

NO DATE FOR ORAL ARGUMENT HAS BEEN SET

No. 09-1094

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

PUBLIC CITIZEN, ADVOCATES FOR HIGHWAY AND AUTO
SAFETY, TRUCK SAFETY COALITION, and the INTERNATIONAL
BROTHERHOOD OF TEAMSTERS,

Petitioners,

v.

FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION and
THE UNITED STATES,

Respondents.

On Petition for Review of a Final Rule Issued by
Respondent Federal Motor Carrier Safety Administration

INITIAL BRIEF FOR PETITIONERS

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August 27, 2009

**PETITIONERS' CERTIFICATE OF COUNSEL
AS TO PARTIES, RULINGS, AND RELATED CASES
(D.C. CIR. R. 28(a)(1))**

Pursuant to D.C. Circuit Rule 28(a)(1) and Federal Rule of Appellate Procedure 26.1, counsel for petitioners certify as follows:

A. Parties and Amici Curiae

Petitioners are Public Citizen, Advocates for Highway and Auto Safety (“AHAS”), Truck Safety Coalition, and the International Brotherhood of Teamsters (“IBT”). The first three groups are nonprofit organizations dedicated to improving truck safety. IBT is a labor union representing 1.4 millions workers, including commercial truck drivers, in the United States and Canada. None of the petitioners has a parent, subsidiary, or affiliate that has issued shares or debt securities to the public.

William B. Trescott intervened in support of petitioners.

Center for Science in the Public Interest; Institute for Policy Integrity at New York University School of Law; OMB Watch; Society for Occupational and Environmental Health; and Union of Concerned Scientists, are participating as amici curiae in support of petitioners.

Respondents are the Federal Motor Carrier Safety Administration (“FMCSA”) and the United States.

American Trucking Associations, Inc.; Chamber of Commerce of the United States of America; Health & Personal Care Logistics Conference, Inc.; NASSTRAC, Inc.; National Industrial Transportation League; and Owner-Operator Independent Drivers Assn., Inc. intervened in support of respondents.

B. Rulings Under Review

Petitioners seek review of the final hours-of-service rule issued by respondent FMCSA and published in the Federal Register on November 13, 2008, at 73 Fed. Reg. (“FR”) 69567 (2008).

C. Related Cases

The case on review is closely related to two previous cases decided by this Court challenging earlier final hours-of-service rules issued by FMCSA. *Owner-Operator Indep. Drivers Ass’n v. FMCSA*, 494 F.3d 188 (D.C. Cir. 2007) (“OOIDA”); *Public Citizen v. FMCSA*, 374 F.3d 1209 (D.C. Cir. 2004) (“*Public Citizen*”). In both cases, this Court vacated the rule and remanded. The rule challenged here is the product of the third round of rulemaking, which followed the remand from the Court.

Dated: August 27, 2009

Respectfully submitted,

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GLOSSARY

AHAS	Advocates for Highway and Auto Safety
APA	Administrative Procedure Act
DOT	Department of Transportation
EPA	Environmental Protection Agency
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
HOS	Hours of service
ICC	Interstate Commerce Commission
IIHS	Insurance Institute for Highway Safety
ISO	International Standards Organization
MCSA	Motor Carrier Safety Act
MCSIA	Motor Carrier Safety Improvement Act
NIOSH	National Institute for Occupational Safety and Health
NPRM	Notice of Proposed Rulemaking
NTSB	National Transportation Safety Board
OOIDA	Owner-Operator Independent Drivers Association

OSHA	Occupational Safety and Health Administration
PRE	Preliminary Regulatory Evaluation
RIA	Regulatory Impact Analysis
TIFA	Trucks Involved in Fatal Accidents
TRB	Transportation Research Board of the National Academy of Sciences

INTRODUCTION

In 1999, Congress directed the Federal Motor Carrier Safety Administration (“FMCSA”) to “reduc[e] fatigue-related incidents and increas[e] driver alertness.” Motor Carrier Safety Improvement Act of 1999 (“MCSIA”), Pub. L. 106-159, § 3(1); 49 U.S.C. § 31136 note. Rather than improving safety as Congress directed, however, the agency approved a rule that dramatically *increased* the number of daily and weekly hours that truck drivers may drive. Twice before, this Court invalidated the agency’s rule, citing numerous procedural and substantive problems with the agency’s analysis of the rule’s impact on truck crashes and driver health. *Owner-Operator Indep. Drivers Ass’n v. FMCSA*, 494 F.3d 188 (D.C. Cir. 2007) (“*OOIDA*”); *Public Citizen v. FMCSA*, 374 F.3d 1209 (D.C. Cir. 2004) (“*Public Citizen*”). After each decision, the agency issued a new rule virtually identical to the one the Court invalidated. FMCSA’s justifications for expanding driving hours are as inadequate today as they were when this Court first invalidated the rule in 2004. Once again, the rule should be set aside.

JURISDICTION

Under the ICC Termination Act of 1995, Pub. L. 104-88, § 408, 109 Stat. 803, 958 (1995) (49 U.S.C. § 31136 note), and 49 U.S.C. § 31502, FMCSA published the latest HOS rule on November 19, 2008. 73 FR 69567.

Petitioners filed a timely reconsideration petition on December 18, 2008, which FMCSA denied on January 16, 2009 (FMCSA Doc. No. 2004-19608).

Petitioners filed a timely petition for review on March 9, 2009. This Court has jurisdiction under 28 U.S.C. § 2342(3).

As their declarations (Appendix C) explain, petitioners are the International Brotherhood of Teamsters, representing drivers regulated by the rule, and other truck safety organizations. Petitioners bring this challenge on behalf of their members, who are endangered by the rule.

STATUTES AND REGULATIONS

See Appendix B.

STATEMENT OF ISSUES

Whether FMCSA's HOS rule is arbitrary and capricious or contrary to law because it—

- a. permits drivers to “restart” their weekly hours after only 34 hours off duty, dramatically increasing permissible weekly driving;
- b. raises maximum consecutive driving hours from 10 to 11, without establishing that the increase enhances safety;
- c. fails to meet statutory mandates to protect driver health.

STATEMENT OF THE CASE

I. BACKGROUND

A. Driver Fatigue and Truck Crashes

In 2007, 413,000 large trucks were involved in crashes, killing 4,808 people and injuring 101,000. *Traffic Safety Facts 2007*, at 17, 30, 62, <http://www-nrd.nhtsa.dot.gov/Pubs/TSF2007FE.pdf>. Although large trucks make up only 3% of vehicles on the roads, they were involved in one out of nine traffic fatalities in 2007. *Traffic Safety Facts 2007 Data*, at 9,

<http://www-nrd.nhtsa.dot.gov/Pubs/810993.pdf>. Of these fatalities, 75% were occupants of other vehicles and 8% were pedestrians or bicyclists. *Id.* at 9.

Falling asleep at the wheel is commonplace for truck drivers. Transportation Research Board, *Commercial Truck and Bus Safety* 92 (2005) (2004-19608-2084) (“TRB”).¹ In one survey, 28% of drivers reported falling asleep while driving during the previous month. Abrams, Shultz & Wylie, *Commercial Motor Vehicle Driver Fatigue, Alertness, and Countermeasures Survey* 14 (1997) (1997-2350-797). The Department of Transportation has long acknowledged the major role that fatigue plays in truck crashes. 65 FR 25540, 25541, 25545 (2000). For nearly two decades, FMCSA and its predecessor agency recognized that “risk of accidents appears to increase with the number of hours driven.” Federal Highway Administration (“FHWA”), *HOS Study: Report to Congress* 5 (1990) (1997-2350-244) (“1990 FHWA”). The National Transportation Safety Board (“NTSB”) estimated in 1995 that 30-40% of truck crashes are fatigue-related. NTSB, *Factors that Affect Fatigue in Heavy Truck Accidents* at v (1995) (1997-2350-239) (“1995 NTSB”).

¹ Documents in FMCSA’s dockets are identified by their FMCSA docket number.

B. Driver Health

Driving a truck has other costs. In the late 1990's, FMCSA undertook a Wellness Study, which recognized the "generally poor state of health of commercial drivers" and catalogued many driver health problems, including obesity, diabetes, hypertension, and high stress causing cardiovascular, hypertensive, gastrointestinal, and immune-system impairments. Roberts & York, *Design, Development and Evaluation of Driver Wellness Programs I-2 to I-9, I-36* (1997) (2004-19608-1999). A wealth of research establishes that long, irregular driving hours significantly impair driver health, both directly and by increasing exposure to other hazards, such as cancer-causing diesel emissions, excessive noise (causing hearing loss), and vibration (causing back pain and injuries). *See* TRB 8, 49.

Truckers experience more nonfatal injuries than any other workers. 70 FR 3339, 3345 (2005) ("2005 NPRM"). Truckers also miss the most days of work (15) because of illness or injury of any occupation. Bureau of Labor Statistics, *Lost-Worktime Injuries and Illnesses, 2007*, at 3, <http://www.bls.gov/news.release/pdf/osh2.pdf>. In 2007, heavy-truck and tractor-trailer drivers suffered 57,050 injuries resulting in lost work. *Id.* at 4.

C. Congress’s Mandate That FMCSA Improve Safety and Protect Driver Health

Before the 2003 rule, HOS rules prohibited truckers from driving more than 10 hours or working more than 15 hours until taking 8 consecutive hours off duty. *Public Citizen*, 374 F.3d at 1212; 49 C.F.R. § 395.3(a) (2002) (superseded).² The pre-2003 rule allowed work-rest cycles as short as 18 hours if drivers maximized driving time (alternating 10 hours driving and 8 off-duty hours)—cycles that conflict with human beings’ 24-hour circadian rhythm. 68 FR 22460; 65 FR 25554. The pre-2003 rule also set weekly limits of 60 on-duty hours in 7 consecutive days or 70 on-duty hours in 8 consecutive days. *Public Citizen*, 374 F.3d at 1212; 49 C.F.R. § 395.3(b) (2002).

In 1995, Congress ordered the FHWA to conduct HOS rulemaking to “reduc[e] fatigue-related incidents and increas[e] driver alertness” no later than 1996. 49 U.S.C. § 31136 note. When, four years later, the FHWA had not acted, Congress established FMCSA with the express purpose of improving truck safety. MCSIA § 101(a). Congress found that “[t]he current rate, number and severity of crashes involving motor carriers ... are

² The pre-2003 rule allowed a driver to split off-duty hours if driving a truck equipped with a sleeper berth. In the 2005 rule, FMCSA substantially revised the sleeper-berth exception, which is not challenged here.

unacceptable,” and required FMCSA to implement “meaningful measures to improve safety ... to reduce the number and severity of large-truck involved crashes.” *Id.* § 4(2). Congress codified FMCSA’s preeminent safety mission:

SAFETY AS HIGHEST PRIORITY.—In carrying out its duties, the Administration shall consider the assignment and maintenance of safety as the highest priority, recognizing the clear intent, encouragement, and dedication of Congress to the furtherance of the highest degree of safety in motor carrier transportation.

49 U.S.C. § 113(b).

Congress also directed FHWA, and thus, as its successor, FMCSA, to protect truck-driver health. The Motor Carrier Safety Act of 1984 (“MCSA”), Pub. L. 98-554, 98 Stat. 2832, required, “[a]t a minimum,” that regulations “ensure ... the operation of commercial motor vehicles does not have a deleterious effect on the physical condition of the operators.” 49 U.S.C. § 31136(a)(4).

II. FIRST RULEMAKING

A. 2000 NPRM

In 2000, FMCSA announced a proposed rule to “substantially improve [truck] safety by reducing the fatigue factor in [truck]-involved crashes.” 65 FR 25540.

1. 24-Hour Cycle. FMCSA acknowledged that drivers are less alert and their performance is impaired when they are not on regular, 24-hour schedules. *Public Citizen*, 374 F.3d at 1213 (citing 65 FR 25553-54). Heeding an agency expert panel, FMCSA proposed to “[i]ncrease the 18-hour on-duty/off-duty cycle to a normal 24-hour work cycle,” allowing drivers to begin work each day at the same time. 65 FR 25558, 25561; Belenky *et al.*, *Potential Hours-of-Service Regulations for Commercial Drivers: Report of the Expert Panel 12-13* (1998) (1997-2350-618) (“Expert Panel”). FMCSA proposed to permit long-haul drivers to work or drive up to 12 hours within a 14-hour work period, which had to include 2 off-duty hours. 65 FR 25568, 25581. Combined with a mandatory 10-hour off-duty period, the 14-hour work period created a regular 24-hour cycle.

2. Two Consecutive Nights’ Sleep. FMCSA determined that drivers need a weekly off-duty period to recover from cumulative fatigue acquired during long driving days and nighttime driving and to compensate for accrued “sleep debts.” 65 FR 25555-58, 25561-62; Expert Panel 12-13, 18, 33-34, 40; *see Public Citizen*, 374 F.3d at 1214. Relying on a comprehensive literature review, FMCSA concluded that one day off was insufficient,

especially for night workers. 65 FR 25556. Accordingly, the agency proposed a mandatory “weekend” of 32 to 56 hours that would allow drivers to take off 2 consecutive nights and the intervening day. *Id.* at 25555, 25558, 25587. The agency’s expert panel described this rest period as “absolutely minimal.” Expert Panel 40.

B. 2003 Final Rule

In contrast to the 2000 proposed rule, FMCSA’s 2003 rule did not require a 24-hour schedule or provide a weekly recovery period. Although the rule allowed for a 10-hour off-duty period and reduced the daily driving window from 15 to 14 hours, it drastically *increased* total permissible driving hours by increasing daily and weekly driving limits.

1. 11 Consecutive Driving Hours. The 2003 rule increased permissible consecutive driving hours from 10 to 11, within a 14-hour window. 68 FR 22473, 22475, 22492; 49 C.F.R. § 395.3(a) (2004). FMCSA conceded that “studies show[] that performance begins to degrade after the 8th hour on duty and [that risk] increases geometrically during the 10th and 11th hours.” *Public Citizen*, 374 F.3d at 1218 (citing 68 FR 22471); *accord* 68 FR 22470. It contended, however, that the increase was justified by the

decrease in the driving window from 15 to 14 hours and the increase in mandatory off-duty time from 8 to 10 hours. *Public Citizen*, 374 F.3d at 1218 (citing 68 FR 22471, 22473).

2. 21-Hour Cycle. FMCSA rejected a 24-hour work-rest cycle on the ground that “it is simply not practical and too inflexible to require of the industry.” 68 FR 22468. The rule produced a 21-hour cycle for drivers who maximized driving time by alternating 11 consecutive hours of driving with 10 hours off duty. *Id.*; see *Public Citizen*, 374 F.3d at 1214.

3. 34-Hour Restart. FMCSA purported to retain the 60- and 70-hour weekly on-duty-time limits from the pre-2003 rule, but in fact added a “restart” provision, 68 FR 22477, 22479; 49 C.F.R. § 395.3(b) & (c) (2004), under which 34 off-duty hours (the mandatory 10 daily off-duty hours plus an additional 24 hours) would reset weekly driving and working hours. The restart allowed truckers to resume driving much sooner during the week than under the pre-2003 rule—increasing overall driving and working time at the expense of off-duty time.

The 34-hour restart and the daily driving increase permitted so many more driving hours that FMCSA concluded industry could hire 58,500 *fewer*

long-haul drivers than under the pre-2003 rule, saving nearly \$1.1 billion annually. 68 FR 22495 (Tables 5 & 6). A driver on a 60-hours-in-7-days schedule who drove 21-hour rotations and took 34 off-duty hours could drive *77 hours in 7 days*—28% more than under the pre-2003 rule. A driver on a 70-hours-in-8-days schedule could drive *88 hours in 8 days*—a 26% increase over the pre-2003 rule. The graphs in Appendix A-1 illustrate these increases. For drivers maximizing on-duty time, weekly workload increases were even greater. A driver working 14-hour shifts could accumulate 84 hours in 7 days or 98 hours in 8 days—a 40% increase. *See* Appendix A-2.

Although FMCSA acknowledged that crashes would increase under the rule, it relied on a cost-benefit analysis in its Regulatory Impact Analysis (“RIA”) to conclude that the economic benefits to industry outweighed the additional deaths. 68 FR 22511; *Regulatory Impact Analysis*, Exhs. 9-1 & 9-2 (2002) (1997-2350-23302) (“2003 RIA”). The analysis relied on a complex, untested model for predicting benefits from truck-crash reductions. 68 FR 22497. Based on the 2003 RIA, FMCSA concluded that the 2003 rule “represent[ed] the best combination of safety improvement and cost containment that can realistically be achieved.” *Id.* at 22511.

C. The Court's 2004 Decision

This Court held the 2003 rule arbitrary and capricious because FMCSA completely failed to consider its impact on driver health, as required by MCSA. *Public Citizen*, 374 F.3d at 1216. The Court also emphasized “the troubling nature of ... other facets of the rulemaking.” *Id.* at 1217.

The Court found it “problematic” that FMCSA did “not even acknowledge, much less justify, that the [34-hour restart] ... dramatically increases the maximum permissible hours drivers may work each week.” *Id.* at 1222. Noting that FMCSA “freely concede[d] that performance begins to degrade after the 8th hour on duty and [that risk] increases geometrically during the 10th and 11th hours,” the court said that the increase in driving time from 10 to 11 hours “raise[d] very real concerns.” *Id.* The Court expressed “doubts” about whether FMCSA’s two justifications—the decrease in driving window and increase in off-duty time—were sufficient, noting that “the agency cited absolutely no studies in support of its notion that the decrease in [the] daily driving-eligible tour of duty from fifteen to fourteen hours will compensate for [the] conceded and documented ill effects from the increase” in driving time. *Id.* at 1218.

The Court also cast doubt on FMCSA’s 2003 RIA cost-benefit analysis, noting that the agency’s 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.” *Id.* (citing 68 FR 22497). Because the 2003 RIA’s model considered only drivers’ sleep, not “time on task,” the Court found it of “questionable value in justifying the increase in daily driving time.” *Id.* at 1219.

III. SECOND RULEMAKING

A. 2005 Rule

In January 2005, FMCSA published a new NPRM, offering the invalidated 2003 rule as the “proposal” on which it invited comment. 70 FR 3339. In August 2005, after unsuccessfully lobbying Congress to codify the 2003 rule, *e.g.*, S. Hearing 109-196, at 18, 21 (Apr. 5, 2005) (FMCSA Administrator Annette Sandberg), FMCSA re-issued the same rule for long-haul truckers, except for a change to the sleeper-berth exception. 70 FR 50073; *see supra* n.2. FMCSA repromulgated the 34-hour restart provision, labeling it a “safety net” or “benefit” affording a majority of drivers two nights’ sleep each week to alleviate cumulative fatigue. 70 FR 50023, 50038-

39, 50041. The agency also maintained the maximum daily 11-hour driving limit, contending that it is economically beneficial to carriers and that available data “do not clearly indicate whether the 11th hour of driving, combined with 10 hours of off-duty time, poses a significant risk.” 70 FR 50012, 50038.

1. FMCSA’s Safety Analysis

The NPRM and final rule acknowledged the massive increase in driving and on-duty hours authorized by the new rule. 70 FR 3348, 50021-22. FMCSA minimized the health and safety effects of these extra hours by suggesting that drivers would not actually work and drive the hours permitted. *See* 70 FR 49981, 49984, 50005, 50022, 50036. With utilization rates “far below 50 percent,” *id.* at 50012, FMCSA declared that “[t]here is no reason to believe that a full 11 hours of driving will ever become the standard for the industry.” *Id.* at 50010. Indeed, FMCSA said it “believe[d] the average driver ... cannot realistically, drive and work the longer weekly hours, on a regular basis.” 70 FR 50022. But FMCSA’s 2005 cost-benefit analysis took a far different view of the rule’s impact. It predicted that drivers and carriers would increasingly take advantage of the rule’s longer

hours and thus charted mammoth losses in industry “productivity” (measured by the ability to employ fewer drivers) if the pre-2003 rule were put back in effect. *Regulatory Impact Analysis* 70, 73 (2005) (2004-19608-2094) (“2005 RIA”).

In response to this Court’s criticism that its cost-benefit analysis for the 2003 rule had failed to consider time on task, FMCSA supplemented its data with the Trucks Involved in Fatal Accidents (“TIFA”) database. 70 FR 50010. The agency conceded that the TIFA data showed that the relative risk of a fatigue-related crash in the 11th hour of driving or later was “substantially higher than in the 10th hour.” *Id.* In the 10th hour, 4.4% (22 of 495) of fatal crashes were deemed fatigue-related, while that percentage *more than doubled* to 9.6% in the 11th hour (9 of 94). 2005 RIA 42 (Exh. 5-1). Compared to the first hour, where fewer than 1% of crashes were fatigue-related (102 of 10,412 crashes), the percentage of fatigue-related crashes at 10 hours was 4.5 times higher and at 11 hours *nearly 10 times higher*. *Id.*³

³ The 2005 RIA misstated the relative risk levels shown in Exhibit 5-1 by a factor of 2, claiming that compared to the first hour, relative risk in the 10th hour was only 2.5 times greater and in the 11th hour, only 5 times greater. 2005 RIA 45. Although petitioners had repeatedly pointed out the error, FMCSA continued to rely on it in support of its 2008 rule. 73 FR 69578; 2008 RIA 42.

FMCSA disregarded these actual increases in the rate of fatigue-related accidents, stating that the data should be “treated with caution” because the available data set was extremely small and relied on drivers to accurately report the number of hours driven after an accident. 70 FR 49997. Instead, the agency fit the data to a “cubic curve” and then divided each of the hourly figures from the curve by the average risk for hours 1 through 11, dramatically reducing the risk difference between the 10th and 11th hours. 2005 RIA 58-62. FMCSA did not explain these manipulations.

The agency also ignored or rejected most of the immense body of research, cited by many commenters, demonstrating that crash risk increases sharply after 8-10 hours.⁴ Among the research FMCSA rejected was an ongoing study the agency itself had commissioned from the Pennsylvania Transportation Institute modeling the effects of driving schedules on crashes. The study found a “pattern of increased crash risk associated with hours driving, particularly in the 9th, 10th, and 11th hours,

⁴ See IIHS Comments (2005) (2004-19608-1800) (“2005 IIHS”); Braver Comments 3 (2005) (2004-19608-1854); NIOSH Comments (2005) (2004-19608-1856) (“NIOSH 2005”); Public Citizen Comments 19-21 (2005) (2004-19608-1861); AHAS Comments 7-20 & n.10 (2000) (1997-2350-22593) (“2000 AHAS”); NIOSH Comments 3 (2000) (1997-2350-22637) (“2000 NIOSH”); IIHS Comments 1-2, 5-7 (2000) (“2000 IIHS”) (1997-2350-20062).

and multi-day driving” and that “the 11th hour of driving has a crash risk of more than three times that of the first hour.” 70 FR 49997-98, 50010; Jovanis *et al.*, *Crash Risk and Hours Driving* 2, 7-9 (2005) (2004-19608-2091).

In the face of this extensive data, FMCSA relied instead on an incomplete study of crash risk in the 10th and 11th driving hours for 82 drivers that preliminarily found no statistically significant difference in driver alertness between the 10th and 11th hours. Hanowski, *et al.*, *Assessment of the Revised Hours-of-Service Regulations* 2, 4 (2005) (2004-19608-2089) (“2005 Hanowski”); 70 FR 49997, 50010. Hanowski recorded high rates of “critical incidents” (crashes, near-crashes, and crash-relevant conflicts) in *both* the 10th and 11th hours, 2005 Hanowski 2, 4, but provided no comparison with critical incidents after fewer driving hours.

2. FMCSA’s Health Analysis

FMCSA commissioned a literature review on driver health by the Transportation Research Board (“TRB”) of the National Academy of Sciences. Its findings underscored the grave health risks of longer driving hours, including heightened risks of lung and bladder cancer (from diesel-exhaust exposure), cardiovascular disease, noise-induced hearing loss, and

back disorders. TRB 8, 49. Although FMCSA acknowledged that studies had “generally concluded that long work hours appear to be associated with poorer health, increased injury rates, more illnesses, or increased mortality,” it dismissed these findings, claiming there was “a significant lack of data on general health effects.” 70 FR 49989-90. FMCSA also fell back on its assertion that drivers under the new rule would not work more hours. *Id. at* 49992, 50036.

B. The Court’s 2007 Decision

In *OOIDA*, this Court again vacated the HOS rule. 494 F.3d 188. The Court held that the agency had not explained the methodology behind its manipulation of the TIFA data or allowed public comment on that methodology. *Id. at* 205. In particular, the agency’s decision to fit the data to a cubic curve and divide each hourly risk figure by the average hourly risk, which dramatically reduced the apparent risk of driving in the 11th hour, was “wholly unexplained.” *Id.*

This error was prejudicial, the Court held, because, as a result, “FMCSA failed to provide an adequate explanation for its decision to adopt the 11-hour daily driving limit and the 34-hour restart provision.” *Id.*

Moreover, the agency “gave 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.” *Id.* at 206. The Court discounted FMCSA’s contention that the average driver could not “realistically drive and work the longer weekly hours on a regular basis” because “whatever the ‘average driver’ will do on a ‘regular basis,’ it is clear that FMCSA contemplates that many drivers will work those longer hours—as those hours are the basis for the agency’s conclusion that the 34-hour restart provision will have economic benefits.” *Id.* at 206.

IV. THIRD RULEMAKING

In response to the Court’s decision, the agency issued an interim final rule adopting the same HOS limits for the third time. 72 FR 71247 (2007). Comments on the interim final rule cited the agency’s own findings and numerous supporting studies showing that the rule would be unsafe because it allowed for too many daily and weekly working hours, did not guarantee 2 consecutive nights’ sleep at least once a week, and failed to conform to a 24-hour cycle.⁵ FMCSA dismissed the comments as “reiterat[ing] arguments

⁵ See IIHS Comments (2008) (FMCSA-2004-19608-3300) (“2008 IIHS”); Advocates for Highway and Auto Safety, International Brotherhood

and conclusions set forth during the 2003 and 2005 HOS rulemakings”—that is, the rulemakings whose conclusions were vacated by this Court—and adopted the final rule without change. 73 FR 69567 (2008). Rejecting decades of evidence as “not sufficiently precise to allow reasonable estimates of the benefits of remedial measures,”*id.* at 69568, the agency again turned to the now-complete Hanowski study despite numerous flaws identified by commenters and the author’s own warning about its “small sample of drivers represented.” Hanowski *et al.*, *Analysis of Risk as a Function of Driving-Hour* at xv (2008) (2004-19608-3521) (“2008 Hanowski”). Rather than raising any concern over the study’s methodology, FMCSA reached the unbelievable conclusion that there was *no* increase in crash risk for the 11th hour of driving over the 1st or any other hour (let alone over the 10th hour). 73 FR 69576.

Again, FMCSA justified the massive increase in driving hours by contending that the additional hours would not be used, stating that “virtually no one attempts to use every minute of driving or on-duty time theoretically allowed by the regulations.” 72 FR 71249; *see also* 73 FR 69570.

of Teamsters, Public Citizen, and Truck Safety Coalition Comments (FMCSA-2004-19608-3445) (“Petitioners’ comments”).

FMCSA maintained that it was “not required to demonstrate that constant, maximum utilization of the HOS rules is as safe as the pre-2003 rules.” 72 FR 71249; *see* 73 FR 69570. Although the agency admitted that some drivers were driving more hours, it again claimed, again without support, that any loss of safety resulting from the extra driving time would be offset by the 14-hour on-duty limit and the mandatory 10 off-duty hours. 73 FR 69568-69 n.6. The agency also pointed to a general decline in traffic fatalities as evidence that its rule was safe, *id.* at 69573, although, as commenters noted, nothing about the decline was specific even to trucks, much less to trucker fatigue. *See supra* n.4.

In response to this Court’s concern that the details of its cost-benefit modeling were not in the record, the agency made a “more detailed explanation” of its methods for computing time on task, 72 FR 71249, but still provided few details about how it concluded that the economic benefits of the rule would outweigh the additional loss of life. FMCSA claimed that its new risk modeling “employed a more sophisticated analysis” that showed an even *lower* risk of driving in the 11th hour than it had previously believed. *Id.* The agency ignored comments pointing out that FMCSA’s economic analysis of

the benefits to the trucking industry resulting from the need to hire fewer drivers failed to account for the economic impact of accidents on other industries, the nationwide economic benefits of employing more truckers, and the impact of poor driver health on truckers and on the rest of society. Belzer Comments (2008) (2004-19608-3475) (“2008 Belzer”).

Finally, FMCSA continued to deny that the much longer working and driving hours permitted by the interim final rule would expose truck drivers to adverse health conditions. The agency “reaffirmed ... the conclusion it reached in 2005 [that the] rule neither causes nor exacerbates the risks associated with driving a [truck].” 73 FR 69578.

SUMMARY OF ARGUMENT

Congress required FMCSA to promulgate a new HOS rule that would “reduc[e] fatigue-related incidents” involving trucks and “increas[e] driver alertness.” 49 U.S.C. § 31136 note. In implementing that requirement, the agency was also required to comply with its general statutory mandates to “consider the assignment and maintenance of safety as the highest priority,” *id.* § 113(b), and “ensure that ... the operation of commercial motor vehicles does not have a deleterious effect on the physical condition of the operators.”

Id. § 31136(a)(4). Given its statutory mandates, FMCSA had a heavy burden to show that the 2008 rule, with its dramatically expanded daily and weekly hours, would reduce accidents and enhance public safety as well as improve driver health. Not only has FMCSA made no effort to show that the rule would *improve* driver safety and health, as Congress directed, but it has disclaimed any obligation to prove even that the rule is “as safe as” it was before the amendment. 72 FR 71249; *see* 73 FR 69569-70.

The latest incarnation of the rule suffers from the same shortcomings as the near-identical 2005 and 2003 rules. Once again, FMCSA sacrificed driver health and public safety for industry productivity; scuttled longstanding policy by increasing maximum consecutive driving hours from 10 to 11; and recklessly adopted a “restart” allowing drivers to reset weekly hours after only 34 off-duty hours—increasing permissible weekly driving hours by 26-28% and weekly on-duty hours by 40%. This increase in allowable driving hours is so massive that the agency does not even believe most drivers are capable of working to the new limits. The record establishes overwhelmingly that such staggering workloads subvert highway safety and imperil drivers’ health. The rule must again be set aside.

STANDARD OF REVIEW

The Court generally reviews a final rule under the Administrative Procedure Act (“APA”) to determine whether it is arbitrary or capricious, an abuse of discretion, or otherwise contrary to law. 5 U.S.C. § 706(2)(A). More exacting review is appropriate here, where FMCSA arrived at a nearly identical result after this Court vacated the 2003 and 2005 rules. *Chamber of Commerce v. SEC*, 443 F.3d 890, 899 (D.C. Cir. 2006) (citing cases).

ARGUMENT

I. THE 2008 RULE’S INCREASE IN DAILY AND WEEKLY DRIVING AND WORKING HOURS IS ARBITRARY AND CAPRICIOUS AND CONTRARY TO FMCSA’S MANDATE TO IMPROVE TRUCK SAFETY.

More than 35 years of research proves that long working and driving hours impose a severe cost in driver fatigue, resulting in death and injury on the nation’s highways. In contrast, FMCSA has no data or credible scientific research that supports allowing truck drivers, already too often fatigued under the shorter hours allowed under the pre-2003 rule, to drive and work far longer hours than ever before. Much less does FMCSA have evidence that its rule makes the roads *safer*, as Congress demanded.

A. The Rule Authorizes Vastly Increased Driving and Working Hours.

1. The 34-Hour Restart Period Allows Driving and Working at Levels the Agency Has Previously Determined Are Unsafe.

FMCSA has belatedly acknowledged the staggering increase in weekly driving and working hours authorized by the 34-hour restart. 70 FR 50021. In light of this admission, FMCSA's simultaneous characterization of the restart as a "safety net" that would improve drivers' "quality of life" makes no sense. 72 FR 71250; 70 FR 50023, 50038-39, 50041. The restart provides no benefit to drivers relative to the previous rule, which Congress required FMCSA to improve; the only effect of the restart is to allow drivers who have run out of weekly hours to resume driving *sooner* than under the pre-2003 rule.

The 34-hour restart legalizes practices FMCSA previously found unsafe. The 2000 NPRM noted disapprovingly that 25% of drivers reported working at least 75 hours in the previous 7 days. 65 FR 25558; *see also Preliminary Regulatory Evaluation 4-5 (2000) (1997-2350-954) ("PRE")*. Yet that schedule fits easily within the 2008 rule. Indeed, given FMCSA's claim that most drivers "cannot realistically" use all the working and driving hours

now available, 72 FR 71258, the restart rule effectively abolishes *any* driving limits for these drivers, allowing them to drive to the limits of their endurance. *See* 73 FR 69570 (contending that use of available hours to the “theoretical maximum” was not “realistic”).

Although the restart shortens required weekly off-duty time for the hardest-working drivers, Appendix A-1 to A-2, and has no effect on drivers who do not reach their weekly limits early, FMCSA paradoxically claimed the restart gives drivers more time at home. 73 FR 69574. FMCSA relied primarily on an OOIDA survey in which drivers were asked “Do you get more time at home under the new HOS regs regime?” Although 20% said yes, 77% said no. 70 FR 50001, 50025. (The survey neglected to ask whether the 77% who said “no” were getting *less* time at home under the new rule. OOIDA Question 13 (2004-19608-2092)). The increased driving or working hours directly led to reduced off-duty hours under the current rule, as FMCSA was compelled to admit. *See* 70 FR 3348.

2. The 11-Hour Driving Period Exponentially Increases the Risk of Fatigue-Related Accidents.

In 1990, the FHWA reported to Congress that “driving in excess of 8 hours may be associated with a significantly increased risk of crash

involvement,” citing findings that crash risk nearly doubles after 8 hours. 1990 FHWA 6. Similarly, FMCSA in 2003 concluded that “performance begins to degrade after the 8th hour on duty” and that this performance degradation “increases *geometrically* during the 10th and 11th hours.” 68 FR 22471 (emphasis added); *see also id.* at 25546 (research shows “dramatic and consistent increase in crash risk after 8 hours”).

That longer driving times are associated with increased crash risks is consistent with common sense and supported by decades of research. As FMCSA’s 1999 literature review recognized, “[n]umerous studies have documented performance and alertness decrements after periods of driving far shorter than 13 or even 10 hours.” Department of Transportation, *Annotated Literature Review* 12 (1999) (1997-2350-956) (“DOT Literature Review”); *see, e.g.*, NTSB, *Factors that Affect Fatigue in Heavy Truck Accidents* 26, 52 (1995) (1997-2350-239) (“1995 NTSB”) (82% of single-vehicle truck crashes involving drivers exceeding HOS limits were fatigue-related). According to a recent driver survey conducted by the Insurance Institute for Highway Safety (“IIHS”), sleepy driving remains prevalent under the new HOS rule. 2008 IIHS 4.

Rather than continuing to rely on this well-established evidence, FMCSA commissioned three new studies. Two of these studies directly contradicted its current position. First, the TIFA data obtained by FMCSA reflected a sharp risk increase after 8 hours of driving, with the percentage of fatigue-related fatal crashes more than doubling from the 10th to the 11th hour. 2008 RIA 42; see Campbell, *Estimates of the Prevalence and Risk of Fatigue in Fatal Crashes* 12 (2005). Crash risk was greatly elevated in both hours 10 and 11 compared to early driving hours—with risk in the 10th hour 4.5 times higher and in the 11th hour nearly 10 times higher than driving in the 1st hour. 2008 RIA 42. Second, the FMCSA-commissioned Jovanis study, which relied on a large dataset of 231 crashes and 462 controls, found “a pattern of increased crash risk associated with hours driving, particularly in the 9th, 10th, and 11th hours,” Jovanis 2, 4. Risk escalated non-linearly after the 6th hour and the 11th-hour risk was three times higher than the 1st hour. *Id.* at 7, 9. FMCSA has conceded that this study found a substantially higher risk in the 9th, 10th, and 11th hours. 70 FR 49997-98, 50010.

FMCSA rejected these conclusions and all previous consistent studies, relying instead on the third study, Hanowski, from which it now concludes

that no more risk of fatigue-related accidents in the 11th hour than there is in the 1st hour of driving. 73 FR 69576; 72 FR 71260-61; *see* 2008 Hanowski. Contrary to FMCSA's contention, however, Hanowski's data showed that, in a sample of only 98 drivers, the risk of an accident during the 11th hour was nearly twice as high as during the 10th. 2008 Hanowski 15 (Table 10). Given the "small sample of drivers," Hanowski could conclude only that "the results from [his] study [did] not support the hypothesis that there is an increased risk resulting from [truck] drivers driving in the 11th driving-hour as compared to the 10th driving-hour, or any hours." *Id.*; *see also* Greg Belenky & Lora J. Wu, *Literature Review* 17 (Jan. 2008) ("[T]he sample size [in the Hanowski study] is not large enough to assess if allowing an 11th hour of driving is safe."). In other words, the Hanowski study is not, as FMCSA would have it, affirmative evidence that driving in the 11th hour is safe; rather, because of the study's design, it fails to provide statistically significant evidence one way or the other. Thus, Hanowski himself urged that "caution must be used in interpreting [his] results." 2008 Hanowski 9.

FMCSA's interpretation of Hanowski was rejected by the peer review that the agency itself commissioned on the study. As one peer reviewer

wrote, the study's claim that its results "do not support the hypothesis that there is an increased risk resulting from [truck] drivers driving in the 11th driving-hour as compared to the 10th driving-hour, or any hour" is "misleading." *Peer Review of Hanowski et al.* (2008) (2004-19608-3483) ("Peer Review"). As the reviewer noted, "while the performance decrement due to time on task was not proven by this study, the study did not prove that it *doesn't* exist either." *Id.* The reviewer expressed concern that Hanowski's finding "would invariably be misquoted as evidence that there is no effect of HOS on driver performance at all," when "[i]t would be more correct to say that the results of this study are inconclusive relative to that contention." *Id.* Despite the warning, FMCSA misquotes Hanowski in precisely this way.

The Hanowski study suffers from other problems. The drivers in Hanowski's study were being continuously monitored by sensors and video recordings that may have influenced their behavior. As the peer reviewers noted, "[i]f a driver knows s/he is to be observed via video and their critical incidents documented, they are probably less likely to proceed with dangerous or drowsy driving." Peer Review 12; *see also id.* ("[T]his type of observation study yields data that is not representative of the at large [truck]

driver population because of the presumed high rate of HOS compliance during the study due to continuous monitoring.”). The results of the study were further skewed because Hanowski looked for “critical incidents,” rather than accidents, and then reviewed the video to eliminate incidents where he concluded the driver was not “at fault.” *Id.* at 10-12. The basis for Hanowski’s subjective judgments about which incidents were “critical” and which drivers were at fault are not in the record and are thus are not available for public review and comment.

Even if FMCSA were right that the research could be called “conflicting” or “inconclusive,” raising driving limits would remain indefensible. The APA embodies a presumption “*against* changes in current policy that are not justified by the rulemaking record.” *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42 (1983); accord *Public Citizen v. Steed*, 733 F.2d 93, 100 (D.C. Cir. 1984). FMCSA’s mandates underscore this basic APA principle and take it a step further. Because FMCSA’s organic statute requires the agency to “reduc[e] fatigue-related incidents and increas[e] driver alertness,” 49 U.S.C. § 31136 note, to “consider the assignment and maintenance of safety as the highest priority,”

id. § 113(b), and to ensure that truckers’ responsibilities “do not impair their ability to operate the vehicles safely,” *id.* § 31136(a)(2), FMCSA must resolve doubts in favor of safety—that is, it must *improve* safety and health when it undertakes substantive rulemaking. As this Court observed, “[t]he exponential increase in crash risk that comes with driving greater numbers of hours ... raises eyebrows about the agency’s increase of daily driving time.” *Public Citizen*, 374 F.3d at 1219. Finally, even if the 11th hour of driving were no less safe than the 10th hour, adding another unsafe hour of driving (thereby displacing an hour driven by someone else who has driven fewer hours) will, necessarily, be less safe. Unless FMCSA can show that additional driving time makes truckers *safer*, it has not complied with Congress’s directive to improve truck safety.

3. The Agency Fails to Account for Cumulative Fatigue.

In *OOIDA*, this Court held that FMCSA failed to address the problem that “hours spent driving over the course of a few days have a fatigue-inducing effect that is independent of that caused by insufficient sleep.” 494 F.3d at 206. Moreover, the Court noted that “FMCSA gave 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.” *Id.* The agency, however, still fails to give any attention to the problem of cumulative fatigue built up over longer days and weeks of driving and work allowed by the rule.

Numerous studies show that “longer hours driving, driving at night ... , and longer cumulative work weeks” increase fatigue on long-haul trips. Campbell 6; *see also id.* at 1. A literature review by the National Institute for Occupational Safety and Health (“NIOSH”) found deteriorating performance in workers when 12-hour shifts were combined with more than 40+ hour work weeks. NIOSH, *Truck Driver Occupational Safety and Health* (2007) (2004-19608-2080.1) (“NIOSH Proceedings”); *see also* 2005 NIOSH.

FMCSA has itself repeatedly acknowledged the importance of considering the cumulative-fatigue effects of time spent driving and working. 70 FR 50013. In 1990, FHWA concluded that “research has noted a cumulative fatigue effect after several successive days of driving operations.” 1990 FHWA 6. The 2000 NPRM cited studies evidencing increased crash risk with long driving times over two or more days per week. 65 FR 25556. As the agency recognized, the FMCSA-commissioned Jovanis study found “a

pattern of increased crash risk associated with hours driving, particularly in ... *multi-day driving*.” 70 FR 49997-98, 50010 (emphasis added); Jovanis 2, 8 (2005).

FMCSA has not explained its change of position or accounted for cumulative-fatigue effects in its modeling. *See, e.g.*, 73 FR 69569. The cumulative effect of daily and weekly driving and working increases remains “an important aspect of the problem” that FMCSA steadfastly refuses to address. *Id.* at 197 (quoting *Public Citizen*, 374 F.3d at 1222).

B. The Rule Fails to Guarantee Two Full Nights’ Sleep

In its 2000 NPRM, FMCSA proposed creating a weekly rest period of two consecutive nights and the intervening day to recover from accumulated sleep debt. 70 FR 49995, 50016-23. The agency’s expert panel stressed that a rest period would suffice only if it could *guarantee* two consecutive nights (including midnight-6 a.m.) off duty, calling this requirement “absolutely minimal.” Expert Panel 30-31, 40. Instead, however, the agency adopted a 34-hour weekend period that would only guarantee two full nights’ sleep for drivers who begin the period at night.

During its 2005 rulemaking, FMCSA addressed this problem by claiming that 80% of drivers would begin their 34-hour off-duty period at night, *id.* 49995, 50017, 50023, and thus, that the restart would provide a “majority” of drivers two nights of 8 hours’ sleep. *Id.* at 49980, 49995, 50017, 50021, 50039. FMCSA’s pronouncement that 80% of truckers are daytime drivers rested on a misreading of a driver survey, Campbell & Belzer, *Baseline Risk Estimates and Carrier Experience* 115 (2000) (1997-2350-1136), which in fact determined that the typical driver spent substantial time—an average of 22%—driving between midnight and 6 a.m. *See also* McCartt *et al.*, *Study of Fatigue-Related Driving Among Long-Distance Truck Drivers in New York State* xii, 21, 23 (1997) (1997-2350-882) (79.2% of long-distance drivers have driving schedules that include midnight-dawn hours).

In the 2008 rule, the agency abandoned its argument that most drivers drive during the day. Instead, it points to studies that it claims show 34 hours is a sufficient rest period no matter what time of day it begins, contending that 4 of 5 studies identified by TRB’s Health and Fatigue Panel supported

recovery periods of 34 or even 24 hours, while only one supported longer recovery periods. 73 FR 69569.

The one study FMCSA agrees does not support a 34-hour restart is Wylie's study of truckers in real-world conditions, which found "no objective evidence of driver recovery of performance" after 36 or even 48 hours off duty. Wylie, *Commercial Motor Vehicle Driver Rest Periods and Recovery of Performance* at vii (1997) (1997-2350-592). FMCSA dismissed these findings because the study involved a "small subject sample" of 25 drivers. 70 FR 49994, 50024. However, *all* the studies cited by FMCSA involved small samples. For example, FMCSA relied most heavily on the O'Neill study, which examined the performance of only 10 drivers on driving simulators. O'Neill *et al.*, *Effects of Operating Practices on Commercial Driver Alertness* 2, 16 (1999) (1997-2350-880).

The agency relies on Balkin (2000) (1997-2350-2010) to imply that a short recovery period might suffice, but Balkin found that performance in a 7-hours-in-bed group was consistently reduced across the 7-day study period and that even after *three nights'* recovery sleep, driver performance did not return to baseline levels. Balkin 5-7 to 5-8; *accord* Belenky 10 (2003) (2004-

19608-2024) (lodged);⁶ TRB 144. Similarly, the Australian drivers in the Feyer study suffered reduced alertness over the course of a multi-day trip. Feyer 548 (“The pre-break fatigue experienced by the two-up drivers showed an increasing trend over the later breaks in the trip, suggestive of accumulating fatigue.”); *id.* at 549, 551. Far from supporting FMCSA’s views, Balkin and Feyer show that performance degradation is not eliminated after a single overnight stop, even with many other breaks.

The studies on which FMCSA relied also involved conditions far removed from the realities of long-haul trucking. Drivers in Feyer’s study drove in teams of two and took breaks throughout the day. Feyer 544, 546, 552. The 1972 Alluisi study involved laboratory schedules (four hours on followed by four hours off) that were nothing like the schedules permitted by the HOS rule and was far less demanding than the physical exertion and vigilance necessary to operate a multi-ton truck safely for 11 hours per day and 80-90 hours per week. *Influence of Work-Rest Scheduling and Sleep Loss on Sustained Performance* (1972), 73 FR 69569; 70 FR 49994.

⁶ For many studies on which it relied, FMCSA placed only an abstract in the docket. Copies of those studies that are cited here will be lodged together with the Deferred Appendix.

The O’Neill study is even more inapposite. There, drivers received a weekly *58-hour* recovery period, allowing 3 separate sleep periods between 12 and 6 a.m. O’Neill 2-3, 16-18. O’Neill therefore does not support a 34-hour restart period that does not even allow two full nights’ sleep. Moreover, subjects in the O’Neill study used driving simulators rather than real trucks, operated the simulators only during the day, took 3 scheduled breaks, and rested for 10 consecutive hours at night in an apartment (rather than on the road). For that reason, the study’s authors, TRB, and the agency itself have each recognized that the study’s results cannot be generalized to drivers under more real-world conditions. DOT Literature Review 116; TRB 76-80; O’Neill 2-3, 34, 40-41, 48.

In a survey of the literature, Smiley & Heselgrave concluded that, “although the available research is sparse, it is sufficient to raise concerns about a 36-hour reset that would allow drivers to accumulate up to 92 hours on-duty within a seven-day period, particularly for night driving.” Smiley & Heselgrave, *A 36-Hour Recovery Period for Truck Drivers: Synopsis of Current Scientific Knowledge* vii, 14 (1997) (1997-2350-593). If a 36-hour recovery period is not sufficient, neither is a 34-hour recovery period.

C. The Rule Does Not Require a 24-Hour Cycle.

FMCSA has acknowledged that drivers are less alert when they are not on regular, 24-hour schedules. *Public Citizen*, 374 F.3d at 1213 (citing 65 FR 25553-54). Nevertheless, FMCSA abandoned its plan in the 2000 NPRM to “[i]ncrease the 18-hour on-duty/off-duty cycle to a normal 24-hour work cycle,” thus allowing drivers to begin work each day at the same time. 65 FR 25558. Instead, the agency adopted a 21-hour cycle, allowing 11 hours of driving followed by 10 hours off duty.

FMCSA defends the daily driving limit on the ground that “the typical work schedule would more nearly approximate the 24-hour circadian ideal.” 73 FR 69568. But there is no reason to believe a 21-hour cycle is any better for driver alertness than an 18-hour cycle. Over a week, a driver operating on a 21-hour cycle could start driving, for example, at 6 a.m., 3 a.m., midnight, 9 p.m., 6 p.m., and 3 p.m.—hardly a schedule consistent with a 24-hour circadian cycle. The agency has no evidence of any benefit resulting from replacing one non-circadian schedule with another.

FMCSA also defended the 34-hour restart on the ground that it allows truckers to resume work at approximately the same time each day. 73 FR

69570. In fact, only drivers rotating 14-hours working and 10-hours off-duty would resume work after 34 hours off at the same time their previous shift began. According to FMCSA, drivers are more likely to drive 10-11 hours than to work 14, 2008 RIA 19; drivers rarely work 14-hour shifts, FMCSA Survey 2; and 60% of truckload drivers follow random schedules. 70 FR 50049. Therefore, drivers using a 34-hour restart generally will not resume work at the same time as their previous shift.

D. The Agency’s Justifications for the Rule Are Inadequate.

1. FMCSA Concedes that Drivers Are Using the Additional Hours Available Under the Rule.

A recurring theme in FMCSA’s response to evidence that its rule is unsafe is to assert that drivers “cannot realistically drive and work the longer weekly hours” allowed by the rule. 72 FR 71258; *see also* 73 FR 69570; 70 FR 50010, 50022, 50039-40. In other words, FMCSA contends that the new maximums, especially for weekly driving hours, are *so high* that FMCSA does not see how truckers can possibly use them.

FMCSA never denies, however, that many truckers work the longer hours, saying only that truckers on “average” do not use all the available hours. 73 FR 69570; 70 FR 49981, 49984, 50022. Indeed, FMCSA has

acknowledged that many truckers use the longer hours. The agency reports that the 11th driving hour is now used in 27% to 46% of runs, depending on the survey claims cited by the agency. 73 FR 69570. As for the 34-hour restart, FMCSA found that 84% of drivers have used a restart period of 34 or more hours during the typical work week. 73 FR 69570. The 2008 RIA concludes that at least one-third of restarts are “short enough to bring a productivity gain,” *id.* at 21—i.e., involve more weekly driving hours than permitted under the pre-2003 rule. *Id.* at 21. Altogether, the 2008 RIA concluded “that more than half of for-hire operations, and somewhat less than half of private fleet operations, are intensive enough to press the HOS limits, and should therefore be affected by changes in those limits.” 2008 RIA 67 (emphasis added).

Even if FMCSA could show that few drivers will drive the 11th hour or use the restart, the rule would still be unacceptable unless the maximums it sets are safe. As this Court recognized in *OOIDA*, “whatever the ‘average driver’ will do on a ‘regular basis,’ it is clear that FMCSA contemplates that many drivers will work those longer hours—as those hours are the basis for the agency’s conclusion that the 34-hour restart provision will have economic

benefits.” *Id.* at 206. Congress directed the agency to revise trucker hours of service to “reduc[e] fatigue-related incidents and increas[e] driver alertness.” 49 U.S.C. § 31136 note—not to pronounce them “largely irrelevant” because not every driver will use them.

2. FMCSA Is Wrong That National Truck-Crash Statistics Demonstrate Improved Safety Under the Rule.

Citing national truck-crash statistics, FMCSA claims that the 11-hour limit and 34-hour restart provisions have not had an “adverse impact on safety.” 73 FR 69572. The agency argues that, since the 2003 rule went into effect, “the number of fatigue-related large truck crashes as a percent of all large truck fatal crashes has remained relatively stable.” *Id.* at 71259. This claim lacks any scientific foundation. National crash statistics are not limited to fatigue-related crashes and cannot isolate the effects of the HOS rule. Indeed, FMCSA itself has rejected the use of national crash data for precisely these reasons. In response to comments from industry supporting the 2003 rule, the agency said that such evidence “reveals nothing about the 11-hour driving limit or the 34-hour restart provisions, nor can the improvements be clearly linked to the 2003 rule.” 70 FR 50012; *see also id.* at 49978, 49999, 5010; *see also* 73 FR 69572 (“The Agency acknowledges that all

data contain ‘noise’ and that three or even four years’ worth of annual crash data may not provide definitive evidence of the effect of the current HOS rule.”).

In any event, FMCSA is wrong that national crash statistics show no increase in accidents. FMCSA focuses on the year 2006, asserting that there was a 4.7 percent drop in the fatal-crash rate from the previous year. 72 FR 71259. However, FMCSA glosses over increases in the crash rate for 2004 and 2005, the first two years in which the longer driving hours were in effect. *Id.* And although the rate of truck crashes has declined overall since 2003, that is true not just of trucks, but of all kinds of vehicles. Between 2003 to 2007, the number of fatal passenger-vehicle crashes per 100 million miles traveled fell by 12%. FMCSA, *Large Truck and Bus Crash Facts (2007)*, available at <http://ai.fmcsa.dot.gov/CarrierResearchResults/PDFs/LargeTruckCrashFacts2007.pdf>. During the same period, the number of fatal large-truck fatal crashes per 100 million miles traveled fell by only 7.6%. *Id.*

Indeed, as the overall truck-crash rate has declined, the percentage of truck crashes attributable to driver fatigue has *increased*. *See id.* (Table 1). The 2007 rate of fatigue-related crashes is at its highest reported level since

2000. *See id.* To the extent this data suggests anything, it suggests that fatal crashes from driver fatigue have been a drag on what would otherwise have been a larger general decline in truck crashes.

3. The Massive Increase in Driving Time Is Not Offset by the 14-Hour Window or 10-Hour Break.

FMCSA also repeatedly contends that it offset any additional fatigue caused by the rule by reducing the driving window from 15 to 14 hours and increasing off-duty time between shifts from 8 to 10 hours. 70 FR 49992-93, 50038. This Court doubted the adequacy of this justification for the 2003 rule, noting that it was unsupported by evidence. 374 F.3d at 1216. FMCSA has no more evidence in support of the rule today than it had in 2003.

First, FMCSA has no evidence that imposing a 14-hour driving window makes it safe for drivers to drive 77 or 88 hours (or work 84 or 98 hours) over 7 or 8 days. FMCSA's own Expert Panel found that "a 14-hour work day is excessive." Expert Panel 21; *accord* 2000 NIOSH 3. As before, the 2008 rule "cite[s] absolutely no studies," *Public Citizen*, 374 F.3d at 1218, showing that a shorter driving window compensates for increased driving hours. Indeed, FMCSA's own analysis suggests that drivers are more likely to drive 10 or 11 hours than to work 14 or 15 hours anyway. *See supra*, at 40. Drivers who

maximize their driving time are therefore unlikely to derive any benefit from the purely theoretical reduction of their permissible workday from 15 to 14 hours. Furthermore, as the Court observed, “the effects from the increased *weekly* driving hours may offset any decrease in fatigue flowing from the fact that drivers have shorter over-all tours of duty.” *Public Citizen*, 374 F.3d at 1218 (emphasis added).

Nor has FMCSA cited any research supporting its assumption that increasing off-duty time from 8 to 10 hours compensates for the greater fatigue resulting from longer daily and weekly driving and working hours. As NIOSH demonstrated, “[u]p to five consecutive 12/14-hour shifts ... creates the potential for excessive fatigue even when 8 hours of sleep per day are obtained.” 2000 NIOSH 3. Indeed, lengthy work hours mean *less* sleep. *Id.* (“[S]leep amounts progressively decrease over a series of consecutive work shifts longer than the normal 8-hour workday.”).

The agency relies on the Hanowski study as showing that truckers are getting one more hour of sleep than they were under the pre-2003 rule. 73 FR 695747. Truckers in Hanowski’s study, however, only averaged 6.28 hours of daily sleep. 73 FR 69581; 70 FR 49993, 50003. FMCSA admits that

“approximately 6 hours of sleep” results in “measurably decremented performance” on alertness tests and that these effects “are cumulative and increase over time.” *Id.* at 50015-16; *see also* TRB 144. NTSB found truckers in fatigue-related crashes had averaged 6.9 hours sleep in the 24 hours before the crash. *Id.* at 50015; 1995 NTSB 24, 26, 51 (1997-2350-239); *see also* Van Dongen 117, 119-20 (2003) (2004-19608-2072) (lodged) (6 hours’ sleep yielded “significant cumulative, dose-dependent deficits in cognitive performance on all tasks”).

Accordingly, FMCSA has declared repeatedly that each driver should have “8 consecutive hours of uninterrupted sleep every day,” 73 FR 69570; 70 FR 3346; 68 FR 22469; 65 FR 25554. FMCSA has now lowered its sights to match the amount of sleep that post-2003 findings showed drivers were *actually* obtaining, asserting that 6.28 hours was “within normal ranges consistent with a healthy lifestyle and is a vast improvement over previous sleep findings.” 73 FR 69574; 70 FR 49983, 49991. Congress, however, considered even pre-2003 levels of sleep and driver safety unacceptable, and FMCSA has cited *no* research demonstrating that 6.28 hours’ sleep, even if some improvement over the inadequate amounts of sleep drivers averaged

under the pre-2003 rule, is sufficient to enable truckers to drive safely for *more* hours than permitted under that rule.

4. FMCSA’s Cost-Benefit Analysis Is Unexplained and Flawed.

Absent actual evidence supporting its position, FMCSA continues to rely on its cost-benefit analysis to justify the rule. FMCSA argues that if the 11th hour were eliminated, productivity losses would dwarf benefits, *id.* at 49981, 50000, 50012, and that the 34-hour restart is preferable to longer weekly off-duty periods. 73 FR 69583-84; 70 FR 50046, 50048; 2005 RIA 73.

a. FMCSA’s Modeling Is Still Unexplained.

In 2004, this Court criticized FMCSA’s reliance on its cost-benefit analysis because its models “assume[d], dubiously, that time spent driving is equally fatiguing as time spent resting.” *Public Citizen*, 374 F.3d at 1218. “In other words, the model disregarded the effects of ‘time on task,’” rendering FMCSA’s reliance on it “of questionable value.” *Id.* at 1219. In an effort to correct this deficiency under the 2005 rule, FMCSA relied on TIFA data to generate “[time-on-task] multipliers,” which it then applied to its model’s outputs to account for the elevated risk of longer driving hours at each hour of driving. 70 FR 50045, 50052. Although the TIFA data showed dramatic

increases in accidents after 10 or 11 hours driving, the agency greatly reduced the apparent increase by fitting it to a cubic curve and multiplying it by the average risk over the first 11 hours. *See OOIDA*, 494 F.3d 1209. This Court again rejected the agency's cost-benefit analysis, noting that no other studies had altered the TIFA data in this way, and that FMCSA had not explained its methodology or subjected it to public comment. *Id.*

In response to this Court's concern that details of its cost-benefit model were lacking, FMCSA made only minimal effort to supplement the record. Although it now provides "more information" about its methodology for estimating time-on-task effects, the modeling it uses to determine the risk of accidents and for predicting massive benefits to industry is still basically unexplained. FMCSA never even says how many lives would have to be saved before it would consider the rule to be "cost effective." Thus, the public cannot evaluate the validity of these results. Because the agency did not reveal the data on which it based its analysis for "public evaluation," *Chamber of Commerce*, 443 F.3d at 899, this Court should again disregard the cost-benefit analysis. *See Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 541 (D.C. Cir. 1983).

b. FMCSA’s Cost-Benefit Model Rests on Flawed Inputs.

The data on which FMCSA relied to determine time-on-task in fatigue-related crashes is inadequate. To determine the number of crashes associated with fatigue, the agency relied on the Fatality Analysis Reporting System (FARS). However, as FMCSA has repeatedly acknowledged, fatigue is systemically underreported in the FARS database. *See, e.g.*, 73 FR 69578; 65 FR 25545-46. It is often difficult to link accidents with fatigue because “fatigued drivers are more prone to various types of mental error” resulting from lapses in attention. 65 FR 25545. Moreover, fatigue is difficult to detect. The agency has discussed at length the problems inherent in relying on police officers to detect that a truck driver was fatigued, after the crash has produced an adrenaline surge that eliminates any sign of fatigue. *See* 65 FR 25545; PRE (“[T]here is no objective measure of fatigue that can be used by an investigating officer.”); Campbell 9; *see also* Campbell & Belzer, *Hours of Service Regulatory Evaluation Analytical Support* 3 (2000) (“Fatigue, of course, is particularly difficult to assess, even with in-depth investigations, since there is no physical evidence of fatigue.”).

Nor are there settled methods for reporting fatigue: “Some police crash reporting forms do not contain a check-off block for driver fatigue or drowsiness—if the driver is not coded as ‘asleep,’ no alternative classification to indicate a lesser degree of drowsiness is available to the enforcement official.” DOT Literature Review 17. Overall, FARS records “no contributing factor” for about 60 percent of truck drivers involved in fatal crashes, and five states recorded *no* truck driver fatigue or only a few cases of fatigue in the 12 years of data analyzed. Campbell 1-2. Given the poor state of the FARS database with respect to fatigue coding, Campbell concluded “that the incidence of fatigue in the FARS file underestimates the true incidence of fatigue in fatal crashes.” *Id.* at 2.

Because FARS does not record the number of hours driven at the time of an accident, FMCSA attempted to supplement the data with TIFA. However, TIFA data collection is based on telephone interviews with truck drivers or trucking-company officials, many of whom are reluctant to admit fault. 2008 IIHS 1. This method of data collection is especially problematic because the data was collected at a time when driving more than 10 hours was prohibited and, therefore, “[o]ne might expect that drivers/carriers

would be reluctant to report driving beyond the legal limits.” *See* Campbell 9.

Where a truck driver is killed in a crash, TIFA relies on interviews with police officers and other involved parties—often up to a year after the accident—who may have no idea how many hours a trucker had driven before the accident. *Id.* Altogether, the number of hours of driving at the time of the fatal crash could not be determined in about 31% of cases. *Id.*

By combining the already-inadequate FARS data with TIFA, FMCSA produced a data set that is inadequate on its face. According to the data, only 9 fatigue-related fatal crashes occurred in the 11th hour of driving during the twelve-year period of 1991 to 2002. As FMCSA previously recognized:

“Whatever the statistical risk of driving in the 11th hour, FMCSA cannot make a reasonable choice between a 10- and an 11-hour driving limit on the basis of only 9 fatal crashes over a 12-year period.” 70 FR 50011-12.

FMCSA’s decision to rely on this data in opposition to its own previous position and decades of contrary findings was not the result of “reasoned analysis.” *Ramaprakash v. FAA*, 346 F.3d 1121, 1124 (D.C. Cir. 2003).

c. FMCSA's Reliance on Productivity Gains to Justify Its Rule Is Flawed.

At the same time that FMCSA downplays the significance of longer hours to avoid justifying them, FMCSA's RIA continues to extol the longer hours to show huge productivity gains under the rule. According to the RIA, the restart provision, by facilitating additional driving hours and requiring fewer drivers, is the rule's chief contribution to industry productivity. 73 FR 69580. Based on survey data, the 2008 RIA found "the 11th hour is definitely being used," *id.* at 23, and its analysis assumed usage as high as 55%. *Id.* at 64 (Exh. 6-2). FMCSA's contradictory positions about whether truckers are driving (or will drive) longer hours are not "well-reasoned, logical[,] and consistent," and are "in short, arbitrary and capricious." *McDonnell Douglas Corp. v. Dep't of Air Force*, 375 F.3d 1182, 1191 (D.C. Cir. 2004).

In addition, the agency ignored the comments of Michael Belzer, who pointed out that FMCSA's economic analysis was limited to the narrow benefits to the trucking industry resulting from the need to hire fewer drivers. 2008 Belzer 1-3. As Belzer noted, FMCSA's analysis failed to account for the economic impact of accidents on other industries, including shippers and consumers, or the nationwide economic benefits of employing

more truckers for truckers, the trucking industry, and society in general. *Id.* Nor, as explained in the next section, does FMCSA's modeling take into account the personal and societal cost of the endemic health problems caused by long hours of driving. In short, FMCSA's cost-benefit analysis simply ignored most of the rule's costs.

Finally, the agency's focus on productivity at the expense of driver safety is contrary to its statutory responsibilities. In 1999, Congress directed FMCSA to "reduce the number and severity of large-truck involved crashes," which even then were occurring at a rate that Congress found "unacceptable." MCSIA §§ 3(1), 4(2). Congress left no doubt about its seriousness, stressing its "clear intent" to further "the highest degree of safety in motor carrier transportation" and directing FMCSA to consider safety its "highest priority." 49 U.S.C. § 113(b). No matter how strenuously FMCSA argues that its rule benefits industry, it has failed to comply with Congress's directive. Indeed, the agency built its 2008 RIA on the assumption that additional truckers will be injured and killed, but that the value of these truckers' lives is outweighed by corresponding productivity

gains. Congress, however, directed to FMCSA to enhance safety, not to increase “productivity.”

II. THE 2008 RULE IS CONTRARY TO LAW AND ARBITRARY AND CAPRICIOUS IN FAILING TO “ENSURE” PROTECTION OF DRIVERS’ HEALTH.

MCSA requires that FMCSA regulations “[a]t a minimum ... ensure that ... the operation of commercial motor vehicles does not have a deleterious effect on the physical condition of the operators.” 49 U.S.C. § 31136(a)(4). The agency must also “consider, to the extent practicable and consistent with the purposes of this chapter—costs and benefits.” 49 U.S.C. § 31136(c)(2); *see also id.* § 31502(d). In *Public Citizen*, this Court vacated the rule because the agency had failed to take any account of its responsibility to protect driver health. In response to the decision, FMCSA commissioned TRB to review literature relating to trucker health issues.

TRB found that:

- “Lung cancer is likely caused by exposure to diesel exhaust and the longer that exposure lasts the more likely it is that a cancer will develop.” TRB 8, 49.
- “Though the evidence linking this exposure to bladder cancer is less robust than that to lung cancer, it remains likely that there is such a relationship and that it is governed by a positive dose-response curve.” *Id.*

- “Based on exposure assessments, noise-induced hearing loss could well be a result of a working lifetime as a driver.” *Id.*
- “There are several studies available ... that contain objective evidence of vertebral pathology related to an occupation as a professional driver.” *Id.*
- “There is some evidence that cardiovascular disease is caused in part by truck driving and its risk increases with the duration of this activity and the disruption of the sleep cycle.” *Id.*

FMCSA praised the “nationally known health and fatigue experts” who performed the review and “did not dispute that there are some links between driving and various health conditions.” 73 FR 69573. FMCSA did not commission any new research or identify any studies indicating that its rule would improve driver health or even maintain it at the level. Nevertheless, the agency “reaffirm[ed] ... the conclusion it reached in 2005,” that allowing drivers to drive and work many more hours “neither causes nor exacerbates the risks associated with driving a [commercial motor vehicle].” 73 FR 69573.

FMCSA’s determination is contrary to a massive body of scientific and medical research, and, given TRB’s findings, “is so implausible” that it cannot “be ascribed to a difference in view or the product of agency expertise.” *State Farm*, 463 U.S. at 43. Moreover, the agency’s decision to

adopt a rule that substantially increases daily and weekly driving and working hours, without even *estimating* the health costs associated with those increases, failed to satisfy the agency's statutory responsibility to protect driver health and to consider the costs and benefits of its rules. For these reasons, the 2008 rule, like its 2003 and 2005 predecessors, is both contrary to law and arbitrary and capricious. *See Nextwave Personal Communications, Inc. v. FCC*, 254 F.3d 130, 149 (D.C. Cir. 2001); *Motor Vehicle Mfrs. Ass'n v. Ruckelshaus*, 719 F.2d 1159, 1164 (D.C. Cir. 1983).

A. Lung and Bladder Cancer

Many trucks have diesel engines, which constantly expose drivers to elevated levels of diesel exhaust in trucks and at freight docks. EPA, *Health Assessment Document for Diesel Engine Exhaust 2-107* (2002) (2004-19608-1995) ("EPA HAD"); 2005 NIOSH 4. Diesel exhaust is considered a "probable" human carcinogen by EPA, the World Health Organization, the International Agency for Research on Cancer, the U.S. Department of Health and Human Services' National Toxicology Program, and NIOSH. 70 FR 49984; 2005 NIOSH 3. TRB found many studies reporting significant

associations between lung cancer and diesel exhaust exposure from truck driving. TRB 10, 13-14, 31; *see* 70 FR 49984, 49986.

In the 2008 rule, FMCSA acknowledged TRB's findings and admitted that "exposure to diesel exhaust probably entails some risk to drivers." 73 FR 69573. But the agency did not even attempt to understand the impact that its rule would have on driver health, instead complaining that "all of the studies" lacked a "dose-response curve ... that would allow FMCSA to estimate reliably the effect of longer or shorter driving and on-duty time on driver health." 73 FR 69570. EPA, however, managed to conduct a comprehensive cost-benefit analysis of the effect of diesel exhaust even without a dose-response curve. 66 FR 5105-08. Based on "epidemiologic evidence, as well as supporting data from certain animal and mode of action studies," EPA adopted a 2001 rule reducing diesel exhaust from new heavy-duty highway engines and vehicles in 2007 and requiring cleaner diesel fuel in 2006. 66 FR 5002, 5022 (2001).

Although EPA could not pinpoint a precise cancer-unit risk, it relied on studies to select a relative risk of 1.4 as a reasonable estimate. EPA HAD 8-11, 8-13, 9-22. "This risk means that the workers faced an extra risk 40%

higher than the 5% background lifetime lung cancer risk in the U.S. population” and that diesel-exhaust-exposed workers “would have an excess risk of 2% ... (i.e., to develop lung cancer) due to occupational exposure to [the exhaust].” *Id.* at 8-14. Similarly, the Mine Safety and Health Administration adopted rules reducing miners’ exposure to diesel particulates. 66 FR 5706, 5774 (2001); 66 FR 5526, 5582 (2001). After reviewing 47 epidemiologic studies, the agency concluded “that long term exposure to diesel exhaust in a variety of occupational circumstances is associated with an increased risk of lung cancer.” 66 FR 5709; 66 FR 5638.

FMCSA has acknowledged that “the longer that exposure [to exhaust] lasts the more likely it is that a cancer will develop”—or, in other words, that a positive dose-response curve exists. 73 FR 69573. Moreover, it has acknowledged that 1990 and 1998 Steenland studies (2004-19608-2067, -2068) (lodged), which it praised as “the best works to date on [diesel exhaust], lung cancer, and truck driving,” predict a lifetime excess risk of lung cancer of 1-2% in truck drivers. 70 FR 49986. The agency also recognized that “[t]he difference between 1 percent and 2 percent is obviously quite large.” *Id.* Indeed, even a 1% lifetime excess risk for lung cancer is *10 times greater*

than the 1/1,000 excess risk that generally triggers regulation by the Occupational Safety and Health Administration (“OSHA”); Steenland 227 (1998) (lodged); *e.g.*, 65 FR 68262, 68269 (2000) (OSHA rule, citing *Industrial Union Dep’t v. Am. Petroleum Inst.*, 448 U.S. 607 (1980)).

As this Court observed, uncertainty about the magnitude of risk is no justification for disregarding the risk entirely. *Public Citizen*, 374 F.3d at 1219. This is especially true where the harm envisioned is a fatal disease like cancer. *Env’tl Defense Fund v. EPA*, 598 F.2d 62, 88 (D.C. Cir. 1978) (“Where the harm envisaged is cancer, courts have recognized the need for action based upon lower standards of proof than otherwise applicable.”). Even if FMCSA entertains serious doubts about how strongly a rule adversely affects drivers, MCSA’s mandate compels the agency to resolve those doubts in favor of protecting driver health. And it certainly cannot greatly increase driver hours—and exposure to the cancer-causing agent—while ascribing *no* health costs to that action.

B. Hearing Loss

FMCSA’s treatment of driver hearing loss was particularly egregious. The agency recognized TRB’s conclusion that “noise-induced hearing loss

could be a result of a working lifetime as a driver.” 73 FR 69573. In the same paragraph, however, the agency claimed it was “not aware of any data or epidemiological evidence that the noise levels in [trucks] may lead to significant hearing loss.” *Id.*

The basis for FMCSA’s assertion appears to be that “tests and the research have not shown that truck noise exceeds OSHA or FMCSA standards.” *Id.* That assertion is incorrect. FMCSA has previously cited 1997 and 1998 studies showing that truckers’ exposure to noise levels approached (and sometimes exceeded) the OSHA/FMCSA 90-dBA limits. 70 FR 49987; *see* Robinson (1997) (2004-19608-2080) (concluding that truck-cabin noise was “loud enough to warrant concern for truck driver hearing loss”); Seshagiri 205, 208 (1998) (2004-19608-100). The Seshagiri study found 10.7% of long-haul drivers were exposed to noise levels exceeding 90 dBA. Seshagiri 210 (lodged); *see also* TRB 25.

In any event, FMCSA provides no basis for contending that noise levels as high as 89 dBA (and even higher), to which drivers may be exposed for *well over 8 hours*, do not endanger truckers’ hearing. The agency overlooked that OSHA’s regulation (which does not govern truckers)

mandates a hearing conservation program, including monitoring and other protections, for workers exposed to 85 dBA for eight hours. 29 C.F.R.

§ 1910.95(c). FMCSA also ignored TRB's citation to the American College of Occupational and Environmental Medicine's 2002 statement that "the risk of noise-induced hearing loss is considered to increase significantly with chronic exposures above 85 dBA for an 8-hr. time-weighted average," TRB 11, and similar assessments. *See, e.g.*, National Institutes of Health Consensus Development Conference Statement (1990), <http://consensus.nih.gov/1990/1990NoiseHearingLoss076html.htm> (85 dBA for 8 hours per day produces permanent hearing loss). Nor did it acknowledge TRB's finding that "[a]dditional hours on the job will affect the long-term hearing acuity of drivers." TRB 25.

C. Lower-Back Pain and Other Back Disorders

FMCSA's rejection of the overwhelming evidence of truckers' serious back disorders, especially lower-back pain, was also cavalier. In 2007, drivers suffered the third highest total musculoskeletal disorders among U.S. workers. *Lost-Worktime Injuries and Illnesses, 2007*, <http://www.bls.gov/news.release/pdf/osh2.pdf>. TRB concluded there was "objective evidence of

vertebral pathology related to an occupation as a professional driver” and that “available data support the hypothesis that there is likely a causative relationship between professional driving and a variety of vertebral disorders as well as [lower-back pain].” TRB 8. Of studies examining driving and equipment-operating professions, 39 of 40 found elevated risks of back disorders. Teschke 10 (1999) (2004-19608-2001). Moreover, those injuries are likely to be exacerbated by longer driving hours. NIOSH reported that severe lower-back injury rates are highest among operators working more than 50 hours per week. Krause 570, 577, 579 (2004) (2004-19608-1856). For every 10-hour increase in weekly driving, injury rates went up 12% and severe injury rates 39%. *Id.*

FMCSA sidestepped the problem by focusing narrowly on whether research shows a causal association between “whole-body vibration” and lower-back pain, rather than on whether drivers experience more back pain and injuries with longer driving and working hours. 43 FR 69573. FMCSA cited the Teschke literature review for the proposition that many risk factors relate to back pain, “mak[ing] it difficult to isolate the effects of [whole-body vibration],” 70 FR 49988, without mentioning that those other risk factors

(including lifting, poor posture, or sitting for long periods of time) are also associated with truck driving. *Id.*; Teschke 7-8. FMCSA’s mandate to protect driver health requires it to address drivers’ back problems regardless of whether caused by whole-body vibration or some other job-related factor.

In any event, compelling evidence *does* link whole-body vibration to back disorders. The NIOSH study, ignored by FMCSA, contained findings directly applicable to truckers, concluding that “[t]here is strong evidence of a positive association between exposure to [whole-body vibration] and back disorder.” Bernard, *Musculoskeletal Disorders and Workplace Factors* 6-33 (1997), <http://www.cdc.gov/niosh/pdfs/97-141.pdf>. The agency’s only basis for rejecting this evidence was its assertion that truck vibration, although “close to the International Organization for Standardization (ISO) health risk threshold, ... did not consistently exceed that threshold.” 73 FR 69573. Again, the agency is wrong. Teschke’s literature review, which FMCSA praised as “thorough,” found that 22 of 25 studies observed vibration levels exceeding the ISO 8-hour standard, and only 7 reported average levels for individual vehicles below the standard. Teschke 14. In light of FMCSA’s failure to address the evidence, there is no support for its “best judgment”

that whole-body vibration “does not pose a significant health risk” to drivers. 73 FR 49988.

D. Adverse Effects of Longer Work Hours

FMCSA mostly ignored the “peer-reviewed research [that] suggests potential *long-term* health effects associated with repeated periods of extended duty.” 2005 NIOSH 2. FMCSA discussed little of this vast body of scientific literature, *see* 2005 AHAS 21, 24-33; AHAS Comments 21-28 (1997) (1997-2350-499); Belzer 21-25 (2002) (2004-19608-79), despite its previous recognition that findings from shiftwork research apply to truck driving. DOT Literature Review 108.

The research FMCSA did acknowledge should have set off alarms. FMCSA cited a recent study finding a high rate of ischemic heart disease among unionized truck drivers and another finding that weekly work time exceeding 60 hours increased two-fold the risk of acute myocardial infarction. 73 FR 69570 n.11; 70 FR 49989; Laden *et al.*, *Cause-Specific Mortality in the Unionized U.S. Trucking Industry*, 226 *Env'tl Health Perspectives* 1192-96 (lodged); Liu 447, 449 (2004) (2004-19608-2047) (lodged). The agency also acknowledged TRB’s finding “that there is some evidence that

cardiovascular disease (CVD) is caused in part by truck driving, and its risk increases with the duration of this activity and the disruption of the sleep cycle.” 73 FR 69573.

The seriousness of the risks are backed up by the results of the NIOSH proceedings on trucker health, initially released in 2003 and updated in 2007. *See* NIOSH Proceedings. The NIOSH report documents the toll that long and irregular hours of work, accumulated sleep debt, desynchronized circadian rhythms, sedentary lifestyles, separation from friends and family, and stress take on truck driver health. *Id.* NIOSH data showed that truckers are 7 times more likely to die on the job, 2.5 times more likely to suffer a job-related injury, and have significantly shorter life spans than the average U.S. worker. *Id.* As FMCSA recognized:

NIOSH found that individuals working long hours generally have greater risk of unhealthy weight gain, increased alcohol use, increased smoking, increased health complaints, increased injuries while working, poorer neuropsychological performance, reduced vigilance on task measures, reduced cognitive function, reduced overall job performance, slower work, and decreased alertness and increased fatigue, *particularly in the 9th to 12th hours of work.*

70 FR 49989 (emphasis added).

Moreover, unlike FMCSA, NIOSH addressed the *cumulative* effects of long daily and weekly hours, finding “[a] pattern of deteriorating performance on psychophysiological tests as well as injuries while working long hours ... observed across study findings, *particularly with very long shifts and when 12-hour shifts combined with more than 40 hours of work a week.*” NIOSH Proceedings iv, 27 (emphasis added). In 16 of 22 studies, NIOSH found that “overtime was associated with poorer perceived general health, increased injury rates, more illnesses, or increased mortality.” *Id.*

Rather than addressing NIOSH’s findings, FMCSA mischaracterizes them. Seizing on NIOSH’s recognition that definitive statements about 8-versus 12-hour shifts were difficult because of work schedule differences, *id.*, FMCSA reads the findings only for the proposition that “research questions remain about the ways overtime and extended work shifts influence health and safety.” 73 FR 69574. If FMCSA waits until every research question has been answered, it will never do anything to protect driver health. The existence of unanswered questions does not absolve FMCSA of its responsibility to protect truckers from documented health risks, much less give it authority to dramatically increase drivers’ exposure to those risks.

* * *

MCSA requires FMCSA to “ensure” that its rules have no “deleterious effect” on driver health. In light of its statutory obligation, FMCSA does not have the option of turning a blind eye to the overwhelming body of medical and scientific research demonstrating that increasing legal weekly driving hours by 26-28% and work hours by 40% can only harm drivers’ health, while it “awaits the Godot of scientific certainty.” *Public Citizen Health Research Group v. Chao*, 314 F.3d 143, 156 (3d Cir. 2002) (citation omitted). FMCSA’s failure “to take account of this statutory limitation on [its] authority” violates the APA. *United Mine Workers of America v. Dole*, 870 F.2d 662, 673 (D.C. Cir. 1989). Moreover, FMCSA’s “best judgment” that driving many more hours will have *no* negative impact on driver health, 73 FR 69573, is arbitrary and “runs counter to the evidence before the agency.” *Chemical Mfrs. Ass’n v. EPA*, 217 F.3d 861, 866 (D.C. Cir. 2000) (citation omitted).

CONCLUSION

The Court should vacate the rule and remand.

Dated: August 27, 2009

Respectfully submitted,

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RULE 32(a)(7)(C) CERTIFICATE

I hereby certify that the foregoing Initial Brief for Petitioners complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B). The brief is composed in a 14-point proportional typeface, Century Expanded. As calculated by my word processing software (Word 2003), the brief (excluding those parts permitted to be excluded under the Federal Rules of Appellate Procedure and the D.C. Circuit Rules) contains 13,236 words.

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CERTIFICATE OF SERVICE

I certify that on August 27, 2009, I electronically filed the foregoing brief with the Clerk of the Court by using the CM/ECF system, which will send a notice of electronic filing to the following:

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