

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued December 4, 2006

Decided July 24, 2007

No. 06-1035

OWNER-OPERATOR INDEPENDENT DRIVERS ASSOCIATION,
INC.,
PETITIONER

v.

FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION,
RESPONDENT

INTERNATIONAL BROTHERHOOD OF TEAMSTERS, AFL-CIO, ET
AL.,
INTERVENORS

Consolidated with
06-1078

On Petitions for Review of a Final Rule of the
Federal Motor Carrier Safety Administration

Paul D. Cullen, Jr. argued the cause for petitioner
Owner-Operator Independent Drivers Association, Inc. With
him on the briefs was *Paul D. Cullen, Sr.* *Daniel E. Cohen*
entered an appearance.

Bonnie I. Robin-Vergeer argued the cause for petitioners Public Citizen, Inc., et al. With her on the briefs were *Brian Wolfman* and *Scott L. Nelson*. *James A. McCall* entered an appearance.

Kenneth E. Siegel was on the briefs for intervenors California Trucking Association, et al.

Michele M. Fields was on the brief for *amicus curiae* Insurance Institute for Highway Safety in support of petitioners.

Matthew M. Collette, Attorney, U.S. Department of Justice, argued the cause for respondents. With him on the brief were *Peter D. Keisler*, Assistant Attorney General, *Robert S. Greenspan*, Attorney, and *Paul M. Geier*, Assistant General Counsel, Federal Motor Carrier Safety Administration.

Robert Digges, Jr., *Erika Z. Jones*, *Adam C. Sloane*, *David M. Gossett*, *John M. Cutler, Jr.*, *Nicholas J. DiMichael*, and *C. Fairley Spillman* were on the brief of intervenors American Trucking Associations, Inc., et al. in support of respondent. *Karyn A. Booth* entered an appearance.

Before: GINSBURG, *Chief Judge*, and HENDERSON and GARLAND, *Circuit Judges*.

Opinion for the Court filed by *Circuit Judge* GARLAND.

GARLAND, *Circuit Judge*: In order to ensure highway safety and protect driver health, Congress has charged the Federal Motor Carrier Safety Administration with regulating the hours of commercial motor vehicle operators. In 2005, the agency promulgated a final rule revising its existing regulations in a number of respects. Two groups -- one led by Public Citizen and the other by the Owner-Operator Independent Drivers

Association -- now seek review of the portion of the rule that applies to long-haul truck drivers.

We reject the challenges raised by the Owner-Operators, but grant the petition filed by Public Citizen. We conclude that the agency violated the Administrative Procedure Act because it failed to give interested parties an opportunity to comment on the methodology of the crash-risk model that the agency used to justify an increase in the maximum number of daily and weekly hours that truck drivers may drive and work. We also find that the agency failed to provide an explanation for critical elements of that methodology.

I

This is the second time this court has considered a challenge to the Federal Motor Carrier Safety Administration's attempt to modify its hours-of-service regulations. Much of the relevant background is set forth in our opinion in *Public Citizen v. FMCSA*, 374 F.3d 1209 (D.C. Cir. 2004), which vacated a prior iteration of the rule now before us. We first review that background and then describe the development of the current rule.

A

The federal government has regulated the hours of service (HOS) of commercial motor vehicle operators since the late 1930s, when the Interstate Commerce Commission (ICC) promulgated the first HOS regulations under the authority of the Motor Carrier Act of 1935. *See* 49 U.S.C. § 31502(b)(1) (authorizing the prescription of "maximum hours of service" for motor carrier employees). Jurisdiction over HOS regulations passed from the ICC to the Federal Highway Administration (FHWA) in 1995, and then to the newly created Federal Motor

Carrier Safety Administration (FMCSA) in 2000. Along the way, Congress added to the statutory basis for the HOS regulations. The current rule was promulgated under the authority of both the Motor Carrier Act of 1935 and the Motor Carrier Safety Act of 1984, which, as amended, directs the Secretary of Transportation to “prescribe regulations on commercial motor vehicle safety,” 49 U.S.C. § 31136(a), and provides that “[a]t a minimum, the regulations shall 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 . . . 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.

Id. In addition, FMCSA is required to “consider the assignment and maintenance of safety as the highest priority,” *id.* § 113(b), and to consider the “costs and benefits” of its safety regulations, *id.* § 31502(d); *see id.* § 31136(c)(2)(A).

Between 1940 and 2003, the HOS regulations applicable to long-haul truck drivers¹ remained largely unchanged. Five aspects of the pre-2003 regulations are relevant to the petitions before us:

¹FMCSA distinguishes long-haul truck drivers from short-haul drivers. The latter generally “return to their work-reporting location every night” and operate “within a 150 air-mile radius from their terminals.” Hours of Service of Drivers, 70 Fed. Reg. 49,978, 50,031 (Aug. 25, 2005).

- *The daily driving limit.* Drivers were not allowed to drive for more than a total of 10 hours without taking a required off-duty period. 49 C.F.R. §395.3(a)(1) (2002) (superseded).
- *The daily on-duty limit.* Even if they had not reached the 10-hour driving limit, drivers could not drive after they had been on duty for 15 hours. *Id.* § 395.3(a)(2). Drivers could, however, “take periodic ‘off-duty’ breaks during the day, thus extending the fifteen-hour driving-eligible ‘on duty’ period beyond fifteen hours.” *Public Citizen*, 374 F.3d at 1212.
- *The daily off-duty requirement.* In order to restart the 10-hour driving limit and the 15-hour on-duty limit, drivers were required to take at least 8 consecutive hours off duty. 49 C.F.R. § 395.3(a) (2002) (superseded).
- *The sleeper-berth exception.* The regulations contained an exception to the 8-hour off-duty requirement for drivers who took their off-duty time in a “sleeper berth,” a compartment in the cabin of a truck with space for a driver to rest. Drivers could accumulate their required 8 hours of off-duty time in two separate periods in a sleeper berth as long as each was at least 2 hours long. *Id.* § 395.1(g).
- *The weekly on-duty limit.* Drivers were not allowed to drive after having been on duty for 60 hours in the past 7 days. *Id.* § 395.3(b).²

²Drivers employed by carriers that operated every day of the week were subject to a slightly different limit, which barred them from driving after having been on duty for 70 hours in the past 8 days. *See*

All of these requirements were “limits on the time drivers could work *and still drive*; so far as the rules went, drivers who worked more than the daily or weekly limits could still *work* as long as they did not *drive*.” *Public Citizen*, 374 F.3d at 1212.

In the ICC Termination Act of 1995, Congress directed the FHWA to revise these regulations by conducting a rulemaking “dealing with a variety of fatigue-related issues pertaining to commercial motor vehicle . . . safety.” 49 U.S.C. § 31136 note. Congress specifically instructed the agency to address the following issues:

8 hours of continuous sleep after 10 hours of driving, loading and unloading operations, automated and tamper-proof recording devices, rest and recovery cycles, fatigue and stress in longer combination vehicles, fitness for duty, and other appropriate regulatory and enforcement countermeasures for reducing fatigue-related incidents and increasing driver alertness.

Id. FHWA issued an advance notice of proposed rulemaking (ANPRM) in 1996. *See* 61 Fed. Reg. 57,252 (Nov. 5, 1996). Jurisdiction over the HOS regulations then passed to FMCSA, which issued a notice of proposed rulemaking (NPRM) in 2000. *See* 65 Fed. Reg. 25,540 (May 2, 2000) (“2000 NPRM”). The 2000 NPRM explained that “[t]here is general consensus that modifications to current HOS regulations would substantially improve [commercial motor vehicle (CMV)] safety by reducing the fatigue factor in CMV-involved crashes.” *Id.* at 25,540.

49 C.F.R. § 395.3(b) (2002) (superseded). All of the rules and proposed rules discussed in this Opinion contain(ed) the same set of 7- and 8-day limits. For simplicity, we hereinafter refer only to the 7-day limit.

In the 2000 NPRM, the agency made a number of specific findings that identified shortcomings in the pre-2003 HOS regulations. First, FMCSA found that “people are much more alert and have better reaction times when they are on regular, twenty-four-hour circadian schedules.” *Public Citizen*, 374 F.3d at 1213; *see also* 2000 NPRM, 65 Fed. Reg. at 25,554. The pre-2003 regulations allowed drivers to alternate between 10-hour driving shifts and 8-hour off-duty periods, creating the potential for a “backward rotating” schedule in which they started each “day” six hours earlier than the one before. Second, the agency concluded that “[e]ach driver should have an opportunity for eight consecutive hours of uninterrupted sleep every day.” 2000 NPRM, 65 Fed. Reg. at 25,554. In the agency’s view, the old regulations’ 8-hour off-duty period was too short to allow drivers to eat, commute, and conduct other personal activities while still getting enough sleep. *See id.* Third, FMCSA concluded that drivers need weekly recovery periods “to negate the effect of accumulated week-long sleep deprivation and restore alertness.” *Id.* at 25,555. The old regulations contained no weekly off-duty requirement. Finally, FMCSA found that “performance degrades and crash risk increases markedly after the 12th hour of any duty time during a work shift.” *Id.* at 25,556. The pre-2003 regulations permitted only 10 hours of driving per shift, but allowed an operator to drive anytime up to his or her 15th hour on duty, and to extend the 15-hour window by taking off-duty breaks.

Based on these findings, the 2000 NPRM proposed significant changes to the existing HOS regulations. Instead of a 10-hour daily driving limit and a 15-hour daily on-duty limit, the 2000 NPRM proposed allowing up to 12 hours of working *or* driving time, and requiring an additional 2 hours of off-duty time at some point during each shift. *Id.* at 25,568 tbl.5, 25,581. The 2000 NPRM also proposed increasing the 8-hour daily off-duty requirement to 10 consecutive hours and mandating a new

weekly off-duty requirement of between 32 and 56 consecutive hours, with the required length depending on the amount of time needed to “include two sleep periods between midnight and 6:00 a.m.” *Id.* Finally, the NPRM proposed eliminating the sleeper-berth exception for solo drivers. Team drivers -- who work in two-person teams and often use the sleeper berth to allow one driver to obtain the required off-duty time while the other continues to drive -- could still use the sleeper-berth exception, but each period of time in the sleeper berth would have to be at least 5 hours (up from 2 hours under the old regulations). *See id.* at 25,586-87.

FMCSA issued a final rule in April 2003. *See Hours of Service of Drivers*, 68 Fed. Reg. 22,456 (Apr. 28, 2003) (“2003 Rule”). As we explained in *Public Citizen*, the 2003 Rule “was still a significant revision to the old [pre-2003] rules, but differed markedly from the [2000 NPRM].” 374 F.3d at 1214. The Rule modified three of the five aspects of the pre-2003 regulations discussed above, and added a sixth:

- *The daily driving limit.* The 2003 Rule increased (over the pre-2003 regulations) the daily driving limit from 10 hours to 11 hours. *See* 2003 Rule, 68 Fed. Reg. at 22,457.
- *The daily on-duty limit.* The 2003 Rule reduced the daily on-duty limit from 15 to 14 hours and prohibited drivers from extending that limit by taking off-duty breaks during their shifts. *See id.*
- *The daily off-duty requirement.* Like the 2000 NPRM, the 2003 Rule increased the daily off-duty requirement from 8 hours to 10 hours. *See id.*

- *The sleeper-berth exception.* The 2003 Rule abandoned the 2000 NPRM's proposed changes to the sleeper-berth exception. Instead, it preserved the same kind of exception that existed under the pre-2003 regulations: a driver using a sleeper berth could satisfy the off-duty requirement in two separate periods as long as each of them was at least 2 hours long. *See id.* at 22,501.
- *The weekly on-duty limit.* The 2003 Rule preserved the 60-hour weekly on-duty limit, but created a new exception to this requirement, the "34-hour restart provision." *See id.* at 22,457.
- *The 34-hour restart provision.* The 2003 Rule allowed drivers to restart their weekly on-duty clocks whenever they took 34 consecutive hours off duty. *See id.* This was a significant shift from the 2000 NPRM: instead of *requiring* a 32- to 56-hour off-duty period each week (a change that would have decreased average hours worked), the 2003 Rule *permitted* drivers to restart their 60-hour limit anytime they took 34 hours off duty. This change allowed drivers to work substantially longer hours per week -- as many as 17 more hours over 7 days. *See Public Citizen*, 374 F.3d at 1215.

A group of petitioners led by Public Citizen challenged the 2003 Rule on a variety of grounds. We agreed with them that "the rule [was] arbitrary and capricious because the agency failed to consider the impact of the rule[] on the health of drivers, a factor the agency must consider under its organic statute." *Id.* at 1216; *see* 49 U.S.C. § 31136(a)(4). "Because the agency ha[d] wholly failed to comply with this specific statutory requirement," we found "this single objection from petitioners

. . . sufficient to establish an arbitrary-and-capricious decision requiring vacatur of the rule.” *Public Citizen*, 374 F.3d at 1216.

This disposition made it unnecessary for us to “enter final judgment” on Public Citizen’s other objections to the 2003 Rule. *Id.* We noted, however, that several of those objections “also raise[d] troubling concerns about [FMCSA’s] decisionmaking process,” and that the agency could consider the objections on remand. *Id.* First, we expressed “very real concerns” about the increase in the daily driving limit from 10 to 11 hours. *Id.* at 1217. We noted that the “agency freely concedes that ‘studies show[] that performance begins to degrade after the 8th hour on duty and [the degradation] increases geometrically during the 10th and 11th hours.’” *Id.* at 1218 (quoting 2003 Rule, 68 Fed. Reg. at 22,471). But “[d]espite this finding, 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.*

Second, we also found suspect the agency’s claim that the increase in the daily driving limit to 11 hours could be justified by “the cost-benefit analysis it conducted.” *Id.* The model employed in that analysis, we noted, “assume[d], 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 [and] then begins to drive.” *Id.* “In other words, the model disregarded the effects of ‘time on task,’” and thus understated the risks of driving 11 hours. *Id.*

Third, “[o]ur doubts extend[ed] as well to the agency’s justification for retaining the sleeper-berth exception,” which permitted “solo and team drivers to obtain the necessary ten hours of off-duty time by splitting their rest in two periods of

time spent in sleeper berths.” *Id.* at 1219. Public Citizen “argue[d] persuasively,” we said, “that the agency’s justification for retaining this exception was not rational in view of the conceded central premise of the HOS regulations . . . that ‘[e]ach driver should have an opportunity for eight consecutive hours of uninterrupted sleep every day.’” *Id.* (quoting 2003 Rule, 68 Fed. Reg. at 22,469).

Finally, we 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 each week.” *Id.* at 1222. 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.” *Id.* at 1222-23 (citation and internal quotation marks omitted).

B

After our July 16, 2004 decision in *Public Citizen* vacated the 2003 Rule, FMCSA sought and received temporary relief from the vacatur in Congress. The Surface Transportation Extension Act of 2004, signed by the President on September 30, 2004, provided that the 2003 Rule “shall be in effect until the earlier of -- (1) the effective date of a new final rule addressing the issues raised by [*Public Citizen*]; or (2) September 30, 2005.” Pub. L. No. 108-310, § 7(f), 118 Stat. 1144, 1154 (2004).

FMCSA issued a new NPRM in January 2005. *See* 70 Fed. Reg. 3339 (Jan. 24, 2005) (“2005 NPRM”). The 2005 NPRM used the 2003 Rule as its proposal and sought “comment on what changes to that rule, if any, [were] necessary to respond to the concerns raised by the court” in *Public Citizen*. *Id.* at 3339.

In August 2005, FMCSA promulgated the rule now under review. *See* Hours of Service of Drivers, 70 Fed. Reg. 49,978 (Aug. 25, 2005) (“2005 Rule”). With a single exception, the 2005 Rule is identical to the 2003 Rule. The 2005 Rule preserves the 11-hour daily driving limit, the 14-hour daily on-duty limit, the 10-hour daily off-duty requirement, the 60-hour weekly on-duty limit, and the 34-hour restart provision. *See id.* at 49,980. The only difference between the two rules is the sleeper-berth exception. The 2003 Rule -- like the pre-2003 regulations -- permitted drivers using a sleeper berth to split their daily off-duty requirement into two periods as long as each period was at least 2 hours long. The 2005 Rule, by contrast, requires that one period consist of at least 8 hours in the sleeper berth. The other period can be spent either in the sleeper berth or elsewhere and must be at least two hours long. *See id.* at 50,030.

Although the 2005 Rule was largely unchanged from the 2003 Rule, FMCSA said that it had considered and addressed the concerns identified by this court in *Public Citizen*. As to driver health, the agency explained that it had conducted an extensive literature review to determine the effect of the rule on a variety of health issues, and concluded that the 2005 Rule would either have no effect or yield a net improvement over the pre-2003 regulations. *See id.* at 49,991-92.

FMCSA also determined that the 2005 Rule would improve highway safety by reducing fatigue-related accidents. First, it explained that the 2005 Rule’s change to the sleeper-berth exception would reduce driver fatigue. It cited evidence that “sleep accumulated in short time blocks is less refreshing than sleep accumulated in one long time period,” and studies indicating that drivers using the split-sleeper-berth provision of the pre-2003 regulations were more likely to be involved in fatal accidents. *Id.* at 49,994 (internal quotation marks omitted).

Second, FMCSA contended that the longer hours permitted by the 34-hour restart provision would not be detrimental, pointing to evidence that “a recovery period of 34 consecutive hours is sufficient for recovery from moderate cumulative fatigue” due to several days of limited sleep. *Id.* at 49,995.

Finally, FMCSA relied on a new cost-benefit analysis that it described in a Regulatory Impact Analysis (RIA) released along with the 2005 Rule. *See* FMCSA, Regulatory Impact Analysis and Small Business Impact Analysis for Hours of Service Options (2005) (J.A. 1627) (“2005 RIA”). Based on this analysis, FMCSA concluded that the economic costs to industry of rescinding the two provisions of the rule that this court had criticized in *Public Citizen* -- the increase (over the pre-2003 regulations) in the daily driving limit from 10 hours to 11 hours, and the addition of the 34-hour restart provision -- outweighed the safety benefits that rescission would bring. *See* 2005 Rule, 70 Fed. Reg. at 49,981. As explained below, a key component of the cost-benefit analysis was an operator-fatigue model that the agency used to analyze crash risks under different HOS regimes.

Public Citizen petitioned for review of the 2005 Rule, challenging the 11-hour daily driving limit and the 34-hour restart provision. The Owner-Operator Independent Drivers Association (OOIDA) also petitioned for review, challenging the provision that renders the 14-hour daily on-duty limit nonextendable and the provision that modifies the sleeper-berth exception. A group led by the California Trucking Association intervened in support of OOIDA. We consider Public Citizen’s challenge in Part II and OOIDA’s challenge in Part III.

II

We have jurisdiction to review the 2005 Rule pursuant to 28 U.S.C. § 2342(3)(A). Our standard of review is governed by the Administrative Procedure Act (APA), 5 U.S.C. § 706. *See Advocates for Highway & Auto Safety v. FMCSA*, 429 F.3d 1136, 1144-45 (D.C. Cir. 2005); *Public Citizen*, 374 F.3d at 1216. Under the APA, we must set the rule aside if it is “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law,” 5 U.S.C. § 706(2)(A), or if it was promulgated “without observance of procedure required by law,” *id.* § 706(2)(D).

Public Citizen challenges the 2005 Rule, and specifically its 11-hour daily driving limit and 34-hour restart provision, on four grounds. The petitioner contends that: (1) FMCSA violated the APA’s requirements for notice-and-comment rulemaking by failing to disclose in time for comment the methodology of a model that was central to the agency’s justification for the rule; (2) when the methodology finally was disclosed, FMCSA failed to provide a reasoned explanation for some of its critical elements, thus rendering it (and the rule) arbitrary and capricious; (3) FMCSA’s treatment of a number of other safety considerations was also arbitrary and capricious; and (4) the rule is contrary to law and arbitrary and capricious because it fails to protect driver health. As explained below, we reach only the first two arguments.

A

Public Citizen’s first contention is that FMCSA violated the APA’s requirements for notice-and-comment rulemaking by failing to disclose the methodology of the agency’s operator-fatigue model, a crash-risk analysis that was a central component of the justification for the 2005 Rule.

1. The APA requires that an agency publish notice of proposed rulemaking, including “either the terms or substance of the proposed rule or a description of the subjects and issues involved,” 5 U.S.C. § 553(b)(3), and that it “give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments,” *id.* § 553(c). As we have explained, “[i]ntegral” to these requirements “is the agency’s duty ‘to identify and make available technical studies and data that it has employed in reaching the decisions to propose particular rules. . . . An agency commits serious procedural error when it fails to reveal portions of the technical basis for a proposed rule in time to allow for meaningful commentary.’” *Solite Corp. v. EPA*, 952 F.2d 473, 484 (D.C. Cir. 1991) (quoting *Connecticut Light & Power Co. v. NRC*, 673 F.2d 525, 530-31 (D.C. Cir. 1982)); *see Chamber of Commerce v. SEC*, 443 F.3d 890, 899 (D.C. Cir. 2006); *see also Air Transp. Ass’n of Am. v. FAA*, 169 F.3d 1, 7 (D.C. Cir. 1999) (“[T]he most critical factual material that is used to support the agency’s position on review must have been made public *in the proceeding* and exposed to refutation.” (quoting *Association of Data Processing Serv. Orgs. v. Bd. of Governors of the Fed. Reserve Sys.*, 745 F.2d 677, 684 (D.C. Cir. 1984))).

2. In order to assess the costs and benefits of alternative changes to the HOS rules, FMCSA created a carrier-operations model for estimating the costs to industry of each option, as well as an operator-fatigue model for calculating the crash risks under each option. (The benefits of avoiding crashes were then monetized and incorporated into the cost-benefit analysis.) The agency explained the models in the RIA that it released along with the 2005 Rule. *See* 2005 RIA (J.A. 1627); *see also* 2005 Rule, 70 Fed. Reg. at 50,045-55. FMCSA summarized its analysis as follows:

To produce a realistic measurement of the impacts of each option, we divided the industry into broad segments, collected information on operations within these segments, and then created a model of carrier operations

The model was . . . used to simulate carrier operations under different conditions and HOS rules. . . . [W]eighted changes in productivity from this procedure were then used to estimate the cost increases imposed on the industry by each option

Safety impacts were measured by feeding the on duty and driving schedules from the carrier simulation model into an operator fatigue model to project driver effectiveness levels, and then using the fatigue model results to estimate the resulting changes in crash risks under each HOS option Changes in fatigue-related crash risks . . . were then multiplied by the value of all affected crashes to yield estimates of total benefits.

2005 RIA at ES-2 (J.A. 1629).

Many of the details of the models were unchanged from those used in the cost-benefit analysis of the 2003 Rule. *See* FMCSA, Regulatory Impact Analysis and Small Business Analysis for Hours of Service Options (2002) (J.A. 787) (“2003 RIA”). In several important respects, however, FMCSA modified the operator-fatigue model. In part, those modifications represented an effort to respond to criticisms this court leveled in our opinion vacating the 2003 Rule. One of those criticisms was that the agency had “excluded time-on-task effects from the cost-benefit analysis.” *Public Citizen*, 374 F.3d at 1219. The agency’s 2003 operator-fatigue model had estimated a driver’s crash risk solely by reference to his or her

sleep patterns, and thus assumed that time spent driving was no more fatiguing than time spent resting. *Id.* We found the decision to ignore time-on-task effects puzzling, because “the agency admits that studies show that crash risk increases, in [FMCSA’s] words, ‘geometrically,’ after the eighth hour on duty, and the agency does not deny that this geometric risk increase results at least in substantial part from time-on-task effects.” *Id.* (quoting 2003 Rule, 68 Fed. Reg. at 22,471).

In its 2005 analysis, FMCSA modified its 2003 operator-fatigue model to account for time-on-task effects. To do so, the agency commissioned a study of crash data from a national database known as “Trucks Involved in Fatal Accidents” (TIFA). *See* Kenneth L. Campbell, *Estimates of the Prevalence and Risk of Fatigue in Fatal Crashes Involving Medium/Heavy Trucks from the 1991-2002 TIFA Files* (2005) (J.A. 1712) (“TIFA Study”). The database includes over 50,000 truck-involved accidents over the years 1991-2002. 2005 RIA at 44 (J.A. 1664). The TIFA Study generated what FMCSA referred to as the “fatigue-related crash risk” for each successive hour of driving. *Id.* at 59 (J.A. 1679). For each driving hour, the study calculated the percentage of all fatal truck crashes in which it was determined that the driver was fatigued at the time of the crash. This calculation yielded the risk that a crash will be fatigue-related for each of the first twelve hours of driving time, plus an aggregated figure for all driving in Hour 13 and beyond. The figures ranged from less than 1% for Hour 1, to 4.4% for Hour 10, to 9.6% for Hour 11, to 25% for Hour 13 and beyond. *Id.* at 45 (J.A. 1665). As FMCSA observed, the “risk of . . . a fatigue-related crash in the 11th hour of driving or later is notably higher than in the 10th hour of driving.” 2005 Rule, 70 Fed. Reg. at 49,997.

But in the RIA that it released with the 2005 Rule, FMCSA did not use the crash risk figures contained in the TIFA Study.

Instead, the agency plotted the aggregate figure for Hour 13 and beyond at Hour 17, and then “fit[] a cubic curve” (derived a regression equation) for that and the other hour-by-hour figures from the TIFA Study. 2005 RIA at 58-59 (J.A. 1678-79). (The curve is reproduced in Part II.B.1 below.) Like the TIFA Study, the curve estimated the actual percentage of crashes related to fatigue for each hour of driving. The curve’s figures, however, were different from those in the TIFA Study. *See id.* In particular, the percentage difference between the figures for the 10th and 11th hours was substantially smaller than in the TIFA Study. Finally, FMCSA divided each of the hourly figures from the curve by the average risk for Hours 1 through 11, creating a risk increase “relative to average driving hours.” *Id.* at 61 (J.A. 1681). The resulting “TOT [time-on-task] crash risk multipliers” were then used in the operator-fatigue model to determine the safety impact of different HOS rules. *Id.*

FMCSA used the operator-fatigue model, along with the carrier-operations model, to determine the benefits and costs of four regulatory options. Option 1 was the 2003 Rule. Option 2 was the 2005 Rule. Option 3 was the same as Option 2, but with a 10-hour rather than 11-hour daily driving limit, with a 58-hour rather than 34-hour restart provision, and without a sleeper-berth exception. Finally, Option 4 was the same as Option 3, but with a 44-hour restart provision. *See* 2005 Rule, 70 Fed. Reg. at 50,045; 2005 RIA at ES-1 (J.A. 1628). FMCSA concluded that Option 2 -- the 2005 Rule -- was the most cost-effective of the options. *See* 2005 Rule, 70 Fed. Reg. at 50,046; 2005 RIA at ES-7 (J.A. 1634).

In addition to examining these four options, FMCSA considered a variant of Option 2, which differed only in that it imposed a 10-hour (as in the pre-2003 regulations) rather than 11-hour daily driving limit. Applying the same models, the agency concluded that reducing the driving limit to 10 hours was

“considerably less cost-effective than the basic version of Option 2.” 2005 RIA at ES-7 (J.A. 1634); *see* 2005 Rule, 70 Fed. Reg. at 50,046-47.

3. Public Citizen objects to FMCSA’s reliance on the operator-fatigue model because FMCSA did not disclose (inter alia) the methodology by which it would derive time-on-task multipliers until it published the 2005 Rule -- too late for interested parties to comment. Because the time-on-task multipliers were an integral part of the operator-fatigue model, and because the output of that model was central to FMCSA’s decision to adopt the 2005 Rule (and particularly the 11-hour daily driving limit and 34-hour restart provision), the model and its methodology were unquestionably among “the most critical factual material that [was] used to support the agency’s position.” *Air Transp. Ass’n of Am.*, 169 F.3d at 7 (citation and internal quotation mark omitted). The failure to provide an opportunity for comment on the model’s methodology therefore constitutes a violation of the APA’s notice-and-comment requirements. *See Chamber of Commerce*, 443 F.3d at 902 (finding a violation where “extra-record materials suppl[ied] the basic assumptions used by the [agency] to establish the range of costs [of] complying with [a rule’s] conditions”).

FMCSA contends that “petitioners can hardly express surprise at the use of the . . . model for assessing safety benefits, since that model is an update of the [one] used in the 2003 RIA.” FMCSA Br. 44. It is true that an agency does not violate the APA if its “methodology remain[s] constant” and new data is merely “used to check or confirm prior assessments.” *Solite Corp.*, 952 F.2d at 485; *see Chamber of Commerce*, 443 F.3d at 900 (stating that “further notice and comment are not required when additional fact gathering merely supplements information in the rulemaking record . . . without changing methodology”). But FMCSA’s methodology did *not* remain constant. The

operator-fatigue model may have employed an “update” of the methodology disclosed in the 2003 RIA, but the nature of the update -- the *derivation* of the time-on-task multipliers, and even the *use* of time-on-task multipliers -- was entirely new. Moreover, the addition of the time-on-task element to the model was not a minor modification used to check or confirm prior analyses: it constituted the agency’s response to an important defect in its previous methodology identified by this court in *Public Citizen*. See 374 F.3d at 1218-19.

Although FMCSA concedes that the time-on-task multipliers were nowhere to be found in the 2003 RIA, it contends that our opinion in *Public Citizen* should have put interested parties on notice “that the agency would have to adjust the model to account for [time-on-task] effects.” FMCSA Br. 45. This, too, misses the point. Although interested parties may have known that FMCSA would incorporate time-on-task effects into its crash-risk model, they had no way of knowing that the agency would calculate the impact of time on task in the way that it did. In particular, there was no way for *Public Citizen* to foresee the following elements of the agency’s methodology, the import of which we discuss in Part II.B:

- Instead of using the figures from the TIFA Study to determine crash risk as a function of time on task (hours driving), FMCSA fit the figures to a cubic curve. None of the studies in the rulemaking record derived such a curve. An earlier version of the TIFA Study, which was in the record, simply presented its risk figures for each hour -- derived directly from the crash data -- in bar-chart form. See Kenneth L. Campbell & Michael H. Belzer, Hours of Service Regulatory Evaluation Analytical Support 51 (2000) (“2000 TIFA Study”). The same is true of the final

TIFA Study, which was not released in time for comment. *See* TIFA Study at 12 (J.A. 1727).

- The agency drew its curve by plotting all of the data regarding fatigue-related crashes at Hour 13 and beyond at Hour 17. The TIFA studies, by contrast, aggregated all such data at “13+” hours. *See* (Final) TIFA Study at 12 (J.A. 1727); 2000 TIFA Study at 51.
- After deriving hourly fatigue-related crash-risk estimates using its curve, FMCSA divided each of those figures by the average risk for the first 11 hours. The TIFA studies did not do so. *See* (Final) TIFA Study at 12 (J.A. 1727); 2000 TIFA Study at 51.
- The operator-fatigue model did not take into account cumulative fatigue caused by the increased weekly driving and working hours permitted under the 34-hour restart provision.

In light of these undisclosed elements, we cannot say that the agency’s operator-fatigue model was “made public in the proceeding and exposed to refutation” as required by the APA. *Air Transp. Ass’n of Am.*, 169 F.3d at 7 (citation, internal quotation mark, and emphasis omitted).

4. Finally, before we may vacate an agency action for failure to disclose supporting documents (like the methodology of the operator-fatigue model) during the notice-and-comment period, we must take “due account . . . of the rule of prejudicial error.” 5 U.S.C. § 706. “To show that error was prejudicial, a [petitioner] must indicate with reasonable specificity what portions of the documents it objects to and how it might have responded if given the opportunity.” *Gerber v. Norton*, 294 F.3d 173, 182 (D.C. Cir. 2002) (internal quotation marks omitted).

Moreover, a petitioner must “show that on remand [it] can mount a credible challenge . . . and [was] thus prejudiced by the absence of an opportunity to do so before” the agency. *Id.* at 184 (quoting *Utility Solid Waste Activities Group v. EPA*, 236 F.3d 749, 755 (D.C. Cir. 2001)).

We have no difficulty in concluding that the agency’s failure to disclose the methodology of the operator-fatigue model in time for comment was prejudicial. The arguments that the petitioner has raised before this court amply demonstrate that it would have mounted a “credible challenge” had it been afforded an opportunity to do so. *See Chamber of Commerce*, 443 F.3d at 904 (finding a sufficient showing of prejudice where the petitioner’s objections had “creat[ed] enough” uncertainty as to whether its “comments would have had some effect if they had been considered” (citation and internal quotation marks omitted)). We discuss those arguments in the following subpart. Indeed, as we explain below, Public Citizen’s critique of the model persuades us not only that it was prejudiced by FMCSA’s failure to provide an opportunity for comment, but also that FMCSA failed to provide an adequate explanation for its decision to adopt the 11-hour daily driving limit and the 34-hour restart provision.

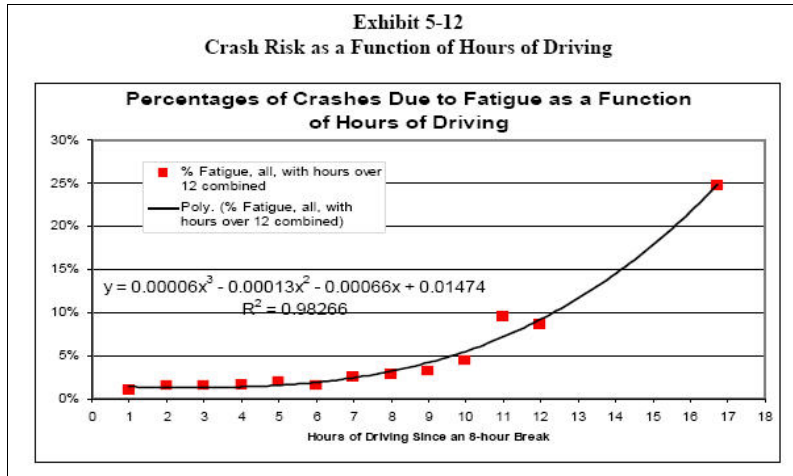
B

Public Citizen charges that when FMCSA finally disclosed its time-on-task methodology in the RIA that accompanied the 2005 Rule, it failed to provide a reasoned explanation for a number of the methodology’s critical elements. To satisfy the APA’s “arbitrary and capricious” standard, an agency must “articulate a satisfactory explanation for its action including a ‘rational connection between the facts found and the choice made.’” *Motor Vehicle Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (quoting *Burlington Truck*

Lines, Inc. v. United States, 371 U.S. 156, 168 (1962)). The “agency must cogently explain why it has exercised its discretion in a given manner,” *id.* at 48, and that explanation must be “sufficient to enable us to conclude that the [agency’s action] was the product of reasoned decisionmaking,” *id.* at 52.

1. Public Citizen notes that the TIFA data, upon which FMCSA’s time-on-task multipliers were ultimately based, indicates that “the risk of fatal-crash involvement *more than doubled* from the 10th hour to the 11th.” Public Citizen Br. 48-49 (citing 2005 RIA at 45 (J.A. 1665)). The actual time-on-task multiplier for the eleventh hour used in FMCSA’s model, however, was “*only 30% higher* than the . . . multiplier for the 10th hour.” *Id.* at 49 (citing 2005 RIA at 61 (J.A. 1681)). Public Citizen contends that the two steps FMCSA used to transform the TIFA data into the time-on-task multipliers were unexplained, and that they had the effect of improperly minimizing the crash risk associated with the 11th hour of driving.

First, as explained above, instead of using the crash risk figures for each hour of driving that the TIFA Study had calculated directly from the actual crash data, FMCSA derived a cubic curve of crash risk as a function of time on task. To derive the curve, FMCSA first plotted the TIFA figures for Hours 1 through 12, and then used an aggregate measure for Hour 13 and beyond. It did not, however, plot the 13+ figure at Hour 13, but rather at Hour 17. *See* 2005 RIA at 59 (J.A. 1679). As shown in the accompanying graph, the curve that fit those 13 points yielded a crash risk at Hour 11 that was substantially below the figure that the TIFA Study had calculated directly from the actual crash data:



2005 RIA at 59 (J.A. 1679). Moreover, as Public Citizen points out, if the agency had plotted the figure for 13+ hours at Hour 13 rather than Hour 17, the resulting curve would have produced a significantly higher estimate of the risk of a fatigue-related crash at Hour 11 -- a figure close to that which the TIFA Study had calculated directly. See Public Citizen Br. 49-50, A-3 (displaying alternative curve).

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 and final rule. This complete lack of explanation for an important step in the agency's analysis was arbitrary and capricious. "When an agency uses a computer model, it must 'explain the assumptions and methodology used in preparing the model.'" *U.S. Air Tour Ass'n v. FAA*, 298 F.3d 997, 1008 (D.C. Cir. 2002) (quoting *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 535 (D.C. Cir. 1983)). Although the agency's brief defends the use of a cubic curve on the ground that the margin of error

in the underlying TIFA data was relatively large,³ this again misses the point: the issue is not whether a curve should have been used, but why the agency chose to draw the curve by plotting the Hour 13+ data at Hour 17. On that point, the brief is entirely silent.⁴

Second, after deriving an estimate of crash risk for each hour of driving using a cubic curve, FMCSA divided those figures by the average risk for Hours 1 through 11, creating an estimate of risk “relative to average driving hours.” 2005 RIA at 61 (J.A. 1681); *see id.* at 46 (J.A. 1666). Public Citizen objects that FMCSA gave no explanation for its decision to divide each hourly risk figure by the average for the first 11

³The Federal Register notice announcing the 2005 Rule stated that the “TIFA data must be treated with caution,” because the number of fatigue-related crashes in the database at the longer hours was small and because the 2003 Rule (not yet in effect when the data was collected) had changed the regulatory environment. 2005 Rule, 70 Fed. Reg. at 49,997. Nonetheless, the agency determined that the TIFA data “represent[s] the only recently-published data available for considering” time-on-task effects, and chose to rely on it as the “prudent” and conservative course. *Id.* at 50,052.

⁴FMCSA’s counsel did attempt to explain the derivation of the Hour 17 figure at oral argument and in a post-argument letter to the court. Counsel represented that “the agency averaged the numbers concerning fatigue-related crashes after 12 hours,” and that the average number of hours driven at the time of the crash for all crashes after 12 hours was approximately 17. FMCSA Rule 28(j) Letter, Dec. 12, 2006; *see* Oral Arg. Recording at 44:15. But counsel also conceded that FMCSA neither explained this calculation in the RIA nor put the data on which it was based in the record. *See* FMCSA Rule 28(j) Letter, Dec. 12, 2006. Whatever the merits of the agency’s averaging methodology, we cannot affirm on the basis of a post-hoc explanation by agency counsel. *See SEC v. Chenery Corp.*, 332 U.S. 194, 196 (1947); *Public Citizen*, 374 F.3d at 1218.

hours, and points out that the effect of this step was “to diminish the increase[d] [risk of driving in Hour 11] by dividing the heightened risk at the 11th hour by an average that *includes* that heightened 11th-hour risk.” Public Citizen Br. 50. We express no view on the validity of FMCSA’s statistical method, but we agree with Public Citizen that -- once again -- the agency offered no explanation for its decision during the rulemaking and failed even to respond to the petitioner’s argument in its brief. 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. *See U.S. Air Tour Ass’n*, 298 F.3d at 1008 (holding that, when a model’s methodology is challenged, the agency must “provide a complete analytic defense” (quoting *Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 535) (internal quotation mark omitted)).⁵

2. Public Citizen further contends that the RIA’s operator-fatigue model “also ignored cumulative fatigue from increased weekly driving and working hours allowed by the 34-hour restart.” Public Citizen Br. 51. In *Public Citizen*, we said -- with respect to the identical restart provision of the 2003 Rule -- that this increase in weekly hours was likely “an important aspect of the problem,” and that the “agency’s failure to address” it made “the rule’s rationality questionable.” 374 F.3d at 1222-23 (quoting *State Farm*, 463 U.S. at 43). Indeed, in the

⁵FMCSA conducted a sensitivity analysis that concluded that an 11-hour daily driving limit remained more cost-effective than a 10-hour limit, even if the agency assumed a higher risk of fatigue-related crash in the 11th hour than it employed in its operator-fatigue model. *See* 2005 Rule, 70 Fed. Reg. at 50,046-47; 2005 RIA at ES-7 to -8 (J.A. 1634-35). FMCSA does not argue, however, that this sensitivity assumption was high enough to offset the two errors asserted by Public Citizen.

2000 NPRM, FMCSA expressed concern about evidence that many drivers were exceeding the weekly limit of 60 hours in 7 days. *See* 2000 NPRM, 65 Fed. Reg. at 25,558. In particular, the agency was troubled by a study showing, inter alia, that “[t]wenty-five percent of drivers reported working at least 75 hours in the last 7 days.” *Id.* Yet, as FMCSA acknowledges, the 34-hour restart provision of the 2005 Rule could “allow another 17 hours of driving time . . . in a 7-day work week, compared to the limit of 60 hours of driving time without the [restart] provision.” 2005 Rule, 70 Fed. Reg. at 49,984. In light of these statements by the agency, Public Citizen argues that the operator-fatigue model should have taken into account the increased crash risk caused by “cumulative fatigue” associated with the increased driving and working hours that it would permit.

FMCSA’s counsel responds with a single conclusory sentence denying that the agency “ignored cumulative fatigue” and citing three pages of the RIA. *See* FMCSA Br. 45 (citing 2005 RIA at 41, 44, C-20 (J.A. 1661, 1664, 1709)). The cited pages, however, address a different kind of “cumulative fatigue” -- the “sleep deficit[]” that “accumulates with successive sleep-deprived days.” 2005 RIA at 41 (J.A. 1661). Public Citizen’s argument, which it pressed in the rulemaking, is that longer hours spent *driving* over the course of a few days have a fatigue-inducing effect that is independent of that caused by insufficient sleep. There is no indication that the operator-fatigue model considered *this* kind of “cumulative fatigue,” and FMCSA offers no explanation for the omission.

Of course, it could be that “cumulative fatigue” due to longer weekly service hours will not constitute a significant problem because, for example, the number of such hours will be minimal. Indeed, in the final rule, FMCSA declared that it “believes the average driver is not, and cannot realistically, drive

and work the longer weekly hours, on a regular basis, as described by some of the commenters.” 2005 Rule, 70 Fed. Reg. at 50,022. But 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. *See id.* at 50,049; 2005 RIA at ES-3 to -4, 68-69 (J.A. 1630-31, 1688-89). FMCSA concedes as much. *See* 2005 RIA at 18 (J.A. 1654) (“[M]any drivers work and drive longer hours than the averages.”); *id.* at 67 (J.A. 1687) (“[M]ore 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 those limits.”).

In any event, 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. This court may “not attempt itself to make up for such deficiencies: We may not supply a reasoned basis for the agency’s action that the agency itself has not given.” *State Farm*, 463 U.S. at 43 (internal quotation marks omitted); *see SEC v. Chenery Corp.*, 332 U.S. 194, 196 (1947). Accordingly, the agency’s failure of explanation renders the restart provision arbitrary and capricious. *Cf. U.S. Air Tour Ass’n*, 298 F.3d at 1019 (“[I]n the absence of any reasonable justification for excluding non-tour aircraft from its noise model, we must conclude that this aspect of the FAA’s methodology is arbitrary and capricious . . .”).

C

For the foregoing reasons, we conclude both that FMCSA failed to provide an opportunity for comment on the methodology of its operator-fatigue model, and that it failed to

provide an explanation for the elements of that methodology that Public Citizen disputes. Because the model is the basis for the cost-benefit analysis that led FMCSA to adopt the two provisions of the 2005 Rule that Public Citizen challenges -- the increase in the daily driving limit from 10 to 11 hours, and the 34-hour restart provision -- we must vacate those provisions. And because those are the only provisions of the 2005 Rule that Public Citizen challenges, we have no occasion to address the balance of its arguments.

III

We turn next to OOIDA's petition, which challenges three aspects of the 2005 Rule. First, OOIDA contends that FMCSA failed to deal with loading and unloading issues, as required by Congress. Second, OOIDA asserts that the 14-hour daily on-duty limit is arbitrary and capricious, because FMCSA failed to consider its negative effects on driver health and safety. Finally, the petitioner objects to the modification of the sleeper-berth exception on several grounds. The following subparts address each of these challenges.

A

OOIDA's first contention is that the 2005 Rule is arbitrary, capricious, or otherwise contrary to law because "FMCSA did not deal with the effects of loading and unloading operations on driver fatigue as required by Congress." OOIDA Br. 23. This argument refers to Congress' 1995 instruction to the agency to conduct a rulemaking and issue a rule "dealing with a variety of fatigue-related issues pertaining to commercial motor vehicle . . . safety (including . . . loading and unloading operations . . .)." 49 U.S.C. § 31136 note. Loading and unloading operations contribute to driver fatigue primarily by prolonging drivers' hours. Because most drivers are paid by the mile or by the load

rather than by the hour, it costs a shipper or receiver nothing to keep drivers waiting to load or unload their vehicles. The resulting delays associated with loading and unloading can reduce the time available for sleep and require drivers to stay awake longer in order to finish their trips.

An agency acts arbitrarily if it ignores an issue that Congress directs it to address. *See Public Citizen*, 374 F.3d at 1216. In this case, however, the record confirms that FMCSA complied with the congressional mandate by considering the implications of loading and unloading operations for the problem of driver fatigue. In fact, FMCSA adopted the 14-hour daily on-duty limit, and eliminated the provision in the pre-2003 regulations that extended the daily limit when the driver took breaks, in part because of those concerns. As the agency explained:

Under the pre-2003 rules, drivers were allowed a 15-cumulative-hour duty period but could extend their maximum duty period indefinitely by taking off-duty time during their workday. This perpetuated the problem of excessive waiting time for pick up and delivery of freight at shippers and receivers, because the drivers were expected to place themselves in off-duty status while waiting.

2005 Rule, 70 Fed. Reg. at 49,986. Under the 2005 Rule, drivers can no longer extend their driving-eligible period by taking off-duty breaks while waiting to load or unload. FMCSA concluded that, as a consequence, the 2005 Rule “prevents shippers, receivers, and companies from abusing the off-duty hours and forcing drivers to use them as unpaid time.” *Id.* at 50,013.

In support of this conclusion, the agency reviewed comments from drivers and industry associations regarding how the limit was working in practice. (It was instituted as part of the 2003 Rule.) FMCSA explained that “[t]he general consensus among drivers was that their workday, on average, is shorter under the new rules. They no longer work 20-hour days due to the 14-hour consecutive requirement.” *Id.*; *see also id.* (“The [National Industrial Transportation League] commented that . . . operations at loading docks have been reconfigured to decrease dwell time and to expedite loading and unloading in order to minimize driver on-duty time not devoted to driving . . .” (citation and internal quotation marks omitted)).

We conclude that, by expressly considering fatigue-related issues pertaining to loading and unloading operations, and by reasonably identifying the nonextendable 14-hour limit as responsive to those issues, the 2005 Rule satisfied Congress’ mandate to “deal with” this problem. Although OOIDA may have preferred that FMCSA deal with the problem in a different manner, the statute does not mandate that the agency reach any particular substantive result.

B

OOIDA’s next contention is that FMCSA acted arbitrarily and capriciously by ignoring adverse health and safety effects of its decision to make the 14-hour daily on-duty limit nonextendable through the use of breaks. Specifically, OOIDA contends that this provision “discourages drivers from taking short rest breaks and naps,” because they can no longer exclude such breaks from their daily on-duty limit. OOIDA Br. 43. In support of this argument, OOIDA cites a study of its members indicating that 60% of drivers “reported foregoing short breaks, naps, and meals under the 2003 Rule” -- which was the first rule to make the daily on-duty limit nonextendable. *Id.* at 44-45

(citing Comments of OOIDA 6 (Mar. 10, 2005), Docket No. FMCSA-2004-19608-1790 (J.A. 1193)).

FMCSA did not, however, “fail[] to consider” this aspect of the problem. *State Farm*, 463 U.S. at 43. To the contrary, the agency agreed that short naps and breaks “are an important tool in combating fatigue.” 2005 Rule, 70 Fed. Reg. at 50,030. It also acknowledged driver comments that “the consecutive duty time requirement caused them to skip meals or naps.” *Id.* at 50,013. FMCSA concluded, however, that several other considerations minimized or outweighed this disadvantage.

First, a FMCSA survey of operations under the 2003 Rule indicated that the “vast majority of drivers are not using the full 14-consecutive hour duty tour. The data suggest that drivers represented in the survey have time available within the current 14-hour duty tour to take breaks.” *Id.* Second, FMCSA found that the nonextendable 14-hour daily on-duty limit has significant offsetting benefits. Most important, the agency noted that there is a consensus that “longer wakeful hours result in alertness and performance degradation,” and that by barring drivers from driving past 14 hours after the start of their shift, the rule keeps the most fatigued drivers off the road. *Id.* at 50,014. In light of these explanations, we cannot say either that the agency failed to consider this aspect of the problem, or that its weighing of the relevant considerations was arbitrary and capricious.

OOIDA also specifically objects to FMCSA’s decision that the 2-hour break used to qualify (in part) for the sleeper-birth exception to the daily off-duty requirement may not be used to extend the 14-hour daily on-duty limit. *See* OOIDA Br. 45-46. OOIDA contends that this aspect of the rule discourages drivers from taking breaks during their remaining 12 hours of driving-eligible time, and also “violates one of the central tenets” of the

rulemaking because it “puts the driver on a backward rotating schedule by two hours per day.” OOIDA Br. 46. (A driver who alternates between 8-hour sleeper-berth shifts and 14-hour on-duty periods will work 22-hour days.)

In responding to this point during the rulemaking, FMCSA explained that the mandatory 2-hour break itself “provide[s] the driver with the opportunity to nap, if and when needed.” 2005 Rule, 70 Fed. Reg. at 50,030. And while it is true that a driver maximizing working time under the sleeper-berth exception could theoretically end up on a backward-rotating, 22-hour schedule, FMCSA never sought to impose a rigid 24-hour clock. Instead, the agency simply concluded that the 2005 Rule “promotes movement toward a 24-hour clock.” *Id.* at 50,014. The possibility that some drivers will have 22-hour schedules does not contradict this.

We therefore conclude that FMCSA neither ignored the health and safety effects of making the 14-hour daily on-duty limit nonextendable, nor otherwise acted arbitrarily in making that determination.

C

Finally, OOIDA challenges the 2005 Rule’s modification of the sleeper-berth exception. Under the rule, a driver using a sleeper berth may divide the daily off-duty requirement -- which otherwise consists of 10 consecutive hours -- into two periods. One of the periods must consist of at least 8 continuous hours in a sleeper berth; the other must be at least 2 hours long and can be spent in a sleeper berth or elsewhere. This reflects a change from the 2003 Rule, which had allowed drivers to divide the required 10 hours into two sleeper-berth periods of any length as long as each of them was at least 2 hours long. OOIDA challenges this modification on two grounds. A group of

intervenors led by the California Trucking Association adds a third.

1. OOIDA's first contention is that FMCSA violated the APA because the 2005 NPRM did not give interested parties adequate notice that the agency was considering such a modification of the 2003 Rule's sleeper-berth provision.

In order to comply with the APA's notice requirement, "[a]n agency's final rule need only be a 'logical outgrowth' of its notice." *Covad Commc'ns Co. v. FCC*, 450 F.3d 528, 548 (D.C. Cir. 2006). The "logical outgrowth" test is satisfied if interested parties "'should have anticipated' the agency's final course in light of the initial notice." *Id.* (quoting *Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 548-49); see *Crawford v. FCC*, 417 F.3d 1289, 1295-96 (D.C. Cir. 2005). As the Supreme Court recently explained, the object of the logical outgrowth test "is one of fair notice." *Long Island Care at Home, Ltd. v. Coke*, 127 S. Ct. 2339, 2351 (2007).

OOIDA asserts that the 2005 NPRM "was too broad and unfocused to provide adequate notice[,] thus precluding meaningful comment." OOIDA Br. 30. It is certainly true that a notice can be "too general to be adequate." *Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 549. "Agency notice must describe the range of alternatives being considered with reasonable specificity[;] [o]therwise, interested parties will not know what to comment on." *Id.* The 2005 NPRM, however, was sufficiently specific to satisfy this requirement.⁶

⁶Simultaneously taking a somewhat opposite tack, OOIDA also argues that the NPRM was too specific because it listed "virtually every option for changing the sleeper berth exception" and thus "really proposed nothing." OOIDA Br. 32. But as explained below, there was no "needle in a haystack" quality to the NPRM.

The 2005 NPRM set out the 2003 Rule “as the ‘proposal’ on which public comments [were] sought.” 70 Fed. Reg. at 3339. FMCSA then asked “the public to comment on what changes to that rule, if any, [were] necessary to respond to the concerns raised by the court” in *Public Citizen*. *Id.* With respect to the sleeper-berth exception, the notice outlined specific options as follows:

FMCSA will consider a variety of possible changes to the sleeper-berth provisions, including but not limited to: (1) Not permitting any split sleeper-berth use to count toward the minimum 10-hours off duty, (2) allowing one continuous sleeper-berth period of less than 10 hours, such as 8 hours, to substitute for the otherwise minimum 10 hours, (3) eliminating split-sleeper-berth periods or establishing a minimum time for one of the two “splits,” such as 5 hours, 8 hours, or some other appropriate level, (4) revising the manner in which sleeper-berth periods affect the calculation of the 14-consecutive-hour period, and (5) restricting variations on permissible sleeper-berth use to team drivers only.

Id. at 3349-50 (emphasis added).

The third option, italicized above, forecast the terms that would ultimately appear in the 2005 Rule -- or very nearly so. Indeed, the prospect that a new sleeper-berth exception would contain a minimum requirement of 8 hours for one of the two periods (or “splits”) could hardly have been a surprise to anyone. As noted in Part I.A above, our opinion in *Public Citizen* had sharply criticized the 2003 Rule for containing an exception directly at odds with “the conceded central premise of the HOS regulations, . . . that ‘[e]ach driver should have an opportunity for eight consecutive hours of uninterrupted sleep

every day.” 374 F.3d at 1219 (quoting 2003 Rule, 68 Fed. Reg. at 22,469).

OOIDA acknowledges that the NPRM’s option (3) was close to the 8-hour minimum of the final rule. *See* OOIDA Br. 32. Nonetheless, the petitioner objects that even that option did not indicate that the *second* sleeper-berth period would have to be at least 2 hours long. But FMCSA actually directed the attention of interested parties to this issue as well. *See* 2005 NPRM, 70 Fed. Reg. at 3350 (“If one [sleeper-berth] period is [required to be] 7 or more hours in length, . . . would a second sleeper-berth period still be required?”). We conclude that, in light of the options discussed in the NPRM, the modification of the sleeper-berth exception in the final rule was “reasonably foreseeable” and hence satisfied the logical outgrowth test. *Long Island Care at Home*, 127 S. Ct. at 2351.⁷

2. OOIDA’s second contention is that FMCSA “failed to consider important issues” related to the modification of the sleeper-berth exception. OOIDA Br. 40. As we noted above, an agency’s action is “arbitrary and capricious if the agency has . . . entirely failed to consider an important aspect of the problem.” *State Farm*, 463 U.S. at 43. OOIDA claims that FMCSA failed to consider two issues relating to the impact of the modification on team drivers.

⁷OOIDA further notes that FMCSA received a large volume of unsolicited comments criticizing the sleeper-berth exception after it issued the final rule, and contends that this proves that interested parties did not anticipate the provision. In fact, the post-promulgation outpouring may merely indicate that the commenters strenuously opposed the final rule. In any event, it tells us little about what was “*reasonably foreseeable*,” which is the crux of the logical outgrowth test. *Long Island Care at Home*, 127 S. Ct. at 2351 (emphasis added); *see Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 548-49.

First, OOIDA contends that FMCSA failed to consider the adverse economic impact that the 8-hour requirement will have on team drivers. OOIDA explains that the 8-hour requirement will make it impossible for team drivers to synchronize their on- and off-duty schedules so that when one driver reaches the end of his or her shift, that driver's partner is eligible to begin driving. The net result is "[l]ess total available driving time" and therefore "fewer miles" and "less money" for team drivers. OOIDA Br. 42.

Contrary to OOIDA's claim, FMCSA did not "fail[] to consider" this aspect of the problem. In fact, FMCSA acknowledged comments from trucking companies and others contending that the burden of changes to the sleeper-berth exception would fall primarily on team drivers. *See* 2005 Rule, 70 Fed. Reg. at 50,028-29. But the agency concluded that this marginal loss of productivity and flexibility was justified by gains in other areas, and particularly by the reduction in fatigue and fatigue-related accidents. *See id.* at 50,031. OOIDA may disagree with this policy balance, but it does not reflect a failure to consider relevant factors.

Second, OOIDA contends that the modified rule causes particular problems for those team drivers who carry hazardous materials. OOIDA concedes, however, that these issues were not raised with FMCSA during the comment period. *See* OOIDA Br. 40; Oral Arg. Recording at 11:15.⁸ We therefore reject this argument without addressing its merits. *See Nat'l Wildlife Fed'n v. EPA*, 286 F.3d 554, 562 (D.C. Cir. 2002) ("It is well established that issues not raised in comments before the

⁸While conceding that these issues were not raised, OOIDA maintains that this was because of inadequate notice that the final sleeper-berth exception might include an 8-hour break requirement. We have rejected that argument in Part III.C.1.

agency are waived and this Court will not consider them.”); accord *National Ass’n of Clean Air Agencies v. EPA*, ___ F.3d ___, slip op. at 14-15 (D.C. Cir. June 1, 2007).

3. Finally, intervenor California Trucking Association (CTA) challenges the 8-hour requirement on an additional ground not raised by OOIDA: that the record does not support FMCSA’s finding that drivers need 7 to 8 *consecutive* hours of sleep each day. *See* CTA Br. 18-40. We reject this challenge as well.

First, CTA contends that there is no evidence that drivers who split their sleep into two shorter periods are more likely to be involved in fatigue-related accidents. A review of the record, however, reveals ample support for FMCSA’s view.⁹ The record also contradicts CTA’s assertion that FMCSA conflated “split sleep” -- sleep obtained in two or more periods -- with “fragmented sleep” -- sleep interrupted every few minutes. *See* 2005 Rule, 70 Fed. Reg. at 50,026.

Second, CTA argues that FMCSA misinterpreted the only study it cited in stating that “[t]he split-sleeper berth exception is also problematic from a driver health standpoint.” *Id.* at 50,027. But FMCSA based the modification of the sleeper-berth exception not on concerns about driver health but rather on its well-supported finding that the 8-hour requirement would reduce fatigue-related accidents. *See id.* at 50,026-31. Therefore, even if the agency’s passing mention of health effects

⁹*See, e.g.*, National Transp. Safety Bd., *Factors that Affect Fatigue in Heavy Truck Accidents* (1995), Docket No. FMCSA-2004-19608-2013 (J.A. 1517); Robin P. Hertz, *Tractor Trailer Driver Fatality: The Role of Nonconsecutive Rest in a Sleeper Berth* (1987), Docket No. FMCSA-2004-19608-2011 (J.A. 1493); *see also* 2005 Rule, 70 Fed. Reg. at 49,994.

were unsupported, the error was harmless because the context makes clear that it did not affect the agency's conclusion. *Cf. National Ass'n of Home Builders v. Defenders of Wildlife*, 127 S. Ct. 2518, 2530 (2007) (“[W]e do not believe that this stray statement, which could have had no effect on the underlying agency action being challenged, requires that we . . . remand[] to the agency for clarification.”). We therefore reject the last of the challenges to the sleeper-berth exception.

IV

For the foregoing reasons, we deny OOIDA's petition. At the same time, we grant Public Citizen's petition and vacate those portions of the 2005 Rule that increase the daily driving limit from 10 to 11 hours, and that permit an off-duty period of 34 hours to restart the weekly on-duty limits.

So ordered.