

UNITED STATES COURT OF APPEALS FOR THE FIRST CIRCUIT

Lawes v. CSA Architects and Engineers

Lawes · No. 16-2275 · Decided June 18, 2020

OPINION

PER CURIAM.

United States Court of Appeals For the First Circuit No. 16-2275 GRANDVILL D. LAWES, Plaintiff, Appellant, v. CSA ARCHITECTS and ENGINEERS LLP, Defendant, Appellee, PUERTO RICO PORTS AUTHORITY; MAPFRE-PRAICO INSURANCE COMPANY; MUNICIPALITY OF SAN JUAN; CONSTRUCTORA SANTIAGO II, CORP.; RAFAELA RIVIERE-ANDINO; MIGUEL A. BONILLA, INC.; COOPERATIVA DE SEGUROS MULTIPLES DE PUERTO RICO; PUERTO RICO ELECTRIC POWER AUTHORITY; ACE INSURANCE CO.; INTEGRAND ASSURANCE COMPANY; Q.B.

CONSTRUCTION SE; TRIPLE-S PROPIEDAD, INC. Defendants. APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF PUERTO RICO [Hon. Daniel R. Domínguez, U.S. District Judge] Before Torruella, Lipez, and Thompson, Circuit Judges. Jorge M. Izquierdo San Miguel, with whom Izquierdo San Miguel Law Office, P.S.C. was on brief, for appellant. Ricardo F. Casellas-Sánchez, with whom Diana Pérez-Seda, Casellas Alcover & Burgos P.S.C., Fernando J. Gierbolini-González, Richard J. Schell, and Monserrate Simonet & Gierbolini, LLC, were on brief, for appellee.

June 18, 2020 THOMPSON, Circuit Judge. This case involves a construction project, a pedestrian-involved collision, and a twelve-day Daubert hearing that culminated in the exclusion of plaintiff's only expert witness pursuant to Federal Rule of Civil Procedure 26 and Federal Rule of Evidence 702. With his expert ousted, plaintiff's negligence case collapsed halfway through trial, and then the district court entered judgment as a matter of law for defendants.

The plaintiff has appealed the entry of judgment against him and the district court's evidentiary rulings, which sounded the death knell for his suit under Article 1802 of the Puerto Rico Civil Code. On this voluminous record, even from our deferential perch, we find that the district court erred. So we vacate the lawsuit's dismissal and remand the matter for proceedings consistent with this opinion.

BACKGROUND In 2011, plaintiff-appellant Grandvill Lawes was hit by an SUV while walking in a construction-affected area near Old San Juan, Puerto Rico. The facts are drawn from a massive record, including myriad motions and depositions, a 188-page pretrial order, and several

weeks of trial.¹ We therefore beg the reader's patience as we set the scene and describe the litigation that followed.

1 All docket references ("D. _") are to Lawes v. Q.B. Constr., No. CV 12-01473 (D.P.R.). - 3 - The Scene Fernández Juncos Avenue ("Fernández Juncos" for short) is an undivided four-lane highway, with two eastbound lanes and two westbound lanes of traffic. Calle Del Tren, a two-lane arterial roadway, lies to the north of Fernández Juncos. These parallel roadways are separated by a cement median.

Fernández Juncos runs alongside San Juan Bay, and connects the working waterfront (particularly, for our purposes, Piers 8, 9, and 10) to Old San Juan, Puerto Rico. There is a sidewalk adjacent to the waterfront to the south of Fernández Juncos (the "southern sidewalk"), and there is a sidewalk to the north of Calle Del Tren (the "northern sidewalk").

Before construction, pedestrians, including sailors whose ships are docked at the waterfront piers, could use the sidewalks on either side of the combined roadways to travel into Old San Juan. Using just the southern sidewalk, pedestrians heading into town could walk to the very end of the piers before needing to cross over.² Around 2010, the Bahía Urbana Pier 7 and 8 Improvement Project, a government-funded construction project meant to beautify the waterfront just outside of Old San Juan, was initiated and, thereafter, significantly changed the landscape of the area.

2 Certain sailors testified at trial that they used the southern sidewalk in order to avoid an area along the northern sidewalk known as the "hot corner," where drug users purportedly loiter and harass passersby. - 4 - Defendant CSA Architects and Engineers, LLP was hired to draw the plans for the Project. CSA was also responsible for designing a Management of Traffic plan ("MOT") to safely control vehicular and pedestrian traffic in the construction-affected area.

Defendant Q.B. Construction, the Project's primary contractor, was tasked with implementing CSA's designs, including the MOT. As instructed by CSA's MOT, Q.B. installed a temporary concrete barrier along the southern sidewalk near the middle of the block (the "midblock barrier").

The midblock barrier closed part of the southern sidewalk -- but only part -- from pedestrian use. The midblock barrier also jutted into Fernández Junco's southernmost eastbound lane of traffic, reducing the width of that lane. According to defendants (and as designed in the MOT), Spanish-language signs at a permanent, mechanical crosswalk near Pier 9 indicated that the southern sidewalk was partially closed and instructed pedestrians to cross over to the unobstructed northern sidewalk.³ If pedestrians didn't spot the signs, didn't understand them, or chose to ignore them, nothing prevented them from walking along the southern sidewalk until the concrete midblock barrier, nearly 300 feet away from the crosswalk.

3 Lawes disputes that certain Spanish-language signs provided for in the MOT (including a sign that was supposed to instruct pedestrians to cross over to the northern sidewalk at a crosswalk near

Pier 9) were in place at the time of Lawes' accident. - 5 - At that point, they could either walk back to the crosswalk (about 3/4 the length of a football field) and risk walking toward the hot corner or they could jaywalk.⁴ The Accident Lawes was one of several merchant marines docked at San Juan Bay on October 22, 2011, when he and his shipmate, Carlos Gordon, ventured off their ship to grab dinner in Old San Juan.

Gordon, who had visited the area prior to construction, normally traveled into town using the southern sidewalk. When Gordon and Lawes reached the recently implemented midblock barrier on the day of the accident, however, they took a detour: they jaywalked across Fernández Juncos and Calle Del Tren, and resumed their trek along the northern sidewalk (a healthy distance away from the "hot corner").

When the sun had set and the street was dark, the pair journeyed back to the piers. They started on the northern sidewalk, which would have led them to a permanent crosswalk back to the piers. They decided to jaywalk a second time. Lawes took the lead.

After successfully crossing Calle Del Tren, he attempted to cross Fernández Juncos. He was standing on the roadway's yellow divider, two eastbound lanes away from the southern sidewalk, when something awful happened: a traffic light ⁴ Apparently, some pedestrians came up with a third solution: scurry alongside the midblock barrier, against oncoming traffic, without crossing Fernández Juncos in the construction-affected area. - 6 - changed down the block and cars began rushing toward Lawes from both directions, trapping him on the yellow divider.

Seconds later, he was struck head on by a westbound SUV. Lawes is now quadriplegic and will need medical care for the rest of his life. As he tells it, his medical expenses have already reached \$10 million. The Lawsuit On June 14, 2012, Lawes filed a negligence-based lawsuit under Article 1802 of the Puerto Rico Civil Code against public and private entities involved in the Bahía Urbana construction project, including the Project's contractor Q.B.; the Constructora Santiago Corp. II (another construction company involved in the Project); the Puerto Rico Ports Authority; the Municipality of San Juan; and their respective insurance companies.

Soon after, Q.B. filed third-party complaints against Rafaela Riviere-Andino, the driver who struck Lawes with her car, and her insurer. On November 26, 2013, Q.B. and Riviere-Andino jointly filed a third-party complaint against: CSA, the Project's designer; Miguel A. Bonilla, Inc., the Project's inspection firm; the Puerto Rico Electric Power Authority ("PREPA"), which was conducting maintenance on streetlights in the construction-affected area; and these parties' - 7 - insurance companies.⁵ Thereafter, Lawes amended his complaint twice, adding Q.B.'s insurers and CSA as direct defendants in 2014 and 2015, respectively.

Although CSA is the only remaining defendant on appeal,⁶ we are tasked with reviewing district court rulings that resolved concomitant arguments raised by CSA, former defendant Q.B., and

certain third-party defendants mentioned above.

Thus, to aid the reader in understanding the district court's reasoning and our review of it, we must occasionally provide facts and conduct analysis concerning parties who are no longer part of the litigation. After instituting his lawsuit, Lawes did what any smart plaintiff in his position would do: he retained an expert witness to opine on the standard of care owed to pedestrians in construction-affected areas and to explain how defendants' negligence caused his accident.

Enter scene: Ralph Aronberg, the 5To simplify our recitation of the various defendants and third-party defendants in this litigation, we are omitting the names of the insurance carriers and will refer only to the parties they insured. Over the course of the litigation, there were no meaningful differences between the theories advanced by the insurance carriers and the insured, and (in some instances) the insurers and the insured were represented by the same counsel.

6Lawes voluntarily dismissed his claims against Constructora Santiago Corp. II and the Ports Authority in August 2012 and January 2013, respectively. The district court entered partial judgment for the Municipality of San Juan and its insurance carrier, dismissing both Lawes' claims and the third-party complaint against the Municipality. And on April 19, 2017, this Court granted Lawes' unopposed motion to dismiss all remaining appellees except CSA, following a partial settlement. - 8 - traffic engineer that Lawes brought into the case as his star (and only) expert witness.

For the reasons we explain later, Aronberg's expert opinions were crucial to Lawes' case, and the district court's exclusion of them is part of the reason why Lawes appealed. Thus, Aronberg (and his opinions) are the primary focus of our review. That's why we're going to walk you through his role in the case, starting with his first act (here, a preliminary report).

Aronberg's Preliminary (and Only) Expert Report On January 25, 2013, about six months after Lawes filed his first complaint, Aronberg submitted a three-page, self-described "preliminary report." (Spoiler alert: this would be the only expert report Aronberg produced.) Attached to the report, Aronberg provided a copy of his CV, a list of recent trials and depositions in which he testified as an expert, and excerpts from the 2009 edition of the Manual on Uniform Traffic Control Devices ("MUTCD") (which we'll discuss often here).

Aronberg, according to his CV, is an expert in traffic accident reconstruction, traffic engineering design, work-zone traffic control evaluation, and pedestrian safety. A 1978 graduate of the University of Virginia with a Bachelor of Science in Civil Engineering, he also holds a Master of Science in Engineering Management from Nova Southeastern University in Fort Lauderdale, Florida.

Aronberg worked for several years as a traffic engineer in Florida before founding a consulting firm in 1983. In the four years before he was hired by - 9 - Lawes, Aronberg qualified to serve as

an expert witness in sixteen trials and was deposed as an expert over forty times.

The report begins by disclosing the source of Aronberg's methodology: the MUTCD,⁷ a set of guidelines published by the U.S. Department of Transportation, which Aronberg later described as the "Bible" for traffic engineers.

The MUTCD (among other things) includes guidance on "[p]edestrian [c]onsiderations" in construction zones. It advises, for example, that "pedestrians need a clearly delineated and usable travel path" in temporary traffic control ("TTC") zones.

Because "pedestrians are reluctant to retrace their steps" or "add distance," they should be provided a "convenient and accessible path" that replicates a continuous sidewalk. According to the MUTCD, alternative routes that require pedestrians to cross a roadway are discouraged, but (if unavoidable) such routes should include "advance signing" to encourage safe travel across the roadway.

Importantly, pedestrians should not be confronted with "midblock worksites" that "will induce them to attempt skirting the worksite 7 According to the U.S. Department of Transportation, the MUTCD is a set of guidelines used by "road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeway, and private roads open to public travel."

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, <https://mutcd.fhwa.dot.gov/index.htm>. Moreover, the MUTCD compiles "national standards for all traffic control devices, including road markings, highway signs, and traffic signals" and is updated periodically by the Federal Highway Administration. Id. The current MUTCD edition was published in 2009.

Id. - 10 - or making a midblock crossing." To "minimize[e] the possibility of midblock crossings," the MUTCD advises that TTC devices, including temporary traffic barriers or "longitudinal channelizing devices," may be used. But whenever feasible, "closing off the worksite from pedestrian intrusion" is preferable to channelizing foot traffic with TTC devices.

The MUTCD (as a whole) is incorporated by reference into CSA's MOT (recall that the MOT governed the management of vehicular and pedestrian traffic in the area where Lawes' accident occurred).⁸ As to the data Aronberg had considered, his report references Lawes' police accident report; photos taken by police on the scene; daytime and nighttime aerial photos of the accident site; observations from Aronberg's inspection of Riviere-Andino's SUV and the accident site; unspecified construction "plans"; the 2003 and 2009 editions of the MUTCD; lighting records produced by PREPA (purportedly showing that certain streetlights in the area were under maintenance and not operational the night of the accident); and a description of Lawes' activities before the accident (provided by Lawes' counsel).

8Specifically, General Note 4 of the MOT states: "[p]rovisional signing and control of traffic shall be as provided in the Manual on Uniform Traffic Control Devices, Part VI... and with Specification 638 listed on Standard Specifications for Road and Bridge Construction."

We'll go over the relevance of the MUTCD and Specification 638 to this case in more detail later.

- 11 - After providing a summary of the relevant facts,⁹ Aronberg's report ends with one long paragraph of analysis, which discloses the following opinions: 1.

The "contractor" (Q.B.) created a dangerous condition that contributed to Lawes' accident "by not providing a safe sidewalk and/or positive guidance in the use of sidewalks." 2. Given the lack of "positive guidance," Lawes' path on the night of his accident was reasonable. 3.

The contractor did not take steps to ensure the area streetlights were functioning that night. 4. The contractor should have closed the southern sidewalk completely with a barricade starting at the intersection (where the crosswalk was located). Positive guidance "in the form of a sign reading 'SIDEWALK CLOSED CROSS HERE'" could have been attached to the barrier.

5. In view of his opinion about closing the southern sidewalk completely, Aronberg opined that the southernmost eastbound lane of traffic could have been blocked off and repurposed as a continuous temporary sidewalk (known as a 9 Aronberg's factual summary was derived in part from the police accident report. How do we know? It contains the police report's erroneous cardinal directions (i.e., Aronberg's report says south when it should say north and says east when it should say west (and vice versa)).

Aronberg later clarified that he was aware of this issue (as of his visit to the site) but nevertheless adopted the police accident report's directions for consistency. - 12 - "pedestrian corridor"). Left open, the lane was too narrow for vehicular traffic anyhow.¹⁰ Crucially, these opinions were primarily directed at Q.B., the contractor.

The report concludes by claiming the contractor "and others" proximately caused Lawes' accident, but does not mention anyone else by name.¹¹ Aronberg, however, reserved the right to modify his report in light of sworn testimony or other evidence produced during discovery. Aronberg's First Deposition Speaking of sworn testimony, eleven months after publishing his report, Aronberg was deposed for the first time on November 8, 2013.

Riviere-Andino, the Municipality of San Juan, ¹⁰To be clear: Aronberg at no point suggested that the narrow southernmost eastbound lane caused Riviere-Andino to hit Lawes, which makes sense because Riviere-Andino was traveling in the westbound lane when the accident occurred. Rather, as Aronberg clarified in depositions and during his Daubert hearing, the lane's narrowness was relevant because it could have been closed to vehicular traffic and converted into a continuous sidewalk for pedestrians (in accordance with MUTCD guidance and other industry standards).

In Aronberg's expert opinion, providing such a pedestrian corridor would have been safer than leaving the partially-blocked sidewalk open, which he believed induced Lawes' jaywalking. 11 At the time the report was published, CSA was not a direct defendant in the litigation. - 13 - and Q.B. sent their lawyers to the deposition, which lasted six hours. Q.B. began with a line of questions about Aronberg's background, qualifications, and methodology.

When given the opportunity to spell out his methodology, Aronberg explained that he had applied the MUTCD to the conditions in place during Lawes' accident to determine "the devices that should have been used and the manner in which [Q.B.] should have implemented a traffic control plan to account for pedestrian traffic." Aronberg claimed that his MUTCD-based methodology is generally accepted by traffic engineers, and it was validated by the Federal Highway Administration, a division of the U.S. Department of Transportation that publishes the MUTCD.

When asked whether his methodology had been reviewed by others in the industry, Aronberg mentioned the Institute of Transportation Engineers Journal ("ITE") as an example. He insisted, however, that he did not need to rely on the ITE or other publications to know that the MUTCD applied. Rather, experts in the field need only look to the MUTCD itself, which Aronberg described as both the "law" and the "Bible" for traffic engineers.

For Aronberg, the MUTCD serves as the ultimate litmus test for evaluating traffic control plans for pedestrian safety. After being quizzed about his methodology, Aronberg listed the data he considered in forming his expert opinions, which - 14 - was mostly consistent with his preliminary report. Aronberg revealed for the first time, however, that he had measured the width of Fernández Juncos' southernmost eastbound lane (from the yellow lane divider to the beginning of the midblock barrier) during his July 16, 2012 site inspection.

Aronberg also volunteered information about new data he had considered since publishing his report. His new sources included video animations of what he thought occurred the night of the accident; the guidelines issued by the American Association of State Highway Transportation Officials ("AASHTO")¹² (which set standards for highways, including the southernmost eastbound lane that Aronberg believed was too narrow, and which are incorporated by reference in the MUTCD); and CSA's MOT (which Aronberg did not have access to in full when writing his preliminary report).

He also reviewed deposition testimony from Ruth Vargas (CSA's lead MOT designer) and Edgardo Velez (Q.B.'s project manager). 12 As Aronberg explained during his first deposition: "AASHTO is a nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia, and Puerto Rico.... Its primary goal is to foster the development, operation, and maintenance of an integrated national transportation system."

According to the U.S. Department of Transportation, AASHTO serves as "a liaison between State departments of transportation and the Federal government," and produces manuals and other guidance concerning (among other things) the national standards for roadway design and installation. U.S. Department of Transportation, https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/aashto_guidancecfm.cfm (last visited June 17, 2020). - 15 - Defense counsel's microscope eventually turned to Aronberg's expert opinions.

From under the lens, Aronberg unveiled some new opinions, and added color to the opinions disclosed in his report. We'll tackle the "new" opinions first. Aronberg stated, for the first time, that there should have been "something" in place preventing Lawes from crossing at midblock from the northern sidewalk to the southern sidewalk.

In particular, orange safety fences should have been installed along the northern sidewalk to prevent pedestrians from jaywalking to the open part of the southern sidewalk after the midblock barrier. He pointed out that this opinion was consistent with CSA's MOT.

The MOT, in addition to providing the contractor with a blueprint of how the construction-affected area should look, includes twelve "General Notes." Note 11, according to Aronberg, supported his orange safety fence opinion. It states: "orange safety fences shall be installed between the sidewalk and the working area for the safety of the pedestrian flow."¹³ Aronberg's other new opinion was that Q.B. should have monitored the area for dangerous conditions.

Had Q.B. been on proper daytime and nighttime monitoring duty, as Aronberg suggested, it would have detected unsafe pedestrian conduct before Lawes' tragic accident. ¹³The MUTCD also calls for the implementation of "pedestrian channelizing" devices, where needed, to "minimiz[e] the possibility of midblock crossings." - 16 - Aronberg also provided more substance to his previously disclosed opinions.

First, he elaborated that "positive guidance" is important because pedestrians are more likely to take a shorter, more dangerous route to their destinations if left to their own devices. When asked to provide the basis for his conclusions regarding pedestrian behavior in construction zones, Aronberg explained that he (and other traffic engineers) received training on "human factors" that helped predict "how people are going to conduct themselves, whether it be foot traffic or vehicular traffic."¹⁴ Aronberg also noted that the deposition testimony of sailors who admitted to jaywalking to and from the southern sidewalk supported his opinion that the area impacted by the Bahía Urbana project lacked adequate positive guidance.

Based on the excerpts from Aronberg's deposition in the record, his deponents did not ask him to elaborate further on what positive guidance should have been in place. Second, considering new

data he had received since submitting his report, Aronberg expounded on his opinion that the 14At the time, Aronberg was not asked by any deposer whether the MUTCD supported his opinion.

However, the MUTCD specifically "recognize[s] that pedestrians are reluctant to retrace their steps to a prior intersection for a crossing or to add distance or out-of-the-way travel to a destination." The MUTCD, therefore, cautions against "midblock worksites that will induce [pedestrians] to attempt skirting the worksite or making a midblock crossing," and it advocates in favor of "appropriately" directing pedestrians with guidance such as "advance signing." - 17 - southern sidewalk should have been completely closed.

When he was drafting his preliminary report, he only had access to "some pages" of the construction "plans."¹⁵ He eventually received the full MOT, which was an exhibit to (CSA MOT designer) Ruth Vargas' deposition. With the help of the MOT and Vargas' deposition testimony, Aronberg now understood that the MOT left the sidewalk partially open to accommodate a planned bus stop that was being relocated from an area closed for construction.

Aronberg, therefore, did not "fault" Vargas (and, by extension, CSA) for designing the midblock barrier and partially open sidewalk. He continued to think, however, that closing the sidewalk completely was generally the safer option for pedestrians. And notwithstanding the bus stop, Aronberg still believed Q.B. should have done more to ensure the design's implementation was safe for pedestrians.

Aronberg explained, for example, that Q.B. could have initiated a "request for information process" to identify alternatives to the midblock barrier, and it could have installed the safety fence (part of his new opinion) along the northern sidewalk to prevent midblock jaywalking.

Third, Aronberg described the pedestrian corridor opinion in greater detail. Recall that the preliminary expert report concluded (without elaboration) that Fernández Juncos' ¹⁵ It is not clear from the record what plans Aronberg had access to when forming the opinions disclosed in his report. - 18 - southernmost eastbound lane of traffic was too narrow and could have been closed due to the midblock barrier that jutted into it.

When asked how he knew the lane was too narrow, Aronberg stated that he measured the lane during his July 2012 inspection. Based on his measurements, the lane was less than 8 feet wide. He understood from AASHTO references that the lane ordinarily should have been at least 10 feet wide. Aronberg believed that a construction contractor like Q.B. should have noticed the lane was too narrow when it constructed the midblock barrier.

Since the lane was unsafe, Q.B. should have "approach[e]d the [Puerto Rico] highway authority and the designers to determine what should be done." A reasonable next step, as Aronberg tells it, was to close the unsafe lane and convert it into a pedestrian corridor.

Finally, Aronberg expanded his report's one-sentence opinion that Q.B. had to ensure the streetlights were working in the area. When pressed about Q.B.'s authority over streetlights (or lack thereof), he claimed the contractor was responsible for ensuring adequate lighting in the construction "work area" regardless of the maintenance work that PREPA was conducting the night of Lawes' accident.

For support, he pointed to his years of experience in the industry, an unspecified part of the MOT, and Vargas' deposition, in which she explained that Q.B.'s area of responsibility included the northern sidewalk. That's it for the first deposition. - 19 - Aronberg's Second Deposition On August 21, 2014, Aronberg was deposed a second time. There was one major development in the litigation at the time: Lawes amended his complaint to include allegations against CSA.¹⁶ CSA, the new defendant on the block, sent counsel to depose Lawes' expert.¹⁷ As was the case for his first deposition, Q.B. conducted the first round of questioning.

Out of the gate, Aronberg revealed he had considered new data, namely: the July 2014 expert report published by Murray Yates on behalf of CSA;¹⁸ the deposition of Riviere-Andino's accident reconstruction expert, Steven Schorr (who testified that the construction-affected area would have been 16In his successful motion for leave to file a third amended complaint naming CSA as a defendant, Lawes stated that "after further discussions with [Aronberg]" he had concluded that CSA's "poor design of the construction contributed to the accident in this case."

¹⁷ The other parties present were: Q.B.; Bonilla (the engineering inspection firm retained in connection with the Project); PREPA (the municipal agency responsible for maintaining the light poles near Piers 7 and 8); the Municipality of San Juan; and two of their insurance carriers. ¹⁸ Yates' report states that he has expertise in "construction engineering," as well as the design, inspection, and evaluation of temporary traffic control plans.

The report concludes that CSA had a duty to reasonably design the MOT and it fulfilled that duty; Q.B. was responsible for implementing CSA's design; and Bonilla was obligated to monitor the site. Stay tuned because we'll discuss Yates' report and the report published by Q.B.'s expert after we wrap up Aronberg's second deposition. - 20 - safer if pedestrians were not required to cross any lanes of traffic); the report and deposition of Riviere-Andino's other accident reconstruction expert, Iván Baigés Valentín (who testified the signage along the southern sidewalk was inadequate); the depositions of Paul Levergne Arostegui and Francisco Bechara Rivera;¹⁹ the deposition of Grandvill Lawes; a second deposition of Riviere-Andino; an American National Standards Institute document pertaining to lighting and signage; Q.B.'s requests for information ("RFIs") from CSA and others during the implementation of the MOT; and minutes from meetings attended by Q.B., CSA, and other parties to the Bahía Urbana construction contract.

In addition, Aronberg visited the scene of the accident again, this time at night.²⁰ Aronberg openly acknowledged he had developed some new opinions, modified some earlier opinions, and

put a finer point (i.e., more detail) on other previously expressed opinions. Perhaps the most important new opinion for our purposes: Aronberg now opined that CSA's "poor" design contributed to Lawes' accident.

19 These individuals do not come up elsewhere in the portion of the record pertinent to our review. 20 Three months before his August 2014 deposition, Aronberg inspected the scene at night. He was not asked to provide the exact time of his visit. But he did explain that there were "lights in the area" that he believed were not there before. Recall that Aronberg opined in his preliminary report and prior deposition that the streetlights along the northern sidewalk were not operational at the time of the accident. - 21 - In other words, Aronberg offered the expert opinion that the MOT was negligently designed.

For support, he identified two major flaws. First, according to Aronberg, the MOT failed to properly instruct Q.B. on implementing "positive guidance" for pedestrians. Although the MOT included "notes that a contractor could implement," those instructions were not detailed enough.

In Aronberg's opinion the "best practice" was to "provide the positive guidance [and] not leave things up to the contractor who might not have the expertise of the actual designer." So the design should have specifically instructed Q.B. to implement a "fence" or other "physical barrier," as well as signs that would assist pedestrians in following a safe, MOT-approved footpath to and from the waterfront.²¹ Although he did not cite any MUTCD provision that applied, he explained that his opinion was consistent with the MUTCD's purpose.²² Second, CSA was negligent by including the midblock barrier in its design.

In contrast to his report and prior ²¹He explained, for example, that the MOT lacked "signs guiding pedestrians [on the northern sidewalk] to go to the crosswalk at the traffic signal before crossing the roadway." These signs might say: "Crosswalk Further Ahead," "Detour," or "Pedestrian Detour." ²² At another point in his deposition, Aronberg elaborated on his positive guidance opinion at a more general level.

He emphasized, as he had in his first deposition, that positive guidance is necessary because pedestrians (when left to their own - ²² - deposition testimony, both of which blamed Q.B. for errors in implementing the MOT, Aronberg concluded that CSA's negligence also extended to the midblock barrier. Why? Following his last deposition, Aronberg had received and reviewed Q.B.'s RFIs and responses from the Project.

One such RFI response from the Puerto Rico Metropolitan Bus Authority indicated that the planned bus stop was not going to be relocated to the southern sidewalk after all. And Project meeting minutes, which Aronberg had also reviewed, indicated that both Q.B. and CSA were present for a discussion of the decision not to relocate the bus stop to the southern sidewalk.

Having solved the bus stop mystery, Aronberg now concluded: (1) there was no justification for the midblock barrier, which Aronberg viewed as an unsafe condition that contradicted MUTCD guidance;²³ and (2) assuming CSA's MOT designers knew the bus stop was not going to be relocated to the southern sidewalk,²⁴ CSA had the duty to act, including redesigning the MOT with a closed sidewalk. devices) are more likely to take a dangerous, shorter path through a construction zone.

To bolster his expertise on the subject matter, Aronberg testified about his extensive training on "and observation of" pedestrian behavior in construction-affected areas. ²³ In Aronberg's professional opinion, the MUTCD allows sidewalks to be closed at mid-block if and only if "there's something that the sidewalk serves." ²⁴ When pushed by CSA's counsel, Aronberg conceded that he did not know whether the CSA representatives at the meeting were - ²³ - Adding to his new theories about CSA's negligence, Aronberg claimed that when CSA was designing the MOT and first learned a bus stop was going to be situated in the construction- affected southern sidewalk, it "should have at least requested... permission" from the Puerto Rico Metropolitan Bus Authority to put the bus stop somewhere else.

In Aronberg's opinion, CSA had a "professional duty... to design something safely," including by taking the affirmative step of contacting municipal authorities to request a different location for the bus stop so that Q.B. could close the sidewalk completely. Aronberg was asked whether his opinion conflicted with the MUTCD, which includes one model traffic control design in which the sidewalk is left partially open in a construction-affected area.

He countered that, pursuant to the MUTCD, such a design is only appropriate "[i]f there was a reason that the sidewalk has to be left open."²⁵ Here, given CSA's options involved with the MOT design or whether they focused on other parts of the Project. So he could not say for sure whether the changed bus stop plans were passed on to the design team. While he believed CSA's MOT designers had a duty to know "what was happening with their design," he elected to "only fault them if they knew" the bus stop was not going to be relocated.

²⁵The MUTCD states, for example: "Whenever it is feasible, closing the worksite from pedestrian intrusion may be preferable to channelizing pedestrian traffic along the site with TTC devices." MUTCD Section 6D.12; see MUTCD Section 6D.09 (discussing strategy for minimizing midblock crossings). - ²⁴ - and the conditions in place, the sidewalk should have been closed completely.

Later on, Aronberg was asked to clarify whether his new opinions regarding CSA's negligent design extended to the narrow eastbound lane of traffic, which Aronberg thought could be closed and converted into a pedestrian corridor.

In Aronberg's opinion, the design (albeit imperfectly drawn)²⁶ instructed Q.B. to keep the lane width as is. And, even if Q.B. mistakenly thought the design required the encroachment, it should have followed up to confirm before implementation. Aronberg thus blamed Q.B.'s negligent implementation (not CSA's negligent design) for the narrow lane.

To avoid confusion down the line, we'll stress here that the lane's width was only relevant insofar as it indicated that the lane could be closed and converted to a better use: providing pedestrians like Lawes with a safe, continuous sidewalk to the south of Fernández Juncos.

In Aronberg's book, Q.B. was to blame for not making the connection between the narrow lane (which it should have identified while implementing the barrier) and the opportunity to implement a safer alternative for pedestrians. And since Q.B. was the Project's lead contractor, Aronberg concluded ²⁶ Aronberg acknowledged that there were issues with CSA's drawn-to-scale depiction of the construction-affected area.

He noted, for example, that it did not provide the actual dimensions of Fernández Juncos' lanes, and there was a lane down the block from Lawes' accident that the MOT got wrong. - 25 - that it should have taken affirmative steps to close the lane from traffic even if it meant contacting the Puerto Rico Highway and Transportation Authority to request permission to do so.

Apart from the above-mentioned new and amended opinions,²⁷ Aronberg mostly doubled down on those he had previously expressed. For instance, when defense counsel pointed out that the regulation of streetlights in Puerto Rico falls within the jurisdiction of the federal government, Aronberg responded that Q.B., as the construction contractor, still had lighting-related responsibilities.

Aronberg said that he did not need to review the law to support this opinion. Rather, the MOT itself dictates that contractors are responsible for adequate illumination of their area.²⁸ At a different point, Aronberg touched upon his ²⁷While we don't need to spill much ink on this because of its tangential relevance, Aronberg also opined about the negligence of Bonilla, the project's safety inspector and third- party defendant in the district court case.

Although he believed Bonilla missed the mark in performing its inspection duties, he still claimed that Q.B. should have routinely monitored the area. ²⁸The excerpts in the record do not indicate whether Aronberg pointed out the applicable section of the MOT to support this opinion. Relevant here though, MOT General Note 10 instructs Q.B. to read Specification 638 of the Standard Specifications for Road and Bridge Construction issued by the Puerto Rico Highway and Transportation Authority.

Specification 638 "puts [the contractor] [o]n notice that he has the primary responsibility for providing the necessary traffic control devices and taking other appropriate measures for the protection of the public and his personnel." - 26 - opinion that there should have been an orange

safety fence²⁹ along the northern sidewalk to "channelize pedestrians" and discourage midblock crossings.

Aronberg was forthcoming about the fact that he considered the August 2014 deposition to be an opportunity to supplement his opinions. Asked by Q.B.'s counsel if he intended to provide a supplemental written report, Aronberg replied: "I would only amend it if I'm asked to amend it.

To me, I've given a report and I've supplemented the report in depositions, which is sworn testimony for everybody to read. I don't know that I'm required to put it in any further written form beyond that." Later, CSA's lawyer asked Aronberg: "I just want to make sure to understand that I guess your final report would be your preliminary report and your testimony in the depositions.

Is that a fair assessment?" Aronberg's "yes" in response was unequivocal. The Other Experts Defendants also put up experts, who agreed with some of Aronberg's opinions and attempted to cast doubt on others. We'll talk about a few of them.

First up, CSA's traffic engineering ²⁹During Aronberg's second deposition, it became clear that the orange safety fence opinion was the offspring of his more general opinion that the construction-affected area lacked positive guidance for pedestrians.

To avoid confusion, however, we will continue to discuss the orange safety fence opinion separately because of what happened down the road. - 27 - expert, Yates, concluded in his July 2014 report that CSA's MOT design was reasonable, and that Q.B. had primary responsibility for the design's implementation, according to the standard specifications³⁰ (and other such "contract documents") referenced in the MOT's General Notes.

During Yates' first deposition on August 23, 2014 (two days after Aronberg's second deposition), he explained that the standard specifications and the MUTCD required Q.B. to monitor the construction area to ensure pedestrians were safely navigating it -- which aligns with Aronberg's monitoring opinion. Notwithstanding Q.B.'s monitoring obligations, Yates opined that "all the parties" (including CSA, Q.B., and the project's safety inspector, Bonilla) "should be looking at the job and verifying whether the conditions were attributing to [unsafe pedestrian patterns] in some way."

When he was asked about the utility of Aronberg's "orange safety mesh" fence, however, Yates explained that such barriers would not have made a difference here. On August 30, 2014, days after Aronberg's second and Yates' first deposition, Q.B.'s traffic engineering expert, Hanscom, released a report. Hanscom, per his report, previously served on the National Committee for Uniform Control Devices, which helps the Federal Highway Administration draft the MUTCD.

Hanscom concluded that Lawes' "crossing behavior" (i.e., jaywalking) 30 Relevant here, Specification 638. - 28 - caused his accident, and neither additional signage nor adequate street illumination would have prevented it. He also claimed that Aronberg had failed to articulate why the width of the southernmost eastbound lane was relevant to Lawes' accident.

Exactly three months later, on November 20, 2014, Hanscom filed a supplemental report "in response to depositions" he had reviewed after filing his initial report. In particular, Hanscom finally got the opportunity to review Aronberg's and Yates' deposition testimony.

As is relevant here, Hanscom's supplemental report claimed that: (1) Lawes' negligence caused the accident; (2) CSA and Q.B. were not responsible for providing "positive guidance" on the unobstructed northern sidewalk; (3) Bonilla (not Q.B.) was responsible for "inspection activity," which included observing "pedestrian flow activity"; (4) the midblock barrier did not force pedestrians into a "pattern of dangerous walking behavior"; rather, "abundant evidence" indicated that they were trying to avoid a dangerous area along the northern sidewalk (i.e., the hot corner); (5) signage location, the midblock barrier, and the narrow eastbound lane did not contribute to Lawes' accident and, even if they did, "the placement of those items is an issue of [CSA's MOT] design"; (6) because Q.B. was responsible for illuminating the work area only when construction was underway, it had no lighting obligations at night, when Lawes' accident occurred; and (7) Q.B. was not authorized to modify the MOT without CSA's permission. - 29 - Hanscom doubled down on most of these opinions during his deposition on January 29, 2015, which Lawes and CSA attended.³¹ However, when confronted with MUTCD Section 6B, which requires that construction-affected areas undergo routine day and night inspections, he acknowledged that the MUTCD was ambiguous as to whether Q.B. (the contractor) or Bonilla (the inspector) was required to conduct such monitoring of the area while the MOT was in effect.

Separately, Riviere-Andino's accident reconstruction expert,³² Ivan Baigés Valentín, inspected the accident site, measured the width of the lanes, conducted perception visibility analysis (including an evaluation of lighting in the area), calculated Riviere-Andino's speed reaction time, and prepared an accident reconstruction diagram.

The main thrust of his expert report (which is described but not included in the record) and June 2014 deposition testimony was that Riviere-Andino was not 31 Q.B. also retained a professional engineer, Dennis González.

The bulk of González's expert report from August 29, 2014 is dedicated to distinguishing Q.B.'s project-related responsibilities from Bonilla's; he explained that Bonilla (not Q.B.) was in charge of monitoring the construction-affected area after the MOT's implementation. González also claimed that PREPA (not Q.B.) was responsible for insufficient lighting (if any).

32Riviere-Andino's other expert, Steven Schorr, published an expert report on May 20, 2013 and was deposed on November 11, 2013. The record provides minimal insight into his opinions and methodology. - 30 - responsible for Lawes' "actions" or the "hazardous conditions" in the area. But, according to Baigés Valentín, the lack of street lighting along the northern sidewalk impacted Lawes' visibility (to Riviere-Andino), and inadequate signage was also an issue.³³ The Trial and the Daubert Hearing On March 7, 2016, following the close of several years of discovery, a jointly filed 188-page pretrial order, the "longest" pretrial conference in the district court's twenty-three years on the bench, and prodigious motion practice, the trial on Lawes' claims began.

It lasted twenty-eight days, and was litigated by twelve, and sometimes thirteen, lawyers on any given day. On the fifteenth day of the trial, April 19, 2016, the court commenced what turned out to be a twelve-day Daubert hearing,³⁴ with the purpose of determining whether or not Lawes' expert could testify before the jury. It is important to underscore that, although defendants had made some efforts to restrict Aronberg's testimony in their motions in limine, no party ³³ With respect to signage, Baigés Valentín clarified during his deposition that he believed more signage was needed along the southern sidewalk.

³⁴ The Daubert hearing concluded on May 16, 2016, after thirteen days on the court's docket. But since Aronberg did not appear in court and was not questioned on April 22 (when the court heard the parties on Lawes' motion to disqualify the judge), we do not count that day. - 31 - had formally moved to exclude his testimony in its entirety.

In fact, the court opened the hearing by pointing out that, even though there was no Daubert challenge on the docket, "plaintiff has made arguments to the Court that have obligated the Court to hold a Daubert hearing." That same day, Q.B. (via its insurer) complained for the first time that Aronberg was not a reliable witness under Federal Rule of Evidence 702, and that Lawes had insufficiently disclosed Aronberg's expert opinions prior to trial in violation of Federal Rule of Civil Procedure 26(a)(2)'s disclosure requirements and Rule 26(e)(2)'s supplementation requirements.

From Q.B.'s perspective, when Aronberg started to explain its responsibility to place an orange mesh fence between the northern sidewalk and the combined roadways' many lanes, the expert was expressing an opinion that was unreasonably speculative and previously undisclosed.

The very next day, Q.B. filed a motion in limine to sanction Lawes for his Rule 26 disclosure violations pursuant to Rule 37(c)(1), and requested the court exclude Aronberg's testimony under Rule 702. Lawes argued in his opposition that defendants had not demonstrated surprise and prejudice (factors favoring preclusion under Rule 37(c)(1)) since Aronberg had expressed the orange safety fence opinion during both of his depositions, defendants' experts had rebutted the opinion in their - 32 - reports and depositions,³⁵ and the opinion was disclosed in the parties' jointly-filed pretrial order.

Moreover, the orange safety fence opinion was supported by sufficient facts and data to withstand Q.B.'s first official Daubert challenge. Nonetheless, the district court issued an order explaining that, to be admissible at trial, Aronberg's opinions must have been included in his preliminary expert report or a written supplemental report. Since the orange safety fence opinion was not disclosed in a report, the court found that Lawes had violated Rule 26's expert disclosure and supplementation requirements.

Moreover, because of Lawes' "ambush litigation tactics," his misconduct required the exclusion of all orange safety fence-related testimony. The court reserved for another day its opinions on Aronberg's reliability.

The hearing's civility deteriorated from there. The attorneys pushed and shoved one another and, alarmingly, one defense counsel purportedly suggested he and plaintiff's counsel take their courtroom drama "downstairs." At times, Aronberg, the hearing's only witness, could not get a word in edgewise. Near the end of this unusually eventful Daubert hearing, several motions were filed to preclude Aronberg's testimony as a sanction for 35 CSA's expert opined during his deposition that placing such a fence in the median between the northern sidewalk and Fernández Juncos would not have prevented Lawes' accident since "mesh fences are about 30 inches in height" so "all an individual has to do is step over it." - 33 - Lawes' discovery violations (motions that are typically filed and resolved before trial), and/or to exclude Aronberg from trial under Federal Rule of Evidence 702.

These motions were granted on June 23, 2016, and Lawes was ordered by the court "to show cause" whether or not he would proceed even though "the Court... excluded the only witness that could establish causation between Defendants' acts and Plaintiff's accident."

The district court nevertheless allowed Lawes to soldier on, and he finally rested his case on July 6, 2016. Defendants moved for judgment as a matter of law under Federal Rule of Civil Procedure 50(a), which the district court allowed, ending Lawes' case.

On October 10, 2016, Lawes timely appealed his expert's exclusion from the litigation and the entry of judgment against him. That brings us to the present. OUR TAKE We'll kick things off by explaining the role of expert testimony in Lawes' case.

Under Puerto Rico law, which supplies the substantive law in this diversity case, Lawes "had to show 'damage... through fault or negligence.'" *Aponte-Bermúdez v. Colon*, 944 F.3d 963, 963-64 (1st Cir. 2019) (citing *Rodríguez- Tirado v. Speedy Bail Bonds*, 891 F.3d 38, 41 (1st Cir. 2018), and quoting P.R. Laws Ann. tit. 31, § 5141). Lawes argued that CSA, the sole remaining defendant, negligently designed the MOT and caused his injuries.

Lawes therefore needed to establish that - 34 - "[CSA] owed [him] a duty," "that the duty was breached, that damages resulted, and that those damages were caused by the breach[.]" Calderón-

Ortega v. United States, 753 F.3d 250, 252 (1st Cir. 2014).

In negligent design cases, like this one, experts are needed to educate the jury on the industry-specific standard of care that applied. See Aponte-Bermúdez, 944 F.3d at 964 (explaining that in negligent design cases "under Puerto Rico law, [plaintiffs] would ordinarily have to prove the applicable standard of care through expert witnesses" (citing Vázquez- Filippetti v. Banco Popular de Puerto Rico, 504 F.3d 43, 51-52 (1st Cir.

2007))). We have explained that determining what constitutes a reasonably safe design is "ordinarily 'beyond the experience or knowledge of an average lay person.'" Id. (quoting Vázquez-Filippetti, 504 F.3d at 52). What is "'ordinarily' true is not invariably true," so there may be exceptional cases in which the "negligence in design [is] blatant enough not to require expert testimony[.]" Id. In this case, after excluding Lawes' only expert, the district court concluded that expert testimony was essential to establishing the applicable standard of care, which Lawes had to do as a matter of law.

Lawes v. Q.B. Constr., No. CV 12-1473 (DRD), 2016 WL 4660915, at *4 (D.P.R. Sept. 7, 2016) (stating that "a lay jury certainly may not rely on personal experience and knowledge to establish the duty of care owed to pedestrians by designers of temporary management of traffic - 35 - plans"). Then, the district court dismissed Lawes' case.

For reasons we'll explain later, we do not reach the district court's entry of judgment on the merits for defendants. Instead, we'll focus our energy on the rulings that resulted in Aronberg's exclusion from trial in the first instance, keeping in mind the district court's musings regarding the importance of expert testimony to Lawes' case. Standard of Review We review both of the rulings resulting in Aronberg's exclusion from trial for an abuse of discretion.

Esposito v. Home Depot U.S.A., Inc., 590 F.3d 72, 78 (1st Cir. 2009) (applying abuse of discretion to expert's preclusion under Rules 26 and 37(c)(1)); Ruiz-Troche v. Pepsi Cola of P.R. Bottling Co., 161 F.3d 77, 83 (1st Cir. 1998) (reviewing expert's exclusion after Daubert hearing for abuse of discretion). Abuse of discretion "occurs when a material factor deserving significant weight is ignored, when an improper factor is relied upon, or when all proper and no improper factors are assessed, but the court makes a serious mistake in weighing them."

Fashion House, Inc. v. K Mart Corp., 892 F.2d 1076, 1081 (1st Cir. 1989) (quoting Ind. Oil & Chem. Workers of Quincy, Inc. v. Procter & Gamble Mfg. Co., 864 F.2d 927, 929 (1st Cir. 1988)). "This standard is not monolithic: within it, embedded findings of fact are reviewed for clear error, questions of law are reviewed de novo, and judgment calls are - 36 - subjected to classic abuse-of-discretion review."

Bricklayers and Trowel Trades Int'l Pension Fund v. Credit Suisse Sec. (USA) LLC, 752 F.3d 82, 91 (1st Cir. 2014) (quoting Ungar v. Palestine Liberation Org., 599 F.3d 79, 83 (1st Cir. 2010)).

On abuse-of- discretion review, we will reverse a trial court's decision if we determine the judge committed "a material error of law" or "a meaningful error in judgment."

United States v. Jordan, 813 F.3d 442, 445 (1st Cir. 2016) (citing Ruiz-Troche, 161 F.3d at 83). We review de novo the district court's judgment as a matter of law under Rule 50. Blomquist v. Horned Dorset Primavera, Inc., 925 F.3d 541, 546 (1st Cir. 2019) (citing Thomas & Betts Corp. v. New Albertson's, Inc., 915 F.3d 36, 60 (1st Cir. 2019)); see Fed. R. Civ.

P. 50. We acknowledge the district court's valiant effort to effectively and fairly administer the discovery process in this case. However, our close review of the record persuades us that the district court abused its discretion in refusing to allow Aronberg to testify.

To be sure, Lawes' pretrial disclosures were far from ideal. Nevertheless, in reaching the decision to exclude Lawes' sole expert, the district court undervalued or overlooked significant factors and made serious missteps in balancing the import of other factors relevant to its analysis.

We therefore reverse Aronberg's exclusion and vacate the entry of judgment as a matter of law (without ruling on the merits of that decision). - 37 - Although CSA is the sole remaining defendant on appeal, our review is informed by the district court's assessment of Aronberg's expert opinions and testimony as a whole.

Thus, when necessary, we will discuss district court analysis that concerns former defendants and third parties. We'll begin our take with the discovery rules, and we'll end with Daubert and Federal Rule of Evidence 702. Rule 26: Expert Discovery Disclosure Rule 26 "is an integral part of the machinery devised to facilitate the management of pretrial discovery."

Downey v. Bob's Disc. Furniture Holdings, Inc., 633 F.3d 1, 5 (1st Cir. 2011) (quoting Gómez v. Rivera Rodríguez, 344 F.3d 103, 112 (1st Cir. 2003)). "Recognizing the importance of expert testimony in modern trial practice, [Rule 26] provide[s] for extensive pretrial disclosure of expert testimony." Thibeault v. Square D Co., 960 F.2d 239, 244 (1st Cir. 1992).

Plaintiffs and defendants alike must identify their expert witnesses and produce their experts' reports by court-approved deadlines. Fed. R. Civ. P. 26(a)(2)(A)- (B). An expert's report must include a "complete statement" of all the expert's opinions and the "basis and reasons" for them; the facts and data the expert considered; any exhibits the expert intends to rely on; a list of cases from the last four years in which the witness testified as an expert at trial or by deposition; and the compensation the expert will receive in exchange for his testimony in the case.

Fed. R. Civ. P. 26(a)(2)(B). But the - 38 - expert's work doesn't end there. Rule 26(e) then instructs parties that expert disclosures "must be kept current." Macaulay v. Anas, 321 F.3d 45, 50 (1st Cir. 2003) (citing Fed. R. Civ. P. 26(e)(1)). During litigation, usually before trial, experts must supplement their reports at the court's request or when a party learns that its "disclosure or

response is incomplete or incorrect" and "the additional or corrective information has not otherwise been made known to the other parties during the discovery process or in writing."

Fed. R. Civ. P. 26(e)(1). The duty to supplement extends "to information included in the [expert's] report and to information given during the expert's deposition." Fed. R. Civ. P. 26(e)(2). Complete and timely disclosures and supplementation ensure an even playing field, preventing any party from gaining an "unfair tactical advantage" at trial. *Lohnes v. Level 3 Comm., Inc.*, 272 F.3d 49, 60 (1st Cir.

2001); see *Licciardi v. TIG Ins. Grp.*, 140 F.3d 357, 363 (1st Cir. 1998) (explaining that adherence to Rule 26 averts "the heavy burden placed on a cross-examiner confronted by an opponent's expert whose testimony had just been revealed for the first time in open court" (quoting *Johnson v. H.K. Webster, Inc.*, 775 F.2d 1,7 (1st Cir. 1985))).

In the interest of fairness, district courts may sanction litigants who disregard these obligations. Pursuant to Rule 37(c)(1), incomplete or late disclosures may result in (among other possible sanctions) the - 39 - preclusion of the "relevant expert information... 'at a hearing, or at a trial, unless the failure was substantially justified or is harmless.'" *Esposito*, 590 F.3d at 77 (emphasis added) (quoting Fed.

R. Civ. P. 37(c)(1)). Preclusion is not strictly required, however. "When noncompliance occurs, the ordering court should consider the totality of events and then choose from the broad universe of available sanctions in an effort to fit the punishment to the severity and circumstances of the violation." *Young v. Gordon*, 330 F.3d 76, 81 (1st Cir. 2003) (emphasis added) (citing *Tower Ventures, Inc. v. City of Westfield*, 296 F.3d 43, 46 (1st Cir.

2002)). And where preclusion "carrie[s] the force of a dismissal," as the district court implied it did here, the justification for this sanction must be "more robust." *Esposito*, 590 F.3d at 79 (citing *Young*, 330 F.3d at 81 (explaining that "dismissal ordinarily should be employed as a sanction only when a plaintiff's misconduct is extreme" (citation omitted))); see *Tower Ventures*, 296 F.3d at 45-47 (concluding that the plaintiff's "serial violations" of the district court's scheduling orders constituted extreme misconduct that warranted dismissal). "[D]ismissal should not be viewed either as a sanction of first resort or as an automatic penalty for every failure to abide by a court order."

Young, 330 F.3d at 81. Because dismissal "runs counter to our 'strong policy favoring the disposition of cases on the merits,'" this severe sanction "should be employed only after - 40 - the district court has determined 'that none of the lesser sanctions available to it would truly be appropriate.'" *Enlace Mercantil Internacional, Inc. v. Senior Indus., Inc.*, 848 F.2d 315, 317 (1st Cir.

1988) (quoting *Zavala Santiago v. Gonzalez Rivera*, 553 F.2d 710, 712 (1st Cir. 1977)). Ultimately, "the choice of an appropriate sanction must be handled on a case-by- case basis." *Young*, 330 F.3d at 81 (citing *Tower Ventures*, 296 F.3d at 46). Moving from the general to the specific, the trial court found that Aronberg's preliminary report violated Rule 26(a)(2) because it did not include all his opinions or the basis and reasons for them; Aronberg didn't say how much he was getting paid to testify; and the photographs Aronberg took of the accident site were not attached to the report (though they were mentioned and disclosed later in the litigation).

Adding to these violations, Aronberg did not submit a written supplemental expert report after his two depositions, which the district court considered a violation of Rule 26(e). The district court then considered the severity of Lawes' misconduct, and imposed one of the harshest sanctions available, precluding the expert's testimony despite Lawes' tremendous need for it.

Lawes does not argue on appeal that Aronberg's expert disclosures satisfied Rule 26, so we won't spill any ink on the question. As to Lawes' quarrel with the district court's sanction, - 41 - the question "is not whether we would have imposed the same sanction. Rather, the question is whether the district court's action was so wide of the mark as to constitute an abuse of discretion."

Macaulay, 321 F.3d at 51. Thus, "appellate panels traditionally give district courts considerable leeway in the exercise of the latter's admitted authority to punish noncompliant litigants." *Young*, 330 F.3d at 81. In undertaking our review, we look to "the history of the litigation, the proponent's need for the challenged evidence, the justification (if any) for the late disclosure, and the opponent's ability to overcome its adverse effects."

Macaulay, 321 F.3d at 51 (citations omitted). Although analysis of each factor is relevant, the "focus of a preclusion inquiry is mainly upon surprise and prejudice" to defendants. *Thibeault*, 960 F.2d at 246-47 (affirming preclusion of expert testimony where plaintiff's "eleventh-hour" change in theory days before trial would have forced the defendant to rush its preparations).

Since surprise and prejudice serve as "important integers" in our deferential review, it makes sense to start there. *Macaulay*, 321 F.3d at 51. As the district court tells it, CSA was "caught off- guard" (read: surprised) by Aronberg's Daubert testimony that the MOT was "sloppy."

For support, the district court cited Aronberg's Daubert testimony from May 10, 2016. At that point in the day, CSA was following up with Aronberg about his reactions to some - 42 - documents Q.B. had cross-examined him on earlier.

For context, the day before, Q.B. gave Aronberg a copy of the MOT, then showed him a blueprint of the area where Lawes' accident occurred in its original (pre-construction and pre-MOT) state. Next, Q.B.'s counsel conducted an experiment while Aronberg was sitting on the stand: he placed the pre-construction blueprint over the MOT design, and asked Aronberg his thoughts on the superimposition.

Q.B. queried whether the MOT's drawn-to-scale specifications instructed Q.B. to place the midblock barrier partially in the southernmost eastbound lane. Aronberg did not agree that this was the MOT's intent. Rather, as he told Q.B., the "drawing" in the MOT was "sloppy." When CSA brought this testimony up during its cross-examination of Aronberg on May 10, 2016, the expert confirmed his belief that the MOT was "sloppy."

The trial court also found surprising Aronberg's Daubert testimony about CSA's responsibility to ensure the sidewalk was closed at the intersection in its design. To the district court's dismay, Aronberg testified on May 9, 2016 that CSA was obligated to contact the Municipal Bus Authority about the phantom bus stop since it was the only reason CSA could not close the sidewalk completely.

Later, when defense counsel brought up Vargas' trial testimony from several weeks before, during which Vargas testified that she didn't know the bus stop plans had changed, Aronberg explained that someone from CSA (if not Vargas) should have been - 43 - in communication with the Bus Authority to get the most up-to-date information about the MOT design and implementation process.

Since this opinion was not contained in Aronberg's report, the district court concluded that CSA must not have known about it before. For example, after CSA finally wrapped up its bus stop questions during the Daubert hearing on May 10, 2016, the district court described Aronberg's design defect opinion as "late" and asked CSA whether it agreed, prompting vigorous verbal opposition from Lawes' counsel and a court-initiated 10-minute recess.

In view of Aronberg's Daubert testimony as to CSA'S design, the trial court concluded that Aronberg was a moving target, and so it found that CSA was prejudiced as a result. As the district court explained, the "prejudice... lies in the basis Aronberg provided for imposing liability on CSA at the Daubert hearing[:] engineering common sense."

We favorably assume the district court meant that CSA's ability to test and confront Aronberg's conclusions at trial was thwarted by the expert's perceived shiftiness and Lawes' discovery violations. Here's the rub: Lawes' pretrial disclosures and relevant excerpts from Aronberg's depositions (which Lawes attached to and quoted in his motions opposing sanctions) gave CSA more than sufficient notice of Aronberg's negligent-design-related opinions.

Based on this record, CSA was neither surprised nor prejudiced by Aronberg's Daubert testimony. Nearly two years before trial, on - 44 - June 20, 2014, Lawes requested leave to file a third amended complaint in which he explained that, "after further discussions with [his] expert," he was now alleging that CSA's "poor design" contributed to Lawes' accident.

Then, in August 2014, CSA participated in Aronberg's eight-hour deposition, where it extensively questioned Aronberg's opinions about CSA's allegedly negligent design. At that time, Aronberg

explained that the MOT was "poor" (as opposed to "sloppy") because it failed to provide clear, nondiscretionary instructions to Q.B. regarding how the design was supposed to be implemented.

He opined, moreover, that the design's signage placement was off, and its General Notes needed to be more specific to comport with industry standards, including the MUTCD (the traffic engineer's Bible). At one point, Aronberg was asked (by Q.B.) whether it would have been helpful for CSA to note the real-life dimensions of the roadways in its design, and Aronberg agreed that would have helped.

He nevertheless explained that a contractor familiar with roadway work should have been able to implement the plan without placing the midblock barrier partially in the street, causing the eastbound lane to fall under 8 feet in width.

In other words, although he believed the MOT was poor (or sloppy), Q.B. should have advocated for a blocked off narrow lane as soon as it discovered the width issue. When Aronberg was confronted with new material on the Daubert stand in the form of the superimposed MOT, he still stuck - 45 - to his guns about Q.B.'s ultimate responsibility for implementing a pedestrian corridor (never mind CSA's sloppy design).

Under these circumstances, we think it improper to penalize an expert for reacting to a defendant's evolving theories of the case. After all, as every trial lawyer knows, "[e]vidence and theories evolve in the last minute preparation for trial and trial itself" so "[i]t is common for there to be some deviation between what was said in discovery and what comes out at trial," Licciardi, 140 F.3d at 367, especially as witnesses respond to opposing counsels' suggestions on cross-examination.

At bottom, the district court does not explain how, in view of the deposition excerpts available to it, CSA was surprised by Aronberg's characterization of the MOT as sloppy during the Daubert hearing. See *Gay v. Stonebridge Life Ins. Co.*, 660 F.3d 58, 64 (1st Cir. 2011) (finding that the expert's testimony was a "reasonable elaboration" of his previously disclosed opinions "[a]lthough his testimony uses different words").

The district court's other example of Aronberg's surprising Daubert testimony concerned the expert's opinion that CSA should have done more to close the sidewalk notwithstanding the phantom bus stop. But this too was foreseeable to anyone who attended Aronberg's second deposition or reviewed the deposition excerpts in the record. Aronberg explained during his August 2014 deposition that CSA's design team should have closed the sidewalk - 46 - at the intersection even if that meant following-up with the Bus Authority about the bus stop.

And when (or if) CSA learned the bus stop was not going to be moved to the southern sidewalk, Aronberg's opinion at his deposition was that CSA had a duty to see that the MOT was designed (or redesigned) with a closed sidewalk based on industry standards.

The thrust of Aronberg's opinion was the same at his Daubert hearing, even though he was asked about new evidence (here, Vargas' trial testimony) on the spot. There was no meaningful difference between Aronberg's Daubert and deposition testimony.

In holding that CSA was somehow surprised by what Aronberg had to say, the district court did not give any effect to Aronberg's depositions. The court even said that it would not treat "hundreds of pages of deposition testimony as sufficient notice of Aronberg's testimony."

We have no quarrel at the moment with the district court's position that deposition testimony is not a "suitable substitute" for a Rule 26(a)(2) expert report or a supplemental report under Rule 26(e). However, there is no support in the rules or our case law for disregarding deposition testimony in considering whether (and to what extent) sanctions are appropriate given the discovery violations at issue.

District courts should "consider all the circumstances surrounding [an] alleged [expert disclosure] violation" in considering what sanction (if any) is warranted in a given case. *Thibeault*, 960 - 47 - F.2d at 246; see *González-Rivera v. Centro Médico Del Turabo, Inc.*, 931 F.3d 23, 27 (1st Cir. 2019) ("When evaluating the appropriateness of a sanction, a reviewing court must take into account the totality of the circumstances.").

Careful attention to the pretrial record, in particular, is necessary to determine whether a party's failure to abide by Rule 26's expert disclosure requirements resulted in harm to the other party at trial. For instance, if the pretrial record reveals that the party opposing sanctions provided notice of a change in its expert's testimony (even if insufficient to satisfy the duty to supplement), then the other side's "claimed surprise" at trial is less credible, and the district court should consider whether a lesser sanction (if any) is appropriate for the discovery violation.

See *Licciardi*, 140 F.3d at 366. Here, the severity of Lawes' misconduct turns (in part) on whether CSA was surprised by (and thus unprepared for) Aronberg's Daubert testimony regarding flaws in the MOT. To determine whether CSA's surprise was genuine, the district court should have reviewed and considered whether Aronberg's August 2014 deposition testimony put CSA on notice of the pertinent changes in Aronberg's opinions regarding the design.

See *Curet-Velázquez v. ACEMLA de P.R., Inc.*, 656 F.3d 47, 56–57 (1st Cir. 2011) (citing *Brennan's Inc. v. Dickie Brennan & Co.*, 376 F.3d 356, 375 (5th Cir. 2004) (affirming denial of a motion to exclude plaintiff's late-filed expert report where the defense had access to the - 48 - documents underlying the expert's opinion and where the defense was already familiar with the underlying data)).

The district court's disregard for deposition testimony in this case amounts to a meaningful error in judgment that, in turn, precipitated the district court's erroneous conclusion that CSA was in fact surprised by Aronberg's testimony.

Because the pretrial record does not support any claim of surprise in this case, we cannot agree that "the punishment... approximately fit the crime." *Esposito*, 590 F.3d at 80. Next, the district court's concerns about prejudice³⁶ are reasonable, but they still do not tip the scale in favor of the case-dispositive sanction imposed here.

The district court observed, for example, that defendants would be forced to "read hundreds of pages of [Aronberg's] depositions" in order to prepare for trial. While we assume trial attorneys routinely review deposition transcripts when preparing for trial, we nevertheless recognize that Rule 26 was designed to reduce the significant burden of managing expert discovery.

We can also reasonably assume that Lawes' failure to supplement Aronberg's report generated countless hours of extra work for the lawyers involved in this ³⁶ Although the district court determined that Aronberg's preliminary report violated Rule 26 because it failed to disclose his expert fee and photographs that he purportedly relied upon, neither the court nor the defendants claim that these omissions resulted in surprise or prejudice to defendants at trial. - 49 - litigation.

Notwithstanding the inconvenience (and monotony) of deposition transcript review, CSA had more than enough time (nearly two years) before trial to prepare its defense to the opinions Aronberg expressed in his August 2014 deposition.

As we've already explained, there was no meaningful difference between his deposition testimony and the opinions he offered at the Daubert hearing. Regardless, the record reflects that CSA made good use of the time it had to prepare for Aronberg's testimony. Indeed, CSA made Yates, its own traffic engineering expert, available for a deposition a few days after Aronberg was deposed for the second time.

Yates' deposition testimony, which referenced and at times rebutted Aronberg's deposition testimony, suggests that CSA was aware of Aronberg's opinions regarding its liability and was actively preparing its defense for trial. Unlike the cases in which we have affirmed a more severe sanction, there is no indication here that Lawes' expert disclosure violations prevented CSA from prepping its theory of the case for trial.

Cf. *Santiago- Díaz v. Laboratorio Clínico y De Referencia Del Este & Sara López, M.D.*, 456 F.3d 272, 277 (1st Cir. 2006) (affirming preclusion where "plaintiff's foot-dragging in announcing her expert and providing his report deprived the defendants of the opportunity to depose him, impeach his credentials, pursue countering evidence, or generally prepare their defenses"); *Macaulay*, 321 F.3d at 52 (affirming preclusion of a supplemental expert report where the - 50 - late-filed disclosure would have either "force[d] the defense to trial without appropriate preparation (such as targeted pretrial discovery)" or required the court to "reopen discovery and vacate the trial assignment"); *Licciardi*, 140 F.3d at 363 (ordering a new trial where, given the defense expert's pretrial concession that the accident caused the plaintiff's trauma, the plaintiff had no reason to

develop "the sort of testimony which plaintiff would have put in" had the plaintiff known before trial that defendant's expert in fact planned to contest that the accident caused the trauma); Thibeault, 960 F.2d at 247 ("In this case, had the court allowed the tardy supplementation, [the defendant] would have had to scrap much of its earlier preparation in favor of a frantic, last-minute scramble to investigate the emergent witnesses, counter their testimony, and rebut a new and different case concept."); Freund v. Fleetwood Enters., Inc., 956 F.2d 354, 358 (1st Cir.

1992) (holding that the trial court properly excluded plaintiff's expert testimony where substance of that testimony was not made known to defendants until the middle of trial, and noting that "had [defendants] known about the [expert] testimony sooner, they might well have decided to counter it, through cross-examination or other expert testimony").

Thus, the record here lacks the surprise or prejudice that warrants the "strong medicine" - 51 - of precluding Lawes' sole expert during his case-in-chief. Esposito, 590 F.3d at 79.37 Although we have never affirmed an expert's preclusion when we were not persuaded by the proffered evidence of surprise or prejudice in the record, for the sake of completeness, we'll address the other factors relevant to our sanctions analysis.

As to the history of the litigation, Lawes timely disclosed Aronberg's preliminary report, and he made his expert available for two, full-day depositions. At Aronberg's second deposition, CSA was provided the opportunity to scrutinize Aronberg's opinions. It even heard directly from the horse's mouth that Aronberg did not plan to write a supplemental report regarding CSA's liability; rather, as Aronberg told defendants, he believed his depositions adequately 37 Although CSA is the focus of our review on the sanctions front (since it is the only defendant with any skin left in the game), the district court's examples of surprise and prejudice as to former defendant Q.B. similarly fail to justify the sanction imposed.

The district court found, for example, that Aronberg's Daubert testimony disclosed new sources. But these sources (Section 6B of the MUTCD and Specification 638) were incorporated by reference into CSA's MOT, they were disclosed in Aronberg's preliminary report and depositions, referenced in the joint pretrial order, and/or acknowledged by defendants' experts in rebutting Aronberg's opinions.

For instance, Q.B.'s expert, Fred Hanscom, was deposed regarding whether Section 6B imposed monitoring obligations on contractors, and he agreed during his deposition that "it was a mandatory requirement for [Q.B.] to read Specification Number 638" to understand its responsibilities.

In the same vein, contrary to the district court's assertions, Aronberg's depositions clearly gave adequate heads-up about his opinions regarding Lawes' path the night of his accident, as well as

Q.B.'s lighting and monitoring obligations. - 52 - conveyed all his opinions. CSA also signed on to a jointly filed pretrial order, where Lawes summarized Aronberg's expert opinions against CSA.

There is no evidence that Lawes deliberately and repeatedly disregarded his discovery obligations. Cf. *Santiago– Díaz*, 456 F.3d at 277 & n.4 (upholding the preclusion of a late- disclosed expert witness, where the sanctioned party's "dereliction was both obvious and repeated" and "[t]he record makes manifest that the plaintiff was guilty of several discovery violations besides those related to her expert witness").

The fact that CSA cried foul for the first time during the Daubert hearing, after the district court described one of Aronberg's opinions as "late-arriving," further suggests Lawes' conduct and disclosures throughout the litigation were at least minimally sufficient to defendants until the very end.

The next factor, substantial justification, does not favor Lawes since he has not offered one. (In fact, Lawes fell on his sword, admitting his lack of 100% compliance with Rule 26's updating requirement, but tried to stress to the court that his failure didn't end the inquiry.)

Finally, as the district court explained, the importance of Aronberg's testimony to Lawes' case could not be "understated." On balance, given our review of the evidence of surprise and prejudice identified by the district court, the history of the litigation, and the undeniable import of the excluded testimony to Lawes' case against CSA, we find that preclusion was overly strong - 53 - medicine and thus, an abuse of discretion.³⁸ We do not discount the district court's valid concerns about Lawes' discovery violations and respect for the defendants' (and the court's) time.

Even so, in this case, we find that preclusion was excessive. See *Enlace*, 848 F.2d at 318 (finding that dismissal with prejudice constituted an abuse of discretion and advising the district court to consider the "broad panoply of lesser sanctions" available to it on remand (quoting *Richman v. Gen. Motors Corp.*, 437 F.2d 196, 199 (1st Cir. 1971))). So we reverse the sanction imposed by the district court under Rule 26 and Rule 37(c)(1).

To ensure ³⁸In its statement of supplemental authorities filed on July 26, 2019 pursuant to Federal Rule of Appellate Procedure 28(j), CSA argues that our decision in *González-Rivera* compels a different outcome here. But that case is readily distinguishable. There, we found the district court properly considered the totality of the circumstances in excluding plaintiff's expert report, which was filed nearly a year after the court's discovery deadline (not to mention defendants' motions for summary judgment) and attempted to revive plaintiff's claims against a defendant she had previously moved to dismiss from the litigation.

González-Rivera, 931 F.3d at 26-28. Here, by contrast, the court chose not to consider an entire category of documents relevant to its inquiry (i.e., Aronberg's depositions), and identified purported prejudice that was unsupported by the record.

The circumstances before us bear no resemblance to those at issue in *González-Rivera*. The authorities cited in CSA's other 28(j) letters do not add anything new to our discussion, so we won't mull over them here. See *Aponte-Bermúdez*, 944 F.3d at 964 (explaining that a claimant in a negligent design case ordinarily must put up an expert to opine on the applicable standard of care); *Ciomber v. Coop*.

Plus, Inc., 527 F.3d 635, 638 (7th Cir. 2008) (affirming exclusion of plaintiff's expert, where expert's report was filed after the district court's discovery deadline and plaintiff failed to file a supplemental expert report by his own self-imposed deadline). - 54 - proceedings consistent with this opinion, we also reverse the district court's order precluding Aronberg's orange safety fence opinion for expert disclosure violations during the Daubert hearing.

Rule 702 Lawes also seeks reversal of the district court's decision to prohibit Aronberg from testifying at trial as an expert witness. Daubert assigns the trial court the role of "gatekeeper," which requires courts to make an independent determination that "any and all scientific testimony or evidence admitted [at trial] is not only relevant, but reliable."

Daubert v. Merrell Dow Pharm., 509 U.S. 579, 589 (1993).³⁹ The Daubert court concluded, moreover, that Rule 702 displaced the "general acceptance" test of *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923), under which "the admissibility of an expert opinion or technique turned on its 'general acceptance' vel non within the scientific community." *Ruiz-Troche*, 161 F.3d at 80.

Rule 702 provides that: A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the 39 While Daubert remains relevant, *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999), clarified that the gatekeeper function applies to all expert testimony, not just scientific.

Kumho, 526 U.S. at 141. - 55 - testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case. The Rule, therefore, "necessitates an inquiry into the methodology and the basis for an expert's opinion." *Samaan v. St. Joseph Hosp.*, 670 F.3d 21, 31 (1st Cir. 2012). Reliability is a flexible inquiry, allowing for consideration of factors like whether the expert's methodology has been objectively tested; whether it has been subjected to peer review and publication; the technique's known or potential error rate; and whether the expert's technique has been generally accepted within the relevant industry.

Milward v. Acuity Specialty Prods. Grp., Inc., 639 F.3d 11, 14 (1st Cir. 2011) (citing *Daubert*, 509 U.S. at 593-94). At the end of the day, however, "[t]he focus... must be solely on principles and methodology[.]" *Daubert*, 409 U.S. at 594-95. Notwithstanding the deep dive that courts often

take to adequately assess the reliability of expert methodology, especially in highly technical industries, they must stop short of weighing the evidence, evaluating credibility, or unnecessarily picking sides in a battle between experts.

"So long as an expert's scientific testimony rests upon 'good grounds, based on what is known,' it should be tested by the adversarial process." Milward, 639 F.3d at 15 (quoting Daubert, 509 U.S. at 590). However, the "reliability" bar cannot be met "by an expert's self-serving - 56 - assertion that his conclusions were derived by the scientific method"; rather, "the party presenting the expert must show that the expert's findings are based on sound science, and this will require some objective, independent validation of the expert's methodology."

Daubert v. Merrell Dow Pharm., 43 F.3d 1311, 1317- 90 (9th Cir. 1995)("Daubert on remand"). In addition, to be "helpful" to the jury, the expert's conclusions must have a "valid scientific connection to the pertinent inquiry[.]" Id. at 1320. This means that the conclusion must not only be relevant to the facts at issue, but also that each step in the expert's process, including the link between the universe of pertinent facts and his conclusions, must be reliable.

Although the court must focus "on principles and methodology, not on the conclusions they generate," Daubert, 509 U.S. at 595, this focus "need not completely [preclude] judicial consideration of an expert's conclusions." Ruiz-Troche, 161 F.3d at 81.

In General Electric Co. v. Joiner, the Supreme Court acknowledged that "conclusions and methodology are not entirely distinct from one another. Trained experts commonly extrapolate from existing data. But nothing in either Daubert or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the ipse dixit of the expert."

522 U.S. 136, 146 (1999). For this reason, "[a] court may conclude that there is simply too great an analytical gap between the data - 57 - and the opinion proffered." Id.; see Samaan, 670 F.3d at 32 (providing that the trial court may "examin[e]... [the expert's] conclusions to determine whether they flow rationally from the methodology employed"). An "analytical gap between the data and the opinion proffered" may provide the basis for the expert's exclusion.

Samaan, 670 F.3d at 32 (quoting Gen. Elec. Co., 522 U.S. at 146). This requirement, which is sometimes described as "fit," ensures that the connection between the expert's data, his conclusions, and the facts of the case is reliable. See id. The Daubert inquiry is case-specific. "Exactly what is involved in 'reliability'... 'must be tied to the facts of a particular case.'" Milward, 639 F.3d at 14–15 (quoting Beaudette v. Louisville Ladder, Inc., 462 F.3d 22, 25 (1st Cir.

2006)). Adding to the complexity, "there is no particular procedure that the trial court is required to follow in executing its gatekeeping function under Daubert." United States v. Diaz, 300 F.3d 66, 73 (1st Cir. 2002). Importantly, "Daubert does not require that a party who proffers expert

testimony carry the burden of proving to the judge that the expert's assessment of the situation is correct"; rather, to satisfy Daubert's objective, the proponent must show "that the expert's conclusion has been arrived at in a scientifically sound and methodologically reliable fashion."

Milward, 639 F.3d at 15 (quoting Ruiz-Troche, 163 F.3d at 85). "Vigorous cross examination, presentation of contrary evidence, - 58 - and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." Daubert, 509 U.S. at 596.

In this case, the district court began Aronberg's Daubert hearing on its own initiative toward the end of the plaintiff's case-in-chief. Aronberg, the only witness to testify at the hearing, was cross-examined by multiple defense counsel for twelve days.

The trial court admitted and considered evidence solely for the purpose of the Daubert hearing, cross-examined the witness, and fielded countless spats between the parties during and after long hearing days. Following this grueling and acrimonious procedure, the trial court refused to qualify Aronberg as an expert in Lawes' case, concluding: (1) Aronberg's opinions were not supported by sufficient data; (2) Aronberg's methodology was inconsistent with one article written by another expert in the field and was therefore unreliable; and (3) Aronberg did not reliably apply the principles and methods of traffic engineering to the facts of Lawes' case in reaching his expert opinions.

After careful review and consideration of our deferential approach, we find that Aronberg's opinions -- although not bulletproof -- were sufficiently reliable to present to a jury. By excluding Aronberg, "the district court exercised its gatekeeping role under Daubert with too much vigor." *Manpower, Inc. v. Ins. Co. of Pa.*, 732 F.3d 796, 805 (7th Cir. 2013).

Our reasoning follows. - 59 - Sufficiency of Aronberg's Data Rule 702 requires that expert testimony be based on "sufficient facts or data." Fed. R. Evid. 702(b). Although an expert's methodology is the "central focus of a Daubert inquiry," courts "may evaluate the data offered to support an expert's bottom-line opinions to determine if that data provides adequate support to mark the expert's testimony as reliable."

Ruiz-Troche, 161 F.3d at 81. However, district courts must not "unduly scrutinize[] the quality of the expert's data," because such scrutiny "usurps the role of the jury." *Manpower*, 732 F.3d at 806. To begin, the district court proclaimed that "[n]either case law nor the Rules require courts to scrutinize the sufficiency of [an expert's] data."

The court nevertheless raked a fine-tooth comb through Aronberg's sources and concluded the expert had missed certain data that it considered necessary to "lend proper support" to his opinions. The district court found that Aronberg failed to review "any contractual documents pertaining to the Bahía Urbana [construction] project" or any Puerto Rico law. These sources,

according to the district court, were relevant to understanding the roles and responsibilities of the parties to the Project contract.

Because Aronberg did not consult these sources, the district court further determined that Aronberg's conclusions regarding the legal and contractual duties owed to pedestrians - 60 - like Lawes were not supported by sufficient data.

In particular, the district court observed that Aronberg's lighting opinion -- i.e., that Q.B. (in its role as primary contractor for the Project) was responsible for and failed to provide adequate illumination of the construction-affected area -- was based on Aronberg's misunderstanding of Q.B.'s obligations.⁴⁰ As the district court explained, if Aronberg had reviewed the construction project plans and/or any local law, he would have known that third-party defendant PREPA (and not Q.B.) was responsible for ensuring streetlights near the scene of Lawes' accident were functioning properly.⁴¹ The district court overstates the importance of these unspecified "contractual documents" and local law to Aronberg's expert opinions.

We favorably assume that portions of the Bahía Urbana construction project contract set forth the parties' responsibilities for managing the flow of traffic in the area.⁴⁰ The district court also determined that Aronberg was unfamiliar with CSA's role in the Project because the expert described the MOT as sloppy "for the first time" during the Daubert hearing.

As we noted earlier, however, Aronberg opined on CSA's role as MOT designer and the purported flaws in the MOT during his second deposition in August 2014 based upon the sources available to him at the time. See *supra* at 42-43. ⁴¹CSA likewise claims that Aronberg's conclusions were not based on sufficient data since the expert failed to review relevant contract documents and, instead, relied upon his experience in the industry to determine whether the parties breached their contractual obligations. - 61 - covered by the MOT.⁴² And we recognize that a review of local law could prove useful for understanding municipal authority in and around roadways (like Fernández Juncos).

But even if we assume (as the district court did) that Aronberg did not review these sources,⁴³ there is no indication that Aronberg's data insufficiently supported his opinions regarding "who's who" and "who's responsible for what." Aronberg considered the MUTCD, which even defendants' experts described as "clearly delineat[ing] the responsibilities of who does what in terms of what [the parties were] responsible for."

He also reviewed streetlight maintenance records produced by PREPA, who was responsible for conducting streetlight maintenance in the area of Lawes' accident. As Aronberg gained access to new documents during discovery, he modified his expert opinions and offered new opinions during ⁴²CSA does not dispute that its responsibility was to design the MOT. And also relevant to

our analysis, Q.B.'s responsibility was to implement the MOT design, abiding by its General Notes.

Q.B. did not argue otherwise before the district court. 43The district court does not point us to the sections of the contract documents that it believes were relevant; nor does it identify Aronberg's testimony that he did not in fact review them. CSA tells us to read Aronberg's testimony on Day 5 of the Daubert hearing. But there, Aronberg admitted that he had not read "CSA's contract," which is related to but not entirely consistent with the district court's finding that Aronberg "did not mention analyzing any contractual documents pertaining to the [Project]."

Lawes, however, does not challenge the district court's assessment and, instead, concedes "Aronberg's non-reliance on the contract - - outside of the MOT and its General Notes, the MUTCD and Specification 638...." - 62 - depositions based on his more complete understanding of the parties' contractual duties and their purported breach of them. Between publishing his preliminary report and his first deposition, for example, Aronberg was able to review the complete MOT, including the notes from CSA with specific instructions and relevant standards that Q.B. was required to implement.

Thereafter, Aronberg reviewed hundreds of pages of deposition testimony, during which parties to the contract explained their roles in (among other things) the underlying construction Project, the management of traffic in the construction-affected area, and their duty to ensure the safety of pedestrians traversing the construction-affected area. Aronberg considered expert reports produced by defendants, which further defined the key players' obligations and often rebutted Aronberg's opinions as to the players' liabilities.

Aronberg's data likewise included pre- litigation documents produced from Project files (e.g., the meeting minutes and RFIs that covered day-to-day action items and objectives for each party to the contract). Taken as a whole, these documents provide sufficient data from which Aronberg could reliably opine about the parties' respective obligations to keep the area safe for pedestrians.

The district court's concern, therefore, would be valid only "if the parts of the record that [Aronberg] did not read contained information that was unavailable in the parts that he did read." *Mitchell v. United States*, 141 - 63 - F.3d 8, 16 (1st Cir. 1998). Rule 702 does not demand that experts rely on all data that could be deemed relevant. It does not even require the expert to seek out the best possible source of relevant information.

"Sufficien[cy]" is the benchmark for an expert's data under the Rule. Fed. R. Evid. 702(b); see 29 Charles Alan Wright & Arthur R. Miller, *Federal Practice and Procedure* § 6268 (2d ed. 2017) (explaining that "the word 'sufficient' in Rule 702 signifies that the expert may properly base her opinion on something less than all the pertinent facts or data" and, as a result, "sufficiency is not a matter of whether the judge believes in the facts or data on which the expert relies").

The district court erred by holding Aronberg's data to a more stringent standard than was required by the rules. Relatedly, we take issue with the district court's characterization of Aronberg's lighting opinion, which was offered by the court as an example of how the expert's insufficient data failed him during the Daubert hearing.

The district court determined that the lighting opinion was supported by Aronberg's incorrect assumption that Q.B. had a duty to provide adequate lighting in the area when, in fact, PREPA was the only entity responsible for streetlights. Based on our review of the record, and as Lawes' counsel attempted to explain during the Daubert hearing, however, Aronberg's opinion was that Q.B. had a contractual duty to provide lighting (temporary or otherwise) in - 64 - the construction area, including the northern sidewalk.

During his first deposition, for example, Aronberg explained: "Q.B. would have a duty to provide alternative illumination once the [street]lights [were] turned off" by PREPA. He also explained that his lighting opinion was supported by his review of the complete MOT44 and Vargas' deposition testimony regarding Q.B.'s contractual duty to illuminate the work area.

Accordingly, the district court has not identified anything that would suggest to us that Aronberg's lighting opinion was based on insufficient data. As best we can discern, the court's issue with Aronberg's data was that it could have been more robust and not, as the court claimed, that it was insufficient as a whole.

For reliability purposes, however, the court's evaluation of the data must be limited to determining whether it "provides adequate support to mark the expert's testimony as reliable." Ruiz–Troche, 161 F.3d at 81; *Packgen v. Berry Plastics Corp.*, 847 F.3d 80, 88 (1st Cir. 2017) (affirming admission of expert testimony where expert's data "provided the minimal basis necessary to support" the assumptions 44 Although Aronberg was not asked to identify the section of the MOT that supported his lighting opinion, he nevertheless explained during his November 2013 deposition that "[the MOT] says the contractor shall provide adequate illumination in the work area at all times."

His testimony was consistent with MOT General Note 9, which states: "the contractor shall provide adequate illumination in the work area at all times." Moreover, Lawes' portion of the joint pretrial report explains that "defendants failed to comply with General Note No. 9 which states that Q.B. had to provide artificial illumination at all times." - 65 - underlying expert's conclusions, even though the expert could have done a market survey to test them further).

In sum, while an "expert opinion grounded on a nonexistent fact is not significantly probative," *Borges ex rel. S.M.B.W. v. Serrano-Isern*, 605 F.3d 1, 8 (1st Cir. 2010), the district court points to no authority that supports its conclusion that Aronberg's testimony was unreliable merely because there were perhaps other relevant sources he did not consider.

Even if it is good practice for an expert to review all available contract documents and applicable law, whether Aronberg took shortcuts in his data collection efforts "is a matter affecting the weight and credibility of the testimony — a question to be resolved by the jury." *United States v. Vargas*, 471 F.3d 255, 264 (1st Cir. 2006) (quoting *Int'l Adhesive Coating Co. v. Bolton Emerson Int'l, Inc.*, 851 F.2d 540, 545 (1st Cir.

1988)). In our view, the district court placed undue weight on the sources Aronberg did not consider, which contained facts that were readily available to Aronberg as part of the data he did consider. Even if the factual underpinnings of Aronberg's opinions could be viewed as weaker than they would have been had he considered the data the court focused on, "that was a matter affecting the weight and credibility of [his] testimony," not its admissibility.

Payton v. Abbott Labs, - 66 - 780 F.2d 147, 156 (1st Cir. 1985) (citing *Coleman v. DeMinico*, 730 F.2d 42, 47 (1st Cir. 1984)). Reliability of Aronberg's Methodology Aronberg's methodology appears to us relatively straightforward: (1) he conducted an investigation into the conditions in place on the night of Lawes' accident, including by visiting the scene on two occasions, reviewing the police accident report, developing a computer automation of the accident, and reviewing photos, testimony, the MOT and underlying documents, and other sources; and (2) he applied the relevant sections of the MUTCD (and other standards) to the facts ascertained from his investigation to determine what conditions should have been in place to protect pedestrians from injury.

Aronberg opined that his methodology was generally accepted in the field of traffic engineering, which hails the MUTCD as the "Bible." Defendant CSA's expert traffic engineer, Yates, applied a similar methodology to rebut Aronberg's opinions. Aronberg explained all of this again during his Daubert hearing.

The district court still took issue with Aronberg's methodology, which diverged from recommendations - 67 - set forth in one article by Himat Chadda and Thomas E. Mullnazzi that was published in the ITE in 1987 (the "1987 Chadda article").⁴⁵ Here's the run down.

On Day 9 of Aronberg's Daubert hearing, Q.B.'s counsel took Aronberg to task on the minutia of the expert's methodology. He asked Aronberg to confirm the sources he had relied upon and why, and then asked Aronberg whether he conducted a number of tests (discussed in more detail later) which Aronberg confirmed he had not conducted because they were not germane to his opinions.

Counsel then directed Aronberg's attention to the 1987 Chadda article, which the district court allowed into evidence for purpose of the Daubert hearing only.⁴⁶ The article is entitled "The Traffic Engineer as an Expert Witness."

The purpose of the article, according to its introduction, is to "discuss[] how a traffic engineer can prepare for the challenging role of an expert" and to provide an "outline" of the "various types of

data and information needed, the documentation and evaluation of the data, and the presentation of 45 For context, the ITE is published by an organization that Aronberg previously described as the "most widely recognized organization for transportation engineers in the world."

Chadda is a professional engineer whom Aronberg was generally familiar with from his years in the industry. Aronberg even brought one of Chadda's articles from 1984 to his second deposition to support testimony regarding pedestrian behavior in a construction zone. 46 Although Q.B.'s counsel admitted the 1987 Chadda article into the Daubert record, he did not explain how he came by the article and it does not appear to be part of the pretrial record. - 68 - the data for expert testimony."

The article also includes a list of "dos and don'ts... that should help improve the effectiveness" of traffic engineers serving as expert witnesses. In essence, the article contains what could be described as best practices for traffic engineers testifying as experts, and implicitly recognizes that such practices will vary based on the facts of each case.

As was relevant to the district court, the article recommends that expert witnesses carefully study the statements from accident witnesses, take into consideration that police accident reports may be inaccurate, visit the accident around the time and day similar to the accident, and conduct certain studies designed to measure the volume of traffic on the roadway where the accident at issue occurred.

The district court found that Aronberg's Daubert testimony regarding his methodology contradicted "Chadda's methodology." Namely, as the district court tells it, Aronberg did not consider it important to interview eyewitnesses to the accident and, instead, he testified that the police accident report was the more important document. Relevant to the district court, the 1987 Chadda article describes police reports as the "weak link" in the traffic engineering expert's investigation.

The district court also dinged Aronberg for not performing certain traffic engineering studies despite the - 69 - article's recommendation that experts conduct any such studies that are "appropriate" for their case.

As a threshold matter, it is not clear to us why, based on the record here, the 1987 Chadda article should be viewed as providing the definitive methodology for traffic engineers serving as expert witnesses, and the district court never explains its willingness to place so much reliance on it. Indeed, the article's introduction describes what follows as a set of recommendations designed to increase the "effectiveness" (as opposed to reliability) of rendering expert witness testimony, and warns experts against "embarrassment" at trial (rather than exclusion under Rule 702).

But even if the record established the 1987 Chadda article as an authoritative source on traffic engineering methodology, Aronberg's investigation complied with many of the article's

recommendations. For instance, consistent with the article and contrary to the district court's assessment, Aronberg visited the accident site on two occasions, including once at night.

The article also encourages the use of technical references like the MUTCD and guidance published by AASHTO (American Association of State Highway and Transportation Officials) -- both of which were cited by Aronberg as part of his methodology and data considered.

Moreover, the alleged differences between Aronberg's methodology and the article's recommendations are insignificant. Contrary to the district court's assertions, the - 70 - transcript of Aronberg's Daubert testimony does not indicate that the expert viewed fact witness statements as unimportant or less important than police reports. Rather, Aronberg testified that it was not important to talk to each witness that could have possibly observed the accident.

Later that same day, Aronberg testified that he received and considered a summary of eyewitness accounts of the accident from Lawes' counsel prior to drafting his report. Aronberg then provided a step-by-step retelling of the events immediately prior to Lawes' accident from the perspective of Lawes' shipmate and fellow jaywalker, Gordon. Neither the defendants nor the court averred then that Aronberg's understanding of the accident was incomplete or otherwise unreliable.

With respect to police accident reports, Aronberg merely opined that he had relied on such reports in other cases and did so again here. Without more, the district court has not provided any support for its conclusion that Aronberg's consideration of witness statements and the police accident report here was unreliable.

The district court also found Aronberg's methodology unreliable because he did not conduct certain traffic studies the court believed necessary. The 1987 Chadda article proposes that experts conduct "appropriate studies," including a "speed study" and a "complete collision diagram." Extrapolating from the article's study-based recommendations, the district court found that Aronberg did not perform a "vehicle capacity study" or a "peak - 71 - pedestrian/vehicular volume study."

But these studies are not mentioned at all in the 1987 Chadda article. They were brought up by Q.B.'s counsel during cross-examination at the Daubert hearing, and several days later Q.B. referenced Aronberg's failure to conduct these studies in its motion to exclude Aronberg's testimony.

In apparent agreement with Q.B., the district court, pointing to nothing authoritative, claimed that (without these studies) Aronberg could not reliably assign Fernández Juncos a roadway category which, in turn, was important to determining how wide its lanes should be. Recall that the appropriate and actual width of the southernmost eastbound lane served as the factual underpinning for Aronberg's pedestrian corridor opinion.

However, the mere "existence of other methods of gathering facts does not mean that the facts [Aronberg] relied upon were insufficient"; nor does it mean that Aronberg's methodology was unreliable. Packgen, 847 F.3d at 86–87.

In lieu of performing the capacity and volume studies that the district court believed were necessary, Aronberg personally measured the width of the southernmost eastbound lane during a site visit, and he concluded that it was too narrow in view of industry guidance concerning the required width of highway lanes. Like Aronberg, Yates (CSA's expert) testified at his deposition that the MUTCD and AASHTO provide national standards and references for highway width.

Yates stated that "assuming" Aronberg's measurement of the - 72 - lane was accurate, Yates ("as an engineer") would have a "problem" with the fact that the lane was not closed.⁴⁷ When asked whether speed limits or daily volume of traffic dictated the minimum width of a highway, Yates acknowledged that these were relevant considerations.

However, he noted that pursuant to the MUTCD and AASHTO the minimum acceptable width for any highway lane was nine feet. Considering Yates' deposition testimony, even if capacity and volume studies are helpful for determining the appropriate width of a given highway, no capacity study was necessary to support Aronberg's conclusion that Fernández Juncos' southernmost eastbound lane was narrow enough to be considered for closure (even if such closure was not mandatory).

With no explanation as to why it believed these studies indispensable, the court erred in treating Aronberg's decision not to conduct them as a crucial flaw in his methodology, especially since Aronberg's methodology was consistent with the devices employed by other experts in the field and logically flowed from what was known to him. See Packgen, 847 F.3d at 88 ("Experts may, however, make reasonable assumptions that are consistent with the evidence available to them." (citing 47 When asked why the "eight feet measurement of a lane or width of a lane" would be a problem, Yates explained: "It would be difficult for vehicles to pass through an eight foot window that close to a wall without driving – without the drivers tending to straddle the lane line."

For this very reason and consistent with AASHTO guidance, Aronberg concluded that the southernmost eastbound lane could have been closed to vehicular traffic and converted into a pedestrian corridor. - 73 - Cummings v. Standard Register Co., 265 F.3d 56, 65 (1st Cir. 2001) (affirming admission of damage expert's testimony given the expert's assumptions were also made by similar experts "with some frequency")).⁴⁸ Even if the district court had identified meaningful differences between Aronberg's methodology and what was recommended in the 1987 Chadda article, "Daubert does not require that the party who proffers expert testimony carry the burden of proving to the judge that the expert's assessment of the situation is correct.

It demands only that the proponent of the evidence show that the expert's conclusion has been arrived at in a scientifically sound and methodologically reliable fashion." *United States v. Mooney*, 315 F.3d 54, 63 (1st Cir. 2002) (quoting *Ruiz-Troche*, 161 F.3d at 85).

In *Ruiz-Troche*, for example, the defendant's expert analyzed the concentration of cocaine detected 48 For the first time on appeal, defendant CSA claims that Aronberg's methodology was unreliable because he failed to perform a visibility analysis of the driver, a perception-reaction analysis, or a lighting analysis for the vehicle's headlights. These studies were not mentioned in the 1987 Chadda article or the district court's opinion.

In fact, the only mention of these studies appears to have been during the deposition of driver Riviere-Andino's accident reconstruction expert, Baigés Valentín. The expert claimed to have conducted these studies as part of his analysis, which focused on Riviere-Andino's liability for Lawes' accident. But these studies were not germane to Aronberg's traffic engineering expert opinions.

As Aronberg explained to the court during his Daubert hearing, he was not testifying as an expert in accident reconstruction in this case (although he had done so in other cases) and therefore he did not need to apply accident reconstruction methodology to support his conclusions. - 74 - in the body of one of the plaintiffs after a car accident to conclude that she'd ingested the drug in a dosage that would have impaired her perception, reflexes, reaction time, and judgment and adversely affected her ability to drive just before the accident.

In response, that plaintiff offered peer review literature that "cast doubt" on the expert's methodology and conclusion (for example, they suggested his technique had "an uncertain rate of error"). *Ruiz-Troche*, 161 F.3d at 85; see also *id.* at 86 (noting that other literature suggested that scientists could not always "correlate particular impairments to cocaine concentrations within the body," and the plaintiffs urged that "only an immediate neurological examination could have provided sufficiently reliable evidence as to whether [the plaintiff] suffered from cocaine intoxication at the time of the accident... and no such examination was performed").

We concluded there that the defendants' expert's methodology was nevertheless reliable given that it satisfied other indicia of reliability; it still received "significant support in the relevant universe of scientific literature" and from the relevant plaintiff's own expert. *Id.* at 85. Though the literature did not "irrefutably prove" the expert right, it showed his methods (and therefore his testimony) was sufficiently reliable to reach the jury.

Id. at 86. So we - 75 - concluded there that the district court abused its discretion in excluding the testimony. *Id.* Here, as we've explained, Yates was on board with Aronberg's methodology. He described the MUTCD as "the standard" used "by all traffic engineers."

In fact, all the experts in the case relied on AASHTO and/or the MUTCD in forming their opinions. So, as in Ruiz-Troche, Aronberg's reliance on these technical sources has been "subjected to, and survived, the rigors of testing, publication, and peer review, and it appears to have won significant (if not universal) acceptance within the scientific community."

Id. at 85. We therefore find that the district court placed undue weight on the importance of capacity and volume studies since "Daubert neither requires nor empowers trial courts to determine which of several competing scientific theories has the best provenance." Id. One more time (it's worth repeating): Daubert "demands only that the proponent of the evidence show that the expert's conclusion has been arrived at in a scientifically sound and methodologically reliable fashion."

Id. (citing *Kannankeril v. Terminix Int'l, Inc.*, 128 F.3d 802, 806 (3d Cir. 1997); *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 744 (3d Cir. 1994)). As was the case in Ruiz-Troche, the district erred in weighing the - 76 - factors relevant to the reliability of Aronberg's methodology. Id. Application of Aronberg's Methodology In excluding Aronberg's testimony, the district court also identified several issues with the application of his methodology.

Although most of these issues concern former defendant Q.B.'s liability, we must address the district court's perceived weaknesses in Aronberg's testimony to explain and contextualize our analysis and ultimate determinations relevant to CSA.

For the reasons that follow, we conclude that the district court's concerns do not implicate "the reliability of [Aronberg's] methodology" but (instead) constitute improper scrutiny of "the conclusions that it generated." *Manpower*, 732 F.3d at 807.

The Monitoring Opinion. The trial judge deemed unreliable Aronberg's testimony that Q.B. should have monitored the construction site and taken appropriate steps to mitigate any unsafe conditions observed therein. Here, the district court opined that Aronberg had assumed certain facts not in evidence, creating an analytical gap between the data Aronberg presented and the conclusion that he drew regarding Q.B.'s monitoring responsibilities.

Of particular interest to the court, there was testimony at trial that sailors traveling to and from the waterfront when the MOT was in place traveled in "scattered groups" and took other routes that did not involve jaywalking (like - 77 - scurrying around the midblock barrier). Based on this testimony, the court asserted that Aronberg's "categorical" assertion that a monitoring plan would have detected the midblock crossing problem had little support in the record.

In reaching this conclusion, the district court failed to mention that Gordon (and other sailors) testified at trial that they regularly jaywalked across Fernández Juncos after the midblock barrier was in place in order to avoid the "hot corner" on the northern sidewalk at the end of the pedestrian crosswalk.

Although the sailors admitted to skirting the barrier occasionally, Gordon explicitly acknowledged that the group's preferred route was to cross at midblock rather than skirting the barrier. He perceived the latter as more dangerous after nearly being "run down" during a prior skirting attempt. Gordon testified that after the barrier was implemented (and before Lawes' accident) he and crew members crossed at midblock (walking to and from Old San Juan) at least once a week for over a year.

When viewed as a whole, the sailors' testimony establishes that at least some pedestrians developed a noticeable pattern of crossing Fernández Juncos at midblock. Whether this testimony establishes that midblock crossings occurred often enough to have been observed by a contractor monitoring the construction-affected area is a question that goes to the weight rather than the admissibility of Aronberg's opinions about Q.B.

The district court was not free to - 78 - take sides on disputed questions of fact in the trial record. We find that Aronberg's conclusions regarding Q.B.'s duty to monitor the area satisfy Daubert's threshold requirements for admissibility. Pedestrian Corridor, Positive Guidance, and Sidewalk Opinions.

The district court characterized as mere speculation Aronberg's conclusions about defendants' duties to design and/or implement a pedestrian corridor, an orange safety fence along the northern sidewalk, and a closed-off southern sidewalk.

In support of this contention, the court declared that these opinions were not practical because CSA and/or Q.B. would need to get the approval of the Puerto Rico Highway and Transportation Authority before closing a lane of traffic to build the pedestrian corridor, erecting an orange safety fence along the northern sidewalk, or changing the MOT design and closing the sidewalk at the intersection.

The district court's reasoning is based on a fundamental misunderstanding of its gatekeeping function. From our vantage, Aronberg's opinions logically flow from the facts in this case and reflect the reliable application of his MUTCD-based methodology.

In view of applicable MUTCD guidance (which, again, the district court does not identify as the source of Aronberg's unreliability), Aronberg determined that other traffic control devices were safer for pedestrians than the midblock barrier, including closing the southern sidewalk at the - 79 - crosswalk and/or creating a pedestrian corridor out of the southernmost eastbound lane.

Based on the statements and testimony of sailors who regularly traversed the construction-affected area, Aronberg concluded that the midblock barrier encouraged dangerous pedestrian behavior (like jaywalking), which Q.B. should have discovered while monitoring the area. Adding to this, Aronberg opined that there was no justifiable reason for the midblock barrier to remain in place

considering the dangers it posed to pedestrians and the fact that the planned bus stop was never relocated to the southern sidewalk.

Considering the pertinent facts, the MUTCD, and his experience and education as a traffic engineer, Aronberg therefore concluded that CSA and Q.B. were obligated to take affirmative steps to remove the unsafe condition and implement better traffic control devices.

In particular, according to Aronberg, these defendants should have sought permission to close the southern sidewalk at the crosswalk and (in the case of Q.B. only) to convert the narrow lane of traffic into a pedestrian corridor. CSA does not argue (and there is no evidence in the record) that it was precluded from requesting permission to make changes to the MOT after the design's implementation.

There is a closer question of whether defendants' duty to get input from municipal authorities weakens the causal connection between their conduct and Lawes' accident. The district court, for its part, suggests the relevant authorities would have - 80 - denied any requests to change the MOT. Specifically, based on the district court's understanding of Vargas' testimony at trial, the Puerto Rico Highway and Transportation Authority previously rejected a proposal to close the southernmost eastbound lane and requested notice of contemplated lane closures prior to the MOT's implementation.

In light of the Highway Authority's position on lane closures prior to the MOT, the district court speculated that any follow-up requests to change the construction-affected area to accommodate new traffic control devices would likely be rejected.

Although the district court did not cite to any evidence in the record to support its theory, one could argue that municipal authority over the area undermines Aronberg's conclusion that defendants proximately caused Lawes' accident.

However, for our purposes, "there is an important difference between what is unreliable support [for an expert's conclusions] and what a trier of fact may conclude is insufficient support for an [expert's conclusion]." *Milward*, 639 F.3d at 22.

Here, at best, the district court's concerns involve the latter. Accordingly, the alleged weaknesses identified by the court go to the weight of Aronberg's opinions, not their admissibility. See *id.* The district court's reasoning as to the speculative nature of the orange safety fence is even more questionable given that the MOT expressly contemplates such a fence in General Note 11.

Neither the conclusions Aronberg reached nor the known facts - 81 - fall outside the boundary of reliability. At any rate, "vigorous cross examination" and the "presentation of contrary evidence" are the appropriate means of "attacking shaky but admissible evidence." *Daubert*, 509 U.S. at 596; see also *Grp. Health Plan, Inc. v. Philip Morris USA, Inc.*, 344 F.3d 753, 760 (8th Cir.

2003) (stating that "[a] certain amount of speculation is necessary, [and] an even greater amount is permissible (and goes to the weight of the testimony)," even if "too much is fatal to admission"). Midblock Barrier Opinion. According to the district court, there is "no evidence on the record that supports the conclusion that the placement of the barrier had any bearing" on Lawes' accident.

The district court, therefore, ruled that the location of the barrier, and Aronberg's related conclusions about CSA's liability, "lack any support, do[] not fit the facts of the case, and [are] irrelevant to the tort in question."

To reach this conclusion, the district court either overlooked or deemed not credible: (1) MUTCD guidance about pedestrian behavior and the importance of implementing traffic control devices to prevent pedestrians from taking a shortcut through the highway; (2) testimony from sailors explaining that their habitual route to and from the waterfront involved crossing at midblock (both ways); (3) testimony from sailors about their desire to cross the roadways before the intersection at the end of the northern sidewalk, where the "hot corner" existed; (4) testimony from CSA's MOT designer - 82 - that (but for the phantom bus stop) she believed closing the sidewalk at the crosswalk was the safer design; and (5) Aronberg's training and expertise in traffic engineering.

Regardless of how the district court got there, the result is the same. The district court erred in applying the standard for admissibility for expert testimony to the relevant factors in this case. Where, as here, the expert's methodology, his conclusions, and the facts of the case have a "valid scientific connection to the pertinent inquiry," they should be submitted to the jury to aid in its deliberation.

See Daubert on remand, 43 F.3d at 1320. Aronberg's Contradictions on the Stand. Finally, the district court concluded that Aronberg's self-contradictions over the course of his rigorous twelve-day Daubert hearing also rendered him unreliable to serve as an expert witness at trial. Namely, the district court found that Aronberg testified inconsistently about the impact of the southernmost eastbound lane on Lawes' accident (focusing on Aronberg's testimony that the implementation was Q.B.'s fault even if the MOT was sloppy), and that Aronberg could not remember when he had mentioned Specification 638 during his deposition two years prior.

The district court also found that Aronberg's memory was shaky as to his reliance on the police accident report and review of contract documents, and as to whether the lighting opinion was in his original report (which he did not - 83 - have in front of him for this line of questioning).⁴⁹ Moreover, to the district court's chagrin, after relentless cross-examination over the course of several days about the phantom bus stop, there were purportedly differences in Aronberg's explanation.

All of the district court's hang ups about Aronberg's preciseness, consistency, and credibility go toward (you guessed it) the weight and not the admissibility of his testimony. See Milward, 639

F.3d at 22 ("Lack of certainty is not, for a qualified expert, the same thing as guesswork." (quoting *Primiano v. Cook*, 598 F.3d 558, 565 (9th Cir. 2010))); *Int'l Adhesive Coating*, 851 F.2d at 545 ("When the factual underpinning of an expert's opinion is weak, it is a matter affecting the weight and credibility of the testimony — a question to be resolved by the jury.").

With no further ado, we conclude that the judge "crossed the boundary between gatekeeper and trier of fact" in this case. *Milward*, 639 F.3d at 22. Because the district court's concerns should have been reserved for the adversarial process at trial, we 49 The district court also determined Aronberg's lighting opinion was unreliable in view of Vargas' trial testimony.

However, Vargas admitted on the stand that she did "not know for a fact who's responsible" for illumination in the event a streetlight was malfunctioning (as was alleged to be the case the night of Lawes' accident). Given the totality of the witnesses' testimony, we cannot agree that it undermines the reliability of Aronberg's opinion (based on MOT General Note 9) that Q.B. was obligated to ensure adequate illumination of the work area (including along the northern sidewalk). - 84 - conclude the district court abused its discretion in excluding Aronberg's testimony under Rule 702.50 WRAP UP We reverse the district court's rulings under Rule 26 and Rule 702, vacate the entry of judgment, and remand this matter for further proceedings consistent with this opinion.

Costs awarded to Lawes. - Concurring Opinion Follows - 50 To the extent the district court also suggests that Aronberg's testimony is inadmissible under Rule 403's less exacting relevance standard, we conclude (for all the reasons already stated) that the probative value of the expert's testimony to Lawes' case outweighs any potential prejudice envisioned by the rules.

See Fed. R. Evid. 403. - 85 - TORRUELLA, Circuit Judge, (Concurring). To my mind this is a very close case in which we are second guessing a trial judge who was faced with a difficult decision and needed to keep a semblance of order in the court's calendar. *Santiago-Díaz*, 456 F.3d at 277 (recognizing the district court's "interest in the efficient management of its docket").

At the same time, we have a compelling plaintiff who is left out in the cold, most probably by actions beyond his personal doing. While I agree with the rules articulated herein, I point out the practical difficulties district court judges confront in their charge to penalize parties who have flouted important procedural rules like Rule 26, particularly where such noncompliance has been perceived by the court as willful, and caution against dismissing the harm caused by such noncompliance as an inconvenience.

Finally, I recognize that the district court's determinations regarding the unreliability of the expert's evidence under Rule 702 flowed from the expert's failure to provide detailed conclusions in a final and complete expert report and advise parties wishing to avoid exclusion on this basis to

make a good faith effort to comply with disclosure requirements or risk facing serious repercussions.

In the balance of things, I join my colleagues, but not without expressing my concern with how our decision will impact future actions by district court judges in their attempt to administer their courts with a predictable order. - 86 -