FILED, Clerk of the Supreme Court, 12 May 2025, **089819**

Supreme Court of New Jersey
DOCKET NO. 089819

Criminal Action

STATE OF NEW JERSEY,	:	On Certification Granted from a Final Order of the Superior Court of New Jersey, Appellate Division.
Plaintiff-Petitioner,	:	
v.	:	Sat Below: Hon. Patrick DeAlmeida, J.A.D. Hon. Maritza Berdote Bryne, J.A.D. Hon. Avis Bishop-Thompson, J.A.D.
JULE HANNAH,	:	
Defendant-Respondent.	:	

SUPPLEMENTAL BRIEF ON BEHALF OF THE STATE OF NEW JERSEY

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[1] This transcript was provided to the Appellate Division, but not included in defendant's brief to the court. It is referenced here out of chronological order for that reason.

PRELIMINARY STATEMENT

The question presented in this case is whether a witness must be qualified as an expert to tell a jury, based on business records provided by a cellphone company, the location of the cellphone towers to which a defendant's cellphone connected during a particular period, without opining on the location of the phone itself or technical details about how cellphone networks operate. The vast majority of courts across the country to address this issue have held that such testimony about facts in the physical world is admissible, and can support reasonable inferences easily grasped by the average juror based on common sense and lived experience. This Court should confirm the same.

This case arises from the murder of a good Samaritan, found shot to death in his car one morning. The State, investigating defendant, obtained business records from defendant's cellphone service provider, Sprint, revealing what cellphone towers the defendant's phone had connected to during the hour leading up to the victim's death. A detective reviewed those records—essentially, two spreadsheets—and the trial court permitted him to testify based on that review. The detective thus explained that, as indicated by the records, sixteen calls from defendant's phone connected to ten different towers. And plotting those towers on a map, the detective showed that the sequence of those tower connections tracked the general path of travel taken by the victim on the

morning of his murder, as established by other evidence. The trial court's repeated instructions ensured that nothing in this testimony ventured into technical details regarding cellphone technology, such as "azimuths" and "cell tower sectors," or speculated about what the records meant about defendant's guilt. Rather, the detective simply identified the physical location of each tower to which the defendant's cellphone connected, in temporal sequence. Based on this and other evidence, the jury found defendant guilty of first-degree murder.

The Appellate Division reversed, holding that the testimony exceeded the ken of the average juror and that the detective therefore had to be qualified as an expert. That was error, as the reasoning of state and federal courts across the country confirms. To start, the detective's testimony was not opinion testimony at all, let alone expert testimony. Rather, the detective testified to facts in the world—the location of physical towers, the time at which radio signals from a particular cellphone connected to those towers—based on his personal review of business records revealing those facts. The same fact testimony could have been given by Sprint's records custodian—and just as no expert qualification would have been needed then, no such qualification was needed here.

In any event, if the detective gave opinion testimony at all, it was permissible lay opinion testimony, and any inferences jurors drew from it were well within the scope of everyday understanding. Cellphones are ubiquitous,

and the average adult understands that for one to make a call, the cellphone must send out a signal and connect to some kind of machinery, usually a cell tower. Likewise, the average adult knows that geographical location affects that process, having experienced poor reception while traveling in remote areas (and, by extension, having experienced the loss of a wireless-internet connection after straying too far from a router). So when presented with a description of the location of cell towers to which a particular phone connected, the average juror can appreciate that the tower location will have some bearing on the location of the phone, without any special expertise. Put simply, if the average adult hears that a person's cellphone connected to a cell tower located in Asbury Park, she will know that makes it more likely the person was near Asbury Park—and less likely the person was in Cape May.

The opinion below split from this consensus understanding, vacating defendant's first-degree murder conviction in the process. This Court should reverse that erroneous ruling and instead adopt the approach taken by the overwhelming majority of courts to consider the issue. It should confirm, in other words, that testimony that simply plots the location of cell towers to which a particular phone connected based on otherwise-admissible business records, without drawing conclusions from that information or delving into details about how cell towers work, requires no expert qualification.

STATEMENT OF PROCEDURAL HISTORY AND FACTS[2]

A. Cell Towers Generally.

As this Court explained over a decade ago, cellphones "use radio waves to communicate between a user's handset and a telephone network." State v. Earls, 214 N.J. 564, 637 (2013). To make a call or send a text message, a cellphone "connect[s] to a set of radio antennas called 'cell sites'" that are "usually mounted on a tower."[3] Carpenter v. United States, 585 U.S. 296, 300 (2018); accord Ogden Fire Co. No. 1 v. Upper Chichester TP., 504 F.3d 370, 374-75 (3d Cir. 2007). For calls and texts, the phone generally "connects to the cell site with the strongest signal," and the "proximity of the user to the cell site is a significant factor," among several, "in determining which cell tower has the strongest signal." State v. Burney, 255 N.J. 1, 21 (2023) (noting other factors include, inter alia, "geography and topography, the angle, number, and directions of the antennas on the sites, [and] the technical characteristics of the relevant phone"). In other words, proximity is a "significant factor" that affects the tower to which a cellphone connects. Ibid.

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[2] These related sections are combined for the Court's convenience.

[3] The terms "cell site" and "cell tower" are often used interchangeably, including in this brief. Technically, the former is the equipment used to transmit cell signal, and the latter is the physical structure to which this equipment is attached.

In addition, each time a phone connects to a cell site, including for a call or text message, the phone company creates a record of the connection. Carpenter, 585 U.S. at 300-01. The records generally include, as relevant, the date and time of the communication and the location of the cell towers accessed. See, e.g., State v. Boothby, 951 N.W.2d 859, 867 (Iowa 2020) (citing Alexandra Wells, Ping! The Admissibility of Cellular Records to Track Criminal Defendants, 33 St. Louis U. Pub. L. Rev. 487, 491 (2014)).[4]

B. This Case.

The evidence adduced at trial showed that around 8:30 AM on January 15, 2017, a resident in Bridgeton heard a loud bang outside and immediately looked out of her bedroom window. (6T101-9 to 21; 6T103-1 to 112-1; 6T133-21 to 25). She saw a man with a distinct limp and a puffy camouflage jacket rapidly walking away down the road. (6T103-1 to 112-1; 6T133-21 to 25). She also noticed that a vehicle had crashed into a tree across the street from her house and called 9-1-1. (6T116-21 to 118-12). First responders found the victim, Miguel Lopez, dead from gunshot wounds in the driver's seat. (6T76-16 to 77-7; 6T88-3 to 12). Forensics indicated the shots had been fired from inside the

[4] This case does not concern cellphone records containing real-time cell site data generated by GPS, i.e., data reflecting the moment-by-moment whereabouts or movements of a particular phone. Cf. Carpenter, 585 U.S. at 311-13 (discussing this more "all-encompassing" form of evidence).

vehicle, from the passenger seat toward the driver. (7T199-23 to 25; 9T199-4 to 5; 9T205-21 to 22).

Multiple sources of evidence tied defendant to the victim's car and the scene of the crime. For one, surveillance footage and eyewitness testimony linked defendant to the victim's path of travel on the morning at issue. Using various surveillance videos, police determined the victim's movements on the morning of the homicide, tracking him from an Atlantic City casino, where he had been with a friend until around 6:30 a.m., through the Williamstown area of Monroe Township (Gloucester County), to Bridgeton, where his car crashed into a tree after he was shot at around 8:30 a.m. (8T36-12 to 23).

As for defendant's movements, a State's witness testified that on the morning of January 15, 2017, he saw a minivan in a ditch near Franklinville-Williamstown Road in Monroe. (6T216-7 to 217-22; 6T219-2 to 23). When that witness stopped to help, a bald male with a limp approached him and asked him for a ride to Bridgeton in exchange for $100. (6T220-9 to 223-22). The witness declined to give the man a ride, but reported the abandoned vehicle to the police at 7:27 a.m. (6T218-5; 6T252-7 to 257-22). Police later linked that crashed minivan to Defendant, who was charged with leaving the scene of that accident and failing to report it. (6T254-20 to 255-7; 6T257-15 to 22).

For another, forensic evidence linked defendant to the site of Lopez's killing in Bridgeton. Detective Kenneth Leyman testified that he interviewed defendant on February 24, 2017. (8T174-12 to 175-7). During the interview, defendant denied knowing Lopez, even after he was shown a picture of him. (8T177-2 to 18). He also denied ever being in the victim's vehicle. (8T177-24). But police found a cigar butt near the front-passenger seat of the victim's vehicle after the crash and sent it to the New Jersey State Police Laboratory for testing. (7T61-6 to 63-25; 9T242-5 to 6). The State's forensic scientist testified there was only one source of DNA on the cigar butt, which she identified as defendant. (9T253-9 to 13).

As particularly relevant here, Detective Leyman also testified about cell-site records of calls from defendant's cellphone number on the morning of the homicide, which police had obtained from defendant's cellphone provider (Sprint) with a communications data warrant. See (Psa1-77). Prior to trial, the parties stipulated to the admission of Leyman's "lay witness testimony regarding his review, interpretation, and plotting of the location of cell towers on a map from the defendant's historical cell site data records." (Da6); see (6T8-23 to 9-13).[5] At the same time, the trial court made clear in memorializing this

[5] While the Appellate Division's opinion stated that the trial court "ruled Leyman was not qualified as an expert[,]" (Ppa18), this was technically

arrangement that Leyman would not be permitted testify about the "azimuth," or orientation "of any antenna or any cell tower … accessed by any call within the defendant's call detail records." (Da6); see (6T10-4 to 10-6) (court stating it would "permit lay person testimony with regard" only "to the location of the tower and the time when the tower connected to the call"). In other words, Leyman would testify about where the towers were, but not their precise range or coverage area.

Consistent with the court's pretrial order, Leyman explained at trial how, in his investigation, he used two spreadsheets obtained from defendant's cellphone service provider, Sprint—one of which listed the towers that the phone calls connected to, and the other of which listed the location of those towers—to identify the "latitude and longitude" of the towers to which the defendant's phone had connected during the calls made from the phone that morning. (8T145-13); see (8T25-8 to 12; 8T138-16 to 172-22); (Psa25-77). After briefly explaining the contents of the records, including column headings and the like, see (8T139-2 to 145-25), Leyman described how, on the morning of the homicide, sixteen of defendant's calls connected to ten different cellphone towers located along the same general path of travel as the victim—whose

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incorrect. Rather, the trial court did not rule on the State's motion in limine to qualify Leyman as an expert at all. Instead, before it could do so, the parties agreed to limit the scope of Leyman's testimony. (6T8-23 to 10-6; Da6).

trajectory was outlined by surveillance footage—starting in the Williamstown area of Monroe Township (where defendant had abandoned his minivan in a ditch) and ending in Bridgeton (where the homicide occurred and the victim's car crashed into a tree). (8T156-10 to 172-22). As Leyman testified, he "plotted the towers to which defendant's calls or texts connected between the time of his one-car accident … to the homicide," (Ppa7); see (8T99-1 to 172-22).[6]

Specifically, Leyman testified that at 7:27 a.m., a call from defendant's cellphone connected to a cell tower in Williamstown (which is part of Monroe Township), less than a mile away from defendant's disabled minivan in the ditch. (8T148-17 to 149-20; 8T155-4 to 9). Thereafter, all calls from defendant's cellphone connected to cell towers heading away from the disabled minivan and toward Bridgeton. (8T156-10 to 165-25). For instance, a 7:53 a.m. call connected to a tower 1.5 miles away from a road on which the victim's vehicle appeared on surveillance video at 7:54 a.m. (8T166-1 to 20). An 8:03 a.m. call connected to a tower in Upper Deerfield Township, about 1.6 miles away from the Rite-Aid where the victim was seen driving at the same time. (8T8T169-1 to 170-6). The last call made from defendant's phone before the time at which the victim was killed in Bridgeton began at 8:25 a.m. and

[6] In the courtroom, the prosecutor examining Leyman entered the towers' coordinates on Google Maps on a screen displayed to the jury; Leyman did not create the visual aid for the jury himself. See, e.g., (8T26-1 to 13).

connected to a tower on East Commerce Street in Bridgeton. (8T171-20 to 172-22). The victim's vehicle was captured on video taken at the intersection of East Commerce Street and Burlington Road minutes earlier. (8T99-1 to 15; 8T118-14 to 120-7 to 16).

The trial court instructed the jury about how to consider this testimony. Midway through Leyman's testimony, the judge cautioned the jury that while the testimony regarding tower-location data "can show you those locations and how far apart they are," it does not "mean that th[e] phone was located [in] any particular spot within any particular distance from that tower." (8T152-9 to 17); see also 8T183-25 to 184-3 (reiterating to counsel that "tower location" cannot be "the sole indication of where the phone was"). After the State's closing argument, the judge again explained that although jurors "can't conclude that a phone was in any particular spot simply because it connected to a tower," they could nonetheless draw inferences about the phone's location based on the tower location data "in connection with" "some other evidence." (11T139-1 to 5; 11T139-12 to 16); see (Ppa 13-14); (13T12-21 to 13-4) (trial court underscoring that Leyman did not render "an interpretation" of the cellphone records, but instead simply "reiterate[d]" that the records showed that defendant's cellphone

connected to a "tower with a fixed location" at a given time"); (13T11-24 to 12-1) (same); 13T13-14 to 16 (same).[7]

The trial court also recognized that the average juror could understand the tower-location information contained in Sprint's records, further supporting its ruling permitting Leyman to testify as a lay witness. (5T175-16 to 18) ("I think a juror, a motivated juror, could sit down with these records and figure out which tower those calls at those times hit because that's in there."); (5T169-14 to 20) (same). As the court accurately noted, Leyman was simply "reading the records" and "saying what they mean, kind of like a summary of what the records say." (5T170-17 to 19). On the other hand, the court recognized that had Leyman testified about the operations of the cell-tower antennae or their range, or opined about the location of the cellphone that connected to the towers, that would have required expert qualifications. (5T176-1 to 6; 5T180-18 to 20).

The jury convicted defendant of first-degree murder and various weapons offenses. (Ppa14). Defendant moved for a new trial, arguing that Leyman's testimony exceeded the bounds of the consent agreement. The trial judge denied the motion, stating:

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[7] Defense counsel did not object during Leyman's testimony. (7T241-8 to 17). Defense counsel later stated at sidebar, however, that while she "agreed to the admission of … all the cell phone records," she intended to preserve an objection to the testimony for appeal. Ibid.

> [B]asically all [Leyman] did was reiterate the information received from the cell tower provided. It was not an interpretation. It was simply that at this date on this time at this location which was contained within the information he received this tower with a fixed location and—that phone at that time. … It was just that on this time that cell tower pinged off that phone.
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> [(13T12-21 to 13-4).]

On appeal, defendant raised several arguments, including that Leyman's cell-site-data testimony exceeded the bounds of lay testimony. (Db30). While acknowledging that "[i]t is a simple matter to understand that a cell phone communicates with cell towers through a radio signal, and that phone companies keep records of the cell tower that the phone connects to at origination and also termination of the call[,]" defendant maintained Leyman's testimony was "beyond the ken of the average juror[.]" (Db33).

The Appellate Division reversed defendant's conviction in an unpublished opinion. State v. Hannah, A-3528-21 (App. Div. August 9, 2024) (Ppa1-21). The panel concluded that the trial court had erred in permitting Leyman to offer "essentially" expert testimony on cell-site data because, it reasoned, by testifying about the locations of towers, Leyman was improperly opining "in all but explicit words" about the specific whereabouts of defendant's phone itself. (Ppa19). The panel also found that the trial court's limiting instructions were "insufficient to overcome the likely inference created by Leyman's testimony" about the location of defendant's phone, despite the trial court's having

cautioned jurors that they could not draw such an inference from the tower data alone. (Ppa19); see (8T183-25 to 184-3). The Appellate Division stated that the reasoning of this Court's decision in State v. Burney, 255 N.J. 1 (2023), was "instructive" and "guided" the court's "consideration of this issue," though recognized as well that Burney "did not state whether expert testimony [is] necessary to address historical cell site data." (Ppa18).

This Court granted certification. State v. Hannah, 260 N.J. 214 (2025).

LEGAL ARGUMENT

POINT I

LEYMAN PROPERLY TESTIFIED ABOUT THE CELL-TOWER LOCATIONS AS A LAY WITNESS.

Evidentiary rulings are reviewed for an abuse of discretion, which means that appellate courts may not "substitute [their] judgment for that of the trial court "unless the evidentiary ruling is 'so wide of the mark' that it constitutes 'a clear error in judgment.'" State v. Allen, 254 N.J. 530, 543 (2023) (citation omitted). Legal conclusions "are reviewed de novo." State v. Hubbard, 222 N.J. 249, 263 (2015).

Contrary to the Appellate Division's holding, the trial court did not abuse its discretion in permitting Detective Leyman to testify about the locations of the cell towers to which defendant's phone had connected on the morning in question, as revealed in Sprint's business records, without being qualified as an expert. As scores of cases across the country have held, non-expert witnesses may provide such testimony so long as it is limited in scope and does not venture into more technical terrain. Here, the trial court's order correctly accepted the parties' stipulated agreement, comported with that overwhelming consensus, and properly permitted Leyman to testify without being qualified as an expert while also appropriately and repeatedly instructing the jury about the limited scope of Leyman's testimony. Leyman's testimony enabled the jury to draw

reasonable inferences that, combined with other evidence in the case, supported a finding of guilt.

A. Identifying the Locations of Cell Towers Listed In Phone-Company Records Is Lay Testimony, Not Expert Testimony.

The Rules of Evidence establish a framework for delineating expert from non-expert testimony. "On one side of that line is fact testimony, through which an officer"—or any other fact witness—"is permitted to set forth what he or she perceived through one or more of the senses." State v. McLean, 205 N.J. 438, 460 (2011). That kind of testimony involves no opinion at all, "lay or expert"; it "does not convey information about what the officer 'believed,' 'thought' or 'suspected,'" but rather recites what someone knows about the world through "first-hand knowledge." Ibid.; see N.J.R.E. 602 ("A witness may testify to a matter only if evidence is introduced sufficient to support a finding that the witness has personal knowledge of the matter.").

"The threshold showing" required to satisfy this standard "is low." State v. Watson, 254 N.J. 558, 592 (2023) (citation omitted). Personal knowledge encompasses any "firsthand knowledge," ibid., acquired through the senses, State v. Sanchez, 247 N.J. 450, 466 (2021). Thus, a detective "who has carefully reviewed a video a sufficient number of times prior to trial can therefore satisfy the … 'perception' and 'personal knowledge' requirements as to what the video depicts." Watson, 254 N.J. at 601. And in addition to simply describing "what

[an] officer did and saw," McLean, 205 N.J. at 460, it can describe "charts and information" used in an investigation—as opposed to "after-the-fact analyses of the type that might be created by an expert specifically for trial," E & H Steel Corp. v. PSEG Fossil, LLC, 455 N.J. Super. 12, 27 (App. Div. 2018) (discussing Rule 602).

Lay witnesses can also offer opinions. See N.J.R.E. 701. That Rule provides that such testimony "may be admitted if it: (a) is rationally based on the witness' perception; and (b) will assist in understanding the witness' testimony or determining a fact in issue." N.J.R.E. 701. The first prong incorporates the basic requirements for admissible fact testimony, noted above. Watson, 254 N.J. at 592; E & H Steel Corp., 455 N.J. Super. at 25. The second requires that lay opinions "be 'limited to testimony that will assist the trier of fact either by helping to explain the witness's testimony or by shedding light on the determination of a disputed factual issue.'" State v. Higgs, 253 N.J. 333, 363 (2023) (citation omitted).

This test is likewise "not generally difficult to establish." State v. Gerena, 465 N.J. Super. 548, 568 (App. Div.), aff'd, 249 N.J. 304 (2021). As federal courts have explained of Federal Rule of Evidence 701, permissible lay opinion testimony "result[s] from a process of reasoning familiar in everyday life." United States v. Johnson, 117 F.4th 28, 52 (2d Cir. 2024) (citation omitted); see

Allen, 254 N.J. at 544 (noting that New Jersey's rule is "modeled after" its federal counterpart). Thus, while "[a]n automatic door may be a highly sophisticated piece of machinery," a lay witness can opine that it did not "close on an innocent patron causing injury unless the premises' owner negligently maintained it." Jerista v. Murray, 185 N.J. 175, 197 (2005). After all, a "jury does not need an expert to tell it what it already knows." Ibid.

On the other side of the line, of course, is expert testimony. See N.J.R.E. 702. Expert testimony "may be allowed '[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue.'" Higgs, 253 N.J. at 363 (quoting N.J.R.E. 702) (alteration in Higgs). Said another way, expert testimony may be appropriate if a factual issue "is of such a specialized nature that … expert testimony would assist the trier of fact in making its determination." Jacobs v. Jersey Cent. Power & Light Co., 452 N.J. Super. 494, 504–05 (App. Div. 2017) (quoting Biunno, Weissbard & Zegas, Current N.J. Rules of Evidence, cmt. 1 on N.J.R.E. 702 (2017)) (emphasis in Jacobs). But "expert testimony is not necessary when the jury can understand the concepts in a case 'utilizing common judgment and experience,'" id. at 505 (citation omitted)—as when the witness is simply telling the jury "something it already knows," Jerista, 185 N.J. at 197.

Under this established framework, testifying about the location of the cell towers that a particular cellphone connected to during the calls it made over a particular period of time does not require any expertise. Most simply, it is not opinion testimony at all, but rather fact testimony, the same as that offered by any investigator or custodian of records who highlights for the jury certain facts within "charts and information" kept as ordinary business records. See E & H Steel Corp., 455 N.J. Super. at 27. Consider the Eleventh Circuit's explanation in an analogous case in which a defendant claimed that a trial court erroneously allowed the records custodian of another cell service provider (Metro PCS) "to testify as to his opinion beyond his expertise." United States v. Ransfer, 749 F.3d 914, 937 (11th Cir. 2014). The federal appellate court rejected that argument, explaining that the Metro PCS custodian had simply "explained how cell phone towers record 'pings' from each cell phone number and how he mapped the cell phone tower locations for each phone for [certain exhibits]." Ibid. These were not, the court explained, "statements of opinion at all"—they were simply statements about the world within the custodian's "personal knowledge," the same as when a witness gives "a summary of financial records the witness reviewed and an explanation of how the summary was calculated." Id. at 937-38 (citing United States v. Hamaker, 455 F.3d 1316, 1331-32 (11th Cir. 2006)).

So too here. While Leyman himself was not Sprint's records custodian, the testimony he gave could just as easily have been given by that records custodian, and that custodian would not have had to qualify as an expert either. As noted, Leyman testified that at 7:27 a.m. on the morning at issue, a call from defendant's phone connected to a tower less than a mile away from the disabled minivan. (8T148-17 to 149-20; 8T155-4 to 9). Leyman testified about which towers subsequent calls from defendant's phone connected to, noting the physical location of those towers as well—progressively further away from the disabled minivan and closer to Bridgeton, where the victim was killed, (8T156-10 to 165-25), and located near sites that other evidence indicated the victim had traveled through or stopped at, see (8T166-1 to 20) (7:53 a.m. call from connected to tower approximately 1.5 miles away from stretch of road where victim's vehicle was seen on video at 7:54 a.m.); (8T169-1 to 170-6) (8:03 a.m. call connected to tower in Upper Deerfield Township approximately 1.6 miles away from the Rite-Aid the victim was seen driving past); (8T99-1 to 15; 8T118-14 to 120-7 to 16; 8T171-20 to 172-22) (8:25 a.m. call, the last before the homicide, connected to tower on East Commerce Street in Bridgeton, on which victim's vehicle was captured on video just before) (8T99-1 to 15; 8T118-14 to 120-7 to 16). This evidence complemented other evidence tying both defendant

and the victim to a common set of locations and path of travel. See (6T103-1 to 112-1; 6T133-21 to 25; 6T220-9 to 223-22; 9T253-9 to 13).[8]

Contrary to the Appellate Division's conclusion, Leyman did not provide "essentially" expert testimony. (Ppa18). He did not testify about the coverage range for each cell tower or outline why defendant's cellphone would have connected to one tower over another. (Ppa18). He did not testify about which tower would have had the strongest signal. And he certainly did not "testify as to the possible locations of the cell phone at issue" or opine "[i]n all but explicit words" that defendant was in the car with the victim because of his cellphone connections. (Ppa18-19). Instead, as the trial court properly recognized:

> [B]asically all [Leyman] did was reiterate the information received from the cell tower provided. It was not an interpretation. It was simply that at this date on this time at this location which was contained within the information he received this tower with a fixed location and—that phone at that time. … It was just that on this time that cell tower pinged off that phone.
>
> [(13T12-21 to 13-4).]

To be sure, the information Leyman received from Sprint and knowledge he gleaned about the physical world from reviewing those records may have been detailed, and the average person certainly does not have the technology handy

[8] On cross-examination and then redirect, Leyman also testified about calls that occurred after the victim had been killed, again discussing the physical location of the towers themselves in relation to other physical locations. (9T96-24 to 97-5; 9T150-7 to 20).

to collect such information. But it was still factual information acquired through the senses, Sanchez, 247 N.J. at 466; see N.J.R.E. 602, just as when an investigator or records custodian combs through intricate financial records and reports the transactions that occurred, Ransfer, 749 F.3d 937-38; see also Watson, 254 N.J. at 601; E & H Steel Corp., 455 N.J. Super. at 27. Leyman testified about what towers a particular cellphone connected to, and where those towers were in the physical world; he did not express an opinion about how likely that made it that defendant was with the victim during the relevant time.

Even if viewed as opinion rather than fact testimony, Leyman's testimony was still lay opinion satisfying Rule 701. It satisfied the perception prong, naturally, for the same reasons that it is best understood as fact testimony satisfying Rule 602. And it also would have satisfied the helpfulness prong. Although the jury could have tackled the many pages of phone records on its own and created its own map of tower locations—much as it could conceivably pore over reams of bank records in a financial-crimes case—it was nonetheless aided by having Leyman testify to the key points himself, plotting the tower locations together with the prosecutor on direct. See 8T99-1 to 172-2; (Psa1-77).[9] Thus, while a cell tower itself "may be a highly sophisticated piece of

[9] For brevity, the State omitted from its appendix dozens of pages from the records introduced at trial.

machinery," Leyman could certainly opine that if Sprint's records showed defendant's phone number connecting to those specific cell towers at those times and showed that those cell towers existed at particular latitudes and longitudes, then it is likely that because defendant's cell phone actually did place a call through those specific cell towers, located at those particular latitudes and longitudes, at those times. See Jerista, 185 N.J. at 197. Nothing about that conclusion requires special expertise.

The overwhelming majority of state and federal courts agree that that a witness need not be qualified as an expert so long as their testimony is limited to addressing the "factual information" regarding cell-tower locations "displayed on cell phone billing records." Boothby, 951 N.W.2d at 874 (quoting State v. Wyman, 107 A.3d 641, 647-48 (Me. 2015)). The federal courts to address the issue, for their part, are wholly in accord that lay or fact witnesses may testify to the location of cell towers identified in cellphone records, as Leyman did here. See, e.g., United States v. Graham, 796 F.3d 332, 365-66 (4th Cir. 2015) (testimony regarding map of cell sites to which cell phone connected "did not amount to an expert opinion," as mapping "required little more than identification of the various locations" drawn from records), rev'd on other grounds, 824 F.3d 421 (4th Cir. 2016); United States v. Henderson, 564 F. App'x 352, 363 (10th Cir. 2014) (stating that "testimony limited to 'the phone

records'"—including a "map of … cell tower locations" from phone records—"generally would not be expert testimony" as it "required nothing more than knowing the meaning of abbreviations" and thus amounted to "a nonexpert's recitation of business records") (Ppa72); United States v. Baker, 496 F. App'x 201, 204 (3d Cir. 2012) (allowing lay testimony regarding "plot[ing] [of] the locations of the towers") (Ppa61); United States v. Kale, 445 F. App'x 482, 485-86 (3d Cir. 2011) (holding that detective reading and interpreting "records detailing the locations of cellphone towers used to carry out his phone calls" did not have to be qualified as an expert because he was not testifying to the defendant's precise location and his testimony was not based on "scientific, technical, or other specialized knowledge") (Ppa56); United States v. Evans, 892 F. Supp. 2d 949, 953-54 (N.D. Ill. 2012) (permitting non-expert testimony regarding map "indicating the location of certain cell towers used by [the defendant] during the course of the conspiracy," but requiring that further testimony about "how cellular networks operate" must satisfy Fed. R. Evid. 702).[10]

[10] All unpublished decisions are included in the State's petition appendix, (Ppa24-78). Only the Maryland courts have reached a directly contrary result on the precise question presented here. See State v. Payne, 104 A.3d 142, 154-55 (Md. 2014); Wilder v. State, 991 A.2d 172, 199-200 (Md. Ct. Spec. App. 2010).

As to other states' courts, the vast majority have adopted the same rule. That includes decisions from at least eight state high courts. See Boothby, 951 N.W.2d at 876 (allowing testimony limited to identifying location of cell towers pinged by defendant's phone because it was based on "factual information obtained from . . . [phone] records rather than any specialized knowledge about how cell towers operate") (cleaned up); Zanders v. State, 73 N.E.3d 178, 180-81 (Ind. 2017), judgment vacated on other grounds, 585 U.S. 1027 (2018) (same); State v. Sinnard, 543 P.3d 525, 544 (Kan. 2024) (permitting lay testimony "so long as the witness does not" provide a "technical opinion regarding … the location of a cell phone at a particular time, an explanation as to why a cell phone connected to a specific cell tower over another, or an explanation of apparent discrepancies in call records"); Torrence v. Commonwealth, 603 S.W.3d 214, 227-28 (Ky. 2020) (following decisions that "permit lay testimony for marking maps with data from cell phone records"); Wyman, 107 A.3d at 647-48 (lay testimony provided where witness "did not opine on the minimum distance between a cell phone and cell tower required to make a connection between the two, or otherwise testify to matters of cell phone technology"); Collins v. State, 172 So. 3d 724, 743 (Miss. 2015); State v. Blurton, 484 S.W.3d 758, 771 (Mo. 2016) ("[R]eading the coordinates of cell sites from phone records and plotting them on a map is not a scientific procedure

or technique because cell phone records are factual records and no special skill is required to plot these records.") (cleaned up); Burnside v. State, 352 P.3d 627, 636 (Nev. 2015) (concluding that testimony about reviewing cell-site data and using "that data to create a map showing the locations of the cell phone cites that handled calls from the cell phones registered to [defendants]" was lay testimony). It also includes decisions of a number of intermediate state appellate courts under similar circumstances. See, e.g., State v. Johnson, 110 N.E.3d 800, 808 (Ohio Ct. App. 2018); State v. Morgan, 119 So. 3d 817, 827 (La. Ct. App. 2013); Woodward v. State, 123 So. 3d 989, 1016-17 (Ala. Crim. App. 2011); Perez v. State, 980 So. 2d 1126, 1131-32 (Fla. Dist. Ct. App. 2008).

To be clear, there is debate about how far the majority rule should extend. Testimony about cell-site data that does more than simply plot tower locations presents a separate question that, depending on the details of the testimony, may well require a qualified expert. This sort of testimony might address the workings of cellular networks, including why a cellphone connected to one tower and not another, or the degree to which a particular tower location supports the premise that a phone was at a precise location at a given time. Several courts have determined that once a witness addresses this level of

detail, expert testimony is required.[11] So while future cases could pose closer questions, no such "fine distinction" is needed here, see Boothby, 951 N.W.2d at 876, because Leyman testified only to the location of the cell towers themselves, and did not opine on the extent to which those locations might support the State's case.

This Court's prior precedent is not to the contrary. While this Court has not addressed this precise question, it has recently held, in State v. Burney 255 N.J. 1 (2023), that opinion testimony regarding cell site analysis that ventures deeper into technical details must satisfy the reliability requirements for expert testimony, and that even if elicited from a qualified expert, it can still be inadmissible if it is insufficiently "supported by factual evidence or other data." Id. at 21, 23. Burney, however, involved a single text from the defendant's

[11] Compare, e.g., Boothby, 951 N.W.2d at 875 (collecting cases "precluding lay testimony" that goes "beyond the mere recitation of information contained in the phone records"); State v. Johnson, 797 S.E.2d 557, 567 (W. Va. 2017) (noting investigator who relied on his training to discuss beamwidth and azimuth and testified about "side of the tower" that calls connected to should have been qualified as expert); State v. Steele, 169 A.3d 797, 817 (Conn. App. Ct. 2017) (finding witness should have been qualified as expert in order to opine cellphone had to be within certain mile range of tower to connect to it); United States v. Yeley-Davis, 632 F.3d 673, 683 (10th Cir. 2011) (expert required to opine on "how cell phone towers operate" to "explain an apparent discrepancy" in cellphone record); Collins, 172 So. 3d at 743 (similar); United States v. Banks, 93 F. Supp. 3d 1237, 1248-49 (D. Kan. 2015) (similar); Evans, 892 F. Supp. 2d at 955 n.5 (similar), with Sinnard, 543 P.3d at 543-44 (holding lay witnesses "may provide general information about how cell towers function," in addition to their location, and collecting divergent cases).

cellphone that pinged off of a tower about a mile from the scene of a robbery, id. at 4, and expert testimony that the tower's coverage area was also approximately one mile based on a general "rule of thumb" for cell towers in the area, yielding an opinion that the "defendant's phone" was "at or near the crime scene" even though "two other cell towers were closer to, and in the range of, the crime scene," id. at 12-13, 15, 29 (emphasis in original). While this Court held that this "constitute[d] an improper net opinion," id. at 25, it did not address what types of more limited testimony regarding cell-site location data can be offered by a lay witness, focusing instead on the reliability of expert testimony about the intricacies of how cellular networks operate. It would therefore be wholly consistent with Burney to adopt the rule embraced by the "growing majority of jurisdictions," Boothby, 951 N.W.2d at 876, where a witness (whether an investigator or records custodian) simply testifies to what the cell-tower records themselves show: which calls connected to which towers and when. As explained above, that is fundamentally factual (or at most lay opinion) testimony, just as when a witness provides "a summary of financial records the witness reviewed and an explanation of how the summary was calculated." Ransfer, 749 F.3d at 937-38.

B. The Jury Was Free to Draw Reasonable Inferences from This Lay Testimony.

Though this Court granted certification only on the question whether a lay witness can present testimony solely about the locations of cell towers to which a cellphone had connected based on cellphone-company records, it bears emphasizing that allowing jurors to hear and draw reasonable inferences from such testimony is not improper either. Whether conceived of as a claim that the witness was opining "[i]n all but explicit words" that defendant was in the car with the victim because of his cellphone connections, (Ppa18-19), or as a claim that the State would need an expert to lay a proper foundation for the relevance of such evidence, such objections are misguided.

Begin with the reasoning given by numerous courts to adopt the consensus approach. As these courts have explained, simply telling the jury the location of specific cell towers that a phone connected to involves "a process of reasoning familiar in everyday life." Boothby, 951 N.W.2d at 877, 88-79 (quoting Evans, 892 F. Supp. 2d at 953). After all, cell phones are ubiquitous, Carpenter, 585 U.S. at 300, and at "even the most basic level of understanding, users know they cannot make or receive calls without transmitting signals to towers," Zanders, 73 N.E.3d at 189. And most phone users also "know all too well" that "proximity to a cell tower is necessary to" to transmit those signals, Graham, 796 F.3d at 383 (Motz, J., dissenting in part and concurring in part), a point this

Court has likewise recognized, see Burney, 255 N.J. at 21 (noting that proximity is one "significant factor" in determining a phone's connection to a given cell tower); accord Boothby, 951 N.W.2d at 876; Baker, 496 F. App'x at 204 ("Any cell phone user of average intelligence would be able to understand that the strength of one's cell phone reception depends largely on one's proximity to a cell phone tower.") (Ppa63); In re U.S. for Historical Cell Site Data, 724 F.3d 600, 613 (5th Cir. 2013) ("Cell phone users recognize that, if their phone cannot pick up a signal" then "they are out of the range of their service provider's network of towers.").

In light of this widespread understanding, jurors can rely on their own common judgment and experience to recognize that if a particular phone is connecting to a cell tower in one location, it is at least marginally more likely that phone is in fact near that location—and certainly is not on the other side of the State. See N.J.R.E. 104, 701; contra (Ppa19) ("If the records are as clear as the trial court stated, then Leyman's testimony does not aid the jury."). Juries are "permitted to draw upon their own life experiences and common sense in reaching their verdicts," United States v. Friedman, 971 F.3d 700, 714 (7th Cir. 2020); see also United States v. Chin, 275 F. Supp. 2d 382, 384 (E.D.N.Y. 2003) (similar), and, as already noted, a jury "does not need an expert to tell it what it already knows," Jerista, 185 N.J. at 197. Thus, just as the average juror

understands that proximity to their home wireless router is a significant factor in connecting to their home wi-fi network, or that they could lose cellphone reception when hiking to a mountaintop in a rural area, so too can they grasp in light of their "common judgment and experience" that cellphones have some geographic relationship to the cell towers to which they connect. Jacobs, 452 N.J. Super. at 504-05 (citation omitted). That establishes sufficient relevance for such testimony and makes lay testimony about the location of towers to which a specific cellphone connected, as revealed by otherwise-admissible cellphone-company records, wholly permissible testimony from which jurors can draw reasonable inferences.

That is certainly true in this case. "An inference is a deduction of fact that may logically and reasonably be drawn from another fact or group of facts established by the evidence." Model Jury Charges (Criminal), "Circumstantial Evidence" (rev. Jan. 11, 1993); accord State v. Humphrey, 183 N.J. Super. 580, 584 (Law Div. 1982), aff'd, 209 N.J. Super. 152 (App. Div. 1986). As a general matter, there are no hard and fast "legal rules as to what inferences may be drawn," as the "question is," instead, "one of logic and common sense." State v. Powell, 84 N.J. 305, 314 (1980). And while the State must of course prove the ultimate issue in a prosecution beyond a reasonable doubt, a jury may draw a reasonable inference "from a fact whenever it is more probable than not that

the inference is true." State v. Brown, 80 N.J. 587, 592 (1979). A jury may thus return a finding of guilty "[w]hen each of the interconnected inferences necessary to support a finding of guilt beyond a reasonable doubt is reasonable on the evidence as a whole." State v. Samuels, 189 N.J. 236, 246 (2007) (punctuation and citations omitted).

Here, meanwhile, the trial court not only ensured that Leyman limited his testimony to the location of the cell towers and the timing of the connections and did not stray into opining on how cell towers work or issues of range or coverage area, (8T155-11 to 19), but also repeatedly cautioned the jury that it could not treat that testimony as dispositive. The trial court instructed, for instance, that while the testimony regarding tower-location data "can show you those locations and how far apart they are," it does not "mean that th[e] phone was located [in] any particular spot within any particular distance from that tower." (8T152-9 to 17); see also (8T183-25 to 184-3) (reiterating to counsel that "tower location" cannot be "the sole indication of where the phone was"). And the judge explained, moreover, that jurors "can't conclude that a phone was in any particular spot simply because it connected to a tower," but could that they could draw inferences about the phone's location based on the tower location data "in connection with" "some other evidence." (11T139-1 to 5; 11T139-12 to 16) (emphasis added). That "other evidence" itself supported

defendant's guilt, see (6T103-1 to 112-1; 6T133-21 to 25; 6T220-9 to 223-22; 9T253-9 to 13), and the jury was entitled to infer that the cell-tower location data further supported that finding, in tandem with the rest of the evidence presented.

Put another way, relying on both common sense and lived experience, the jury could have reasonably inferred that defendant's phone's sixteen sequential connections to ten different towers on the morning in question, tracking a series of towers that matched the path taken by the victim's vehicle, made it somewhat more likely that defendant was, in fact, moving in the same direction as the victim, in the same area of the state, at the same time. Considering this together with the other evidence presented at trial, the jury could have further reasonably inferred that defendant and his phone were in the victim's vehicle for approximately one hour leading up to the victims' killing. The jury knew that this inference could not have been drawn solely from the cell-tower-location testimony, as the trial court repeatedly instructed the jury, both mid-trial and again at closing. See (8T21-16 to 19; 9T90-17 to 20). But the testimony was nevertheless admissible, and supported a reasonable inference that guilt was at least marginally more likely than if defendant's cellphone had not connected to those precise cell towers at those precise times. Defendant's first-degree murder conviction should be reinstated.

CONCLUSION

This Court should reverse the judgment below.

Respectfully submitted,

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DATE: May 12, 2025