.

Mr. JORDAN. Thank you.

Real quickly before yielding to the chairman of the full committee, Mr. Keysaw, do you want fatigued and unsafe drivers on the road representing the companies you represent?

Mr. KEYSAW. No, definitely not.

Mr. JORDAN. Mr. MacKie, do you?

Mr. MACKIE. Absolutely not.

Mr. JORDAN. Mr. Miller, do you?

Mr. MILLER. Absolutely not.

Mr. JORDAN. No, because, I mean, it's in your best interest for the wellbeing, for the profitability of your company. In fact, I would assume many of the trucks that are on the road for you guys and Mr. Nagle as well, you probably have the sign I've seen, if you don't like my driving, call a number. Do you have some of those signs on your truck, Mr. MacKie?

Mr. MACKIE. Absolutely.

Mr. JORDAN. Mr. Keysaw?

Mr. KEYSAW. Yes.

Mr. JORDAN. Mr. Miller, do you?

Mr. MILLER. We don't, but we are in the process of implementing electronic——

Mr. JORDAN. And I assume that the reason, Mr. MacKie, that you have those on the back of your truck is because—did you probably get some benefit from insurance-wise, insurance payments? Or you just want the public to know that if your company's name is on the trailer of that truck that you got safe drivers there. So there's market forces involved in a safe record, as well, right?

Mr. MACKIE. No, there's clearly an economic benefit. But, clearly, these drivers, and particularly in our industry, I mean, they're 20–25-year employees, so there's a family connection there, as well. I mean, you don't want these people to get hurt any more than anybody else does.

Mr. JORDAN. Yeah. And Mr. Nagle understands the concern because when he had drivers who weren't following the rules, he got rid of them. Because he understands that's in the best interest of the safety, but also in the best interest of his company.

Correct, Mr. Nagle?

Mr. NAGLE. That would be correct.

Mr. JORDAN. All right. Thank you.

I would yield now to the chairman of the full committee.

Mr. ISSA. Thank you, Mr. Chairman.

And I want to thank all the members of the subcommittee senior to me for yielding. I appreciate the indulgence.

I'll go to the same four folks. With all due respect to the last two witnesses, I really think this is about people who actually operate trucking fleets here today and what is the practical implication. I

know the numbers are not supported based on past arithmetic. I know that the numbers are supported slightly based on current arithmetic. But let's go through some of the arithmetic and how it impacts you.

Mr. Nagle, I'll start with you, since your record was called into question. Hopefully those signs on your trucks say, "And please don't call while driving," because you're going to be distracted as a car driver following that truck. The number-one issue of the Department of Transportation's overall Cabinet officer, Ray LaHood, is, in fact, distracted driving.

Isn't that as much a part of the problem, that accidents and problems and even tickets that your drivers receive have a lot to do with their lack of focus, not necessarily how long they've been up, but a lack of focus? Isn't that one of the major points that you look for in your drivers?

Mr. NAGLE. One of the things that we have found out is, typically, it's not because of a distraction. When they're stopped, again, it's because of, you know, increased enforcement. They'll use another reason to check a driver's logs for stopping. It could be a marker light that's out; the driver could be going three miles an hour over the speed limit. So the fatigue factor or logbook factors have not been the reasons for their stops; it's been for something else.

Mr. ISSA. Well, Mr. Keysaw—and I have had the opportunity of driving large rigs in my quite distant past, including more buses than trucks, but my father had a trucking company, trucking repair company primarily. The one thing I find interesting about particularly large-rig drivers is that their ability to be employed depends on their record. No question at all, you lose a record, you lose your employability.

But here's the other thing that I always question. In your experience, the four of you, as operators or overseers of operations, is there anything in these new regulations that is going to ensure 8 hours of restful sleep? Anything?

Now, are you all familiar with the crash in Buffalo in which two pilots were so tired from having flown across country and then gotten on a plane and being up for endless hours even though their actual duty day was only a couple of hours, when they looked at the ice building up on the wings and apparently were so tired that they couldn't figure out that they were going to crash? Now, FAA has regulations about sleep. There actually are regulations. They've tried to create regulations about duty day. But they have the same problem that you have.

Nothing in this regulation—and I saw all positive heads nodding—nothing in this regulation is going to guarantee that the driver goes to bed and stays in beds and sleeps well for 8 hours. If we are not actually guaranteeing rest—the last two witnesses that talked about these studies and what they showed, that doesn't mean a darn thing. If you've got sleep apnea, you could be off the road for 54 hours and come back just as incapable of being a good driver.

Now, for the four that have operated, how many of you have fired people for drinking within the window of their driving, either just before, during, or after? All of you? You've all fired people for

drinking. Same question: Is anything in this regulation going to know that when they leave work for the prescribed period of time that they're not just going to the bar?

So you can come back tired, with a hangover, having actually driven for maybe 6 or 8 or 10 hours to go see mom in upstate Michigan from Toledo, and you come back and you've met all the requirements of this new regulation, but, in fact, you're not fit for the next 10 or 11 hours. Isn't that true?

Mr. KUCINICH. Would the gentleman yield?

Mr. ISSA. Not yet.

Is there anyone that knows of anything in this regulation that's going to ensure that you actually have rested drivers versus ensure that you have drivers that are simply available for duty about 10 percent less time?

I would yield to the gentleman from Ohio.

Mr. KUCINICH. I want to thank——

Mr. ISSA. Cleveland, not Toledo, but, you know.

Mr. KUCINICH. I want to thank my friend for doing that.

You know, we're not really here to talk about whether drivers go to bars or owners, you know, drink at home, okay? That's not the point. You know, the bottom line here is, who's running the business? It is not the drivers who are running the business.

You are a businessman, and I respect that about you. I mean, you bring a dimension to this Congress because you understand business. My dad was a truck driver. You know, he wasn't calling the shots on how many hours he worked. He had a contract; that had something to do with it. But—

Mr. ISSA. Well, reclaiming my time, are any of you aware of a study that shows that the duty day in the 11th hour for a well-rested—or the 10th hour, actually, going into the 11th cutoff—that during that time there is a significant diminishment of capability?

In other words, for any of you—and, Dr. David, I actually would go to you; you've looked at these studies. These studies are about how long you sleep. If you were to, from the economic material you reviewed, if you were to view the risk of the 11th hour, assuming that you got a good night's sleep, that you're well rested, competent, not distracted, and sober, and having been sober, let's say, for the previous 24 hours, was there anything that would tell what the actual risk of the 11th hour was? And if so, was it scored?

Dr. DAVID. I think the studies show that the risk of a fatigue-related accident does increase. I think the issue is, how many of these are there and how many would be reduced by this regulation.

Mr. ISSA. Exactly. If you were to score just the 11th hour, if you will, or the difference between 10 and 11, if you were to score that, what would the accident ratio and/or cost be in isolation? Because, as I see it, in the study that supports this regulation, you have to throw in the cart, the horse, the buggy, the whip, and everything to get slightly into a positive ratio of a cost-benefit. Isn't that true?

Dr. DAVID. I found that the ratio was negative, using the best available and most current available data. And I note that the only way you can get to that negative is by including the issues related to driver health, not just the crash issue. If you just looked at the number of crashes, I think FMCSA would agree, under their own analysis, the answer was in the negative territory.

Mr. ISSA. Last question——

Mr. JASNY. Mr. Issa?

Mr. ISSA. —very quickly.

Mr. JASNY. Mr. Issa?

Mr. ISSA. Isn't it true that more crashes occur in the first part of a shift than the last part, that drivers actually have a poorer record in their first 4 or 5 hours than they do in their last 4 or 5 hours.

Mr. Nagle, since you've been picked on, when do these crashes occur?

Mr. NAGLE. Typically, in the first 4 hours of their on-duty status.

Mr. ISSA. So, real world, dirty fingernails, you do the job, you look at these people. The fact is you're more concerned about them going out not rested in those first 4 hours than the last hour, based on real-world experience. Thank you.

Thank you, Mr. Chairman, for yielding.

Mr. JORDAN. I thank the chairman.

I yield now to the gentleman from Iowa.

Mr. JASNY. Mr. Chairman? I have a response, quickly.

Mr. JORDAN. Go right ahead.

Mr. JASNY. For one thing, crashes in the 11th hour, while they are not as numerous as in the earlier hours—that's only because most drivers are driving the first 8 hours; not all drivers are driving the 11th hour—but the risk, the rate of crash, is much higher in the 11th hour. And that's been shown, in the earlier hours, that statistically——

Mr. ISSA. Will you make that available, the studies, for the record?

Mr. JASNY. Absolutely.

Mr. KUCINICH. And, Mr. Chairman, if I may, without objection, there's a research report and study showing adverse health and safety effects of longer working hours and inadequate rest time. Without objection, I would like to submit that.

Mr. ISSA. I appreciate that, although I didn't quite hear the last part. You said "and inadequate rest," so it's a combined study.

Mr. KUCINICH. Of longer working hours and inadequate rest time. It shows adverse health and safety effects. This is from Advocates for Highway and Auto Safety.

Mr. ISSA. And, Mr. Chairman, although I don't disagree with the unanimous consent, I do want it to be noted for the record that the combining of long work hours and inadequate rest makes a different point than the actual period of time that you work. Inadequate rest is something I think we're all, here on the dais, wanting to figure out how you would get.

Mr. KUCINICH. Without objection?

Mr. JORDAN. Without objection.

Mr. KUCINICH. Thank you.

Mr. JORDAN. The gentleman from Iowa is recognized.

Mr. BRALEY. Let me start by asking the panel, how many of you have actually worked as a licensed truck driver in your lives? Any of you?

I have. And I can tell you from personal experience that the level of stress on a truck driver goes up in direct proportion to what's going on in their workplace environment. If you're hauling grain

during harvest season in Iowa, you have a lot more stress on you than you do if you're hauling it on a summer day.

And one of the concerns I have is that we're really talking about two different things here today. The first four witnesses on the panel, called by the majority, are making a common point, which is that the rules that are being proposed are bad for business. You all agree with that point, don't you?

Okay. Well, in an ideal world, the best rule for business would be no hours-of-service limitation, where you were free to set your own timeframe.

And yet you're shaking your head, Mr. Nagle, because you know there's a problem with that. Because there are backside costs, liability costs, that will come if we don't have some reasonable restriction on hours of duty. Is that correct?

Mr. NAGLE. Uh-huh.

Mr. BRALEY. So what we're really arguing about is whether the rule that's been proposed or the rule that's in place makes more sense for the purpose that this agency was set up to address. And if you look at that purpose, it is not called the Federal Motor Carrier Profit Administration. It's called the Federal Motor Carrier Safety Administration. And it's to set up the rules of the road that give people a level playing field that protect both the interest of the people who want to haul commerce across the roads of this country, which I was proud to do, and also protect the consumers who use that same highway and may not be involved in that system.

Now, Mr. Miller, you made the point that one of the problems facing the industry, which I am acutely aware of, is a shortage of qualified, safe drivers. Do you remember saying that?

Mr. MILLER. I do.

Mr. BRALEY. Now, here's what I don't understand. We're in a recession now. There are a lot of people looking for work—9 percent unemployment in this country. Why is the industry not able to find enough qualified, safe drivers if that is the case?

Mr. MILLER. Sir, I don't have a good explanation for you. I can tell you that we are a premium driving operation. We operate a safe, legal fleet. We very rarely bump the 11 hours. However, I go through an average of 500 applications to put a qualified driver in my truck. And that's my concern, that people will be forced to put drivers that are not qualified and that are unsafe on the road.

Mr. BRALEY. And that is my point. I'm as sympathetic as you can believe. One of the problems is that there is a huge shortage of qualified drivers. And I think economists would tell us that perhaps one of the reasons for that shortage is that people looking for work do not find the workplace conditions and the pay worth the risk of trying to become qualified to drive a truck, which I think is an honorable and noble occupation and one I was proud to be part of.

But if we are looking at one of the reasons that may be contributing to that, I would argue it could have something to do with the Hours of Service requirement. And one of the things we know, Mr. Jasny and Dr. David, is, this isn't unique to the trucking industry. We've seen this same issue come up in resident physician duty hours, as people have become concerned that patient safety is being compromised by forcing resident physicians to work long hours

without appropriate rest, and that compromises their ability to do their job effectively and impacts patient safety.

So, having heard the testimony today, I would like both of you to respond to the public safety concern and how that relates to the ability to hire qualified, safe drivers.

Mr. JASNY. Well, Mr. Braley, working conditions are always an important issue. Certainly, in shift work, we've seen that in studies of shift work all over the world. It's the working conditions.

In these specific areas, if you look at—the economist Michael Belzer wrote a book called "Sweatshops on Wheels." And he's essentially saying that these are the modern-day sweatshops because of those working conditions, having to deliver just in time all the time, being under the gun, driving longer hours. And for many noncontract and nonunion drivers, they're exempt from the Fair Labor Standards Act.

Mr. BRALEY. Dr. David?

Dr. DAVID. I mean, I don't think there's any question that reducing the amount of on-duty time would reduce the number of accidents. The question is, how much and is it worth it?

I mean, we have a rule that's more restricted than rules used to be. Those rules were more restrictive than the rules before that. And before that there weren't any rules. So the question is, where do you stop? And cost-benefit is one piece of information you can use to get there, as long as it's done properly.

Mr. BRALEY. And just so that I'm clear on one of the principal points of your testimony, your testimony was that your economic analysis of the tradeoffs between the current rule and the proposed rule is there were actual economic benefits to going to the proposed rule?

Dr. DAVID. Well, there would be reduced crashes, but there would be increased costs. So I calculated that, on net, the increased costs would outweigh the value of the reduced crashes. That is obviously sensitive to the assumptions you use and how restrictive the rule is. But under the assumptions the FMCSA uses, I calculated that the cost would be higher.

Mr. BRALEY. But the point that you also made is that those costs include opportunity. In other words, the added cost of transportation for these same goods and services could result in new jobs becoming available, taking people off of unemployment, making the taxpayers of this country pay less of that burden, and having those new employees paying into Social Security, Medicare, State and Federal taxes, as well.

Dr. DAVID. I mean, this rule isn't going to be undone when we come out of a recession, so I would never recommend regulation in order to solve an unemployment problem. But in terms of the number of people actually driving trucks, that could change.

Mr. BRALEY. But the point is that this is an analysis about the tradeoffs between safety on the one hand and what's a good business requirement on the other hand, and you're always going to have some of those tradeoffs.

Dr. DAVID. That's absolutely true.

Mr. JORDAN. Mr. David, you're not the only one who's concluded that there's going to be significant increased costs. The Obama ad-

ministration itself has said there's going to be increased costs with this new rule.

Dr. DAVID. Absolutely. The number——

Mr. JORDAN. One of only a handful of rules that they've said is going to cost at least over $1 billion, correct?

Dr. DAVID. The agency's numbers was about $1 billion in increased costs.

Mr. JORDAN. A billion dollars in increased costs at a time when we got 9 percent unemployment, correct?

Dr. DAVID. As I say, it's $1 billion today, and it will continue to be $1 billion under their assumptions going forward.

Mr. JORDAN. Right. Thank you.

I turn now to the gentlelady from New York. Oh, I'm sorry, that's right, the gentleman from Tennessee is first. I apologize.

Doctor?

Dr. DESJARLAIS. Thank you, Mr. Chairman.

Mr. Nagle, can you tell us about the steps your company takes to help ensure driver safety and health?

Mr. NAGLE. I didn't hear the last word.

Dr. DESJARLAIS. Can you tell me about the steps your company takes to help ensure driver safety and health?

Mr. NAGLE. Well, I don't know about health. I mean, we're required to go through regular physicals and so forth.

But, just our company alone, we do not have the onboard electronic recorders. So when our drivers call in every morning, they have to advise our operations people how much longer they have to drive for the day and when their next 10-hour break is up for their sleep. So we schedule pickups and deliveries around that availability of their time and for their sleep.

Dr. DESJARLAIS. Okay. Well, let me ask, do you think there's a pressing need for this rule, or do you believe the current rules allow your drivers to balance safety and driver health?

Mr. NAGLE. I think the current rules are a lot better than what's being proposed. I would say that if you can add or bring back in the split-sleeper-berth provision, that will even add additional good rest and solid rest time.

Dr. DESJARLAIS. Do you think there's anything else motivating DOT to propose these rules besides safety and health concerns?

Mr. NAGLE. Well, there's a tremendous influence from union LTL drivers that—they're not impacted at all by the 34-hour reset provision. And some of those carriers, I would—well, I would think they would be more adversely affected by the 11-to-10-hour change. But they're taking studies based on a small percentage of drivers that don't represent the typical motor carrier industry and trying to broad-brush some of those regulations over them. So there are definitely other interests that are being represented in this proposal.

Dr. DESJARLAIS. Okay. Thank you.

Mr. Keysaw, I'll ask you the same question. Do you think there's anything else motivating DOT?

Mr. KEYSAW. To tell you the truth, I don't know. I'm not aware of anything.

Dr. DESJARLAIS. Okay. That's fair.

Mr. Jasny, do you acknowledge that trucking fatalities and injuries have declined since 2004 when the current Hours of Service rules have been in effect?

Mr. JASNY. They have declined—they went up initially the first 2 years, in 2004 and 2005, that the rule went into effect. They've come down in the last 2 years, but it's been shown that it has nothing to do with the Hours of Service rule itself per se.

Dr. DESJARLAIS. Do you acknowledge that the number of truck miles traveled has increased since that time?

Mr. JASNY. Yes.

Dr. DESJARLAIS. Okay. Do you acknowledge that registered large trucks have also increased since that time?

Mr. JASNY. The registered number has gone up, although last year and the year before, the number of vehicle miles traveled for large trucks, for combination trucks, have gone down. Overall, the LTL trucks have made up the difference, so VMT has remained about flat. But for the vehicles that bump up against the Hours of Service rule most, that VMT has gone down last year and the year before.

Dr. DESJARLAIS. Okay. Based on these facts, it would appear that the 2008 Hours of Service regulations have been and continue to be very effective in improving highway safety. Is it your essential argument that you can never have too much regulation?

Mr. JASNY. No, not at all. You need the right regulations. And what we have now is not the right regulations, for the reasons I've stated in the record. They are contradictory of the scientific evidence in the record. They were disputed by the court of appeals as being illogical and of questionable validity.

And I would like to point out that, in 2000, there was a notice of proposed rulemaking that actually would have applied different Hours of Service regimes to different parts of the industry, and Congress told the agency that they couldn't do that.

Dr. DESJARLAIS. Okay. Do you believe that the regulation should have to at least contribute more benefit to society than it costs society?

Mr. JASNY. I believe that it's clear from the regulatory analysis that these do.

Mr. DESJARLAIS. Okay. Driver fatigue can be a cause or factor in any accident, do you agree——

Mr. JASNY. Yes.

Dr. DESJARLAIS. —whether it's passenger vehicle——

Mr. JASNY. Most crashes are multifactorial incidents.

Dr. DESJARLAIS. Okay. Are you aware that, according to DOT's own data, that driver fatigue does not rank among the most common factors for truck-driver-related fatalities?

Mr. JASNY. Yes, but they also underestimate the percentage of crashes that involve fatigue.

Dr. DESJARLAIS. Okay. Are you aware that the percentage of fatalities due to passenger-vehicle driver fatigue is higher than to truck driver fatigue?

Mr. JASNY. I don't know that statistic.

Dr. DESJARLAIS. Okay. Well, I guess in light of the fact that there's more fatigue-related accidents and deaths with passenger

cars, do you think that there should be drive time restrictions on passenger vehicles?

Mr. JASNY. It's a different operating environment, and most passenger vehicles are regulated by States, they're not regulated by—they're not a regulated industry. So it would be difficult to do, and it's up to States to do that.

Dr. DESJARLAIS. Okay. Well, I think the point is we all want to drive on safer highways, whether it's trucks, cars. And the point is, where do we find a balance in regulation. So that's why we're all here.

But I'm out of time. Thank you.

Mr. JASNY. Right. But going back to the 2003 final rule, that, from its conception, was wrong. And we're trying to correct that, and we've been trying to correct that for the last 8 years and save some lives.

Dr. DESJARLAIS. Okay. Well, for the record, the truck percentage is 1.4 and passengers is 1.7.

I yield back.

Ms. BUERKLE. [presiding.] I now yield myself 5 minutes.

I would like to submit for the record a statement from the Retail Industry Leaders Association and Kraft Foods, both who express respect for DOT's intent to prevent crashes but feel the proposed rule falls short of accomplishing the goal, without objection.

[The statement from the Retail Industry Leaders Association and Kraft Foods follows:]

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November 28, 2011

The Honorable Jim Jordan
Chairman
Subcommittee on Regulatory Affairs,
Stimulus Oversight and Government Spending
Oversight and Government Reform Committee
Washington, DC 20515

The Honorable Dennis Kucinich
Ranking Member
Subcommittee on Regulatory Affairs,
Stimulus Oversight and Government Spending
Oversight and Government Reform Committee
Washington, DC 20515

Dear Chairman Jordan and Ranking Member Kucinich:

The Retail Industry Leaders Association (RILA) greatly appreciates the opportunity to submit written testimony to the subcommittee regarding the Federal Motor Carrier Safety Administration's (FMCSA) efforts to revise the current hours-of-service rules. While RILA strongly agrees that driver health and safety are of utmost importance, we disagree with the findings that the proposed rules would accomplish this goal. RILA believes that in order to continue positive safety trends and sustainable advancements, the current 11-hour driving limit and 34-hour restart period must be retained.

RILA is the trade association of the world's largest and most innovative retail companies. RILA members include more than 200 retailers, product manufacturers, and service suppliers, which together account for more than $1.5 trillion in annual sales, millions of American jobs and more than 100,000 stores, manufacturing facilities and distribution centers domestically and abroad.

RILA's membership consists of some of the largest users of the supply chain. These companies place the highest premium on safe supply chain operations and require the same of the motor carriers that transport their goods. Since 2003, industry has relied on the current hours-of-service regulations to operate just-in-time supply chains required in today's growing global economy. The ability to transport products to stores and distribution centers in a timely manner is essential to the continued health of the retail sector.

Safety First

It is important to note that since the current hours-of-service rules were implemented, the trucking industry's safety record has improved by significant means. According to figures cited by the U.S. Department of Transportation (DOT) in 2009, the trucking industry is now the safest it has been since the DOT began keeping crash statistics in 1975, with the number of truck-involved fatalities on U.S. highways declined by 19 percent since 2004. These safety improvements are being displayed over a time period when the number of miles driven by large trucks abundantly increased. With our national safety record improving under authority of the current rules, retaining the rules as they currently stand is vital.

In light of the fact that there have been significant safety improvements under the current hours-of-service rulemaking, RILA believes changes made to these rules must be carefully analyzed to make sure the trends in safety are not reversed. RILA's membership absolutely respects the FMCSA's intent to prevent commercial vehicle-related crashes and fatalities; however, the proposed rulemaking falls short of ensuring these goals. RILA believes any changes to a successful rule need to be substantiated with a firm foundation of reliable

studies and research. Failing to do so will warrant adverse effects on the shipping industry, the economy, and the driver's welfare.

In regards to the driver's well-being, RILA has concerns that stress levels and the sleep cycles of the driver might be altered to have an undesirable effect on safety under the new guidelines of the proposed rules. RILA's members depend on an efficient system to move the high volume of products throughout their supply chains; adding additional traffic woes only heightens the difficulty of delivering to stores in a just-in-time fashion. Increasing the number of uncontrollable variables, while in the same instance narrowing the driver's target drive time, will exponentially intensify a driver's stress level.

FMCSA's Sleep Pattern Assertions Are Unfounded

The FMCSA, in an effort to achieve the goal of improved driver health, correlates the betterment of driver health with decreased drive times in the proposed rule. In doing so, the FMCSA assumes that a reduction in the amount of hours worked will lead to increased sleep time. In the "Review of FMCSA's Regulatory Impact Analysis for the 2010-2011 Hours of Service Rule"[1] prepared for the American Trucking Associations, Edgeworth Economics finds in previous FMCSA Regulatory Impact Assessments, that the agency stated on multiple occasions that there is little research linking driver health and work hours. In 2005, the agency stated "the difference between a driving limit of 10 and 11 hours is inconsequential from the standpoint of driver health" and the agency later confirmed that view in 2008.

The current proposed rules display a shift in this viewpoint and cite two studies as the basis for this change. The two studies, Baltkin, *et al.* and Ferrie [2007], are flawed for several reasons. The first study[2] of concern asserts a relationship between work time and sleep time, comprised of data collected in 2000. Since current rules have only been in place since 2004, this data is no longer pertinent. This analysis also assumes that a reduction in drive time would cause drivers to sleep and exercise with this time off duty, instead of choosing other activities, with no explanation or basis for this causation.
The second analysis[3] pulls sampling data from British civil servants from the late-1980s through the early-1990s. The data shows a higher mortality rate associated with low weeknight sleep amounts. While differences in the sampling population causes initial concern over potential disparities, even more troubling is that the FMCSA overlooks Ferrie's conclusion that "there is no evidence that sleeping habitually between 6 and 8 hours per day in an adult is associated with harm and long term health consequences." Ferrie's analysis, along with broader field research, show no mortality changes from people who sleep between 6 to 8 hours.

Likewise, moving driver sleep patterns to a more 'common' pattern is not necessarily normal for the driver who has become adjusted to a certain schedule. FMCSA's reference to a yet to be published Washington State University study which analyzes 12 drivers is not comprehensive enough to assert this allegation. Extending the current 34 hour restart to include two rest periods from midnight to 6:00 a.m. so that drivers are able to have two consecutive nights off for a more restorative sleep time, and thus solidifying FMCSA's assertion they will

[1] See Edgeworth Economics, "Review of FMCSA's Regulatory Impact Analysis for the 2010-2011 Hours of Service Rule" prepared for the American Trucking Association. February 15, 2011.

[2] RIA, pp 5-3 - -5-5 citing Baltkin, T., Thorne, D., Sing, H., Thomas, M., Redmond, D., Wesensten, N., Williams, J., Hall, S., & Belenky, G., "Effects of Sleep Schedules on Commercial Motor Vehicle Driver Performance," Walter Reed Army Institute of Research, Washington, D.C., May 2000

[3] Ferrie, J., Shipley, M., Cappucio, F., Brunner, E., Miller, M., Kumari, M., & Marmot, M., "A Prospective Study of Change in Sleep Duration: Associations with Mortality in the Whitehall II Cohort," *Sleep*, v. 30, n. 12, 2007, pp. 1659-1666.

be more alert when on the road, is unfounded. This provision essentially forces truck drivers who have adjusted their circadian sleep cycle to sleep during daytime hours to now adopt sleep patterns mandated by the government. For some drivers, the quality of their sleep patterns do not link up with the same characterization that the Department is proposing, nor will the final outcome of these proposed changes necessarily command a safer environment on the roads.

Congestion, Congestion, Congestion

The proposed changes to the hours-of-service regulations would not only increase the amount of drivers needed, but because of the suggested restart provisions, these drivers would be funneled onto the road at peak driving times. Simply stated, the additional capacity needed to transport the same amount of products would place more trucks on the road at the highest volume traveling periods. RILA member companies are forecasting an increase to their private and dedicated fleets of around fifteen percent to service their stores effectively. Since freight and passenger vehicles share common infrastructure, this expected road congestion would lead to additional safety concerns not only for truck drivers, but for all traffic on the roadways.

Equally as important, when considering potential congestion concerns, is the fact that less drive hours will assuredly result in more trucks on the road to deliver the same amount of goods. The FMCSA's proposed rules reference a 2007 Commodity Flow Survey that indicates 75 percent of freight is moved in trips of less than 100 miles. As a result, the argument is made that drivers making several shorter distance trips are unable to drive 10 hours a day, let alone the full 11 hours, eradicating the need to increase the amount of drivers on the road. Upon further research, the methodology description for the 2007 Commodity Flow Survey states that while many users of the supply chain were included in this study, the coverage only extends to "some retailers." It is irresponsible to assume the data set used in the survey represents a fair majority of users of the supply chain when large format retailers consist of some of the largest users of the system. Since the survey omits a very large consumer of the supply chain, the survey should not be included as a justification to limiting the current drive time.

There's further reference to a FMCSA 2007 Field Study on long haul's utilization of the 11th hour that contends the extra hour is hardly used; yet again, the scope of the survey was too small to qualify itself as a grounded scientific evaluation. While the 11th hour is used mainly as a scheduling buffer, it is important to maintain it; RILA's membership alone estimates that it is utilized 60-70 percent of the time to allow drivers the flexibility of reaching their destination. In addition, the "Review of FMCSA's Regulatory Impact Analysis for the 2010-2011 Hours of Service Rule"[4] confirms that while the FMCSA assumes that lost driving time will be 'replaced seamlessly' by shifting time to another work day or to another driver, that will hardly be the reality. Impacts on productivity by reducing the allowable driving time will undoubtedly lead to the need to schedule additional trips which results in using additional trucks. Channeling current and prospective truck drivers onto our roadways, at peak hours, is not only a logistical nightmare for industry users, but it spells congestion chaos for all drivers.

It also comes as no surprise that our nation has struggled to fund our troubled highway infrastructure. With the inaction of Congress and the Administration to provide a comprehensive long-term surface transportation measure, it would be irresponsible to add regulations that would be detrimental to the current stress of our nation's highways, roadways and bridges. Our nation's infrastructure has already reached capacity in many regions and is not well-equipped to handle the additional strains this proposed rule would generate. As

[4] See Edgeworth Economics, "Review of FMCSA's Regulatory Impact Analysis for the 2010-2011 Hours of Service Rule" prepared for the American Trucking Association, February 15, 2011.

previously stated, the amount of miles driven by large trucks has increased dramatically since the 2003 ruling; these miles will still need to be trekked, yet with more drivers, more trucks, and at peak hours under the proposed ruling. By sheer statistics alone, this would cause more accidents to occur, while also adding additional strains on our highways. That certainly does not bode well for the future state of our nation's infrastructure.

Sustainability Gains Will Be Lost

RILA members have embraced the pursuit of environmentally sustainable operations. Across the retail industry and throughout the supply chain, retailers are seeking and implementing innovative solutions to reduce energy consumption and waste. Major gains have been made in an effort to support clean air programs; however, the FMCSA proposed rules threaten that effort. In a time when RILA member companies are the leaders in meaningful sustainability efforts throughout their supply chains, the possibility of less capacity resulting in idling trucks and more carbon emissions is counterproductive and distressing.

A fair majority of RILA's membership take advantage of backhaul operations to increase efficiencies in the supply chain. Backhauling drastically reduces emissions by decreasing the amount of trucks on the roadways. The proposed rule greatly challenges this added benefit of retailers' current complex logistics systems. If the new rule is implemented, the driver would have a decreased amount of time to deliver the core shipment and the consequences of that action would most likely result in a severe decrease in the usage of this environmentally-friendly logistics solution.

Another significant issue that would arise if this proposed ruling is set into place is that fact that in recent years, retailers have opened more stores in city centers and have increased 'livability' in those urban areas. Retailers have a duty to make sure all of their stores are appropriately stocked with both perishable and nonperishable goods, including having items at destinations on Monday mornings and during the peak holiday seasons. The proposed rules make it increasingly difficult to deliver to urban areas in which congestion during peak hours is an issue, not to mention the already daunting restrictions drivers have to overcome in urban areas. With the proposed ruling, these trucks would be hauling loads in peak traffic times at a higher frequency and as a result, retailers would not effectively be able to deliver their products to their stores in a just-in-time fashion.

Hours of Service Investments

After 2003, when the 11-hour allowable limit for continuous truck operation and the 34-hour "restart" provision were put into place, many RILA member companies began expansion of their supply chain operations modeling them after the current laws. RILA's members have continued to build an ever expansive network of store fronts and distribution centers based on these laws, including investments in extensive process solutions and advanced technology systems. If the proposed rulemaking is implemented, retailers would have to front significant capital designed to comply with new requirements.

At a time when economic development is at the forefront of the President's agenda, placing financial burdens on the industry should be warranted in the final rulemaking process. On December 2009, DOT cited traffic congestion being an $87.2 billion annual drain on the U.S. economy, with 4.2 billion hours and 2.8 billion gallons of fuel spent sitting in traffic. Those figures can only go up if the proposed rulemaking is set into place. At a time of one of the worst economic recessions in history, investments into updating technology, additional training, more drivers, and extra equipment are hard to justify when there are serious doubts to the effects of the forecasted changes.

To conclude, RILA members thank the subcommittee for holding this hearing to highlight the negative impact this proposed rulemaking will have on the economy. RILA continues to urge the FMCSA to retain the 11-hour daily driving limit and the 34-hour restart provisions as they currently stand. Should you have any questions regarding this matter, please feel free to contact me at (703) 600-2064 or kelly.kolb@rila.org.

Sincerely,

Kelly Kolb
Vice President
Government Affairs

Kraft Foods Inc.
910 Mayer Avenue
Madison, WI 53704

November 29, 2011

The Honorable Jim Jordan
Chairman
The Honorable Dennis Kucinich
Ranking Member
Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending
U.S. House Committee on Oversight and Government Reform
2157 Rayburn House Office Building
Washington, D.C. 20515

Dear Congressmen Jordan and Kucinich:

Attached please find testimony we are respectfully submitting on behalf of Kraft Foods in relation to your hearing on November 30th, 2011 titled, "The Price of Uncertainty: How Much Could DOT's Proposed Billion Dollar Service Rule Cost Consumers This Holiday Season?"

We are available to answer any questions you may have on our testimony.

Sincerely,

Harry Haney

Harry Haney
Assoc. Dir. Transportation Planning
hhaney@kraftfoods.com
608.285.6280

Kraft Foods Inc.
910 Mayer Avenue
Madison, WI 53704

Statement of Harry Haney for Kraft Foods and the National Private Truck Council

Good Morning. My name is Harry Haney and I am with the Kraft Foods Transportation Department based in Madison WI. We very much appreciate the opportunity to comment on the changes proposed by the Federal Motor Carrier Safety Administration to commercial vehicle drivers' hours of service regulations. 75 Federal Register 82170 (December 29, 2010). I submit these comments on behalf of my company and on behalf of the National Private Truck Council, which represents over 400 companies that operate private truck fleets in furtherance of a non-transportation primary business.

Our department is responsible for delivering Kraft Foods products – both raw materials as well as finished goods – to our plants, distribution centers, and customers safely and efficiently – using either our own private fleet of trucks or outside service providers encompassing truck, rail, and water. Safety is paramount at Kraft Foods and over the years we have invested in technology, training, and process enhancements to improve safety . Two brief examples highlight this: in the year 2000 we installed on-board computers with electronic logs in our private fleet vehicles to further ensure compliance with hours of service rules. In 2004 we implemented changes in both our customer delivery program and our motor carrier contract to incentivize loading and unloading within 2 hours and compensate our carriers in cases where that fails to happen. That facilitates better planning of a driver's day, including rest periods. We are concerned however, that the proposed changes to hours of service will not only fail to improve safety, it could contribute to more crashes. We also believe the changes would increase costs, ultimately harming American business' competitiveness and having a detrimental effect on the nascent economic recovery.

From a safety perspective, we see no evidence that either a reduction in driving time from 11 hours to 10 hours or a change in the reset provision requiring 2 consecutive midnight to 6am periods off duty will enhance safety. In fact, our drivers tell us they would prefer the ability to take a short break during their work day without it being included in their "duty window". Further, we see the additional parameters around the re-start provision increasing congestion (and thus, the opportunity for crashes) during peak daytime driving hours as drivers take to the road at 6am after their rest period ends versus the times being staggered as they are today. This phenomenon is likely to be exacerbated by a change in pickup and delivery schedules to daytime hours when more drivers would be available. Thus, rather than reducing the frequency of crashes, the proposed change to the 34-reset would likely increase the frequency of crashes as more trucks would be forced to share the roads with cars during daylight hours.

To illustrate the type of delivery patterns that would change if the driving hours were reduced to 10, consider the following example:

- Leg 1: Champaign, IL to Aurora, IL
- Leg 2: Chicago, IL to New Berlin, WI
- Leg 3: Mukwonago, WI to Champaign, IL

The drivers start at their home terminal, deliver the assigned shipments, and return home that day. They then are able to get their 10 hours off and do it all over again the next day.

One less hour to drive means they would end up having to break within 50 miles of getting home. This will impact productivity of the assets and driver satisfaction. It could also impact safety because they're sleeping in their truck and not in their home.

We foresee the additional complexity brought about by the reset provision and the opportunity to extend the workday to 16 hours twice weekly as problematic from an enforcement perspective. And consistent enforcement is key to gaining the intended benefits.

As mentioned, we believe the unintended consequence of the proposed changes may impact not only safety but efficiency as well. While the previous example shows a mixture of safety and efficiency concerns, please consider the following as further evidence.

We have surveyed our major carriers to get their perspective on the productivity and service impact of the proposed changes. Assuming a change in daily drive time from 11 to 10 hours as FMCSA is known to prefer, they anticipate a reduction in driver productivity of 3-7%. Driver labor and benefits are a carrier's single largest expense representing on average 35% of their total cost. We also know that drivers are already in short supply and most carriers are not in a position to absorb these costs in reduced margins. Therefore a 3-7%% reduction in productivity will likely result in approximately a 1-3% increase in what is generally the most expensive component in the nation's supply chain – transportation. Since drivers will be less productive, the distance they travel in a day's time will decrease. As an example, our network is currently configured to reach almost three-quarters of our customers within 1 day of driving or "transit". With the proposed changes, estimates range between 50 and 100 fewer miles per day traveled. A 100 mile reduction means that about 8% of our shipments will incur an additional day in transit and just over 60% of our customers will be reachable within 1 day.

We also note that the agency's cost analysis, 75 Federal Register at 82185-82187, considers the cost of the proposed options only as it relates to motor carriers. (The estimated cost for the FMCSA's preferred Option 2 is still well above $1 billion.) However, this analysis ignores the cost of implementing the rule changes on shippers. Shippers will need to schedule additional deliveries of inbound and outbound product because of the shortened driver schedules. These additional deliveries will require more labor for loading, unloading and cross-docking of shipments. These costs have not been included in the FMCSA's analysis and will substantially alter the cost-benefit balancing of the proposed regulations.

There is an environmental impact to this as well for all shippers and carriers, particularly those who require refrigerated or frozen transports. In our case, about 70% of our shipments require refrigeration. So, longer transit times, more trucks on the road and refrigeration units running longer to deliver product translates into additional emissions from increased fuel consumption and more highway congestion. This conflicts with the desire of virtually every business today – and indeed the U.S.

government -- to make the transportation network in our country more environmentally friendly and efficient.

Moreover, we respectfully point out that the FMCSA specifically turned down a request for changes to the 11-hour daily driving limit and the 34-hour reset provisions just two years ago (January 16, 2009) stating as follows:

> For purposes of Federal Rulemaking requirements, FMCSA has fully supported the 2007 interim final rule. . ., and the 2008 final rule, including the 11-hour driving rule and the 34-hour restart, with well-reasoned explanation, based on thorough research and an examination of available data. The scientific, operational, and economic analyses underlying the final rule have been meticulous and extensive.
>
> The 11-hour driving rule and the 34-hour restart have now been in effect since January 2004. During this five-year period—representing billions of commercial motor vehicle driver hours and hundreds of billions of miles traveled—the significant increase in truck crashes and fatalities that one would have anticipated, based on Petitioners' criticisms, has simply failed to occur. Indeed, the overall large truck fatality rate is at its lowest level since the records have been kept. Meanwhile, the 11-hour driving rule and the 34-hour restart have significantly increased operational flexibility, to the betterment of drivers' lifestyles and with significant savings to motor carriers, shippers and U.S. consumers.

Letter from John H. Hill to Joan Claybrook, January 16, 2009, at 1. The improvement in the safety record of motor carriers has continued in the past two years since the FMCSA made those statements, and the agency's justifications for its own rule remain as compelling today as they were two years ago.

But now the proposed ruling endeavors to "fix" something that the industry agrees and safety records validate, is working very well, saying that although "the total number of crashes is declining," it "is still unacceptably high." 75 Federal Register at 82171 (December 29, 2010). It is puzzling that without admitting that the 2004 changes to the hours of service rule have resulted in the lower crash and fatality rates for heavy trucks, the agency is now prepared to say that its new proposed changes to the rule "would result in a significant improvement in safety." Id. Since the underlying science behind this rule has not changed since 2009 it is unclear how a different conclusion could be reached in 2011. The proposed ruling does not cite any research that would predict with any certainty that safety will improve with these rule changes. With more trucks on the road in daylight hours, the proposal could lead to additional crashes, not fewer. For example, the new proposal for a mandatory 30-minute break after seven hours on duty would require long-haul operators to plan the breaks into the driver's schedule. So, carriers will need to locate rest areas or other safe, legal and appropriate areas for drivers to park vehicles while taking these mandatory breaks. When states are closing rest areas for budget reasons, and other parking areas (particularly in urban areas) are becoming scarcer, this could create new pressure on drivers as they meet the rest requirements.

With regard to the proposed change in the 34-hour restart provision, drivers simply do not use the maximum potential number of on-duty hours allowed in the current rule. In 2009 the FMCSA noted that its "field survey found that a majority of drivers are obtaining two midnight to six a.m. sleep periods. Concerning the duration of the restart period, 95 percent exceeded 34 hours, 50 percent were longer

than 58 hours, and only 5 percent were 34 hours long." Hill letter, at 19. Daily scheduling, dispatch and traffic constraints on drivers have already allowed the FMCSA to reach its goal of extending the 34-hour restart provision.

In addition, the proposed rules miss an opportunity in the one area where additional flexibility would improve the quality of driver rest and therefore improve safety—the sleeper berth provision. Instead of the standard 10-hours off duty, drivers would still have to take at least eight, but less than 10, consecutive hours in the sleeper berth and a shorter break of at least two hours off duty or in the sleeper berth. This does not address the industry's concerns that few drivers, if any, are able to spend eight consecutive hours in a sleeper berth and obtain meaningful rest. We ask the FMCSA to reconsider this area of the proposal and return to the pre-2005 rule for sleeper berths.

Beyond the sleeper berth provision, we believe that the vast majority of shippers, carriers and drivers prefer to keep the current rules in place because they work and they have helped make trucking safer. It has been well documented that the safety record of the trucking industry has never been better. The current hours of service regulations have certainly contributed to that success. The changes in the hours of service rule since 2003 have not merely allowed an additional hour of driving time and a 34-hour restart; they have also required an additional two consecutive hours of rest each day and established a non-extendable 14-hour duty period. We believe these changes were an important factor in the historic improvements in the crash and fatality rates since the current rules went into effect.

Finally, the FMCSA has recently implemented a fundamental change in the regulatory scheme for motor carriers and drivers with its Comprehensive Safety and Analysis program. This program went into effect this year, and it requires substantial management effort and training to absorb the changes for evaluating safety performance. We believe the FMCSA should allow these changes to go into effect before implementing another wholesale and unproven revision to the hours of service rules. NPTC proposes that the FMCSA complete an 18-month pilot program with selected carriers (just like the agency conducted with the CSA program) to study the actual effects of these proposed changes in the hours of service rules rather than implementing them only on the assumption they will improve carrier safety results.

As further information, at the February 17, 2011 FMCSA Listening session, I presented a much condensed version of these comments. The FMCSA panel asked two questions to which I did not have immediate answers. First, what percentage of our Kraft Foods Private Fleet driving occurs between midnight and 6am? Our fleet average is 1.5 hours per day per driver between midnight and 6am. Second, when Kraft Foods' drivers use the re-start provision today, what is the average number of hours they are off duty? The answer is 56 hours.

NPTC and its member companies recognize that continued improvement is essential to our business success and we are committed to improving the daily safety record of our trucking operations. Safety is not just good business, it is our public duty, and we take our obligations to our employees, our customers, and all highway users very seriously.

The National Private Truck Council and Kraft Foods very much appreciate the opportunity to share our views on this proposed regulation and we stand ready to assist should you have any questions.

Thank you very much for your time and consideration.

Ms. BUERKLE. First of all, Mr. Slattery and Mrs. Wood have left the room, and the chairman had expressed our sympathies for their losses. But I think, as I sit here, there's not a person in this room, whether you're a Republican or a Democrat, we're Americans and we want our highways safe. And to think that we don't is really disingenuous. So I think we start with that premise. We all have family members out there, and we want them to be safe.

But every time a rule or a regulation is passed, or a statute, there's a loss of freedom. So, in my mind, when we do that, we need to justify it. So as I look at these regulations and I see that the statistics have improved with the current regulations that are in place, I say to myself, why are we taking these steps, what is it that's motivating this, when the statistics—and we all agree—and so much of this job is balance, balancing safety, balancing our economy and trying to get our economy back on track and be prosperous.

So when I look at the numbers and the statistics—in 1979, there were 7,054 fatalities; in 2009, there were 3,619 fatalities—almost a 50 percent decrease. In 1979, there were 0.461 fatalities per 100 million miles; in 2009, there were 0.123—a decrease of almost 75 percent.

So it appears to me that the current regulations are moving in the right direction. They're making the highways more safer, they're becoming safer, the fatalities are down. And, in the meantime, we're not disadvantaging or creating more obstructions and more regulations for our industry.

So my first question, Mr. Jasny, is why? Why do we want to change something that appears to be working? The statistics toward more safe highways is working.

Mr. JASNY. Because just as if the Dow Jones goes up on any particular day, individual stocks may be going the other way. In this case, while there are a lot of regulations that we've supported and the agency has finally come to adopt in recent years that are improving safety and helping, this one is swimming upstream, this one is going against the current.

This one is not proved to help with fatigue. The statistics and even the agencies say in the notice of proposed rulemaking that there is no connection between the recent downturn, which is probably—if you look in my Appendix C, the chart that I included from the Motor Carrier Safety Administration, shows that crashes are not result of fatigue but more what are the economic conditions and the downturn in long-haul vehicle miles traveled.

So there's still somewhere between 500 and 1,000 people out there who are dying in crashes involving trucks, and most of the victims in those crashes, 97 percent, are passenger car victims, people in passenger cars who die, not necessarily the truck drivers. And so there are still about 1,000 lives out there, we think, that can be saved by a better rule.

Ms. BUERKLE. Dr. David, would you like to respond to that?

Dr. DAVID. Well, I addressed this to a question Mr. Braley brought up earlier, which is that, clearly, restricting hours can have some effect on fatalities and on large-truck crashes generally. The question is, at what point do you stop? And that's a judgment that has to be made based on the data.

And, you know, I mean, there's no question that there could be some improvement. The question is whether it's a large improvement or a small one.

Ms. BUERKLE. I'm a freshman here, and two things that constantly impress me down here is, number one, the disconnect between Washington and, in particular in this committee, businesses. And so, when we look at these proposed rules, I'm always concerned that the stakeholders aren't at the table, that the bureaucracies and the agencies are making these rules that affect the businesses.

Did any of you participate in or offer up any or have any input into these proposed rules, of the first four?

Dr. David, when Mr. Jasny talked about the court of appeals striking down the last regulation, I would like for you to just comment on that.

Dr. DAVID. I'm sorry, I don't have any opinion about that.

Ms. BUERKLE. My understanding is—Mr. Jasny, do you know why they struck down that regulation?

Mr. JASNY. Yes. The initial decision struck it down because they did not consider the health of the drivers when imposing a rule that would affect drivers. And that was——

Ms. BUERKLE. So it was procedural rather than substantive.

Mr. JASNY. No. That was substantive because there was a statutory mandate to consider that issue and the agency did not consider the issue.

The court then went on, in an unusual dicta, to point out all the problems that involve the substantive issues regarding safety, regarding the 11 hours, regarding the 34 hours, that the court saw as problems when the case came back.

Ms. BUERKLE. I don't mean to cut you off, but my time is running out here, and I do want to ask Dr. David one more question.

Dr. David, you mentioned in your testimony that there were several errors in DOT's methodology. Can you just expound on that for us a little bit?

Dr. DAVID. Well, there were a number of cases where assumptions were made without any kind of basis. There were, for example, calculation errors where something as simple as rounding a number for no reason can mean a difference of $100 million in the regulation.

There were several other cases which I outlined in my report. They total up to being worth several hundred million dollars per year, which could make the difference between a positive benefit and a negative benefit for this rule.

Ms. BUERKLE. On a scale of 1 to 10, how do you think DOT's cost-benefit analysis rates in terms of accuracy?

Dr. DAVID. I'm sorry, I've not been called upon to do that before. I describe what I find as either mistakes or assumptions that are made that don't seem appropriate given current data, and I think you would have to make your own judgment about how it grades relative to the other ones.

Mr. JASNY. If I may, I would like to submit for the record a rebuttal that my organization has drafted with regard to the Edgeworth analysis that points out the flaws in their reasoning.

Ms. BUERKLE. Without objection.

Mr. JASNY. Thank you.
[The rebuttal follows:]

Rebuttal of Edgeworth Economics Review of FMCSA's Regulatory Impact Analysis

On behalf of the American Trucking Association (ATA), Edgeworth Economics reviewed the Federal Motor Carrier Safety Administration's (FMCSA) Regulatory Impact Analysis for the 2010-2011 Hours of Service proposed rule (RIA). Edgeworth Economics produced a report (Edgeworth report) that raises several issues regarding the estimates of costs and especially benefits of the policy choices presented in the notice of proposed rulemaking (NPRM). On several major issues raised in the report, however, Edgeworth promotes its own flawed assumptions and relies on overly optimistic or unjustified views of the FMCSA's RIA in order to limit the benefits estimated by the agency.

The Edgeworth report reduces the benefits found by FMCSA in three significant ways, challenging the quantification of driver health benefits, crash costs and fatigue risk.

Inaccurate Approach to Driver Health Benefits:
The Edgeworth report challenges the agency's analysis of the claimed health benefits by claiming that *all* health benefits should be excluded and then, in the alternative, asserts that the claimed health benefits should be reduced by $390 million (or more than 50 percent), without providing any support or discussion as to how this figure was derived.

- Medical and sleep research studies on truck drivers document that truck drivers, as a group, have a high rate of medical conditions associated with work-induced behavior including sedentary activities (while driving and when not working), over-the-road lifestyles (including rest in sleeper berths or motels, eating in diners and restaurants), long hours (some drivers work twice as long as employees with 40-hour work weeks), cumulative fatigue (accumulated sleep debt), etc., and have lower mortality than other worker populations.
- The Edgeworth report raises only general distinctions and nit-picking claims regarding this body of research that could apply to any body of research studies, but the report does not make a strong case that the research relied on by the agency is wrong. In light of the compelling evidence that extending driver work and driving hours subjects commercial drivers to greater exposure and harm, it is neither reasonable nor acceptable to assert that there are no costs associated with longer driving and working hours, especially regarding that portion of truck drivers, estimated at 15 percent of the over 3 million commercial driver work force, that the agency characterizes as having "very high" and "extreme" intensity work schedules.
- Moreover, in 1984 Congress mandated that the agency must take the health of drivers into consideration when proposing new regulations. Since the agency did not do this in the 2003 final rule, the federal Court of Appeals held that the agency had violated the law and sent the rule back to the agency. In the next two iterations of the HOS rule, while the agency confirmed that the increase in driving and working hours does have an impact on driver health and medical status, the agency irrationally refused to quantify the costs associated with the longer driving and working hours allowed by the current HOS rule. This was done despite the

fact that Congress also required the agency perform a comprehensive cost-benefit analysis of new regulations. Thus, by excluding all quantification of the health benefits to be derived from reducing total driving and working hours, as Edgeworth argues, the agency would again open itself to legal challenge for violating the law and result in the agency losing yet a third case in federal court.

- Since the Edgewater report does not explain how it arrived at its alternative option of reducing the agency quantification of health benefits of $690 million by $390 million, to only $300 million, this assertion has no substance to back up the claim.

Unreasonable Claims Regarding Reduced Overall Crash Cost:
The Edgeworth report analysis asserts that by using a figure for overall truck crash costs based on 434,000 annual crashes, FMCSA overestimates its resulting benefit in crash risk that would result if the NPRM were adopted.

- The agency explanation for using the 434,000 annual crash figure appears reasonable, certainly far more reasonable than the alternative figure proffered by the Edgeworth report. The agency makes a number of assumptions all of which the Edgeworth report agrees are reasonable except for the use of the 434,000 annual crash figure. The agency asserts that this figure is representative of the average number of annual truck crashes that took place prior to the beginning of the recent recessionary period that commenced in 2007. The agency's explanation is that using a lower figure would be unrealistic because as the economy recovers from the recession, and freight volume and vehicle miles of travel increase with economic growth, annual truck crash totals will likely return to pre-recessionary levels. This is a credible basis for formulating an estimate. Moreover, the past ten years of truck crash data (including 2009), shows that the *average* annual count of large truck crashes was 393,000; a value that is 90% of the estimated total used by the FMCSA.

- The Edgeworth report suggests that a far lower figure of 286,000 annual crashes, which represents only 67 percent of the overall figure of 434,000 used by FMCSA, is the appropriate number. The 286,000 figure is the most recent annual data point for 2009, and represents the historic low point for annual number of crashes, but a total that occurred in the immediate aftermath of an economic recession when economic activity and truck traffic was at a recent low point. As between the two, the 434,000 figure appears far more reasonable and accurate since it represents an average of annual truck crashes drawn from recent historic trends. The use of the lower 286,000 figure, by contrast, is obviously inappropriate because it is confounded by the reduced national economic activity and documented reduction in freight tonnage and VMT that immediately preceded and included 2009. Not only is the 286,000 figure a single year and point in time, rather than an average as FMCSA developed, but it is a certainty (or at least a high probability) that this minimum level of truck crash occurrence will represent the lowest or near lowest point for annual truck crash data as the economy rebounds and increased demand leads to increases in truck VMT and truck crashes.

Unduly Underestimating Fatigue as a Factor in Truck Crash Risk:
The Edgeworth report insists that the FMCSA's use of the 13% estimate of overall fatigue involvement in truck crashes is incorrect because it is predicated on findings in the Large Truck Crash Causation Study (LTCCS) database, and because it varies from the previous 7% figure used by FMCSA in the previous 2008 HOS rule analysis.

- The Edgeworth report's bias for the previous agency gross underestimate of fatigue involvement in truck crashes is transparent and overlooks the fact that not only has the agency previously relied on higher estimates of fatigue involvement in truck crashes but so have other federal safety agencies.
- The FMCSA has acknowledged that driver fatigue is grossly underreported for various reasons. Advocates and others have pointed out in public comments to the 2008 proposed rule as well as prior HOS rules that the agency has, in recent years, repeatedly grossly underestimated fatigue as a factor in truck crashes. This was purposely done in prior analyses to limit the benefits calculation of lower maximum HOS limits in agency benefits / cost analyses.
- FMCSA acknowledged in the 2000 NPRM that "The agency tentatively estimates that 15 percent of all truck-involved fatal crashes are "fatigue-relevant," that is, fatigue is either a primary or secondary factor. This includes the 4.5 percent of fatal crashes where fatigue is directly cited, and another 10.5 percent where it contributes to other mental lapses, which then result in a crash." 65 FR 25545-25546 (May 2, 2000).
- Other estimates of fatigue involvement in truck crashes are higher. The National Transportation Safety Board (NTSB) estimated that driver fatigue is a factor in 31% of all fatal-to-driver heavy truck crashes, and found fatigue to be a factor in even a higher percentage of all truck crashes investigated by NTSB.
- The National Highway Traffic Safety Administration (NHTSA) has estimated driver fatigue to be a factor in over 30% of all heavy truck crashes. Thus, the LTCCS estimate of 13% average fatigue involvement in truck crashes may still be low by comparison to data from other agency studies.

Finally, the Edgeworth report asserts that FMCSA misuses data from the 2005 and 2007 Field Surveys and overstates the extent to which drivers exceed 9 hours of driving or 13 hours of work per shift.

- The Edgeworth report is contradicted by an earlier ATA study. The Edgeworth report characterizes FMCSA's finding that 21% of drivers, fleetwide, make use the 10th and 11th consecutive hours of driving an "overestimate." The report implies that FMCSA is driving up the benefit of the proposed HOS reform rule by overstating the percentage of drivers taking advantage of the 11th hour of driving under the current HOS rule. Yet, an analysis by the ATA research arm, the American Transportation Research Institute (ATRI), estimates that 66% of drivers use at least part of the 10th hour of driving, 61% use at least part of the 11th hour, and 52% use the entire 11th driving hour. ("Hours-of-Service Rules Safety Impact Analysis Report," p.7, May, 2011).

Ms. BUERKLE. I am out of time. I now yield to Mr. Labrador.

Mr. LABRADOR. Thank you, Madam Chair.

Mr. Nagle, there was some discussion just a few minutes ago with the good gentleman from Ohio, who I respect very highly, about your safety record. And it always amazes me—I'm also a freshman here, and I sit here and we talk about new regulations and we talk about the cost of new regulations, and it always amazes me that there's always testimony that, under existing regulations, we're catching people who are making mistakes and we're—as you indicated, you fired a bunch of people who made those mistakes, and yet we have this administration wanting more and more regulation, when it seems like the regulations that are already in place are doing their job.

Would you comment on that a little bit? It seems like you didn't need new regulation to—number one, the people who were penalized were penalized under existing regulation, and you, as a businessman, didn't need new regulation to tell you that you needed to get rid of those people. Can you comment on that a little bit, if I'm making any sense at all?

Mr. NAGLE. You are. The regulations as they currently exist, okay, what had happened is, through CSA enforcement, the driver's background became much more important and much more public. And so we have to take that into consideration. So, at that time, now we place greater emphasis on internal audits and internal logs. And that's where we found a lot of these occurrences, and that's why we got rid of those.

But in terms of would we have taken those steps knowing that this proposed regulation were in the forefront, we would have taken those steps regardless. So I really think that just adding additional regulations, additional regulations, when less than 2 percent of the trucking companies have actually been audited and checked—okay? We're doing a poor job enforcing the current regulations on the other 98 percent of the carriers——

Mr. LABRADOR. Okay, can you stop right there? That's what frustrates me the most, is we have regulators who are not doing their job, we do a poor job with the current regulations, and we think that the solution is to add more regulations instead of just doing our damn job, instead of just doing the things that we should be doing right now. We do it in the trucking industry, we do it in every single industry.

And what we have is an administration that thinks by adding more and more regulations we're going to have more safety, when if they just did their job, they just actually enforced the regulations that are already in place, we would have the safety that we need.

What do you think about that, Mr. MacKie?

Mr. MACKIE. Well, I would just reiterate the point that several of us made, is we've been down this road four times in the last 12 years. And it's not an issue of not enough regulation. It's hard for companies. Again, particularly in our industry—we're bakers first, not, you know, trucking companies—we want to know what the rules are and that work for us. And instead of changing the rules, moving the goalpost back and forth that we've had in the last 12 years, some certainty there would be enormously helpful.

And right now these regulations seem to be working, so why don't we stick with them for a while?

Mr. LABRADOR. Exactly. And it seems like they're working. We're catching the offenders, we're catching the people that are not doing the right job. And, instead, what we have is a bunch of eggheads telling us that if we do some stupid formula that we're going to have a little bit more safety, when—I believe you have your name—do all of you have your names on your trucks? It's your reputation that is on the line if there's no safety, right?

So what are the market forces that help you to make these decisions—not regulatory forces, but market forces? What do you do, Mr Keysaw? You have your name on your truck.

Mr. KEYSAW. Yeah, we do.

Mr. LABRADOR. So what do you think about every morning, not the formulas that the eggheads are going to give us, but what do you think about every morning when you think about truck safety?

Mr. KEYSAW. Well, because we have our name on our trucks, we think about, you know, what reputation we have out there to the grocery industry and, you know, our customers that go into our stores that have the same name on it. So we know we're very visible out there, and we want the safest fleet.

Associated Foods has gone to the extent of putting electronic recorders in their tractors more than a decade ago so that we could have the safest fleet out there. We also take quality of life for the drivers very seriously, because we know they're the ones, at the end of the day, that will make sure our roads are safe.

Mr. LABRADOR. Now, do all of you—I heard, I think it was Mr. Miller who said that you are having a hard time finding employees. Is that correct?

Mr. MILLER. Qualified, safe drivers. That is correct.

Mr. LABRADOR. Are all of you having that problem? Every single one of you.

So who is going to take the additional 40,000 jobs that apparently are going to be created by this regulation if you can't even find enough qualified workers under the existing law? I'm sorry, that's just a rhetorical question.

But, again, eggheads are running this country instead of actual, real people who understand what's happening here in America and how jobs are created and how jobs are destroyed.

Thank you.

Mr. MILLER. May I interject a comment?

Mr. JORDAN. [Presiding.] Certainly.

Mr. LABRADOR. Yes.

Mr. MILLER. One of the concerns that I have in all of the reporting, when we see fatigue-related accidents, there is no correlation that at least I have seen as to whether that is a compliance-related accident. In other words, okay, the driver was fatigued, but was he fatigued because he was not following the existing laws and violating those laws?

The second is the topic of sleep apnea. We're just beginning to explore that topic. As well as CSA 2010; we haven't even begun to see the benefits of that, which is only a year into fruition, which is probably the most sweeping, comprehensive method that the FMCSA has taken in looking at carriers, as well as providing us

a tool to manage our carriers and our fleets better in the data that it provides to us.

Mr. JORDAN. Thank you.

Mr. LABRADOR. Mr. Chairman, I yield back.

Mr. JORDAN. Thank you. I thank the gentleman from Idaho for his good questions.

I want to thank our first panel for your great testimony and your willingness to answer the questions and be with us today. We're going to dismiss you now, and we'll get to our second panel. So thank you all again.

[Recess.]

Mr. JORDAN. Ms. Ferro, it's good to have you with us. And we have to do the swearing-in bit again. So I apologize; you just got seated. If you're ready, stand and raise your right hand and we'll get started.

Do you solemnly swear or affirm that the testimony you are about to give will be the truth, the whole truth, and nothing but the truth?

Ms. FERRO. I do.

Mr. JORDAN. Thank you.

And let the record show that the Administrator answered in the affirmative.

Okay. Thank you for being with us. I know you have a busy schedule, as well, and we appreciate your time here. And it may just be you and me, so this will be brief probably. But you've got your 5 minutes. If you need a little more time, go right ahead.

STATEMENT OF THE HON. ANNE S. FERRO, ADMINISTRATOR, DEPARTMENT OF TRANSPORTATION MOTOR CARRIER SAFETY ADMINISTRATION

Ms. FERRO. Thank you, Mr. Chairman. Thank you for the opportunity to be here today and discuss the FMCSA's efforts to reduce fatigue-related crashes involving trucks through the enhancements of the Federal Hours of Service rule.

The FMCSA is an agency of 1,000 employees overseeing an industry of more than 500,000 carriers and millions of drivers. With a workforce 80 percent of which is across the country in the field, we are dedicated to our congressionally mandated mission to save lives by reducing crashes involving large trucks. We achieve this mission through a mix of enforcement strategies, rules, and tools designed to target our efforts on noncompliant carriers and drivers.

We also use research and data analysis to improve overall industry safety. And our research shows that fatigue remains a significant factor in truck-related crashes. Many commercial drivers are still not getting enough rest and breaks under the current rule. Last year, 2010, nearly 4,000 people died in crashes involving large trucks. By the Department's estimates, approximately 500 of those would have been related to a fatigued driver.

Each and every life is precious, and while it's hard to place a monetary value on human life or a family suddenly left without a mother, a father, a child, a friend, a sibling, or a colleague, we can estimate the economic cost of commercial motor vehicle crashes. Costs include property damage, cargo damage, bridge and road damage, vehicle damage, lost wages, lost productivity, workers'

comp costs, medical insurance, health costs, and the list goes on and on.

These costs do not discriminate between safety advocate and small-business owner. They impact everybody. In fact, a company with a 2 percent profit margin would have to earn an additional gross revenue rate of $1.25 million to overcome the costs—unexpected, unscheduled costs—of a crash that would cost them up to $25,000 in costs not covered through insurance. Those are the costs of recovery for a business owner. There is no recovery capacity for a parent to overcome the loss of a child.

The purpose of the proposed Hours of Service rule is to reduce driver fatigue and, thus, reduce fatigue-related crashes involving commercial vehicles. In developing this NPRM, FMCSA provided an unprecedented level of transparency and input from all sectors—safety advocates, small-business owners, drivers, shippers, the public at large, large trucking companies, you name it.

We began by seeking input from our Motor Carrier Safety Advisory Committee, a body that was structured under SAFETEA–LU that is made up of representation from law enforcement, from the shipping and trucking industries, from insurance, safety advocacy community, and labor. Using the input from the advisory committee, we set about holding five listening sessions across the country—this is before developing the rule—in order to gain as much input as we could in building the rule itself, the proposed rule.

So the NPRM that followed relied upon the input we received, an extensive review of fatigue-related scientific literature, crash data, driver health and mortality information, and thorough economic analyses. The NPRM was developed using the principles of President Obama's Executive order, which calls for us to use quantitative and qualitative cost-benefit data, public participation, user participation, and a strong exchange of ideas.

Because we're still in the NPRM stage, I'm somewhat limited in how detailed I can respond to some of the questions that may be asked, but please rest assured that the final rule will be based on careful consideration of all the input we received, the additional data that were submitted to the docket. The draft final rule is currently under review at the OMB.

So, again, I just want to reinforce that I speak for all of the FMCSA employees across the country to say we are passionately committed to our congressionally mandated mission to reduce crashes involving trucks and buses. Together with our State enforcement partners across the country, we work every day, 24/7, to fulfill this mission, fulfill the public's expectation for safety and safe travel. Our citizens deserve no less.

So, with that, Mr. Chairman, I will be pleased to answer any questions you may have.

[Prepared statement of Ms. Ferro follows:]

STATEMENT OF
ANNE S. FERRO, ADMINISTRATOR OF THE
FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION

BEFORE THE HOUSE COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM, SUBCOMMITTEE ON REGULATORY AFFAIRS, STIMULUS OVERSIGHT AND GOVERNMENT SPENDING

THE PRICE OF UNCERTAINTY: HOW MUCH COULD DOT'S PROPOSED BILLION DOLLAR SERVICE RULE COST CONSUMERS THIS HOLIDAY SEASON

November 30, 2011

INTRODUCTION

Chairman Jordan, Ranking Member Kucinich, and Members of the Subcommittee, thank you for inviting me today to discuss the Federal Motor Carrier Safety Administration's (FMCSA's) efforts to reduce the risk and prevalence of fatigue-related truck crashes through improvements in the hours of service (HOS) regulations. I am pleased to describe to you today FMCSA's rulemaking to amend the HOS rules, based on a thorough review of fatigue-related scientific literature, crash data, driver health and mortality information, and the feedback we received from public meetings of the Agency's Motor Carrier Safety Advisory Committee (MCSAC) and listening sessions around the country. FMCSA's HOS rules are essential to reducing the risks of fatigue-related crashes involving truck drivers, and provide flexibility for the industry to meet the transportation needs of the Nation while ensuring highway safety.

The Department of Transportation (the Department) has focused on fighting driver fatigue as one way to help make our roads safer since the enactment of the ICC Termination Act of 1995. The Act included a provision requiring the Department to initiate rulemaking to revise the HOS requirements. The Department issued an Advance Notice of Proposed Rulemaking in 1996, followed by a Notice of Proposed Rulemaking (NPRM) in 2000. In 2003 and 2005, we took important steps toward reducing the number of fatigue-related fatal crashes by modifying the hours-of-service rules to ensure that truck drivers are provided better opportunities to rest at the end of each work day, and during the work week. In 2010 we took further steps by proposing important changes to the current HOS rules. While the cycle of rulemaking and litigation has created an atmosphere of uncertainty, FMCSA remains committed to working with its safety partners and stakeholders to provide an hours-of-service regulatory approach that raises the safety bar for the industry.

BACKGROUND

Crash Rates for Trucks

Crash rates for trucks and passenger vehicles have been falling since the late 1970s. The reasons for the decline are complex and cannot be attributed to any single factor. Improved vehicle and highway design have contributed to the reduction, and injuries and fatalities have also decreased with greater use of seat belts by car and truck drivers. The rates have been declining steadily over a long period, well before FMCSA initiated the latest HOS rulemaking in 2010. We agree that some elements of recent declines can be attributed to the improved rest drivers receive by the limits to a 14-hour work day and mandatory 10 hours off-duty time.

Economic conditions also play a part in the number of crashes. The large decrease in truck-related fatality rates from 2007 to 2009 is not unprecedented; similar year-to-year percentage decreases in fatal crash rates occurred in 1980, 1982, 1991, 1992, and other periods of recession.

In opposing changes to the current HOS regulations, the motor carrier industry assumes that fatigue-related crashes, which are the target of the HOS rules, have declined sharply, along with crashes as a whole. The data from the Trucks Involved in Fatal Accident (TIFA) reports, however, indicate that the trend in fatigue-coded fatal crashes has not been as consistent as the decline in crashes. The highest percentage of fatigue-coded fatal crashes occurred before the 2003 HOS final rule in 1999 and 2000 (both 2.1 percent) followed by 2 percent in 1994 and 2007, i.e., before and after the rule. The lowest rate occurred before the rule (1.4 percent in 2001) followed by 1.5 percent in 2002, 2004, and 2006, spanning the period before and after the rule.

While the decline in crashes is welcome, it is not sufficient, and as long as FMCSA's primary mission is to place safety as the highest priority in its regulation of bus and truck safety, it will continue to identify strategies and rules to reduce serious and fatal crashes involving trucks and buses. In 2009, 3,380 people died in truck crashes and 74,000 were injured. These numbers represent the loss of people – husbands, wives, children, family members, cherished friends, and colleagues. While the numbers may be low historically, any crash caused by a trucking company or professional driver is one too many. The initial data on fatal crashes in 2010 for all vehicles indicate that the downward trend reversed in the second half of the year as the economy improved. Recent crash reports provide a painful reminder of the need to continue doing everything we can to improve truck safety.

Hours of Service History

When the first HOS rules were implemented by the ICC in 1938, the requirements provided an on-duty limit of 60 hours in a week, and 15 hours in a day (15-hour rule). In 1939, the ICC revised its rules to limit drivers to a total of 10 hours of driving time in any period of 24 consecutive hours unless the driver was off duty for 8 consecutive hours immediately following the 10 hours of driving. In addition, the ICC revised the weekly

restrictions for drivers. Drivers were limited to 60 hours of on-duty time in any period of 168 consecutive hours (60-hour rule). For motor carriers that operated commercial vehicles every day of the week, the limit was set at 70 hours in any period of 192 consecutive hours (70-hour rule).

In 1962, the ICC amended the HOS rules to remove the prohibition against driving more than 10 hours in any 24-hour period. In 1963, the 15-hour rule was amended to prohibit drivers from driving after being on duty for more than 15 hours, following 8 consecutive hours off duty. In addition, the ICC modified the procedure for calculating the 60-hour and 70-hour rules. Through these actions, the ICC established the HOS regime that would remain in place until 2003, when FMCSA made significant revisions to increase the minimum off-duty period from 8 to 10 hours, and to provide a 14-hour, non-extendable window within which all driving must be completed.

Prior to 2003, drivers were allowed to complete up to 10 hours of driving within a 15-hour, extendable workday or window. In practice, the 15-hour window could be substantially longer than 15 hours because miscellaneous off-duty periods were not counted as part of the 15 hours. Also, drivers using a sleeper berth could split their time in the sleeper berth into two separate periods to accumulate the equivalent of 8 consecutive hours off duty, provided neither period was less than 2 hours. This meant that drivers could be required to operate their vehicles for extended periods of time without having the opportunity for a single, uninterrupted rest period long enough to obtain 7 to 8 consecutive hours of sleep which most individuals need each day.

The way the weekly limits for on-duty time were prescribed, drivers on certain schedules could "run out" of available on-duty time within a few days and be forced to go off duty for approximately 3 full days before being allowed to drive again. This was the case regardless of whether the driver may have fully recovered from the work demands in a shorter period of time. In this context, it could be said that the absence of a "restart" provision had the effect of making the rule unnecessarily burdensome by limiting the availability of drivers beyond what was needed to ensure safety.

FMCSA's 2003 Final Rule

In April 2003, FMCSA published a final rule that changed the requirements for drivers of property-carrying CMVs ("the 2003 Rule"). The rule extended the driving time to 11 hours (known as the 11-hour rule) within a 14-hour, non-extendable window after coming on duty, following 10 consecutive hours off duty. Although the rules concerning weekly limits for on-duty time remained unchanged, drivers were allowed to restart the weekly limit calculation at any time after taking 34 consecutive hours off duty (known as the 34-hour restart provision). Drivers using sleeper berths were allowed to continue to split the mandatory off-duty period, with the minimum period in the sleeper berth being 2 hours.

The 2003 rule contained several provisions that, taken together, improved the opportunity for drivers to obtain restorative sleep, thus decreasing the likelihood of driver fatigue. For example, among the most significant provisions, the rule established a 14-hour, non-

extendable window within which a driver could drive up to 11 hours, following a 10 consecutive hour off-duty period. This provision moved drivers toward a work-rest schedule that more closely matched the natural circadian cycle of 24 hours and gave drivers the opportunity to obtain the 7 to 8 hours of uninterrupted sleep per day that most adults need. The 34-hour restart provision of the 2003 rule gave daytime drivers the opportunity for two 8-hour sleep periods.

As the duty period within which an operator could drive was more limited than under the pre-2003 rule and because the rest period was long enough to provide an opportunity for 7 to 8 hours of uninterrupted sleep time, FMCSA concluded it was reasonable to extend the number of hours an operator could drive within the 14-hour window from 10 hours to 11 hours. The 34-hour restart provided drivers and carriers operational flexibility and an improved quality of life, particularly for long-haul operations, where the 60- and 70- hour rules may limit flexibility by forcing drivers to go off duty for periods longer than necessary to fully recover from a typical work week. FMCSA concluded that the safety benefits of the limited 14-hour rule and the mandatory 10-hour off-duty period improved safety while providing operational flexibility with the 11 hours of driving time and the 34-hour restart.

The Court's 2004 Decision

In April 2004, the United States Court of Appeals for the District of Columbia Circuit (the Court or D.C. Circuit) overturned the 2003 rule on the grounds that FMCSA did not address the issue of driver health, as required by 49 U.S.C. 31136(a)(4) (Public Citizen v. FMCSA, 374 F.3d 1209, D.C. Cir. 2004). The Court also indicated in dicta that it had concerns about the rationale for other provisions in the rule. Shortly after the Court ruled, Congress enacted section 7(f) of the Surface Transportation Extension Act of 2004. This section provided that the 2003 rule would remain in effect until a new final rule addressed the Court's issues or until September 30, 2005, whichever occurred first.

FMCSA Response to the Court's 2004 Decision

After reviewing the decision and considering the concerns raised by the Court, FMCSA decided to re-propose the rule as originally published in 2003 and to seek public comments. On August 25, 2005, FMCSA published a final HOS rule that addressed driver health in detail but otherwise retained most of the provisions of the 2003 rule ("the 2005 rule").

The Agency strengthened the 2003 rule significantly by requiring drivers using sleeper berths to spend at least 8 but less than 10 consecutive hours in the sleeper berth and take an additional 2 hours either off duty or in the sleeper berth. The new requirement provided drivers the opportunity to obtain 7 to 8 hours of uninterrupted sleep each day. Also, the Agency required that the shorter off-duty or sleeper berth period be counted against the 14-hour on-duty limit thereby decreasing the extent to which the workday could be extended. The 2005 rule also provided additional relief to some short-haul operations using lighter trucks.

In preparing the 2005 rule, FMCSA researched both U.S. and international health and fatigue studies and consulted with Federal safety and health experts. The Agency considered scientific literature about the relationship among the hours a commercial motor vehicle driver works, drives, and the structure of the work schedule (on-duty/off-duty cycles, time-on-task, especially time in continuous driving, sleep time, etc.), and the impact on the driver's health.

Litigation Concerning the 2005 Rule

Public Citizen and others challenged the August 2005 rule on several grounds, as did the Owner-Operator Independent Drivers Association (OOIDA). On July 24, 2007, the Court rejected OOIDA's arguments, which focused on the sleeper berth provision, but accepted part of Public Citizen's arguments and vacated the 11-hour driving time and 34-hour restart provisions (Owner-Operator Indep. Drivers Ass'n, Inc. v. Federal Motor Carrier Safety Admin., 494 F.3d 188 (D.C. Cir. 2007)).

Public Citizen challenged the provisions on four grounds. First, it contended that FMCSA's actions were inconsistent with the Administrative Procedure Act (APA) requirement for notice and comment rulemaking because the Agency did not disclose in time for comment the methodology of a model central to the Agency's justification for the rule. Second, it asserted that when the methodology was disclosed, FMCSA did not provide an explanation for some of its critical elements, thus rendering the rule arbitrary and capricious. Third, Public Citizen alleged that FMCSA's treatment of a number of other safety considerations was also arbitrary and capricious. Finally, Public Citizen argued that the rule failed to protect driver health. The Court vacated the rule provisions based on the first two arguments and did not address the last two.

The Court concluded that FMCSA did not satisfy the APA's requirements because the Agency failed to provide an opportunity for public comment on the methodology of the Agency's operator-fatigue model, which FMCSA used to assess the costs and benefits of alternative changes to the HOS rules.

The Court also found that FMCSA did not provide an adequate explanation for certain critical elements in the model's methodology. As its basis for vacating the increase in the daily driving limit from 10 to 11 hours, the Court found arbitrary and capricious what it described as FMCSA's "complete lack of explanation for an important step in the Agency's analysis," i.e., the manner in which it had plotted crash risk as a function of time-on-task/hours of driving. The Court also found that FMCSA failed to provide an explanation for its method for calculating risk relative to average driving hours in determining its estimate of the increased risk of driving in the 11th hour. As its basis for vacating the 34-hour restart provision, the Court found that FMCSA also provided no explanation for the failure of its operator-fatigue model to account for cumulative fatigue due to the increased weekly driving and working hours permitted by the 34-hour restart provision.

Based on these two findings, the Court determined that it was not necessary to reach Public Citizen's other two arguments. In addition, the Court rejected three more challenges to the 2005 Rule raised by OOIDA.

In an order filed on September 28, 2007, the Court granted a 90-day stay of the mandate. The Court directed that issuance of the mandate be withheld until December 27, 2007.

FMCSA's Response to the Court's 2007 Decision

In December 2007, FMCSA issued an interim final rule to correct the procedural issues that were identified by the Court in overturning two provisions of the 2005 rule, while retaining the 11- and 34-hour provisions. The rulemaking notice sought comment on the methodology of the model central to the justification for certain provisions of the HOS rules. It was based on the Agency's evaluation of new safety and operational data, additional analysis and modeling of the relationship between hours of driving and fatigue-related large truck crashes, discussion of the concept of cumulative fatigue in the context of driving activity, and the collection and evaluation of new data on the benefits and costs of the 11-hour driving limit and the 34-hour restart provisions.

The Agency published a final rule in November 2008, making permanent the provisions of the interim final rule, effective January 19, 2009. In December 2008, several petitions for reconsideration of the final rule were filed with the Agency. Two of the petitions were especially complex in terms of the issues raised. The first was from Advocates for Highway and Auto Safety (Advocates), the International Brotherhood of Teamsters, Public Citizen, and the Truck Safety Coalition. The second was from the Insurance Institute for Highway Safety. The FMCSA denied both petitions in written responses dated January 16, 2009.

2009 Petition for Judicial Review and Settlement Agreement

On March 9, 2009, Public Citizen, Advocates, the Teamsters, and the Truck Safety Coalition (the Petitioners) petitioned the D.C. Circuit to review the final rule. The American Trucking Associations filed a motion to intervene on March 12. As part of its effort to end the cycle of rulemaking and litigation, on October 26, 2009, FMCSA and Public Citizen, *et al.*, (the Petitioners) entered into a settlement agreement under which the petition for judicial review of the November 19, 2008, final rule would be held in abeyance pending the publication an NPRM. The settlement agreement stated that FMCSA would publish a final rule within 21 months of the date of the agreement.

The settlement agreement did not include any guidance, directions, or restrictions on the scope and content of the NPRM that was published on December 29, 2010, or make any commitments on the outcome of the notice-and-comment rulemaking process. Therefore, FMCSA had full discretion to reconsider the November 19, 2008, final rule, which provided a maximum of 11-hours driving time following 10 consecutive hours off duty and a restart of the 60- and 70-hour on-duty limits following 34 consecutive hours off duty, as well as other provisions of the current HOS regulations. In fact, the Agency committed to

taking an entirely fresh look at the HOS regulations with the goal of promoting the safe operation of commercial motor vehicles while taking driver health into account as well as the vital role that trucks play in the delivery of goods and services to the American people.

Public Engagement – Path to the December 2010 NPRM

In December 2009 FMCSA tasked its MCSAC to identify ideas and information the Agency might consider as it developed options for the hours-of-service rulemaking. The MCSAC submitted its report to the FMCSA Administrator on February 2, 2010.

While the MCSAC was completing its work, the Agency held a series of five listening sessions across the Nation to provide interested parties with the opportunity to provide ideas and information the Agency might consider in developing the NPRM. Four of the listening sessions were held in January 2010 while a fifth listening session was held in March 2010.

FMCSA published the HOS NPRM on December 29, 2010. The NPRM proposed seven changes from current requirements. First, the proposed rule would limit drivers to either 10 or 11 hours of driving time following a period of at least 10 consecutive hours off duty. On the basis of all relevant considerations, FMCSA favored a 10-hour limit, but stated that its ultimate decision would include a careful consideration of comments and any additional data received. Second, the rule would limit the standard "driving window" to 14 hours, while allowing that number to be extended to 16 hours twice a week. Third, actual duty time within the driving window would be limited to 13 hours. Fourth, drivers would be permitted to drive only if 7 hours or less had passed since their last off-duty or sleeper-berth period of at least 30 minutes; in other words, certain drivers were required to take a 30-minute break but with flexibility as to when that break would occur. Fifth, the 34-hour restart for calculations of the maximum weekly on-duty time would be retained, subject to certain limits: the restart would have to include two periods between midnight and 6 a.m. and could be started no sooner than 168 hours (7 days) after the beginning of the previously designated restart. Sixth, the definition of "on-duty" would be revised to allow some time spent in or on the CMV to be logged as off duty. Seventh, the oilfield operations exception would be revised to clarify the language on waiting time and to state that waiting time would not be included in the calculation of the driving window.

With regard to the economic impact of the proposed rule, FMCSA estimated the regulatory option that included a 10-hour limit on driving time during the work day would impose costs of approximately $1 billion per year with annual safety and economic benefits of approximately $1.4 billion. The net benefits would be $380 million per year. The regulatory option that included an 11-hour limit on driving time during the work day would impose costs of approximately $520 million per year with annual safety and economic benefits slightly greater than $1 billion. The net benefits for this option would be $560 million per year. FMCSA acknowledged that the 10-hour driving time component of the rulemaking contributed more than $500 million to the estimated cost of the rule while providing only $330 million in safety and economic benefits. However, taken as a whole, the regulatory option that included a 10-hour driving time limit was cost-beneficial,

based on the Agency's analysis of the crash data and research. As indicated in the preamble of the NPRM, FMCSA favored a 10-hour limit, but the ultimate decision will include careful consideration of the public comments and any additional data submitted to the rulemaking docket by interested parties.

On February 17, 2011, FMCSA held a Public Listening Session to solicit comments regarding the HOS NPRM. FMCSA webcast the session for internet participants, and provided telephone call-in opportunities. On the same day, FMCSA conducted an on-line Question and Answer Forum to receive additional on-line comments.

On May 9, 2011, FMCSA published a notice of availability of four additional research reports concerning fatigue and commercial vehicle drivers. These studies had not been completed at the time the NPRM was published in 2010. The Agency requested public comment on the research reports with a deadline of June 8 for the submission of comments. Acknowledging that the time required to provide the public with an opportunity to review the additional research would make meeting the July 2011 deadline for a final rule difficult, if not impossible, FMCSA and the Petitioners agreed on May 11, 2011, to a new deadline of October 28, 2011, for the publication of the HOS final rule. The parties agreed to extend that deadline in late October and on November 28, asked the Court to continue to hold the petition for review in abeyance pending publication of the final rule. The draft final rule is currently under review at the Office of Management and Budget.

CONCLUSION

The Department is committed to working with its stakeholders to put into place an hours-of-service rule that will ensure that interstate truck drivers have adequate opportunities for rest at the end of each work day, and during the work week. FMCSA has considered the available crash data and scientific literature concerning driver fatigue, as well as feedback from the Agency's public MCSAC meetings, and the listening sessions held around the country.

The goal of this rulemaking is to reduce excessively long work hours that increase both the risk of fatigue-related crashes and long-term health problems for drivers. A rule cannot ensure that drivers will be rested, but it can ensure that they have enough time off to obtain adequate rest on a daily and weekly basis. The objective of the rule, therefore, is to reduce both acute and chronic fatigue by limiting the maximum number of hours per day and week that the drivers can work.

While the litigants have argued, via their comments to the rulemaking docket, in favor of reducing the allowable driving time from 11 hours to 10 hours, and the elimination of the 34-hour restart, the information we had available at the time we published our 2010 NPRM did not support the removal of the operational flexibility those provisions provided to the industry. We look forward to issuing the final rule and we will work with our stakeholders and partners to provide a smooth transition from the current regulations to full compliance with the new requirements.

Thank you for the opportunity to appear before you today. I look forward to working with this Committee and our stakeholders to ensure a safe and efficient transportation system for the citizens of the United States.

Mr. JORDAN. And I'll be brief, as well.

You said there were 4,000 fatalities in the last year—last year you had records of—because of truck accidents? Four thousand, was that the number you gave?

Ms. FERRO. For 2010, our estimates—we continue—we collect crash data directly from our State law enforcement partners as part of our Motor Carrier Safety Assistance Program. And through that data, preliminarily, we're showing an uptick in 2010.

Again, crash rates still remain at historic lows, which is a tremendous outcome——

Mr. JORDAN. Okay.

Ms. FERRO. —not even close to being low enough, but that's what we're showing preliminarily for——

Mr. JORDAN. So crash rates are at historic lows. And you said 4,000 for 2010. What——

Ms. FERRO. I said upwards of.

Mr. JORDAN. What was it in 2009? What was it in 1995? Give me some comparison.

Ms. FERRO. So, in 2009, I want to say 3,360, roughly, in truck-involved fatalities.

Mr. JORDAN. Okay. That's a definite number? That's not some estimate, it's a definite number?

Ms. FERRO. That's our absolute number.

Mr. JORDAN. And then, for 2010, you said it is approximately 4,000, or is there a definite number?

Ms. FERRO. No, that's not a definite number. That is an estimate. And I said it is approaching 4,000.

Mr. JORDAN. Okay. So 3,300, the number you gave for 2009, is a definite number. What was the definite number 10 years ago, 12 years ago, 15 years ago?

Ms. FERRO. It was closer in the high 4,000 range. I don't have that specific number, but I will certainly provide it to the committee.

Mr. JORDAN. Okay. But the trend has been down, or is it pretty level or——

Ms. FERRO. The trend—and I think you heard some of the prior witnesses indicate, there's been roughly a 30 percent decline in truck-related fatalities. We're still upwards of 75,000 injury-related crashes.

Mr. JORDAN. And what's that number like? Is that number the same?

Ms. FERRO. That also has declined, yes, which is very positive.

Mr. JORDAN. And then you mentioned the 500 related to fatigue.

Ms. FERRO. Yes.

Mr. JORDAN. And how did you determine that?

Ms. FERRO. That's based on our estimates of fatigue-related crashes—which we feel, by the way, are an underestimate—derived from our Large Truck Crash Causation Study, which shows approximately 13 percent of fatal truck crashes attributed to fatigue.

Mr. JORDAN. Okay. And, under the new rule, what does your modeling suggest will be the overall fatality number and the number attributable to fatigue?

Ms. FERRO. So, under this rule—certainly, I heard a lot of talk from the prior witnesses. We've got costs, we've got benefits. With-

out the rule, we've got costs today that we estimate approach $1.4 billion in costs to society as a whole in crashes and driver mortality, as in health.

What we propose under this rule—and, again, there were two options in the rule we proposed. We identified benefits that include a reduction in deaths directly under the 10-hour option of approximately 49. And under the 11-hour option, I want to say it was about 28. And those are deaths specifically attributed to fatigue-related driving, not all crashes and deaths related to truck crashes.

Mr. JORDAN. So what you're saying is you go from 500 to—what number next year?

Ms. FERRO. Well, again, you're presuming next year the rule is in effect. We are still in a proposed rulemaking stage. So in the year in which——

Mr. JORDAN. Well, whatever year, whatever year it goes into effect.

Ms. FERRO. Let's, you know, fast forward to a year when the rule is fully in play—and this is a proposed rule. Under the option where we proposed 10 hours of driving time, which was the agency's preferred option, we would see a reduction, an estimated reduction, in deaths of approximately 49, and under the 11-hour option of 26.

Mr. JORDAN. And what was the other number that you—what does your projection suggest on the 3,300 fatality number, overall number?

Ms. FERRO. I don't have that.

Mr. JORDAN. Okay.

Ms. FERRO. I don't have that, but we will certainly follow up if we can project that.

Mr. JORDAN. Okay.

Well, I want to thank you for coming today. We had, I think, a good discussion with our first panel. And because we have no other Members here—and I apologize, it's the nature of, as you know, Congress' schedule that we didn't have more of our Members able to ask you questions. But thank you for coming.

Ms. FERRO. Well, if I might, just in closing real quickly, reinforce again, the purpose of this rule is to reduce fatigue-related crashes involving trucks by reducing and setting improved rest breaks and improved likelihood of rest for professional commercial drivers.

It is our obligation as a Federal agency to strive toward the safest operating environment possible for commercial vehicles and protect the public. And we feel strongly that the proposed rule heads us in that direction.

Mr. JORDAN. Thank you.

Ms. FERRO. Thanks, Mr. Chairman.

Mr. JORDAN. You bet. Thank you.

And we're adjourned.

[Whereupon, at 11:50 a.m., the subcommittee was adjourned.]

Questions for The Honorable Anne S. Ferro
Administrator
Federal Motor Carrier Safety Administration
U.S. Department of Transportation

Chairman Jim Jordan
Subcommittee on Regulatory Affairs, Stimulus Oversight and Government Spending
Committee on Oversight and Government Reform

Hearing on "The Price of Uncertainty: How Much Could DOT's Proposed Billion Dollar Service Rule Cost Consumers this Holiday Season?"

QUESTION 1:
In August 2005, in a letter to the Baltimore Business Journal supporting the current hours of services rules, you stated that the "data gathered by FMCSA ... has consistently shown that truck drivers operating under [the current] rules are better rested than they were [prior to 2003] when the current rules were issued." You continued that "FMCSA's ruling ... confirmed the agency's research that the hours of service regulations issued in 2003 have significantly improved safety and reduced driver fatigue. Therefore, the agency chose not to make changes to the amount of time a driver may operate." Last you stated that "'fatigue on the part of the truck driver is determined to be a factor in the accident only 1.3% of the time" and therefore the current rules are working. Today, that number is only 1.4%, which is less than passenger vehicles at 1.7%. Please explain why you have changed your position given that truck driver fatigue numbers are static, and they are even less than passenger vehicles?

Response:
The 1.3% or 1.4% numbers come from DOT national crash databases such as the National Highway Traffic Safety Administration's (NHTSA) Fatality Analysis Reporting System (FARS) and FMCSA's Motor Carrier Management Information System (MCMIS) and Trucks Involved in Fatal Accidents (TIFA) databases. These databases only track fatigue-related *fatal* crashes not fatigue-related crashes in which there was an injury, or disabling damage to a motor vehicle.

FMCSA's December 27, 2011, final rule explains that truck driver fatigue was coded as a factor in 13 percent of all crashes in the Agency's Large Truck Crash Causation Study (LTCCS). As a sensitivity analysis, FMCSA also used a lower value of 7 percent involvement in fatigue-related crashes, based on the 8.15 percent value used in the RIA for the 2003 HOS rule. A higher value of 18 percent involvement in fatigue-related crashes also was used as a sensitivity analysis, chosen to be roughly as far above the LTCCS value of 13 percent as the 8.15 percent pre-2003 estimate is below 13 percent.

It is worth noting that fatigue-related crashes are captured by an officer at the scene who has coded the crash as the result of driver fatigue. These percentages grossly underestimate the role of driver fatigue in crashes because drivers often are not going to readily admit that they fell asleep or lost alertness prior to a crash.
In the final rule, we reported and used data from five new research studies that the Agency commissioned on aspects of Commercial Motor Vehicle (CMV) driver fatigue. Additionally, the

Agency became aware of a number of new studies in the realm of driver health that assisted in making changes to improve the hours-of-service (HOS) rulemaking for CMV drivers. It was this new research on driver fatigue and health that helped to identify the need for changes to HOS policy, regulations, and FMCSA positions on driver fatigue.

QUESTION 2:
As you may know, Dr. Francesco Cappuccio, a physician, professor, and researcher at Warwick Medical School in the United Kingdom, authored a report disputing FMCSA's use of his research to link sleep duration with mortality risk. Specifically, Dr. Cappuccio said FMCSA's interpretation of his research was "incorrect" and "[does] not support the conclusions of FMSCA that a small increase in sleep duration…is likely to decrease the mortality risk of individuals or groups."

2a. Have you read this report by Dr. Cappuccio in its entirety?

Response: Yes, the Agency has reviewed Dr. Cappuccio's report. Dr. Cappuccio's assessment was countered by that of Dr. Jane Ferrie, the lead author of the study in question, which is often referred to as the "Whitehall study," of which Dr. Cappuccio was a secondary author. Dr. Ferrie submitted comments to the public rulemaking docket supporting the way the Agency interpreted and used the findings of the study and as well as other studies on sleep duration and mortality. Dr. Ferrie specifically commented that small changes in sleep duration can, at the population level, have substantial impacts on mortality risk. After reviewing Dr. Cappuccio's assessment and Dr. Ferrie's comments, the Agency concluded that it was appropriate to continue to interpret the Whitehall study in the manner presented in the December 2010 HOS NPRM and the subsequent December 2011 final rule.

2b. Is it true that FMCSA relied on Dr. Cappuccio's research to calculate the health benefits of the rule?

Response: We relied on a variety of studies conducted by several different research teams that examined populations across several different countries. All of these studies were consistent in finding a relationship between average sleep duration and mortality risk, with the lowest risk of mortality generally occurring between 7 and 8 hours of nightly sleep. Given that Dr. Cappuccio's work, and other published research on this topic, describe a similar relationship, the Agency believes it is reasonable to interpret the research as providing evidence of a continuous relationship. We used data to estimate our sleep mortality function from the Whitehall study.

2c. If so, how do you respond to Dr. Cappuccio's criticisms and those raised in his concluding section of the report?

Response: Dr. Cappuccio's main criticisms were that it was unclear from the research whether relatively small changes in nightly sleep would lead to reductions in mortality risk, and that the research is not sufficiently robust yet to determine whether there is a continuous sleep-mortality relationship across hours of nightly sleep, or whether there is a threshold somewhere below 7 or

6 hours at which mortality risk increases but that additional sleep above this threshold would result in reduced mortality risk.

According to this hypothesis, individuals getting at least as much sleep at some threshold level (e.g., 5 hours a night) would gain nothing from small changes in sleep. However, Dr. Cappuccio is on record as stating that research shows that sleeping less than 7 hours a night is likely to lead to greater mortality. In his comments to the public rulemaking docket (FMCSA-2004-21675), Dr. Cappuccio mentioned one of his own studies [Cappuccio (2010), docket item FMCSA-2004-19608-4041], which includes the following statement: "Our study shows an unambiguous and consistent pattern of increased risk of dying on either end of the distribution of sleep duration. Pooled analyses indicate that short sleepers (commonly < 7 h per night, often < 5 h per night) have a 12% greater risk." Thus, granting for the sake of argument that there may be a threshold, even Dr. Cappuccio likely would place it above the levels at which we are estimating benefits. Therefore, Dr. Cappuccio's assessment does not necessarily contradict the Agency's assumptions.

2d. Is it *possible* FMCSA's assumptions inflate the health benefits of the rule by misapplying Dr. Cappuccio's research?

Response: The FMCSA believes that it has applied Dr. Ferrie's and Dr. Cappuccio's work in an appropriate manner. The Agency conducted a sensitivity analysis in the regulatory impact assessment (RIA) accompanying the HOS NPRM and the updated RIA accompanying the HOS final rule. Both RIAs examined the costs and benefits of the rule over a range of health-benefit estimates. The results of this analysis are presented in the RIAs, and show how the benefits of the rule are affected if the estimated benefits derived from Dr. Cappuccio's work, and other research on this topic, are different than those used as the Agency's baseline, or most likely, scenario.

QUESTION 3:
As you may know, Edgeworth Economics authored a report critiquing elements of FMCSA's regulatory impact analysis for its hours-of-service proposed rule. According to this analysis, DOT used a 2003 figure of 434,000 large truck crashes per year to estimate the safety benefits when in fact, as of 2009, the figure was 286,000.

3a. Have you read this report by Edgeworth Economics in its entirety?

Response: Yes, the Agency has reviewed Edgeworth Economics Report.

3.b Is it true that FMCSA used 2003 data to estimate these benefits?

Response: The figure used was an average that incorporated three years' worth of data, including 2001-2003.

3c: If so, why did FMCSA use this outdated information?

Response: The FMCSA believes its methodology was appropriate. The 286,000 figure for 2009 referenced by Edgeworth Economics was affected by a severe recession, which reduced both demand for trucking and the number of other vehicles on the road. Indeed, notwithstanding the 2009 numbers, the average number of crashes between the years 2001-2009 exceeds the 2009 single-year number by more than 100,000 crashes; a 9-year average of 388,592 versus the 286,000 figure for 2009 cited by Edgeworth Economics. Therefore, the Agency does not consider its previous estimates to represent outdated information.

Commenters pointed out that crashes have been falling in recent years, after the 2003 HOS rules took effect, and that using more recent crash experience would lower the projected benefits of the rule. In response, FMCSA has reviewed the issue of the number of annual crashes. As shown in the Table below, after total crashes moved up and down in the first half of the last decade, they began declining in the second half. The last two years in the series, however, were dominated by a severe recession, which reduced both demand for trucking and the number of other vehicles on the road.

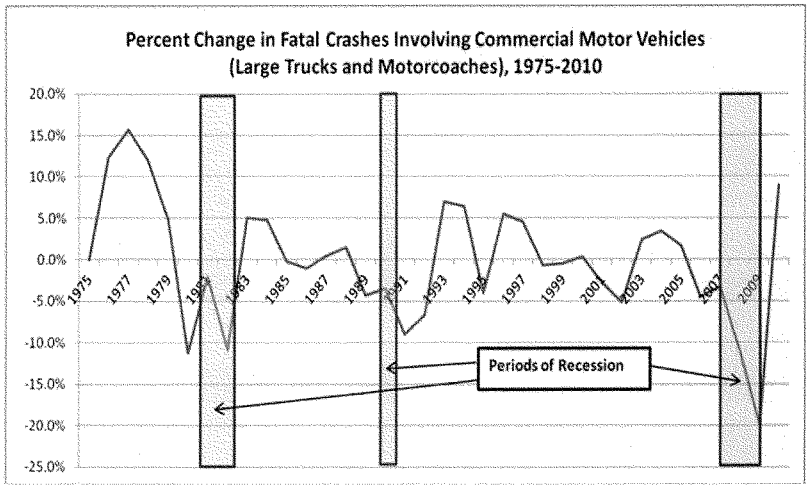
Large Truck Crashes by Type of Crash, 2001 to 2009

Year	Fatal	Injury	Property Damage Only	All
2001	4,451	86,000	319,000	409,451
2002	4,224	90,000	322,000	416,224
2003	4,335	85,000	347,000	436,335
2004	4,478	83,000	312,000	399,478
2005	4,551	78,000	341,000	423,551
2006	4,350	77,000	287,000	368,350
2007	4,204	72,000	317,000	393,204
2008	3,754	64,000	297,000	364,754
2009	2,987	51,000	232,000	285,987
Average 2001 – 2003				420,670
Average 2004 – 2007				396,146
Ratio				94%

Numbers taken from FMCSA's Large Truck and Bus Crash Facts 2009 – available online at http://www.fmcsa.dot.gov/facts-research/LTBCF2009/LargeTruckandBusCrashFacts2009.aspx.

There were about 6 percent fewer total crashes in the latter period than in the former. If the only change made to the benefits analysis were to reduce the total estimated number of crashes, then the safety benefits would decline by 6 percent. A decline of 6 percent would not change the key conclusions of the rulemaking analyses of the December 27, 2011, final rule; the final rule will provide a cost-beneficial improvement in highway safety.

To illustrate why recession years present challenges when preparing regulatory analyses, we copied a graph of multi-vehicle crashes, with recessionary periods highlighted, from a recent study by the National Highway Traffic Safety Administration (NHTSA). As shown below, multi-vehicle fatal crashes have declined sharply in every recession, going back to the 1970s, only to rebound when the economy returned to normal. Given this finding, we are reluctant to use the data from 2008 and 2009, because doing so would likely artificially depress benefits compared to a typical year.



FMCSA has not adjusted for this trend for three reasons. First, the count of fatal accidents involving trucks that the Agency used to estimate benefits is based on data from NHTSA's Fatality Analysis Reporting System (FARS); when these data are reexamined for the Trucks Involved in Fatal Accidents (TIFA) analysis, the researchers identify several hundred fatal accidents a year that are not included in the FARS data as truck accidents. The analysis, therefore, undercounts fatal accidents across time. Second, NHTSA has stated that about half of the injury and property-damage-only accidents are never reported by the States. Although these are generally believed to be minor crashes, minor damage or injuries result in costs that, if accounted for even at a low level, would increase the baseline cost of other accidents by as much as or more than the downward trend would represent. Finally, the number of crashes is not the only factor that changed; both the mix of crashes over time is different (*e.g.*, fatal crashes actually rose between the two periods), and the costs associated with different categories of damages (such as medical costs) have changed at rates that are not adequately accounted for by an inflation adjustment. These shifts mean that, in the absence of a comprehensive new analysis of crash damages, a simple adjustment in the number of crashes would not necessarily be accurate.

3d. Is it *possible* this outdated information inflates the safety benefits of the rule?

Response: The FMCSA believes its methodology for estimating the safety and mortality benefits of the December 27, 2011, final rule was appropriate. As stated above, it is possible that improvements in safety since the current HOS rules went into effect might warrant a slightly smaller (roughly 6 percent lower) estimated benefit for avoided crash damages. However, we believe, as the graph above illustrates, that much of the safety improvements over the past few years can be attributed to economic conditions rather than improvements in the baseline safety performance of the industry. We therefore believe that adjusting our results to levels taken from any one year, especially a recessionary year, would be inappropriate.

QUESTION 4:
In its notice of proposed rulemaking, FMCSA states that it has "no basis for estimating the extent to which drivers who have an extra hour a day or extra hours per week off duty will use that time to exercise and sleep." Yet, in its regulatory impact analysis, FMCSA states that in estimating health benefits, it "focused on reductions in mortality risk due to the decreases in daily driving time and thus possible increases in sleep."

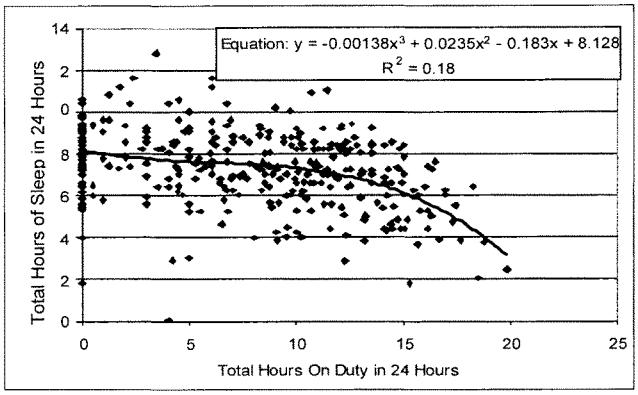
4a. How does FMCSA reconcile these contradictory statements in its notice of proposed rulemaking and its regulatory impact analysis?

Response: The FMCSA continues to believe that decreases in the maximum weekly work hours will increase the opportunities for increases in sleep. Limiting the hours that employers may require drivers to work provides opportunities for drivers to exercise or rest; both of which are beneficial to mortality for individuals with a 60- or 70-hour work week. The Agency's December 27, 2011, final rule provides significant changes, including a limit on the use of the 34-hour restart to once per seven days (or 168 hours), and a requirement that the restart include at least two nighttime periods between 1:00 am and 5:00 am – a time period where drivers get better sleep than they do during the day. Also, the final rule requires drivers to take a break of at least 30 minutes in order to begin driving or continue driving if more than 8 hours have passed since the end of the driver's last off-duty period of at least 30 minutes.

In 2002, FMCSA developed an empirical relationship between reported hours of work and measured hours of sleep for a sample of truck drivers during a period of several weeks. That relationship (shown below) showed drivers getting just more than 8 hours of sleep on their days off. Working a few hours on a given day had little effect on average sleep, but as the hours of work climbed, the drop in sleep per hour accelerated; at 12 hours of daily work the drivers in the sample were getting less than 7 hours of sleep, and each additional hour of work cut sleep by more than a fifth of an hour. Data on drivers from the American Time Use Survey showed little more than 6.5 hours of self-reported sleep (which is known to be overstated) at 12 hours of work, with an even steeper rate of decline per hour of extra work.[1]

[1] Data extracted from 2008 American Time Use Survey database, available from the Bureau of Labor Statistics for Census Code 9130, Drivers/Sales Workers and Truck Drivers.

Effects of Duty Hours on Sleep



This inverse relationship (greater hours of work leading to steadily worsening sleep loss) was the basis for our claim that, on average, drivers working intensive schedules would obtain more sleep if they were given more time off-duty. On the other hand, these same relationships implies that cutting hours for more typical drivers would have a much more limited benefit.

Because the amount of off-duty time any particular driver would dedicate to sleep is uncertain, we cannot say that we have a basis to predict the extent to which a particular driver would dedicate more time off to additional sleep or exercise. The amount of extra sleep or other off-duty activities that a driver would engage in depends partially on that driver's preferences and the amount of work that driver currently does. However, for drivers who are working the longest days and weeks, it seems clear that drivers who work more intensive schedules are likely to dedicate some of the extra off-duty time granted to them by the final rule to sleep.

4b. Specifically, how does FMCSA reconcile having no basis to estimate that drivers will use extra time to sleep with its estimate of $690 in benefits based on reduced mortality rates due to possible increases in sleep?

Response: As noted above, the Agency has an empirical basis for its claim that reducing work for drivers working intense schedules will result in improvements in sleep duration for those drivers. That same evidence also makes it clear that drivers working longer hours do not get adequate amounts of sleep. For drivers working the most intense schedules, sleep improvements will, on average, improve driver health and reduce expected mortality. We therefore believe that the estimated benefits attributed to extra sleep are well-founded and based on the best available evidence.

4c. Is there evidence to prove that drivers will actually use this time to sleep?

Response: The Agency continues to believe that decreases in the maximum weekly work hours will increase the opportunities for increases in sleep. Limiting the hours that employers may require drivers to work provides opportunities for drivers to exercise or rest; both of which are beneficial to mortality for individuals with a 60- or 70-hour work week

4d. How do you address Dr Cappuccio's study which found "there is no evidence to prove that, without additional measures, a simple reduction in work hours will result in increased sleep"?

Response: Again, although reduced work cannot be proven to lead to increased sleep for any given driver on a given night, the weight of the evidence is that in a large population of drivers working extreme hours, a reduction in average work time will lead to an increase in average sleep time.

4e. Do you think it is justifiable to calculate $690 million in health benefits based on the possibility of increased sleep?

Response: Yes, because there is strong evidence that average sleep increases for individuals with very limited opportunities for sleep when they are given extra time off, and strong evidence that changes in sleep result in changes in mortality. The Agency notes that the December 27, 2011, final rule with the 11-hour driving time limit includes an estimate of annual benefits totaling $630 million per year, at a 7 percent discount rate.

As discussed above, there is empirical evidence for our claims that hard working drivers would obtain more sleep, on average, if given more time off. In addition, our interpretation of the research linking sleep improvements to better health and reduced mortality is also well documented in the research. We therefore believe that our claims of benefits are justifiable based on the best available evidence.

4f. Is it possible that the health benefits, as measured in dollars, are overstated?

Response: The FMCSA acknowledges that any changes in the methodology and assumptions could produce more conservative or less conservative estimates for the costs and safety benefits of the rulemaking. The Agency believes its approach in developing the regulatory analyses for the December 27, 2011, final rule was appropriate based on the data and information available, including any data or information provided by commenters responding to the December 2010 NPRM. For example, Dr. Cappuccio pointed out that FMCSA could have chosen to base its analysis on an even stronger and more significant relationship between sleep and mortality. Similarly, Dr. Ferrie considered FMCSA's analysis of mortality benefits to be conservative (meaning that it might have understated those benefits). On the other hand, trucking industry consultants argue that FMCSA's analysis has overstated the benefits of the rule. The Agency believes the estimated benefits in the December 2011 final rule are appropriate.

QUESTION 5:

According to Edgeworth Economics, FMCSA's regulatory impact analysis assumes that if driver fatigue was an associated factor of a large truck crash, it was the cause of the crash (even when

multiple factors were present). Therefore, FMCSA assumes that if driver fatigue was eliminated, then the crash would have been avoided. According to Edgeworth Economics, this assumption inflates the net benefits of the proposed rule by about $330 million.

5a. In its benefits calculation, did FMCSA assume that if driver fatigue was an associated factor of a crash, it was cause of the crash? If so, why? Isn't it true that in FMCSA's Crash Causation Study, it acknowledged that associated factors of a crash should not be considered an independent cause of a crash?

Response: FMCSA did not consider fatigue to be the cause of the crashes; rather, in the absence of that additional aggravating factor, the crashes were treated as though they could have been avoided. Crashes for any given vehicle in any given trip are extremely rare; they generally occur only when there is a confluence of unfortunate events that both create a hazardous situation and limit the ability of the drivers involved to react rapidly enough to avert a disaster. The absence of a serious factor like fatigue in these cases would greatly reduce the chance of a crash.

5b. Is it possible this assumption inflates the benefits of the rule?

Response: The FMCSA acknowledges that changes in the methodology and assumptions could produce more conservative or less conservative estimates for the costs and safety benefits of the rulemaking. The Agency believes its approach in developing the regulatory analyses for the December 27, 2011, final rule was appropriate based on the data and information available, including any data or information provided by commenters responding to the December 2010 NPRM. In any analysis that relies on statistical evidence and scientific research, there will be uncertainty in the results, such that the true effects of an action like a change in regulations could be greater or less than predicted. In this case, it is also possible that the effects of fatigue could be much greater than predicted because fatigue is so difficult to measure.

QUESTION 6:

As you know, FMCSA's current hours of service (HOS) regulations, in effect since 2004, were challenged by Public Citizen and other safety groups in 2003, 2005, and 2009. In 2004 and 2007, the D.C. Circuit vacated the rules due to procedural flaws under the Administrative Procedure Act. FMCSA published a final rule in 2008 to address these procedural flaws. Then, in March 2009, Public Citizen, the Advocates for Highway and Automobile Safety, the International Brotherhood of Teamsters, and the Truck Safety Coalition sued FMCSA, challenging its research and crash data to justify its 11-hour driving rule and 34-hour restart provision. In October 2009, FMCSA reached a settlement agreement with Public Citizen, et al, that required DOT to review and reconsider its HOS rules and publish a final rule by July 26, 2011.

6a Why did FMCSA, under the Obama Administration, choose to settle the lawsuit instead of defending the rule?

Response: FMCSA and the Department concluded that a fresh start on this controversial issue was preferable to continued litigation. Rulemaking is simply a better way to make transportation policy than litigation.

6b. Were industry representatives at the table during negotiations on the settlement agreement?

Response: No, representatives of the motor carrier industry did not participate in the negotiations because the industry was not a party to the lawsuit.

6c. Did the petitioners who challenged the rule receive any compensation in the settlement agreement?

Response: The settlement agreement in which the parties agreed to hold the lawsuit over the 2008 rule in abeyance while FMCSA reviewed and reconsidered the rule did not provide for any compensation for Petitioners. Petitioners had separately provided FMCSA with a claim for costs and attorneys' fees that they had incurred in the litigation, however. Under a separate fee settlement agreement, the parties negotiated a provision in which FMCSA agreed to pay Petitioners $28,000 in satisfaction of their claim for those fees and costs only when Petitioners dismissed the lawsuit.

6d. If so, how much?

Response: See answer to 6c above.

6e. If not, is it possible they may receive compensation in the future?

Response: It is possible that Petitioners may seek compensation solely for their attorneys' fees and costs incurred in the prior lawsuit.

QUESTION 7:

According to Edgeworth Economics, in calculating the costs of the rule, FMCSA lowered its loss of productivity estimates from 7. 1 percent (as it had used in previous years) to 2.8 percent by abandoning the "carrier logistics" analytical model used in its 2007 and estimating costs based solely on its "judgment and knowledge of the industry."

7a. Is it true that in prior years, FMCSA assumed a 7.1 percent loss of productivity to estimate costs?

Response: The estimate of 7.1 percent from previous analyses was based on a calculated estimate of the effects of one of the options analyzed at the time. Most notably, that larger impact involved elimination of the restart provision entirely. The final rule allows the industry to continue using a modified restart provision. Because the NPRM was different and less restrictive than the previous proposal, it would have had less impact on industry productivity.

7b. Is it true that in its most recent regulatory impact analysis, FMCSA lowered the percentage assumed to 2.8 percent?

Response: In the more recent analyses, the estimated (not assumed) impact of one of the regulatory options was close to 2.8 percent. By far the most important reason for the lower impact estimate was the reduced severity of the regulatory option compared to the previous analysis – it allowed a short restart every week for the vast majority of drivers, whereas the earlier analysis eliminated short weekly restarts. For a comparable regulatory option (eliminating the 11th hour of driving), the analyses in both years gave very comparable results – close to 2.0 percent in both cases.

7d. If so, why did FMCSA make this change and abandon its "carrier logistics" model?

Response: The logistics model was complex, difficult to explain in detail, and was subject to statistical uncertainty. FMCSA chose to use a more straightforward and transparent analytical approach, and worked to ensure that the results would be comparable.

7e. How does this change impact the cost?

Response: The use of a different model made very little difference in the cost estimates. For a directly comparable regulatory option (the reduction in daily driving hours from 11 to 10) the results were close to 2 percent in terms of productivity for both methods, and close to $700 million in terms of annual costs.

7f. What would the cost of the rule be if FMCSA estimated a 7.1% loss of productivity?

Response: The costs would have been between $2 and $3 billion per year. The most important reason for these high costs would have been the elimination of the 34-hour weekly restart, which was not considered for the current rule, so this figure is irrelevant to the current rulemaking action.

QUESTION 8:

FMCSA states in its regulatory impact analysis that "the rule changes now under consideration are expected to have little effect on [short-haul] operations;" yet, as Robb MacKie of the American Bakers Association testified, the short-haul trucking industry believes this rule will come at a high cost to them.

8a. Did FMCSA consider the costs or impact to short-haul trucks in its *most recent* cost-benefit analysis?

Response: Evidence available to FMCSA from data collected in the field and previous regulatory analyses showed that operators of short-haul trucks do not drive enough hours per day to be affected by restrictions on driving hours, and are more commonly operated on moderate weekly schedules than long-haul trucks that are away from home for days or weeks at a time. According to the field survey data collected by the Agency in 2005 and 2007, local and shorthaul operations would have been unaffected by the proposed changes to the HOS rules.

8b. If not, why and how much could the costs increase if FMCSA accounted for short-hauls?

Response: Evidence available to FMCSA from previous regulatory analyses showed that operators of short-haul trucks do not drive enough hours per day to be affected by restrictions on driving hours, and are more commonly operated on moderate weekly schedules. The Agency re-examined the available data and determined that the proposed changes would not have affected short haul drivers. Reanalysis of that segment of the industry, therefore, was not considered necessary, and any cost increase was anticipated to be quite small.

8c. Did FMCSA include the costs to the short-haul trucking industry in the past?

Response: Yes, in the past FMCSA has analyzed the effects of changes in hours-of-service regulations on short-haul and local trucking.

8d. If so, why the change in analysis?

Response: Short-haul trucking was included in previous analyses when the regulatory options included not only changes in daily driving and weekly restarts, but also a 14-hour limitation on the driving window. That analysis showed that only the 14-hour limitation on driving would have an impact on short-haul operations, and FMCSA is not aware of any comments from industry to the effect that the changes in the other provisions would have an effect on their operations.

QUESTION 9:

FMCSA has received nearly 30,000 comments about the proposed rule and the rule has been the subject of wide-spread and bipartisan concern-ranging from multiple Democratic Senators to the Small Business Administration (SBA) Office of Advocacy. SBA Office of Advocacy's letters point out that the proposed rules could actually decrease safety because they could cause drivers to rush, adding stress and increasing the likelihood of an accident. Has FMCSA made any attempts to address these concerns? Has FMCSA made efforts to address the concerns of small business that the proposed rule could actually have a negative impact on health and safety? Did FMCSA account for the possible *adverse* safety and health impacts in its regulatory impact analysis? If so, please provide that specific analysis.

RESPONSE: Yes. FMCSA has considered comments about potential unintended consequences of the HOS rulemaking, to the extent possible. The Agency considered the impact on small businesses and the need for motor carriers of property to hire new, possibly less experienced drivers. A full discussion of FMCSA's response to commenters' concerns, and the factors considered in the regulatory analyses is presented in the preamble of the December 27, 2011, final rule and the accompanying regulatory impact analyses. Following receipt of comments from many sources in early 2011, including the SBA, the FMCSA analyzed the costs and benefits of all alternatives discussed in the notice of proposed rulemaking (NPRM), along with all information provided by commenters to the NPRM. Now that the Agency has issued the final rule and an updated RIA, the analyses completed in support of the final rule have been

placed in the public rulemaking docket (Docket number "FMCSA-2004-1968" at www.regulations.gov).

QUESTION 10:
It appears FMCSA justified proposed changes to the 34-hour restart provision using a single study, by Washington State University, of a dozen individuals in a laboratory setting. Have you read the Washington State University study concerning the 34-hour restart provision, and if so, are you aware that the researchers repeatedly recommended, "validation of the study findings in a sample of CMV drivers in a real-world field study is important and further research is needed to study the effectiveness of the restart break in terms of real-world driving performance, safety, and cost?"

10a. Why do you think the authors of the study recommended validation in a real world setting?

Response: FMCSA has reviewed the Washington State University (WSU) study. WSU performed the work under a contract with FMCSA and the Agency organized a peer review of the report. FMCSA agrees with the idea of validation studies but concluded that the results of the WSU study are useful for consideration in the current HOS rulemaking, prior to the completion of any validation studies.

The Agency notes that it is not uncommon for authors to recommend validation studies. And, at least one of the authors from WSU is currently serving as a consultant on a study being conducted for Transport Canada that examines the effects of a one-night versus a two-night recovery. However, the results of that study are not likely to be available for another year.

10b. Do you agree that validation in a real-world setting is important?

Response: Yes, validation in a real-world setting is generally helpful to determine whether certain factors not present in the laboratory study could adversely impact the benefits observed in the laboratory setting. To study the effectiveness of the 2-night restart provision, FMCSA employed a process of testing in a controlled sleep laboratory environment. This was done under the premise that if a provision is not effective in the laboratory, it certainly will not be effective in a field-related environment. That is, if people cannot obtain adequate sleep in the best-case environment (a dark, quiet room, with no possibility of interruption), they will not be able to obtain adequate sleep in a normal environment, let alone in a sleeper berth at a truck stop or beside a road. Because the laboratory study showed the 2-night restart provision was effective in a controlled laboratory setting, the Agency concluded that it would be effective in a real-world setting.

10c. Did FMCSA validate the study with a sample of drivers in a real world setting?

Response: No.

10d. If no, why not?

Response: The first phase of the Washington State University (WSU) study found that the 34-hour restart was effective at mitigating sleep loss and consequent performance impairment for daytime drivers, but not for nighttime drivers. The second phase tested a 2-night recovery period for nighttime drivers. The study found that the 2-night provision works better than a 1-night provision to mitigate fatigue in nighttime drivers. The findings of the WSU study are conservative (*i.e.*, are likely to understate the effect of night work on performance) because the subjects did not work more than half of the full 14-hour work period and had 58 hours off between weeks. The impact on drivers who are working twice as much and attempting to start work again in a shorter period is likely to be more severe than the study indicated. The subjects in the WSU study were young, healthy adults with no apparent sleep disorders. The Agency believes that, if the WSU study had been conducted in an uncontrolled field environment with actual truck drivers who sleep in a sleeper berth, the findings of performance degradation could be even more pronounced than were found in the laboratory.

10e. In regard to the sleeper berth issue, did not this same study recommend that "adapting hours of service regulations to allow for greater flexibility in the split sleep schedules should be considered?"

Response: .The authors did make that recommendation; however, at the time the recommendation was drafted, WSU was conducting a Split-Sleep Study for FMCSA.

10f. Did FMCSA consider this recommendation in proposing a new rule? If not, why is FMCSA picking and choosing recommendations?

Response: FMCSA did consider the recommendation when it drafted the 2010 HOS NPRM and the 2011 HOS final rule. The Agency knew that the findings for the Split Sleep Study would not be available until after the final HOS rule was scheduled to be released; therefore, it could not be considered in the current HOS rulemaking process. Once the study is complete, the Agency may consider it for a future HOS rulemaking.

QUESTION 11:

You stated in your written testimony that lagging economic conditions play a part in the reduced number of crashes. However, truck miles driven and large registered trucks, on the whole, since 2004 have been on the rise.

11a. Doesn't this empirical data undermine FMCSA's position that the economy is the reason for the decrease in truck fatalities and injuries?

Response: Since FARS started recording fatal crashes in 1975, there have been only three times when vehicle miles traveled (VMT) by large trucks declined.

1. From 1979 to 1980 large truck VMT decreased from 109,004 million miles traveled to 108,491 million VMT, a drop of 0.5 percent.
2. From 2005 to 2006 the drop was minuscule - from 222,523 to 222,513 million miles.
3. The last time a drop in VMT occurred from 2008 to 2009 when large truck VMT decreased by 7.3 percent from 310,680 million VMT to 288,005 million. The drop in VMT from 2008 to 2009 was unprecedented, and clearly the result of the worst recession in 35 years.

It seems clear from the unprecedented drop in VMT from 2008 to 2009 that economic conditions were major factors in the decline in VMT and safety improvements. We do not believe the empirical data undermines FMCSA's position.

11b. If you disagree, please explain.

Response: The empirical data show that VMT declined between 2008 and 2009. In addition, the ATA's monthly truckload sector mileage index peaked around 2002 and declined slightly throughout the mid 2000s, then began declining sharply in early 2008. Furthermore, NHTSA's analysis of the impact of recessions on crash rates, as presented above, shows that fatal crash rates decline during recessions. All of this evidence corroborates the Agency's contention that much of the improvement in safety that has occurred in recent years is at least partly attributable to economic conditions.

QUESTION 12:

You stated in your written testimony that "fatigue-coded" fatal crashes has not been as consistent in its decline.

12a. What does "fatigue-coded" mean?

Response: In the Large Truck Crash Causation Study (LTCCS), that term means the driver was coded as being fatigued at the time of the crash.

12b. Does it mean fatigue was the *sole* cause of the crash or just a *factor* of the crash? Is it possible that multiple factors play into a crash?

Response: In the LTCCS, fatigue coding of the driver means it was a factor. FMCSA did not consider fatigue to be the cause of the crashes; rather, in the absence of that additional aggravating factor, the crashes were treated as though they could have been avoided. Crashes for any given vehicle in any given trip are extremely rare; they generally occur only when there is a confluence of unfortunate events that both create a hazardous situation and limit the ability of the drivers involved to react rapidly enough to avert a disaster. The absence of a serious factor like fatigue in these cases would greatly reduce the chance of a crash.

12c. If so, how many factors can exist in a large truck crash, and how do you account for multiple factors in the determination of the rules benefits?

Response: The LTCCS coded three critical variables:

- Critical Event (CE) – the action or inaction of one vehicle that made the crash inevitable.
- Critical Reason (CR) – the one reason the vehicle coded with the Critical Event did what it did. Fifty-five percent of the trucks involved in a crash were coded with a Critical Reason, and 45% were not. Eighty-eight percent of the Critical Reasons were driver related, 10% were vehicle problems, and 2% were environmental conditions. The driver reasons fell into four categories:
  - Non-Performance – unable to drive as a result of being asleep, diabetic shock, heart attack, etc.
  - Recognition failure – inadequate surveillance, inattention, distraction by something outside the vehicle, distraction by something inside the vehicle, etc.
  - Decision error – speeding, following too close, misjudging a gap or speed, etc
  - Performance error – panic, over correction, etc.
- Associated Factors – All factors associated with all drivers and vehicles involved in the crashes.

FMCSA then ran relative risk analyses to determine the most important factors in truck crashes that were correlated with CE and CR assignment. Let's take two examples:

> Example 1. Associated Factor – Taking prescription drugs was the most-coded factor for truck drivers. About 26% of the drivers were taking some kind of prescription medicine. However, about 50% of truck drivers who took prescription drugs were coded with the CR for the crash, and 50% of truck drivers who took prescription drugs were NOT coded with the CR. Therefore, taking prescription drugs was NOT judged to be a factor that increases the risk of being assigned the CR for a crash as no difference was identified between the two groups.
>
> Example 2. Fatigue – 13% of the truck drivers in LTCCS crashes were coded as being fatigued. A much higher percentage of the drivers who WERE assigned the CR were coded as being fatigued than the drivers who WERE NOT assigned the CR. The relative risk value was2.1, meaning that a driver coded as fatigued was slightly more than twice as likely to be assigned the CR than a driver who was not coded as fatigued.

QUESTION13.
As you know, FMCSA stated in its proposed HOS rule that it prefers to limit drive time to 10 hours, but will consider retaining the 11-hour provision. What factors will you take into consideration when determining whether to finalize a 10- or 11-hour rule? Will you weigh these factors equally, including the concerns of small business?

Response: The FMCSA indicated in the December 29, 2010, NPRM that the Agency favors a 10-hour limit, but its ultimate decision was based upon careful consideration of comments and additional data received in response to the proposed rule. FMCSA encouraged commenters to the NPRM to submit data or studies that would allow the Agency to calculate more effectively the difference, if any, in crash risk between a 10- and 11-hour driving limit. FMCSA also sought information on the increased probability of a fatigue-related crash during the 11th hour, compared to the 10th hour. With respect to cost estimates, FMCSA also sought information regarding the impact of eliminating the 11 hours of driving on logistics, location centers, distribution centers, just-in-time inventories, competitiveness with global markets, and delivery of perishable goods. And, FMCSA sought information about any other process/logistics aspects of driving hours not captured in safety, productivity of drivers, and driver health.

After considering all the available data and information provided by commenters responding to the NPRM, in its December 27, 2011, final rule, the Agency concluded that retaining the 11-hour driving limit was appropriate, but announced its commitment to conducting additional research on the issue.

QUESTION 14.
Many who have expressed concern about the proposed rule believe it could undermine safety and compliance because highways will be more congested, drivers will be rushed, and inexperienced drivers will be hired to maintain the flow of commerce. Others testified at the hearing that they are concerned that drivers will not be able to get home to their families as frequently. Do you believe the proposed rule could have any negative health and safety impact on trucker's qualify of life? Do you believe there is any risk that these rules could promote driving during peak hours of congestion, and thereby clog our highways; cause drivers to be rushed; or put inexperienced drivers on the road? Did FMCSA account for any of these possibilities in its regulatory impact analysis?

Response: Neither the December 29, 2010, proposed rule nor the December 27, 2011, final rule would have adverse impacts on drivers' health or adversely impact their quality of life, , or the amount of time drivers may spend with their families. Based on drivers' comments during the series of public listening sessions conducted before the NPRM, and the listening session and on-line comment-and-question forum conducted after the publication of the NPRM, the primary use of the 34-hour restart was to reduce the amount of time for drivers to return home. Under the pre-2003 HOS requirements, drivers who exhausted their on-duty time within a 7- or 8-day period, would have to remain off-duty until they accumulated enough time to restart their calculation of the 60- and 70-hour rule. Depending on the intensity of the work schedule, this could result in an off duty period significantly greater than 34 consecutive hours. The additional off-duty time required to restart the 60- and 70-hour clock would mean delays in returning home

to be with their families. Therefore, the 34-hour restart provides drivers with the opportunity to spend more time with their families while the limitation of the restart to once per week ensures that drivers would not have to work excessive hours each week.

The Agency is required by statute to consider the impact of its rulemakings on driver health and determined that the rulemaking would, in fact, provide health benefits. For the medium baseline sleep scenario (with drivers estimated to spend 6.23 to 7.02 hours sleeping each night), and a limit of 11-hours of driving time, the final rule estimated total benefits due to increased sleep of $630 million per year, at a 7 percent discount rate.

With regard to driving during peak hours of congestion, the final rule will not require motor carriers and drivers to change schedules to increase congestion. The final rule requires that the 34-hour restart include two nighttime rest periods of 1:00 am to 5:00 am, which differs from the proposal of 12:00 midnight to 6:00 am. This helps to reduce the likelihood of the final rule contributing to congestion when compared to the NPRM.

The rule limits the use of the 34-hour restart to once every 7 days (or 168 hours) but does not specify which days of the week the restart takes place. The rule does not prohibit nighttime driving during the days of the week leading up to the restart. The restart would not impact the time of day when the restart begins and ends because these drivers would typically have two consecutive nights off-duty during their current restarts. For nighttime drivers, the restart would not require that they shift to driving during peak congestion periods. The rule does not prohibit nighttime driving.

The FMCSA acknowledges industry claims that the requirement for two nighttime periods may increase congestion. However, because (1) a relatively small percentage of drivers (approximately 15 % -- 10 % in the very high intensity work schedule group and 5% of drivers in the extreme work intensity work schedule group) would be impacted by the changes to the 34-hour restart, (2) the variations in the days of the week that drivers would begin and end their 34-hour restart, and (3) some drivers may use more than 34 hours for a restart, the rule should have minimum impact on congestion.

The Agency considered the extent to which the rule would impact drivers' productivity and estimated the number of new drivers that would be needed to transport the same volume of freight currently moved by the trucking industry. The Agency estimated that between approximately 21,500 and 44,400 new drivers would be needed if the rule is implemented. The Agency considered the risks associated with employing new drivers as part of its analysis of the regulatory options included in the 2010 NPRM and the 2011 final rule.

The final rule will increase opportunities for rest to prevent the risk of fatigue-related crashes.

QUESTION 15:
Do you acknowledge that the safety benefits (separate and apart from any perceived health benefits) of the proposed rule don't outweigh the costs?

Response: The FMCSA considered a number of factors in developing its estimates of the benefits of the proposed HOS rule and the December 27, 2011, final rule. The Agency considered benefits from crash reductions, and health benefits from increased sleep that would result from reducing the number of hours drivers could be on duty during the week. For the medium baseline sleep scenario (with drivers estimated to spend 6.23 to 7.02 hours sleeping each night), and a limit of 11-hours of driving time, the total benefits due to increased sleep would be $630 million per year. If the health benefits were eliminated from the regulatory analysis, the rulemaking would not be considered cost-beneficial under Office of Management and Budget guidelines for regulatory analyses.

QUESTION 16:

In January 2009, after Public Citizen and others petitioned FMCSA to review the rules, former FMCSA Administrator, John H. Hill, wrote to Public Citizen in a 19 page letter supporting FMCSA's analysis and evidence of the current rules, stating:

> *"For purposes of Federal Rulemaking requirements, FMCSA has fully supported the 2007 interim final rule (IFR), and the 2008 final rule, including the 11-hour driving rule and the 34-hour restart, with well-reasoned explanation, based on thorough research and an examination of available data. The scientific, operational, and economic analyses underlying the final rule have been meticulous and extensive.*
>
> *The 11-hour driving rule and the 34-hour restart have now been in effect since January 2004. During this five-year period – representing billions of commercial motor vehicle driver hours and hundreds of billions of miles traveled – the significant increase in truck crashes and fatalities that one would have anticipated, based on Petitioners' criticisms, has simply failed to occur."*

16a. Please explain what changed from January 2009 to October 2009 when FMCSA decided to settle the lawsuit subsequently filed by Public Citizen?

Response: FMCSA and the Department concluded that a fresh start on this controversial issue was preferable to continued litigation. Rulemaking is simply a better way to make transportation policy than litigation.

16b. Do you believe settlements are a good way to make policy?

Response: The settlement agreement did not make policy; it simply committed FMCSA to issuing a notice of proposed rulemaking and a final rule. Petitioners did not seek and the Agency and Department did not agree to any specific rulemaking outcome.

QUESTION 17:

There is a concern that the rule will lead to more trucks on the road, which will lead to increased emissions.

17a. Has FMCSA evaluated how this regulation could impact the environment?

Response: Yes, FMCSA prepared an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) in accordance with the National Environmental Policy Act (NEPA), as well as FMCSA's own NEPA Policy 5601.1, the Department's NEPA implementing procedures and other relevant statutes such as the Clean Air Act (CAA). The Agency determined that this action will not have a significant impact on the environment and the final rule will not result in any potential increase in emissions that are above the general conformity rule's *de minimis* emission threshold levels.

17b. Could this regulation increase the carbon footprint associated with the trucking industry?

Response: The Agency analyzed the final rule for the purposes of the National Environmental Policy Act of 1969 (NEPA) and determined under its environmental procedures Order 5610.1, published March 1, 2004, that this action will not have a significant impact on the environment. FMCSA also analyzed the final rule under the CAA and implementing regulations promulgated by the EPA. The rule will not result in any potential increase in emissions that are above the general conformity rule's *de minimis* emission threshold levels.

17c. Could this rule increase our nation's dependence on foreign sources of oil?

Response: The FMCSA does not believe the rule will increase our nation's dependence on foreign sources of oil. This action will not have a significant impact on the environment

QUESTION 18:
Does FMCSA's data from its Compliance, Safety, Accountability program show a statistical relationship between compliance with the current hours-of-service rules and safe carrier performance? How strong is that relationship?

Response: The FMCSA conducted internal effectiveness testing, which demonstrates that there is a strong association between poor compliance with the existing hours of service and logbook regulations and high future crash rates. More specifically, FMCSA's analysis demonstrates that motor carriers that score highly in the Compliance, Safety, Accountability (CSA) Behavioral Analysis Safety Improvement Categories (BASIC) for Fatigued Driving (hours-of-service) have much higher future crash rates than motor carriers with lower scores.

In addition, the University of Michigan Transportation Research Institute (UMTRI) conducted an independent evaluation of CSA. The UMTRI study reported that motor carriers that score above the FMCSA's intervention threshold in the Fatigued Driving (hours-of-service violations) BASIC have crash rates nearly three times higher than motor carriers not identified with high Fatigued Driving (hours-of-service violations) BASICs.