

Filed: June 26, 2012

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 10-4133
(5:06-cr-00024-RLV-DSC-1)

UNITED STATES OF AMERICA,

Plaintiff - Appellee,

v.

SEAN C. SOWARDS,

Defendant - Appellant.

O R D E R

The Court amends its opinion filed June 26, 2012, as follows:

On page 33, section II.B., second line of text, and on page 46, section III.D., third line of text -- the word "than" is corrected to read "that."

For the Court - By Direction

/s/ Patricia S. Connor
Clerk

PUBLISHED

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UNITED STATES OF AMERICA,

Plaintiff-Appellee,

v.

SEAN C. SOWARDS,

Defendant-Appellant.

No. 10-4133

Appeal from the United States District Court
for the Western District of North Carolina, at Statesville.

Richard L. Voorhees, District Judge.

(5:06-cr-00024-RLV-DSC-1)

Argued: December 9, 2011

Decided: June 26, 2012

Before TRAXLER, Chief Judge, and
GREGORY and WYNN, Circuit Judges.

Reversed and remanded by published opinion. Judge Wynn wrote the majority opinion, in which Judge Gregory concurred. Chief Judge Traxler wrote a dissenting opinion.

COUNSEL

ARGUED: C. Dennis Gibson, II, DENNIS GIBSON LAW, PLLC, Ridgecrest, North Carolina, for Appellant. Melissa Louise Rikard, OFFICE OF THE UNITED STATES

ATTORNEY, Charlotte, North Carolina, for Appellee. **ON BRIEF:** Anne M. Tompkins, United States Attorney, Charlotte, North Carolina, for Appellee.

OPINION

WYNN, Circuit Judge:

On appeal, Sean C. Sowards argues that the district court erred in denying his motion to suppress because the police lacked probable cause to initiate a traffic stop based exclusively on an officer's visual estimate—uncorroborated by radar or pacing and unsupported by any other indicia of reliability—that Sowards's vehicle was traveling 75 miles per hour ("mph") in a 70-mph zone. We agree and therefore reverse the district court.

I.

Deputy James Elliott stopped Sowards for speeding along North Carolina's Interstate 77 after visually estimating that Sowards's vehicle was traveling 75 mph in a 70-mph zone. Although Deputy Elliott's patrol car was equipped with radar, he had intentionally positioned his patrol car at an angle that rendered an accurate radar reading impossible. During the traffic stop, Deputy Elliott had a canine trained in drug detection, Ringo, sniff the outside of Sowards's vehicle. When Ringo signaled the possible presence of a controlled substance, Deputy Elliott, along with other officers, searched Sowards's vehicle and discovered approximately 10 kilograms of cocaine. Subsequently, a grand jury charged Sowards with possession of at least 5 kilograms of cocaine with intent to distribute, in violation of 21 U.S.C. §§ 841(a)(1), (b)(1)(A).

Before trial, Sowards moved to suppress the evidence on

the basis that Deputy Elliott lacked probable cause to initiate the traffic stop in violation of the Fourth Amendment.¹ At the suppression hearing, Deputy Elliott testified that he was certified in the use of radar equipment in North Carolina. As a condition of obtaining radar certification, Deputy Elliott was required to visually estimate the speed of twelve separate vehicles and then have his visual speed estimates verified with radar. To pass the road test, Deputy Elliott's visual speed estimates could not vary from the radar by greater than a total of 42-mph for all twelve vehicles combined. Deputy Elliott testified, however, that, for any one vehicle, his visual speed estimate could have been off by as much as 12 mph, so long as he did not exceed the 42 mph total for all twelve vehicles combined.

Over the objection of defense counsel, Deputy Elliott testified that he had visually estimated that Sowards's vehicle was traveling 75 mph. Deputy Elliott further testified that the posted speed limit was 70 mph and that, therefore, Sowards's vehicle was exceeding the legal speed limit by 5 mph. Deputy Elliott also stated that he did not attempt to verify, or otherwise corroborate, his visual speed estimate with his radar unit; he did not attempt to pace Sowards's vehicle with his patrol car to gauge the speed; and he had not been trained on, and therefore did not use, the VASCAR system, which utilizes a stopwatch to approximate the time it takes a vehicle to travel over a predetermined distance.

When asked what technique, if any, he used to estimate the speed of Sowards's vehicle, Deputy Elliott testified as follows:

¹Sowards also challenged, among other things, the open-air dog sniff on the basis that the officers lacked the necessary reasonable suspicion that illegal activity was afoot to continue his detention beyond the time required to issue a traffic citation. Because our disposition rests on Deputy Elliott's lack of probable cause to initiate the traffic stop in the first place, we need not reach these issues and have, accordingly, omitted the related facts.

Q. [Government counsel] And do you learn certain techniques in visually determining the speed of the vehicle?

A. [Deputy Elliott] There's not really a technique. I've been measuring speeds all my life.

Q. And the radar serves what function in relation to your visual observation of the speed of the vehicle?

A. It's just a second opinion that already corroborates what you already know.

J.A. 24.

Q. [Defense counsel] You testified earlier that there was no technique to estimating speed. You use no technique; is that correct?

A. [Deputy Elliott] You don't need a technique. It's all based on your training and experience. As long as you have a tracking history and you have experience in observing speeds.

Q. So you can just basically look at a vehicle and guess.

A. There's no guessing about it. It's an estimation based on tracking history and my training and experience.

Q. Based on tracking history.

A. That's correct.

Q. Which would be?

A. Being able to sufficiently see that vehicle, that vehicle coming towards me, that vehicle passing me, me being able to estimate that vehicle's speed.

Q. And generally how long [did] you watch [Sowards's] vehicle?

A. At this point in time [Sowards] was approximately a hundred yards out before he was in front of me.

Q. Football field.

A. Approximately.

Q. Approximately. So you can estimate distance.

J.A. 80-81.

Subsequently, however, Deputy Elliott testified that he did not measure the distance that he tracked Sowards's vehicle and that his testimony of 100 yards of tracking history was an approximation rather than a certainty. Furthermore, on cross-examination, and when questioned directly by the district court about his knowledge of distances, Deputy Elliott gave several inconsistent and incorrect answers regarding measurements:

Q. [Government counsel] And how many feet are in a hundred yards?

A. [Deputy Elliott] There's 12 feet in a yard.

Q. So 300 feet?

A. Correct.

J.A. 109.

THE COURT: And how many feet are in a yard?

[Deputy Elliott]: How many feet? There's 12 feet in a yard.

THE COURT: Well, do you know what a yardstick is?

[Deputy Elliott]: Yes, sir.

THE COURT: How many inches in a yardstick?

[Deputy Elliott]: Well, on a yardstick there's 12 inches. Well, it depends on the yard stick that . . . you have.

THE COURT: Use your hands to indicate a yardstick.

[Deputy Elliott]: A yardstick is about that long (indicating).

THE COURT: All right. And how many inches are in it?

THE WITNESS: Four foot in a yard.

J.A. 116.

Thereafter, Deputy Elliott testified that his visual estimation of the speed of Sowards's vehicle was not dependent on his ability to estimate the distance that it traveled.

Q. [Defense counsel] So how can you estimate speed without knowing the distance?

A. [Deputy Elliott] Because of my visual observation. I know that it takes a quicker time for vehicles

to come at me at 75 miles per hour versus the 70 miles per hour zone in that area. The reason why I know that is because I've been working that area for approximately four and a half years. I've conducted radar enforcement. I've also conducted speed estimations upon my estimation of vehicles that I see that I work that area on a daily basis.

J.A. 80.

Q. Well, how can you be certain that [Sowards's vehicle] was going 75 miles an hour?

A. My training and experience.

. . .

Q. Could you explain the specifics of your visual estimation training as far as how you arrive at a speed.

A. Because I know a vehicle traveling 75 miles per hour, it gets faster to me than a vehicle that's traveling 70 miles per hour by my visual observation.

J.A. 93-94.

The district court denied Sowards's motion to suppress, rejecting Sowards's arguments and finding that Deputy Elliott had probable cause to initiate the traffic stop of Sowards's vehicle:

Officer Elliott had probable cause to believe a traffic violation had occurred based on speed. He's trained to estimate speeds. His difficulty with measurements is immaterial to his estimate of speed as that did not depend on time or distance. And the certification that he received, I believe three times, depended on accu-

racy in estimating speeds. So he had a particularized and objective basis for suspecting that a traffic violation had occurred.

J.A. 121. Subsequently, Sowards entered a conditional guilty plea, reserving the right to appeal any issues related to his suppression motion. At the sentencing hearing, the district court sentenced Sowards to 70 months' imprisonment, which was the low end of the Sentencing Guidelines range.² Sowards filed a timely notice of appeal.

II.

A.

The issue on appeal is whether Deputy Elliott's traffic stop of Sowards's vehicle was supported by probable cause and, accordingly, whether the district court properly denied Sowards's motion to suppress the evidence seized from the car as a result of the traffic stop.

We review the district court's legal determinations de novo and its factual determinations for clear error. *United States v. Moreland*, 437 F.3d 424, 429 (4th Cir. 2006). Under the clear error standard, "[a] factual finding by the district court may be reversed only if, 'although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed.'" *Walton v. Johnson*, 440 F.3d 160, 173-74 (4th Cir. 2006) (en banc) (quoting *United States v. U.S. Gypsum Co.*, 333 U.S. 364, 395 (1948)). The evidence is construed in the light most favorable to the Government, the prevailing party below. *United States v. Seidman*, 156 F.3d 542, 547 (4th Cir. 1998).

²Our review of the district court's docket reveals that Sowards served his entire prison sentence and began a three year period of supervised release on May 20, 2011.

The Fourth Amendment guarantees "[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures." U.S. Const. amend. IV. "When a police officer stops an automobile and detains the occupants briefly, the stop amounts to a seizure within the meaning of the Fourth Amendment." *United States v. Digiovanni*, 650 F.3d 498, 506 (4th Cir. 2011) (citing *Whren v. United States*, 517 U.S. 806, 809-10 (1996)). "[T]he underlying command of the Fourth Amendment is always that searches and seizures be reasonable." *Wilson v. Arkansas*, 514 U.S. 927, 931 (1995); *see also Whren*, 517 U.S. at 810 ("An automobile stop is thus subject to the constitutional imperative that it not be 'unreasonable' under the circumstances."). "As a general matter, the decision to stop an automobile is reasonable where the police have probable cause to believe that a traffic violation has occurred." *Id.* Probable cause exists if, given the totality of the circumstances, the officer "had reasonably trustworthy information . . . sufficient to warrant a prudent [person] in believing that the petitioner had committed or was committing an offense." *Beck v. Ohio*, 379 U.S. 89, 91 (1964); *see also Porterfield v. Lott*, 156 F.3d 563, 569 (4th Cir. 1998).

Accordingly, our inquiry here is whether, given the totality of the circumstances, Deputy Elliott had reasonably trustworthy information sufficient to support a prudent person's belief that Sowards was speeding.³

³To appreciate the difference in view expressed by our colleague in dissent, it is worthy to note that the dissenting opinion urges this Court to undertake a probable cause inquiry by reference to what probable cause is not. *See post* at 32 ("The probable-cause standard does not even require that the officer's belief be more likely true than false." (quotation marks omitted)). We, however, decline to adopt this analytical approach; probable cause is the threshold that protects citizens from unreasonable searches and seizures that violate the Fourth Amendment to the Constitution and, therefore, our focus is on what probable cause does require. For probable cause to mean anything, it has to mean something. *See Brinegar v. United States*, 338 U.S. 160, 175-76 (1949) ("The substance of all the definitions

B.

The district court found that "Officer Elliott had probable cause to believe a traffic violation had occurred" because Officer Elliott was "trained to estimate speeds" and because "the certification that he received . . . depended on accuracy in estimating speeds." J.A. 121. The district court also found that Officer Elliott's "difficulty with measurements is immaterial to his estimate of speed as that did not depend on time or distance." *Id.* Based on these findings, the district court concluded that Officer Elliott "had a particularized and objective basis for suspecting that a traffic violation had occurred." *Id.*

We hold, based on the record before us, that several of the district court's material factual findings were clearly erroneous.

First, it was clear error for the district court to find that Deputy Elliott was "trained to estimate speeds." J.A. 121. Contrary to this finding, the record indicates that Deputy Elliott was trained to *use a radar unit*. Rather than being "trained to estimate speeds," Deputy Elliott was given the opportunity to "*guess*" the speed of twelve vehicles and, in doing so, he demonstrated the proficiency of guessing within a total margin of error of 42 mph for all twelve of those vehicles. There was no testimony or evidence that Deputy Elliott received any specialized training in the estimation of vehicle speeds. In fact, Deputy Elliott's testimony confirmed that he used absolutely no technique or method to visually *guess* vehicle speeds. Given this testimony, and the absence of con-

of probable cause is a reasonable ground for belief of guilt. . . . To allow less would be to leave law-abiding citizens at the mercy of the officers' whim or caprice."); *Wong Sun v. United States*, 371 U.S. 471, 479 (1963) ("The history of the use, and not infrequent abuse, of the power to arrest cautions that a relaxation of the fundamental requirements of probable cause would leave law-abiding citizens at the mercy of the officers' whim or caprice." (quotation marks omitted)).

trary evidence in the record, it was clearly erroneous for the district court to find that Deputy Elliott was trained to estimate speeds.⁴ *Cf. State v. Estes*, 223 P.3d 287, 290-91 (Idaho Ct. App. 2009) (holding that certified officer's visual speed estimate was insufficient to convict defendant of speeding, where officer's testimony failed to reveal precise accuracy rates and margin of error for his visual speed estimates during certification).⁵

Second, it was clear error for the district court to find that Deputy Elliott's "difficulty with measurements is immaterial to his estimate of speed as that did not depend on time or dis-

⁴Our colleague in dissent disputes this conclusion by noting Deputy Elliott's "uncontradicted testimony" that "a certified instructor . . . 'showed him how to estimate the speeds' of vehicles." *Post* at 49 ("That sounds like training to me."). The record does not support the dissent's view. First, the "certified instructor" Deputy Elliott identified was a "*certified radar operator*" who "show[ed Deputy Elliott] *how to work the radar*." J.A. 23 (emphasis added). There is no evidence that this instructor was certified or otherwise qualified to "train" Deputy Elliott in how to visually estimate the speeds of vehicles. Second, immediately after giving this "uncontradicted testimony," *post* at 49, Deputy Elliott directly contradicted it. *See* J.A. 24 ("Q: And do you learn certain techniques in visually determining the speed of the vehicle?" A: "There's not really a technique.").

⁵The district court's decision to qualify Deputy Elliott as an expert in the unaided visual estimation of vehicle speed was clearly inconsistent with the requirement of Rule 702 of the Federal Rules of Evidence "that [expert] testimony . . . be the product of reliable principles and methods." *United States v. Baptiste*, 596 F.3d 214, 222 (4th Cir. 2010); *see also United States v. Johnson*, 617 F.3d 286, 294 (4th Cir. 2010) (stating that experts "must use reliable principles and methods, and apply those principles and methods reliably to the facts of the case."). Although the court's role as "gatekeeper," in ensuring that expert testimony is "reliable and relevant," *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 149 (1999), is constant throughout all judicial proceedings, we recognize that the "Federal Rules of Evidence[, apart from testimonial privileges,] do not apply at suppression hearings." *United States v. Schaefer*, 87 F.3d 562, 570 (1st Cir. 1996); Fed. R. Evid. 104(a). As such, we need not and do not address the district court's inexplicable determination to qualify Deputy Elliott as an expert.

tance." J.A. 121. This finding rings in the absurd because one cannot discern a *speed* of a vehicle measured in *miles-per-hour* without discerning both the increment of *distance* traveled and the increment of *time* passed. Indeed, the very definition of speed derives from the mathematical formula of distance divided by time. *See, e.g., Warboys v. Proulx*, 303 F. Supp. 2d 111, 116 n.6 (D. Conn. 2004) ("To calculate average speed, one divides the distance traveled by the time it took to travel this distance. [distance ÷ time = speed . . .]"). This Court may properly take judicial notice of this formula. *See, e.g., Ballantine v. Cent. R.R. of New Jersey*, 460 F.2d 540, 543 (3rd Cir. 1972).⁶

Furthermore, the materiality of Deputy Elliott's "difficulty with measurements" was established by Deputy Elliott's own testimony. During the suppression hearing, Deputy Elliott exhibited a notable absence of fluency in his knowledge of distance measurements. Deputy Elliott testified that: (1) "There's 12 feet in a yard," J.A. 109, 116; (2) "300 yards would be a [100] yards," J.A. 109; and (3) "on a yardstick there's 12 inches." J.A. 116. Deputy Elliott also testified that the number of inches on a yard stick "depends on the yard stick," J.A. 116, and that math could change "depend[ing] on the person who's behind it." J.A. 88. In light of this testimony, it is material—and indeed troubling—that Deputy

⁶Our dissenting colleague contends that "there is no evidence [in the record] that the reliability of an officer's visual estimation of speed is or should be tied to a specific or minimum distance or time." *Post* at 49. If the dissent believes estimation of speed is not tied to distance or time, what then would be the dissent's mathematical formula for speed? Without a consideration of a specific distance and time, we are left with Deputy Elliott's purely speculative guess of the speed of Sowards's vehicle. That's not enough to establish probable cause. *See, e.g., Terry v. Ohio*, 392 U.S. 1, 21-22 (1968) (predicating reasonable suspicion—a *less robust* standard than probable cause—on the existence of "specific and articulable facts" and "rational inferences from those facts" because "[a]nything less would invite intrusions upon constitutionally guaranteed rights based on nothing more substantial than *inarticulate hunches*, a result this Court has consistently refused to sanction." (emphasis added)).

Elliott asserted that his visual estimates of speed are dependent on his observation of the "tracking history" of a vehicle. *See, e.g.*, J.A. 81 (testifying that: (1) a technique is not required to estimate speeds "[a]s long as you have a tracking history"; and (2) his method of estimating speed is not a guess because "[i]t's an estimation based on tracking history"). Given that Deputy Elliott further testified that he had "a hundred yards" of tracking history on Sowards's vehicle to estimate its speed, J.A. 81, it was clearly erroneous for the district court to find that Deputy Elliott's difficulty with measurements was immaterial to his estimate of the speed of Sowards's vehicle.⁷

C.

Notwithstanding these two clearly erroneous factual findings by the district court, the Government contends that Deputy Elliott's visual speed estimate, standing alone, provided probable cause for Deputy Elliott to initiate a traffic stop of Sowards's vehicle for speeding.⁸

⁷The dissent points to the absence of "evidence [in the record] that North Carolina's certification procedure for estimating speeds is dependent upon distance or time." *Post* at 49-50. This assertion is misleading and misplaced; the former because, rather than a "certification" for "estimating speeds," Deputy Elliott's certification was for the *use of radar*; the latter because, if not distance and time, then on what basis would a hypothetical certification in visual speed estimation in *miles* (distance) per *hour* (time) depend?

⁸The Government relies on an unpublished opinion of this Court—decided without oral argument and issued *per curiam*. *See United States v. Daras*, No. 98-4286, 1998 WL 726748, at *2 (4th Cir. Oct. 16, 1998) (*per curiam*) ("[T]he Government correctly points out that the officer's visual estimate is also sufficient, by itself, to support a conviction."). This case is not binding. The Government also relies on a non-binding and materially distinguishable decision issued by a district court in *United States v. Wornom*, 754 F. Supp. 517, 519 (W.D.Va. 1991) (where *radar evidence was suppressed*, affirming conviction of defendant for speeding based on officer's visual speed estimate).

However, the Fourth Amendment does not allow, and the case law does not support, blanket approval for the proposition that an officer's visual speed estimate, in and of itself, will always suffice as a basis for probable cause to initiate a traffic stop. Instead, for the purposes of the Fourth Amendment, the question remains one of reasonableness. Critically, and as further explained below, the reasonableness of an officer's visual speed estimate depends, in the first instance, on whether a vehicle's speed is estimated to be in significant excess or slight excess of the legal speed limit. If slight, then additional indicia of reliability are necessary to support the reasonableness of the officer's visual estimate.⁹

The standard for evidence to convict is more exacting than the standard sufficient to support probable cause. *See Porterfield*, 156 F.3d at 569. However, a speeding violation presents a unique circumstance, *see United States v. Moore*, No. 10 Cr. 971 (RJH), slip op. at *5 (S.D.N.Y. Dec. 19, 2011), because reliable evidence of the vehicle's speed generally provides the objectively reasonable basis for probable cause to initiate the traffic stop. Although our discussion of the permissible uses of visual speed estimates relies on probable cause cases, we also include references to a limited number of conviction cases where comparisons are useful.

⁹Our colleague in dissent expresses the policy view that this reasonableness requirement "ignores the realities of traffic enforcement and unduly ties the hands of officers" because "as a practical matter" the requirement is "unworkable for police officers." *Post* at 36-37, 50. Such policy considerations are best left to the legislative branch of government, which is better suited to decide them.

When a state legislature does decide to take up this issue, it may want to take note of some of the troubling implications of the dissent's view. For instance, allowing police officers to rely, without support, exclusively on their subjective impressions that a vehicle is traveling in slight excess of the legal speed limit may disincentivize the use of verifiable methods and technology. Indeed, in this case, Deputy Elliot's vehicle was equipped with radar and he intentionally positioned himself such that it could not be used.

Furthermore, because an officer's subjective intentions for initiating a traffic stop are not relevant, *see Whren*, 517 U.S. at 813 ("Subjective intentions play no role in ordinary, probable-cause Fourth Amendment

1.

In *United States v. Ludwig*, our sister Circuit framed this analysis similarly in holding that "an officer's visual estimation can supply probable cause to support a traffic stop for speeding *in appropriate circumstances*." 641 F.3d 1243, 1247 (10th Cir.) (emphasis added), *cert. denied*, 132 S. Ct. 306 (2011). Although *Ludwig* did not elaborate on the circumstances that may make a visual speed estimate appropriate to supply probable cause, we find that at a minimum there must be sufficient indicia of reliability for a court to credit as reasonable an officer's visual estimate of speed.

Thus, where an officer estimates that a vehicle is traveling in significant excess of the legal speed limit, the speed differential—i.e., the percentage difference between the estimated speed and the legal speed limit—may itself provide sufficient "indicia of reliability" to support an officer's probable cause determination. *See, e.g., United States v. Banks*, No. 2:08-cr-19-FtM-29SPC, 2008 WL 4194847, at *1, *4 (M.D.Fla. Sep. 11, 2008) (finding probable cause where officer observed vehicle "traveling at a high rate of speed," estimated to be 50-60 mph in a 30-mph zone, making it "extremely obvious to [the officer] that the vehicle was speeding"); *State v. Butts*, 269 P.3d 862, 873 (Kan. Ct. App. 2012)

analysis."), erosion of the Fourth Amendment's objective reasonableness requirement effectively eliminates any protection against profiling and arbitrary detentions. *Cf. Chicago v. Morales*, 527 U.S. 41, 71 (1999) (Breyer, J., concurring) ("The ordinance is unconstitutional, not because a policeman applied [his discretion wisely or poorly in a particular case, but rather because the policeman enjoys too much discretion in every case") (emphasis in original); *United States v. Sokolow*, 490 U.S. 1, 12 (1989) (Marshall, J., dissenting) ("[T]he Fourth Amendment protects innocent persons from being subjected to "overbearing or harassing" police conduct carried out solely on the basis of imprecise stereotypes of what criminals look like, or on the basis of irrelevant personal characteristics such as race.") (quoting *Terry v. Ohio*, 392 U.S. 1, 14-15, and n.11 (1968)).

(finding reasonable suspicion where officer "estimated vehicle speed [was 45 mph in a 30-mph zone, which was] significantly higher than the posted speed limit and, as a result, a difference that would be discernable to an observant and trained law enforcement officer"); *cf. People v. Olsen*, 239 N.E.2d 354, 355 (N.Y. 1968) (holding officer's visual speed estimate of vehicle traveling 50-55 mph in a 30-mph zone sufficient to support speeding conviction).

However, where an officer estimates that a vehicle is traveling in only slight excess of the legal speed limit, and particularly where the alleged violation is at a speed differential difficult for the naked eye to discern, an officer's visual speed estimate requires additional indicia of reliability to support probable cause. *See United States v. Moore*, No. 10 Cr. 971 (RJH), slip op. at *6 (S.D.N.Y. Dec. 19, 2011) (finding that stop was unsupported by probable cause and explaining that, absent an officer's estimate that a vehicle is traveling "significantly in excess" of the legal speed limit, "courts will credit an officer's testimony regarding firsthand observation of a speeding vehicle if additional, specific details of his or her account confirm that the officer's observation and belief were reasonable"); *cf. City of Kansas City v. Oxley*, 579 S.W.2d 113, 116 (Mo. 1979) (holding that officer's uncorroborated opinion evidence of defendant's 45-mph speed in a 35-mph zone was insufficient evidence to allow trier of fact to find that defendant was speeding); *Olsen*, 239 N.E.2d at 355 ("[A]bsent mechanical corroboration, [testimony] that a vehicle was proceeding at 35 or 40 miles per hour in [a 30-mph] zone might for obvious reason be insufficient [to sustain a conviction for speeding], since it must be assumed that only a mechanical device could detect such a slight variance with [sufficient] accuracy."); *State v. Kimes*, 234 S.W.3d 584, 589 (Mo. Ct. App. 2007) ("[W]here an officer's estimation of speed is 60 m.p.h., a fact-finder cannot conclude with any degree of certainty that a defendant was exceeding a 55 m.p.h. speed limit because the accuracy of human estimation of speed cannot easily, readily, and accurately discriminate

between such small variations in speed."); *Peoples Drug Stores v. Windham*, 12 A.2d 532, 537 (Md. 1940) ("[A]n estimate is necessarily approximate and not exact for without mechanical aides it is manifestly impossible for any one . . . to estimate precisely the speed of a moving object, and that fact is assumed by every one possessing ordinary common sense.").

The reasonableness of an officer's visual estimate that a vehicle is traveling in slight excess of the legal speed limit may be supported by radar, pacing methods, or other indicia of reliability that establish, in the totality of the circumstances, the reasonableness of the officer's visual speed estimate. See e.g., *United States v. Gomez Valdez*, No. 4:10CR3100, 2011 WL 5037190, at *4 (D.Neb. Sept. 12, 2011) (finding probable cause where officer's visual estimate was verified by radar confirming that defendant was traveling 70-mph in a 65-mph zone); *United States v. Nunez*, No. 1:10-CR-127, 2011 WL 2357832, at *1 (D.Utah June 9, 2011) (finding reasonable suspicion where officer's visual estimate was supported by pacing, which confirmed that defendant was traveling 85 mph in a 75-mph zone); *United States v. Colden*, No. 11-M-989-SKG, 2011 WL 5039777, at *1, *2 (D.Md. Oct. 21, 2011) (holding that officer's "visual estimation of defendant's speed, in combination with the officer's observations that his car shook [when defendant's car passed] and that defendant tapped his brakes, amounts to a reasonable articulable suspicion that defendant was speeding"); *United States v. Fuentes*, No. 09 Cr. 860, 2010 WL 707424, at *3 (S.D.Tex. Feb. 23, 2010) (finding reasonable suspicion where officer's visual speed was supported by additional observations—i.e., vehicle's relative speed and roaring engine—and such observations were corroborated by patrol car's video camera); *United States v. Riley*, No. 07 Cr. 226, 2007 WL 3204063, at *4 (D.Neb. Oct. 30, 2007) (finding reasonable suspicion where officer's visual speed estimate was supported by separate radio dispatch indicating defendant's vehicle was driving recklessly).

Such additional indicia of reliability need not require great exactions of time and mathematical skill that an officer may not have, but they do require some factual circumstance that supports a reasonable belief that a traffic violation has occurred. In the absence of sufficient additional indicia of reliability, an officer's visual approximation that a vehicle is traveling in slight excess of the legal speed limit is a guess that is merely conclusory and which lacks the necessary factual foundation to provide an officer with reasonably trustworthy information to initiate a traffic stop.¹⁰ *See Moore*, 2011 WL 6325973, at *8; *State v. Petzoldt*, No. 10-0861, 2011 WL 2556961, at *3-4 (Iowa Ct. App. June 29, 2011) (holding that "[w]ithout the facts upon which [the police officer] formed his belief that [defendant's] truck was speeding, we cannot determine whether his belief was reasonable", notwithstanding officer's testimony that "he believed [defendant] was traveling at a speed greater than the posted speed limit" and officer's 31 years of experience).

2.

Here, Deputy Elliott opined, based on his visual observation alone, that Sowards's vehicle was traveling 75 mph in a 70-mph zone. Deputy Elliott did not corroborate his opinion with radar, pacing, or otherwise. Furthermore, Deputy Elliott's opinion was not supported by sufficient additional

¹⁰Our colleague in dissent contends that any requirement for corroboration of an officer's unaided visual approximation of a slight speeding violation is an unprecedented gloss on the traditional totality of the circumstances test. This Court, however, has held that where the basis for probable cause is inherently unreliable, then this basis must be corroborated such that it exhibits sufficient indicia of reliability. *See, e.g., United States v. Massenburg*, 654 F.3d 480, 486 (4th Cir. 2011) ("Reliance on an anonymous tip may be reasonable [for *Terry* frisk] where, suitably corroborated, it exhibits sufficient indicia of reliability." (quotation marks omitted)); *United States v. Reaves*, 512 F.3d 123, 126 (4th Cir. 2008) ("When the police rely on an anonymous tip to support reasonable suspicion, the tip must be accompanied by some corroborative elements that establish its reliability." (quotation marks omitted)).

indicia of reliability. Therefore, standing alone, Deputy Elliott's visual speed estimate—made at a speed differential of only 5 mph at a high rate of speed¹¹—did not provide Deputy Elliott with "reasonably trustworthy information . . . sufficient to warrant a prudent [person] in believing that [Sowards] had committed" a speeding violation. *Beck*, 379 U.S. at 91.

We agree that "the accuracy of human estimation of speed cannot easily, readily, and accurately discriminate between such small variations in speed."¹² *Kimes*, 234 S.W.3d at 589;

¹¹To illustrate the slight differential in the time to travel a distance of 100 yards at a speed of 75 mph versus 70 mph, we need only calculate the yards per second for each speed. At 70 mph, a vehicle travels 34.22 yards per second and, thus, 100 yards in 2.92 seconds, whereas at 75 mph a vehicle travels 36.67 yards per second and, thus, 100 yards in 2.73 seconds. [*yards per second = (miles per hour x 1760) ÷ 3600, where 1760 is the number of yards in a mile, and where 3600 is the number of seconds in an hour. Therefore: (a) 34.22 yd/sec = (70 mph x 1760) ÷ 3600 and, thus, 2.92 seconds = 100 yards ÷ 34.22 yd/sec; and (b) 36.67 yd/sec = (75 mph x 1760) ÷ 3600; and, thus, 2.73 seconds = 100 yards ÷ 36.67 yd/sec*]

To accept the conclusion that Deputy Elliott can visually discern that a vehicle is traveling at 75 mph in a 70-mph zone is to accept the conclusion that he can visually discern a differential in time of less than one-fifth of one second for a vehicle traveling 75 mph versus 70 mph over a distance that he could only approximate to be about 100 yards. Of course, this is also assuming—which the evidence does not support—that the distance traveled by Sowards's vehicle was indeed 100 yards, and, moreover, this is without consideration of Deputy Elliott's notable and material difficulties with measurements in yards.

¹²Our colleague in dissent contends this conclusion is unsupported by "expert testimony, or other evidence." *Post* at 38. However, in *United States v. Foster*, 662 F.3d 291, 295 (4th Cir. 2011), *petition for cert. filed*, ___ U.S.L.W. ___ (U.S. June 4, 2012) (No. 11-10744), this Court approved the use of "common sense" in "draw[ing] reasonable inferences" from the record because, as Senior Judge Hamilton explained, "[t]he use of common sense is not the equivalent of fact-finding." 662 F.3d at 298 (Hamilton, J., concurring). Indeed, "[e]ven appellate judges are endowed with brains in the hope and expectation that they will be used to obvious purpose. . . . There are worse fates for a judicial decision than to have it align with the practical virtues of logic and common sense." *United States*

see also Olsen, 239 N.E.2d at 355. Unlike *Ludwig*, where the court noted that there was "no affirmative reason to think that the trooper[']s . . . estimate should be discredited," 641 F.3d at 1247, here the record reflects myriad reasons to discredit, and no reason to credit, Deputy Elliott's estimate.

Therefore, we conclude that Deputy Elliott's visual speed estimate was in fact a guess that was merely conclusory, without an appropriate factual foundation, and simply lacking in the necessary indicia of reliability to be an objectively reasonable basis for probable cause to initiate a traffic stop.

III.

We address separately our dissenting colleague's primary contention that the record supports a finding of Deputy Elliott's expertise in the visual estimation of vehicle speeds within an average 3.5-mph margin of error. *Post* at 26, 28, 33-34, 38, 47, 51-52. On the basis of this contention, the dissent "believe[s] the government has easily established that Deputy Elliott . . . had probable cause to stop Sowards's vehicle" for traveling 75 mph in a 70-mph zone. *Post* at 35. Thus, in the view of the dissent, Sowards's constitutional right to be free from unreasonable seizures is overcome by Deputy Elliott's purported "expertise," which in turn depends on the "road test" Deputy Elliott satisfied as part of his radar certification.

v. Foster, 674 F.3d 391 (4th Cir. 2012) (Wilkinson, J., concurring in the denial of rehearing en banc).

This is particularly appropriate in this context because probable cause "is not defined by bright lines and rigid boundaries" but "allows a [judicial officer] to review the facts and circumstances as a whole and make a common sense determination" whether an objectively reasonable basis exists for the challenged search or seizure. *United States v. Henry*, 673 F.3d 285, 290 (4th Cir. 2012) (quotation marks omitted), *petition for cert. filed*, ___ U.S.L.W. ___ (U.S. May 30, 2012) (No.11-10610).

We accord Deputy Elliott no such expertise, as there is no indication in the record that this road test was designed or intended as an evaluation of Deputy Elliott's ability to estimate vehicle speeds in any context other than in conjunction with radar. Indeed, one thing we know about the road test is that Deputy Elliott was required to estimate the speeds of "12 separate vehicles . . . and then *corroborate [his] visual calculations with the use of a radar[.]*" J.A. 24-25 (emphasis added) (A: "[T]hat's when the certified [radar] instructor takes off the piece of paper off your radar unit and advises you what the actual clock was."). Thus, to the extent that the road test prepared Deputy Elliott to visually estimate vehicle speeds, *it did so only to the extent subsequently corroborated by radar*, which, in this case, Deputy Elliott failed to do.

The record also reflects that Deputy Elliott may have passed the road test but nonetheless "be[en] off up to 12 miles an hour on [any] one vehicle" and "42 miles per hour" on all twelve vehicles. J.A. 26. Consequently, it is entirely possible that Deputy Elliott's visual estimates were off by six mph on seven vehicles and perfect on the other five vehicles. In such case, although Deputy Elliott's "average" or "mean" margin of error would have been only 3.5-mph per vehicle, his "median" and "mode" margin of error would have been six mph per vehicle. Given that we are faced here with a mere five mph differential, those hypothetical results—as equally possible as those presented by the dissent—would seem to call into question the dissent's probable cause analysis concerning the inherent reliability of Deputy Elliott's unaided visual estimate of speed.

The record further shows that Deputy Elliott made his visual speed estimates, not "in a test environment . . . where the situation is controlled," but instead "on the street with actual drivers." J.A. 25. Presumably—although, again, this is unknown—the vehicle speeds of these "actual drivers" were impacted by the speed limit in the area tested, as well as the presence of police officers conducting a radar test. In any

case, to the extent one would allow Deputy Elliott to use the results of this road test to overcome Sowards's constitutional right to be free from unreasonable seizures, prudence dictates the consideration of these and other questions relevant to the road test's design and reliability. *Cf. People v. Palermo*, 2009 WL 8474301 (N.Y. City Ct. Sept. 28, 2009) (notwithstanding officer's testimony "that he passed an examination," finding that traffic stop lacked probable cause because officer failed to testify about type of training, length of training, or content of training); *Estes*, 223 P.3d at 290-91 (same).

The dissent overlooks these and other shortcomings, and would instead find probable cause on the basis of Deputy Elliott's "demonstrated an[d] uncontradicted ability to visually estimate the speed of vehicles within an average margin of error of 3.5 mph per vehicle." *Post* at 33-34. Indeed, under this line of reasoning, our colleague in dissent would apparently permit traffic stops on the basis of an officer's uncorroborated and unsupported visual estimate that a vehicle is traveling 71 mph in a 70-mph zone.¹³ *See post* at 39 (citing with approval *State v. Singh*, No. F-98-022, 1999 WL 355270, at *1 (Ohio Ct. App. 1999), where court noted officer's testimony that his visual estimates were accurate within 1-2 mph).¹⁴ Following the dissent's approach to its logical conclusion, we see no limits upon an officer's, such as Deputy Elliott's, powers of speed estimation. Nevertheless, it defies all reason to believe that Deputy Elliott, particularly in light of his difficulty with distances, would be able to accurately estimate with his vision alone, within the same 3.5-mph margin of

¹³It is worth noting that the dissent has not cited—nor have we found—a single case issued by any court at any time, whether state or federal, finding probable cause exists to initiate a traffic stop for speeding on the sole basis of an officer's unaided visual estimate that a vehicle was exceeding the speed limit by five mph or less.

¹⁴As discussed, this and other cases in Ohio standing for the proposition that officers may use unaided visual estimates of speed for arrest, charging, and conviction have been superseded and overruled by legislation. *See* Ohio Rev. Code § 4511.091(C)(1).

error, the speed of a car traveling ten mph, 25 mph, 50 mph, 75 mph, 100 mph, 150 mph, or, presumably, a plane traveling 700 mph.

A short example from our national pastime seems particularly apt here. One year ago, the fastest pitch in the annals of baseball history was recorded: 106 mph, by Cincinnati Reds left-handed pitcher Aroldis Chapman. *See* Jeff Passan, *Chapman's 106-mph fastball was likely bogus*, YAHOO SPORTS, April 19, 2011, [HTTP://sports.yahoo.com/mlb/news?slug=jp-passan_aroldis_chapman_106_radar_reds_fastball_controversy_041911](http://sports.yahoo.com/mlb/news?slug=jp-passan_aroldis_chapman_106_radar_reds_fastball_controversy_041911) (last visited April 26, 2012). While the pitch itself is remarkable in its own right, a sports reporter noted a perhaps even more interesting phenomenon associated with the actual measurement of that pitch as "three nuggets of information started to parade themselves as facts." *Id.* Specifically, the radar connected to the scoreboard showed the speed as 106 mph, the television broadcast's radar reflected that it was 105 mph, while the radar system used by Major League Baseball, which utilizes three cameras on a single pitch that calculate each pitch's speed more than 50 times, pegged the pitch at only 102.4 mph. *Id.* In light of three seemingly unimpeachable, entirely reliable sources, the writer was left with the inevitable question, "How can one pitch travel three different velocities?" *Id.* The writer went on to surmise that "[u]nless one of Chapman's fastballs voyaged through the Matrix, another in the Source Code and the third in reality, it leaves us with a question more appropriate for a philosophy class than a baseball discussion." *Id.*

Indeed, in the world of baseball, there are even more absolutes than the facts presented in this case. For example, the distance between the pitcher's mound and home plate is fixed at 60 feet 6 inches; likewise, the clip of Chapman's fastball has now been viewed more than 500,000 times online. *See, e.g.,* <http://www.youtube.com/watch?v=HbBh0NsNisQ> (last visited April 26, 2012). Even so, and presumably despite

efforts by so-called experts like Deputy Elliott in visual speed estimation, the controversy remains.

Here, the dissent's contention that Deputy Elliott's estimate may be unreliable, uncorroborated and unsupported and yet still comport with the "reasonableness" threshold of the Fourth Amendment, is not—and cannot be—the law. We hold that the objective unreliability of Deputy Elliott's uncorroborated and unsupported visual estimate is categorically irreconcilable with *Beck's* requirement for "reasonably trustworthy information" to serve as the foundation for probable cause. 379 U.S. at 91. Deputy Elliott's visual estimate that Sowards's vehicle was traveling 75 mph was the sole basis of his probable cause to initiate the traffic stop and subsequent seizure of Sowards's vehicle. As such, the seizure was constitutionally unreasonable, and the evidence gathered pursuant to the search must be suppressed.

Notwithstanding the dissent's protestations, the sky will not fall as a result of today's majority decision.¹⁵ According to the dissent it is "[i]ronic[that] while a lay person can estimate the speed of [] a vehicle based upon his or her personal observations, an experienced and trained police officer no longer

¹⁵Indeed, in the wake of Ohio Supreme Court's decision in *City of Barberton v. Jenney*, 929 N.E.2d 1047 (Ohio 2010), *cert. denied*, 131 S. Ct. 517 (2010), which would have allowed a police officer's unaided visual estimation to suffice for the purposes of a speeding conviction, the Ohio legislature moved swiftly to amend its existing laws to provide, subject to limited exception: "No person shall be arrested, charged, or convicted of a violation of any [speeding ordinance] based on a peace officer's unaided visual estimation of the speed of a motor vehicle." Ohio Rev. Code § 4511.091(C)(1); *see also* 2011 Ohio Laws 29.

The Ohio Legislature recognized, as a practical matter, that police officers can enforce traffic safety laws in a way that simultaneously safeguards our most fundamental constitutional rights. Because our consideration here today concerns probable cause, we adhere to the traditional reasonableness standard which is far less restrictive than the per se prohibition adopted by the Ohio legislature addressing the arrest, charging, or conviction of an individual.

can." *Post* at 26. But the irony, if any, of the dissent's comparison is lost when one recognizes that lay persons do not use their estimates to stop vehicles on public highways. Because police officers do stop vehicles, their estimates must satisfy the Fourth Amendment's probable cause requirement.

Next, the dissent contends that "the majority completely invalidates the road test North Carolina has employed for its traffic officers to demonstrate their ability to estimate the speed of cars." *Post* at 52. Setting aside that it is wholly unclear why such a policy consideration would have any relevance to a Fourth Amendment probable cause analysis, today's majority opinion makes no such holding that invalidates North Carolina's radar certification test for its intended purpose: namely to instruct officers on the use of radar instruments.

The dissent further contends that today's majority opinion creates a "heightened evidentiary burden" for traffic stops based solely on an officer's estimate of a vehicle's slight speeding. *Post* at 27. However, *Beck*'s requirement that "reasonably trustworthy information" must serve as the foundation for probable cause dates to 1964, and, indeed, the Fourth Amendment specifically protects persons against unreasonable searches and seizures; we see nothing "heightened" in requiring a police officer to have probable cause based on "reasonably trustworthy information" prior to stopping a motor vehicle for speeding. 379 U.S. at 91.

IV.

For the foregoing reasons, we hold that the district court erred in denying Sowards's motion to suppress because Deputy Elliott lacked probable cause to initiate a traffic stop based exclusively on his uncorroborated and unsupported belief that Sowards was traveling 75 mph in a 70-mph zone.

REVERSED AND REMANDED

TRAXLER, Chief Judge, dissenting:

Today, we establish that a police officer cannot legally stop a speeding vehicle based only upon his visual estimate unless the vehicle is traveling in "significant excess" of the speed limit *or* the officer has the time and practical ability to confirm his belief that the vehicle is speeding through radar, pacing, or some other corroborating evidence. No longer will the officer's professional judgment alone be adequate, and the prohibition applies regardless of the extent of the officer's training, experience, or certified ability to accurately estimate vehicle speeds within a very narrow margin of error. Ironically, while a lay person can estimate the speed of such a vehicle based upon his or her personal observations, an experienced and trained police officer no longer can.

Deputy Elliott has more than eight years of experience in the daily enforcement of North Carolina's traffic laws, and has three times demonstrated through North Carolina's radar certification procedures an ability to accurately estimate the speed of moving vehicles within an average 3.5-mph margin of error. These facts are uncontradicted. Yet the majority holds that Deputy Elliott's visual estimate that Sowards's vehicle was traveling 5 mph over the posted speed limit is inherently unreliable and, without corroborating evidence, insufficient as a matter of law — not to sustain a *conviction*, but rather to provide *probable cause* to stop the vehicle. In doing so, the majority also effectively holds that North Carolina's certification test required to demonstrate an officer's ability to estimate the speed of vehicles, like similar programs employed by a number of states across our country, is invalid as a matter of law. Even though a motorist is speeding, knows he is speeding, and may well admit that he is speeding if stopped, an officer working alone and without radar cannot even pull the car over for a warning as long as the driver is reasonably believed to be only breaking the law slightly as opposed to significantly — a distinction this circuit has never made for unlawful behavior.

In adopting its inflexible corroboration requirement for "slight" speeding violations, I believe the majority has unnecessarily distorted the well-established "totality of the circumstances" test normally applicable to all probable-cause determinations, and has effectively required that an officer have evidence sufficient for a jury to convict beyond a reasonable doubt before he may stop the vehicle. And it does so based upon its belief, mistaken in my view, that speeding violations present some kind of "unique circumstance" requiring this heightened evidentiary burden. Because I cannot agree with this unwarranted limitation on probable-cause jurisprudence, I respectfully dissent.

I.

Deputy Elliott is a ten-year veteran in law enforcement in North Carolina, the last eight of which included as a regular part of his duties "the enforcement of traffic laws, including speeding." J.A. 20. After working three years in the patrol division, he was selected for placement on the Governor's Highway Safety Program ("GHSP") highway interdiction team.¹ Deputy Elliott's qualifications to visually estimate the speed of vehicles, however, is not limited to his years of experience in speed enforcement. He also "received specialized training as it relates to the enforcement of the traffic laws in the state of North Carolina," J.A. 20, including "specialized training in radar certification," J.A. 21.

Deputy Elliott described in some detail the training and testing involved in North Carolina's certification process. As a prerequisite, the certification candidate first trains with a

¹The Governor's Highway Safety Program stems from a state-wide grant designed to facilitate enforcement of North Carolina's traffic laws on the interstate systems and reduce the number of traffic crashes and fatalities. In the course of traffic enforcement, the officers also enforce narcotics and money laundering laws. *See* J.A. 20; North Carolina Department of Transportation, Governor's Highway Safety Program, <http://www.ncdot.org/programs/ghsp> (last visited Mar. 31, 2012).

certified operator who "show[s] you how to work the radar" and "show[s] you how to estimate the speed[]" of vehicles. J.A. 23. Although there is "not really a technique [to] measuring speeds," J.A. 24, it is nonetheless a skill developed by practice and experience. Indeed, in North Carolina, it is a critical one, as radar alone cannot support a conviction for speeding as a matter of law. *See State v. Jenkins*, 342 S.E.2d 550, 552 (N.C. Ct. App. 1986) ("By the express provisions of [North Carolina's] statute, . . . the speed of a vehicle may not be proved by the results of radar measurement alone and . . . such evidence may be used only to corroborate the opinion of a witness as to speed, which opinion is based upon actual observation."); *see also* J.A. 78-79 (testimony of Deputy Elliott confirming that "you cannot run a radar unit at all unless you have a visual estimation" and that "[t]he radar unit is only there to corroborate what you already know").

After training, candidates must pass a written test and a road-course test. To pass the road-course test, candidates observe twelve vehicles, "estimate their speed, and then corroborate [the] visual calculations with the use of [the] radar," all under the supervision of a certified instructor. J.A. 25.² The margin of error is a combined 42 mph, or an average of 3.5 mph per vehicle. However, the candidate will automatically fail if he varies more than 12 mph on any single vehicle. Deputy Elliott successfully passed the tests and received certification in May 1998, April 2000, and February 2004. His certification was current when he stopped Sowards.

²Deputy Elliott testified that the instructor "cover[s] up the . . . radar unit, the target speed. And then at that point in time you're formulating your opinion, you're making a visual estimation. Once you make that visual estimation, then you are allowed to run the radar. At that point in time you make a clock with that radar. And once you confirm that that's what . . . has happened, that's when the certified instructor takes . . . the piece of paper off your radar unit and advises you what the actual clock was." J.A. 25.

On April 11, 2006, Deputy Elliott positioned his vehicle in the median of Interstate 77, pointed south so as to provide him with an unobstructed view of approaching northbound traffic and a tracking history of approximately 100 yards, or the length of a football field. Deputy Elliott had been working this specific stretch of I-77 on a daily basis for more than 4 years. The posted speed limit was 70 mph.³

While so positioned, Deputy Elliott continuously observed Sowards's vehicle as it approached and passed him. He estimated the vehicle's speed to be 75 mph. After stopping the vehicle, Deputy Elliott advised Sowards that he had been stopped for traveling 75 mph and that he should be driving the speed limit to be safe. Sowards does not contest that he was speeding.

Sowards presented Deputy Elliott with an Ohio driver's license and said that he had traveled from Ohio to Atlanta by bus to pick up the car and return to Ohio. He claimed that his girlfriend "Deanna" owned the vehicle, but that he "didn't really know her last name." J.A. 38. According to the registration, however, the vehicle belonged to "Retcha Daily" from Georgia. J.A. 36. Due to the discrepancies, Deputy Elliott contacted the Blue Lighting Operations Center ("BLOC") to obtain additional information on the license and vehicle, and advised Sowards that he would issue a warning ticket for speeding if everything checked out. While waiting for the response, Deputy Elliott observed that Sowards was sweating profusely and had a pre-paid cellular phone, and Deputy Elliott decided to have his drug dog perform an open-air sniff of the exterior of the vehicle. The dog alerted at the trunk. During the ensuing search, the officers detected the smell of

³To obtain a reliable reading, the radar unit can be at no more than a 20-degree angle. Deputy Elliott parked his car at a 25- to 30-degree angle because on a previous occasion his car had almost been hit by a tire that had come off a passing trailer. After that incident, Deputy Elliott positioned his car farther from the road and at the broader angle.

laundry detergent, which is often used to mask the scent of narcotics, and discovered a compartment containing 10 kilograms of cocaine.

Prior to pleading guilty to the resulting drug charges, Sowards filed a motion to suppress the evidence obtained during the search. Sowards argued that Deputy Elliott's visual estimate of his speed was insufficient to establish probable cause to stop his vehicle and that the dog sniff occurred during a period of unlawful detention.

Deputy Elliott was the only witness who testified at the suppression hearing and his testimony is uncontradicted. Although lay witnesses may offer opinions as to speed estimates, the district court found that Deputy Elliott's "considerable training in estimating speeds" and the "foundation [laid] to testify as a law enforcement officer trained in estimating speeds" also qualified him as an expert. J.A. 31. At the conclusion of the hearing, the court denied the motion to suppress. With regard to the question of whether there was probable cause to initially stop Sowards's vehicle, the court held as follows:

[Deputy] Elliott had probable cause to believe a traffic violation had occurred based on speed. He's trained to estimate speeds. His difficulty with measurements is immaterial to his estimate of speed as that did not depend on time or distance. And the certification that he received . . . three times, depended on accuracy in estimating speeds. So he had a particularized and objective basis for suspecting that a traffic violation had occurred.

J.A. 121.⁴ I would affirm.

⁴During the hearing, Deputy Elliott had difficulty answering questions regarding the measurements in feet and yards. The majority concludes that the district court clearly erred in finding that this difficulty with small

II.

A.

The Fourth Amendment guarantees the right of persons to be free from "unreasonable searches and seizures." U.S. Const. amend. IV. A law enforcement officer's decision to stop a motorist constitutes a seizure within the Fourth Amendment, *see Whren v. United States*, 517 U.S. 806, 809-10 (1996), and will be reasonable so long as the officer has "probable cause to believe that a traffic violation has occurred," *id.* at 810.

Whether an officer has probable cause to believe that a traffic offense has occurred is determined by the "totality of the circumstances." *Maryland v. Pringle*, 540 U.S. 366, 371 (2003). We examine all events leading up to the stop and decide "whether these historical facts, viewed from the standpoint of an objectively reasonable police officer, amount to probable cause." *Id.* (internal quotation marks omitted). In doing so, we must also consider the officer's practical experience and specialized training. Police may "draw on their own experience and specialized training to make inferences from and deductions about the cumulative information available to them that might well elude an untrained person." *United*

measurements was immaterial to Deputy Elliott's ability to estimate the speed of Sowards's vehicle, and in finding that Deputy Elliott was trained to estimate speeds. For reasons discussed *infra*, I disagree. At the outset, however, I am compelled to point out that the majority does not ultimately reverse the district court based upon any perceived lack of confidence in Deputy Elliott's *personal* ability to offer a reliable opinion as to the speed of Sowards's vehicle. Rather, the majority reverses because Deputy Elliott's visual estimate fell within the slight-excess-of-the-speed-limit category and was not *corroborated* by other evidence. At no point does the majority explicitly indicate that the corroboration requirement was triggered by a lack of confidence in Deputy Elliott personally, nor does it expressly reverse the district court's denial of the motion to suppress based upon the district court's findings of fact. *See Majority Op.* at 18-19.

States v. Johnson, 599 F.3d 339, 343 (4th Cir. 2010) (internal quotation marks omitted); *see also United States v. Humphries*, 372 F.3d 653, 657 (4th Cir. 2004).

Probable cause to stop a vehicle based upon a suspected traffic violation exists when the facts and circumstances within the officer's knowledge are sufficient to warrant a prudent person in believing that the suspect has committed a violation of a traffic law. *See Michigan v. DeFillippo*, 443 U.S. 31, 37 (1979). "The substance of all the definitions of probable cause is a reasonable ground for belief of guilt," but this means far "less than evidence which would justify condemnation or conviction," *Brinegar v. United States*, 338 U.S. 160, 175 (1949) (internal quotation marks omitted), and even less than that required by the preponderance-of-the-evidence standard, *see Illinois v. Gates*, 462 U.S. 213, 235 (1983); *Humphries*, 372 F.3d at 660. "[T]he probable-cause standard does not [even] require that the officer's belief be more likely true than false." *Humphries*, 372 F.3d at 660; *see also United States v. Ortiz*, 669 F.3d 439, 446 (4th Cir. 2012) ("A 'reasonable ground' for belief [of guilt] is less demanding than a standard requiring a preponderance of the evidence for the belief."); *United States v. Jones*, 31 F.3d 1304, 1313 (4th Cir. 1994) ("The probable cause standard does not demand any showing that such a belief be correct or more likely true than false." (internal quotation marks omitted)).⁵

⁵In its response to the dissent, the majority seizes upon my citation of this latter portion of our established precedent comparing the probable-cause standard to the preponderance standard to charge that I advance a new "analytical approach" to probable-cause jurisprudence. Of course, this is no analytical approach at all; it is a well-established holding designed to ensure that police officers and courts do not conflate the probable-cause standard with those requiring much more in the way of evidence—specifically, the beyond-a-reasonable-doubt standard and the preponderance-of-the-evidence standard. To the extent I emphasize this portion of our precedent, it is because it is particularly apt in the case at hand, in which the majority imports into our probable-cause inquiry a corroboration requirement that originated in a handful of state court speeding

B.

As the Tenth Circuit recently recognized, "[i]t's long been the case that an officer's visual estimation can supply probable cause to support a traffic stop for speeding in appropriate circumstances," and a radar reading or other such objective or mechanical corroboration is not required. *United States v. Ludwig*, 641 F.3d 1243, 1247 (10th Cir. 2011) (affirming district court's denial of motion to suppress illegal drugs found in search of vehicle stopped for traveling 10 mph over the speed limit); *see also United States v. Pierce*, 23 F.3d 404, 1994 WL 159767, at *2 (4th Cir. Apr. 28, 1994) (per curiam) (affirming denial of motion to suppress where officer visually estimated that vehicle was traveling 75 mph on interstate, but was blocked from obtaining a radar reading by a tractor-trailer); *State v. Barnhill*, 601 S.E.2d 215, 218 (N.C. Ct. App. 2004) (rejecting trial court's requirement that an officer's visual estimate of speed must be corroborated by "objective facts" or "objective criteria" as contrary to North Carolina law, and noting that such a ruling "would have [had] the effect of preventing an officer from stopping a vehicle based solely upon the officer's observations").

In my opinion, the facts and circumstances known to Deputy Elliott, coupled with his practical experience, training, and the reasonable inferences drawn therefrom, were more than sufficient to warrant an objectively reasonable belief on his part that Sowards was speeding. Deputy Elliott is an experienced officer who has been engaged in the enforcement of traffic laws as a regular part of his duties for eight years. As a part of his training, certification, and recertification, he has

conviction cases, discussed *infra*, based upon its view that "a speeding violation presents a unique circumstance" necessitating evidence for probable cause equivalent to that sufficient to sustain a conviction. *Majority Op.* at 14 n.7. As I have clearly set forth above, probable cause does mean something, but, even in traffic-stop cases, it surely does not mean "beyond a reasonable doubt" or by "a preponderance of the evidence."

demonstrated an uncontradicted ability to visually estimate the speed of vehicles within an average margin of error of 3.5 mph per vehicle. He had worked this particular stretch of I-77 for over four years, at times in a position to corroborate his visual estimates with radar; had become familiar with the speed at which cars approached him; and had a clear, unobstructed view of Sowards's vehicle as it approached and passed him.

In a number of places, the majority takes issue with my representation that North Carolina's certification and training procedures for police officers encompass both the officer's use of radar equipment and the officer's ability to estimate vehicle speeds within narrow margins of error. The majority instead appears to believe that North Carolina's procedures are somehow limited to the use of radar equipment, and goes so far as to state that the officer was merely "given the opportunity to 'guess' the speed of twelve vehicles" during his training. Majority Op. at 10. However, the majority's view that the visual-estimate test is little more than an "opportunity to guess," rather than a requirement to pass, is contradicted by the record. The officers are instructed how to operate the particular radar equipment, but there is no basis upon which we could conclude that the visual-estimate portion of the test is somehow a less-crucial component or, worse, some form of a guessing game. Deputy Elliott's description of the training and the requirements to pass the course is fully consistent with what North Carolina law requires in order to obtain speeding convictions. An officer's visual estimate of the speed of a vehicle is required to convict as a matter of law; radar, assuming it is able to be used and is not excluded for some reason, can only corroborate the officer's observations. Thus, to the extent we should pass judgment upon North Carolina's training and certification program, I am confident that North Carolina law enforcement would have the most interest in ensuring that their officers are trained in and develop the actual skill of accurately estimating the speed of vehicles in case radar equipment is unavailable, blocked by other vehi-

cles or obstructions, or is otherwise excluded for lack of calibration or other deficiencies.

Under these uncontradicted facts, which in any event we must construe in the light most favorable to the government, *see United States v. Seidman*, 156 F.3d 542, 547 (4th Cir. 1998), I believe the government has easily established that Deputy Elliott had an objectively reasonable belief that Sowards was speeding and, therefore, that he had probable cause to stop Sowards's vehicle for the suspected violation.

III. *The Corroboration Requirement*

The majority opines that "the Fourth Amendment does not allow, and the case law does not support, *blanket* approval for the proposition that an officer's visual speed estimate, in and of itself, will *always* suffice as a basis for an officer's probable cause to initiate the traffic stop." *Majority Op.* at 14 (emphasis added). I agree. Such an inflexible rule would ignore the totality-of-the-circumstances test and, in particular, the mandate that we evaluate reasonableness based upon all of the facts which led to the stop, *including* the officer's training and experience. I disagree, however, with the majority's equally inflexible rule that an officer's visual speed estimate can *never* alone suffice as probable cause to stop a vehicle that the officer estimates to be traveling only in "slight excess" of the speed limit. *Majority Op.* at 14.

The majority's holding is clear: "[T]he reasonableness of an officer's visual speed estimate depends, *in the first instance*, on whether a vehicle's speed is estimated to be in significant excess or slight excess of the legal speed limit." *Majority Op.* at 14 (emphasis added). Where the officer visually estimates that a vehicle is traveling "in significant excess of the legal speed limit," a visual estimate *may* "provide sufficient 'indicia of reliability' to support an officer's probable cause." *Majority Op.* at 15 (emphasis added). But if the officer estimates that a vehicle is traveling only in "slight excess"

of the speed limit, that estimate alone can *never* be enough; the "officer's visual speed estimate *requires* additional indicia of reliability to support probable cause." *Majority Op.* at 16 (emphasis added); *see also Majority Op.* at 14 ("If slight, then additional indicia of reliability are *necessary* to support the reasonableness of the officer's visual estimate." (emphasis added)).

A "slight excess" of the speed limit is defined only as a "speed differential difficult for the naked eye to discern," *Majority Op.* at 16, or perhaps one that is otherwise believed to be beyond the abilities of humans to accurately determine, *see Majority Op.* at 19-20 (agreeing that "the accuracy of human estimation of speed cannot easily, readily and accurately discriminate between such small variations in speed") (quoting *State v. Kimes*, 234 S.W.3d 584, 588 (Mo. Ct. App. 2007)). Accordingly, the corroboration rule fashioned by the majority applies regardless of the extent of any officer's experience, specialized training, or demonstrated ability to accurately estimate vehicle speeds within a narrow margin of error. For the reasons set forth below, I do not think we should impose this threshold inquiry upon the normal probable-cause determination and hinge upon it an inflexible requirement of corroboration every time a police officer stops a vehicle for speeding in "slight excess" of the speed limit.

A.

At the outset, I find the threshold inquiry, and the basis for the significant/slight distinction used to trigger the corroborative-evidence requirement, to be unsupported by the record in this case and unworkable for police officers.

Courts routinely allowed lay witnesses, with no training or experience, to offer opinion testimony of their estimate of speed provided they have had a sufficient opportunity to observe the moving vehicle. And so long as that ability to observe is established, I have found no opinion restricting the

reliability or admissibility of the opinion testimony based upon the time/distance mathematical formula for speed.⁶ Yet, under the majority's decision, a police officer's identical opinion will be deemed unreliable as a matter of law and, therefore, insufficient to establish probable cause to believe that a violation has occurred, unless the officer also estimates the speed differential to have been a "significant" one.⁷

⁶See *State v. Barnhill*, 601 S.E.2d 215, 217, 218 (N.C. Ct. App. 2004) (noting "well established [rule], that any person of ordinary intelligence, who had a reasonable opportunity to observe a vehicle in motion and judge its speed may testify as to his estimation of the speed of that vehicle," and that "it is not necessary that an officer have specialized training to be able to visually estimate the speed of a vehicle"); *Walker v. State*, 295 S.E.2d 574, 575 (Ga. Ct. App. 1982) (allowing lay witness's testimony as to speed of a vehicle to support vehicular homicide conviction); see also *Asplundh Mfg. Div. v. Benton Harbor Eng'g*, 57 F.3d 1190, 1197 (3d Cir. 1995) (noting that one example "of quintessential Rule 701 opinion testimony [is] . . . the speed of a vehicle (footnote omitted)); Fed. R. Evid. 701 advisory committee's note (citing *Asplundh* for examples of opinion testimony by lay witnesses); *United States v. Conn*, 297 F.3d 548, 554 n.2 (7th Cir. 2002) (same); *State v. McLean*, 16 A.3d 332, 343 (N.J. 2011) ("Traditional examples of permissible lay opinions include the speed at which a vehicle was traveling."); *Pierson v. Frederickson*, 245 A.2d 524, 527 (N.J. Super. Ct. App. Div. 1968) ("It is clear that based on adequate visual observation an ordinary witness can state his conclusion of whether a car was moving fast or slow or give an estimate of its speed."); *State v. Clayton*, 158 S.E.2d 557, 561 (N.C. 1968) ("Absolute accuracy . . . is not required to make a witness competent to testify as to speed.").

⁷Although the majority denies that it has created a heightened evidentiary burden for probable-cause in speeding cases, it sees no irony in the fact that there will now be two different standards governing the use of opinion testimony as to the speed of a vehicle — one for lay witnesses and another for law enforcement officers. My colleagues justify this difference by pointing out that a police officer uses his opinion as probable cause to stop and detain motorists. To this I would simply point out that the opinion of a lay person as to speed, admissible to support a criminal conviction, should surely be sufficient to establish probable cause. Cf. *Barnhill*, 601 S.E.2d at 232 ("[I]f an ordinary citizen can estimate the speed of a vehicle, so can Officer Malone.")

Additionally, the majority provides no clear numerical or percentage division between driving in "slight excess" or "significant excess" of the speed limit. The majority explains that a "slight excess" is "a speed differential difficult for the naked eye to discern," *Majority Op.* at 16, and ultimately declares that no human could accurately estimate a 5-mph variation of speed at 70-75 mph, *see Majority Op.* at 19-20 (citing *Kimes*, 234 S.W.3d at 589). However, there are no studies, expert testimony, or other evidence to support this conclusion or to enlighten law enforcement officers as to what speeding violation should be considered "slight" because it falls within that which is difficult for the naked eye to discern or otherwise beyond the capabilities of human estimation. Nor is there evidence to support the majority's finding that uncorroborated, visual estimates of speeds in the "slight" category must be presumed to be unreliable for purposes of the probable-cause determination.

As support for its holding that the officer's visual estimate of speed is inherently unreliable, the majority instead relies upon "common sense," along with two cases involving *anonymous* tips, which we have held require additional corroboration or indicia of reliability. *See United States v. Massenburg*, 654 F.3d 480, 486 (4th Cir. 2011); *United States v. Reaves*, 512 F.3d 123, 126 (4th Cir. 2008). In this case, however, the evidence consists not of hearsay statements of anonymous witnesses regarding unlawful behavior, but rather the personal observation and resulting opinion of a trained and certified police officer, which the majority concludes is "inherently unreliable" based upon nothing more than its own view, unsupported by any evidence and contradicted by that which was presented, that such estimates are beyond the capabilities of any human being.

Deputy Elliott demonstrated an *actual* ability to visually estimate the speed of vehicles within an average, 3.5-mph margin of error, in accordance with the requirements for radar certification in North Carolina. And however remarkable one

might believe this skill to be at first blush, it appears to be a common one among experienced traffic officers across the United States. *See e.g., State v. Carter*, No. 2CA-CR2008-0013, 2009 WL 1717812, at *3 (Ariz. Ct. App. June 18, 2009) (noting testimony that officer had completed a radar certification class which required officers to accurately estimate the speed of moving vehicles within 5 mph); *State v. Estes*, 223 P.3d 287, 288 (Idaho Ct. App. 2009) (noting that the officer "had been trained in visually estimating the speed of vehicles and had received certification of the ability to make estimates within 5 miles per hour of the actual speed"); *State v. McPartland*, 36 A.3d 881, 887 n.5 (Me. 2012) (Jabar, J., dissenting) (noting officer's testimony that, as part of her radar training course, "she was trained and certified to make visual estimates of speed 'within five miles per hour'"); *State v. Ali*, 679 N.W.2d 359, 368 (Minn. Ct. App. 2004) (noting that officer had been "trained . . . to accurately estimate the speed of a moving vehicle within five mph"); *Barberton v. Jenney*, 929 N.E.2d 1047, 1049 (Ohio 2010) (noting that, in order to be certified under Ohio's requirements, the officer "was required to show that he could visually estimate a vehicle's speed to within three to four miles per hour of the vehicle's actual speed"); *State v. Singh*, No. F-98-022, 1999 WL 355270, at *1 (Ohio Ct. App. 1999) (noting trooper's testimony that he had been trained to visually estimate the speed of vehicles and was generally accurate within one or two miles per hour); *Columbia County v. Kassens*, 795 N.W.2d 492, 2011 WL 102598, at *1 (Wisc. Ct. App. Jan. 13, 2011) (noting officer's testimony that he "ha[d] been trained to visually estimate a vehicle's speed within three miles per hour").⁸

⁸The majority agrees that no evidence exists to support its view of the capabilities of human beings, but asserts that an evidentiary foundation is unnecessary because it is "common sense" that no human can accurately discriminate between such small variations of speed. In my view, the majority's conclusion concerning the limits of the abilities of trained police officers falls well outside the realm of "common sense" and clearly within the category of a factual finding necessitating evidentiary support.

In sum, I do not find the majority's observations regarding the capabilities of law enforcement officers to be supported by the record. Moreover, I question how law enforcement officers, particularly those who have met their state certification requirements for visually estimating the speeds of vehicles within narrow margins of error, will know when they must forego stopping a speeding vehicle unless and until they observe the vehicle cross into the "significantly speeding" category or they are able to obtain other, corroborating evidence.

B.

Beyond these problems, I believe that the majority's adoption of the corroboration requirement for slight speeding violations has no place in the probable-cause context. The origin of this new requirement is a handful of state court *conviction* cases which have held or implied that a police officer's visual estimate of speed, standing alone, may not constitute sufficient evidence to prove a defendant guilty beyond a reasonable doubt if the variance between the visually estimated speed and the speed limit is determined to have been "slight" as opposed to "wide." *State v. Kimes*, 234 S.W.3d 584, 588 (Mo. Ct. App. 2007) (internal quotation marks omitted); *City of Kansas City v. Oxley*, 579 S.W.2d 113, 116 (Mo. 1979); see also *State v. Estes*, 223 P.3d 287, 289-91 (Idaho Ct. App. 2009); *People v. Olsen*, 239 N.E.2d 354, 355 (N.Y. 1968).⁹

Further, I do not see how we can make such a factual finding in the absence of supporting evidence. Regardless of one's view as to when logic and common sense may be relied upon in the absence of actual evidence of a particular fact, there is no absence of evidence in this case. Instead, the *only* evidence in the record contradicts the majority's finding. The evidence of Sowards's actual, demonstrated ability to accurately discriminate between speeds within a 3.5-mph margin of error during three separate tests was unchallenged by Sowards below, and cases from across the country show that many police officers are similarly trained in visually estimating speeds within such narrow margins of error.

⁹In *Kimes*, the Missouri Court of Appeals affirmed a speeding conviction based upon a 15-mph differential (a 75% variance) because it was

To date, our circuit has not adopted a corroboration rule in conviction cases. *See e.g., United States v. Daras*, 164 F.3d 626, 1998 WL 726748, at *2 (4th Cir. Oct. 16, 1998) (per curiam) (noting that "the Government correctly points out that the officer's visual estimate is also sufficient, by itself, to support a conviction"); *see also United States v. Wornom*, 754 F. Supp. 517, 519 (W.D. Va. 1991) (affirming conviction based upon an officer's visual estimate where radar evidence was

deemed "not slight." In doing so, it was compelled to distinguish the earlier Missouri Supreme Court opinion in *Oxley*, which had reversed a speeding conviction based upon a 10-mph differential (a 29% variance). By way of example, the *Kimes* court made a number of unsupported assumptions:

Where an officer's estimation of speed is 60 m.p.h., a fact-finder cannot conclude with any degree of certainty that a defendant was exceeding a 55 m.p.h. speed limit, because the accuracy of human estimation of speed cannot easily, readily, and accurately discriminate between such small variations in speed. Yet the same fact-finder, based upon that same 60 m.p.h. estimation of speed, could conclude beyond a reasonable doubt that a defendant was exceeding a 20 m.p.h. limit. This is so because the variance between the estimated speed and the speed limit falls *within the margin of error of accuracy within which an experienced person can discriminate between the two speeds.*

Kimes, 234 S.W.3d at 589 (emphasis added). In support of *Kimes*' blanket statement regarding human capabilities (with which the majority here agrees), *Kimes* also cites no studies, expert testimony, or other evidence. However, there is also no indication that the officers in *Oxley* or *Kimes* had developed or demonstrated any specialized ability to estimate the speed of vehicles. In my view, the finding regarding human abilities adopted by the majority is directly contradicted by the only evidence that was presented on the point in this case, as well as by observations to the contrary made by many other courts throughout the country. It appears that police officers work and train to develop this ability, and become very adept at estimating speeds within quite narrow margins of error. *See also City of Rockford v. Custer*, 936 N.E.2d 773, 776-77 (Ill. Ct. App. 2010) (discussing this line of speeding-conviction cases but indicating that a conviction might still be affirmed where the officer gives a visual estimate of the defendant's actual speed that falls within the appropriate margin of error).

suppressed). In my view, such matters should ordinarily be left for the jury or other factfinder to consider and weigh.¹⁰

But even if we had seen fit to require corroboration in conviction cases involving a slight speed differential, I do not think it prudent to import this reasoning into the probable-cause context and superimpose an inflexible corroboration requirement upon the totality-of-the-circumstances test. "The Supreme Court has repeatedly admonished that the standard for probable cause is not 'finely tuned' or capable of 'precise definition or quantification into percentages.'" *Humphries*, 372 F.3d at 660. Rather, the officer need only have an objectively reasonable belief that the defendant is speeding, and that belief need not even "be more likely true than false." *Id.*

Thus, even in those states that have required more than just the officer's visual observation to sustain a *conviction* for speeding where there is a "slight variance," the courts have pointed out the important distinction between the evidence

¹⁰Other state courts have also expressed similar views in the conviction context. *See e.g., Ferguson v. State*, 587 S.E.2d 195, 196 (Ga. Ct. App. 2003) (holding that an officer's visual estimation of a vehicle's speed is sufficient to support a conviction for speeding); *Jackson v. State*, 477 S.E.2d 28, 29 (Ga. Ct. App. 1996) (affirming conviction for speeding based solely upon the officer's visual speed estimate, and noting that "opinion testimony of an eyewitness may be used to establish speed, its credibility being for the jury to determine" (citation and alterations omitted)); *State v. Ali*, 679 N.W.2d 359, 368 (Minn. Ct. App. 2004) (holding that trained officer's visual estimate that defendant was traveling 11 mph above the speed limit was sufficient by itself to support a conviction for speeding); *Barberton v. Jenny*, 929 N.E.2d 1047, 1049, 1051 (Ohio 2010) (rejecting "a bright line rule that an officer's visual estimation of speed, without other evidence to support it, is insufficient to sustain a conviction for speeding" and "hold[ing] that a police officer's unaided visual estimation of a vehicle's speed is sufficient evidence to support a conviction for speeding . . . without independent verification of the vehicle's speed if the officer is trained [and] certified by [an] organization that develops and implements training programs to meet the needs of law-enforcement professionals and the communities they serve, and is experienced in visually estimating vehicle speed").

needed to establish probable cause and that needed to sustain a conviction. Of particular note, in *State v. Ostdiek*, 351 S.W.3d 758, 768-69 & 769 n.10 (Mo. Ct. App 2011), the Missouri Court of Appeals, citing its earlier opinion in *Kimes*, recently reversed a defendant's speeding conviction based solely upon the officer's testimony that it "just appeared" that the vehicle was going faster than her vehicle and the others on the road. However, the court took care to point out that "[t]he reversal of the speeding conviction does not affect the legitimacy of the initial traffic stop or any evidence which resulted from that stop," the latter of which implicates a much different standard of review than the "beyond a reasonable doubt" determination necessary for a conviction. *Id.* at 769 n.10; *see also Estes*, 223 P.2d at 289 n.1 (noting that the issue of whether an officer's visual estimate of a vehicle's speed constitutes sufficient proof of speed beyond a reasonable doubt to sustain a conviction "should not be confused with the admissibility of an officer's estimate of speed nor with the sufficiency of an estimate to provide reasonable suspicion to stop a vehicle, reasonable suspicion being a much less exacting standard than proof beyond a reasonable doubt" (emphasis omitted)). Thus, it appears that even the state courts in Missouri and Idaho would not import their corroboration requirement for "slight variance" speeding convictions into the probable-cause context.

C.

Finally, I turn to the two unpublished "probable cause" cases cited by the majority in support of its holding: *United States v. Moore*, No. 10cr971(RJH), 2011 WL 6325973 (S.D.N.Y. Dec. 19, 2011), and *State v. Petzoldt*, 803 N.W.2d 128, 2011 WL 2556961 (Iowa Ct. App. June 29, 2011). Both involve a court's determination that an officer's visual speed estimate was insufficient to establish probable cause to stop a vehicle under the totality of the circumstances, but neither counsels our adoption of an absolute rule requiring corroborating evidence to establish probable cause in every case

where the officer observes a slight violation of the legal speed limit.

In *Moore*, the two officers involved were anti-crime officers whose primary duties were "to respond to violent felonies rather than to enforce traffic laws." *Moore*, 2011 WL 6325973, at *1. The first officer testified that the vehicle in question was "traveling in excess of the speed limit," but he "did not describe how much experience he had had conducting traffic stops or estimating the speeds of traveling cars." *Id.* at *2 (internal quotation marks omitted). The second officer likewise "did not describe his experience in enforcing speeding violations or in identifying the speed of vehicles by sight." *Id.* at *3. Although noting that courts "will credit the observations of officers that a car was speeding when the officer has had special training [and experience] in detecting the speeds of vehicles," *id.* at *5, the district court found no such foundation for the officer's opinion in its case:

By contrast, here, there is no suggestion that the officers have received any such training. Moreover, nothing about the officers' experience — nor their assigned duties on the night in question — suggests that they would have had the opportunity to become adept at estimating the speeds of vehicles. It seems likely that some police officers — such as state troopers who, as part of their regular duties, routinely estimate how fast particular cars are driving and test such an estimate by using a radar gun — might become very adept at judging a car's speed. Here, however, the Court has no such reason for confidence, based on the officers' training or experience . . . , in the officer's estimation — an "estimation," the Court notes, that hardly qualifies as such, given the vagueness of the officers' responses and their inability to give even a range of speeds at which the cab might have been traveling. The officers did not state that they had received specialized

training in estimating the speed of moving vehicles, nor did they state that they had previously . . . worked an assignment where their main responsibility was to apprehend violators of traffic laws. The officers both stated that on the night in issue, they were assigned to the Bronx Anti-Crime Unit, whose mission is not to enforce the Vehicle and Traffic Laws, but rather to focus on violent felonies. The officers were not even carrying books of summonses to issue in the event that they observed a traffic infraction.

Id. a *6. Thus, the *Moore* officers had no training or demonstrated ability to estimate the speed of vehicles, had no experience doing so, and offered no opinion as to the speed differential at all.

The majority's reliance upon *Petzoldt* is similarly misplaced. In *Petzoldt*, the officer had "resorted to playing Solitaire on his computer to break the monotony of a very slow night" when "the stillness was broken [by] a pickup truck" passing by his location. *Petzoldt*, 2011 WL 2556961, at *1. "Believing the truck was speeding," the officer pursued the vehicle. *Id.* As in *Moore*, the court held that "with proper foundation, an officer's visual estimation of speed may be sufficient to supply probable cause to stop a vehicle for speeding." *Id.* at *3. It did not, however, adopt a corroboration requirement based upon the degree of the estimated speed differential. Rather, it reversed the trial court's denial of defendant's motion to suppress because the officer did not have the requisite foundation for his opinion:

Here, Officer King testified he was playing Solitaire when he observed *Petzoldt's* pickup truck briefly as it passed in front of his patrol car. Although he testified he believed the truck was [speeding], Officer King made no estimate as to how fast the truck was travelling or how much over the

posted limit he thought [it] was travelling. The posted speed limit is not even in the record before us. Officer King's visual estimate of speed was not confirmed by any other means of corroboration of the speed, such as radar or pacing. Officer King observed no other traffic infractions or driving anomalies by the pickup.

Id. (footnotes omitted). Thus, the *Petzoldt* officer had no tracking history, had no training or demonstrated ability to visually estimate the speed of vehicles, and made no estimate of the speed differential.

Neither *Moore* nor *Petzoldt* support adoption of an absolute requirement for corroborating evidence in the probable-cause context where an experienced traffic officer has visually estimated the speed of a vehicle to be in only "slight excess" of the speed limit. The contrast between Deputy Elliott and the officers involved in *Moore* and *Petzoldt* could not be more stark. Deputy Elliott was trained and certified in radar enforcement, experienced in traffic enforcement, and had demonstrated through certification and testing procedures his adeptness at judging the speed of vehicles. His testimony was specific, both as to his estimate and as to the speed limit, and he had a continuous and unobstructed view of Sowards's vehicle as it approached him. The facts of this case are simply not analogous.

D.

To summarize, neither the state-court conviction cases nor the unpublished probable-cause cases relied upon by the majority support its broad holding that an officer's visual speed estimate can *never* suffice as a basis for an officer's probable cause to initiate a traffic stop *unless* the suspect is estimated to be traveling in *significant excess* of the speed limit *or* the officer has the time and ability to corroborate his visual estimate through some other objective technique or cir-

cumstance. And the majority's apparent basis for the rule—that "the accuracy of human estimation of speed cannot easily, readily, and accurately discriminate between such small variations in speed," *Majority Op.* at 19-20 (internal quotation marks omitted)—is not supported by the evidence in this case, which we must view in the light most favorable to the government.

In my opinion, an experienced officer such as Deputy Elliott, who has demonstrated an ability to estimate speed within a 3.5-mph margin of error, has all of the qualifications needed to form a reasonable belief that a speeding violation of 5 mph or more has occurred. Under today's holding, however, such an experienced, trained and certified police officer cannot legally *stop* a vehicle that he legitimately and reasonably believes is traveling in "slight excess" of the speed limit and posing a potential threat to others based solely upon his visual estimate and professional opinion. I do not believe our probable-cause jurisprudence, which requires no more than that a law enforcement officer have such a reasonable belief, counsels or even permits that result.

IV. *Factual Findings*

A.

I turn now to the majority's conclusion that the district court clearly erred in finding that Deputy Elliott "is trained to estimate speeds" and that "[h]is difficulty with measurements is immaterial to his estimate of speed as they did not depend on time or distance." J.A. 121. As noted earlier, these factual findings, whether "clearly erroneous" or not, do not serve as the basis for the majority's decision. No explanation is ever given by the majority to show how the rejection of the district court's factual findings factors into the ultimate holding in the case. *See Majority Op.* at 19-20. But no explanation probably needs to be given, as the corroboration requirement alone is all that the majority needs to reverse the district court as a

matter of law. Although I strive to find otherwise, the majority's holding seems clear to me: as a matter of law, a police officer can *never* premise probable cause solely on his or her visual estimate of speed if the speed differential is "slight" as opposed to "significant"—no matter the officer's training, knowledge, experience, certification, or demonstrated ability to estimate speeds or recite measurements. And this is because the majority "agree[s] that 'the accuracy of human estimation of speed cannot easily, readily, and accurately discriminate between such small variations in speed.'" *Majority Op.* at 19-20 (quoting *Kimes*, 234 S.W.2d at 589). Thus, it matters not at all to the result whether Deputy Elliott was "trained" to visually estimate speed, as opposed to having developed and demonstrated the skill to do so during his training and certification, nor is there any indication that the result in this case would have been any different if Deputy Elliott had correctly recited the lengths of rulers and yardsticks.

In sum, Sowards's difficulties with measurements—no matter how silly they seem or what fodder they would have made for cross-examination at trial — are irrelevant to the rule adopted today, and the district court's factual findings, whether clearly erroneous or not, are not relevant to the legal determination that troubles me most.

B.

Had the majority relied upon Deputy Elliott's lack of sufficient training or his inability to accurately recite measurements as a basis for determining that his visual estimate was unreliable, and therefore in need of corroboration, my dissent would remain. But it would rest on a much narrower basis: I disagree with the majority's conclusion that the district court *clearly erred* in finding that Deputy Elliott was "trained to estimate speeds" and that his "difficulty with measurements [was] immaterial to his estimate of speed [because] they did not depend on time or distance." J.A. 121.

Under the clear-error standard, "[a] factual finding by the district court may be reversed only if, although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." *Walton v. Johnson*, 440 F.3d 160, 173-74 (4th Cir. 2006) (en banc) (internal quotation marks omitted). "Where there are two permissible views of the evidence, the factfinder's choice between them cannot be clearly erroneous." *Walker v. Kelly*, 589 F.3d 127, 141 (4th Cir. 2009) (internal quotation marks omitted).

First, Deputy Elliott's uncontradicted testimony is that he was required, as a part of his preparation for radar certification in North Carolina, to work with a certified instructor *who "show[ed] [him] how to estimate the speeds" of vehicles*. J.A. 23. That sounds like training to me. I do not know what else it could mean. At the conclusion of the course, Deputy Elliott was also required to demonstrate to his instructor the ability to accurately estimate speeds within an average 3.5-mph margin of error. In my view, the district court's choice of words — that Deputy Elliott was "trained to estimate speeds" — is accurate.

Second, Deputy Elliott inexplicably became confused when he was questioned about the measurements of feet and yards. He may well not know the correct answers to those questions, or he may just have had difficulty quickly recalling or converting such measurements on the witness stand. Unlike VASCAR, however, which involves a distance determination and timing mechanism to approximate speed according to the time/distance formula, there is no evidence that the reliability of an officer's visual estimation of speed is or should be tied to a specific or minimum distance or time. *See McBee v. State*, 673 S.E.2d 569, 571 (Ga. Ct. App. 2009) (rejecting defendant's argument that his motion to suppress should have been granted based upon the officer's "failure to use mathematical calculations or radar to estimate [the vehicle's] speed" because "an officer's visual estimate may be used to establish

speed"); *Barberton*, 929 N.E.2d at 1051 ("Visual observation has long been held a valid means of determining the speed of a moving vehicle as long as the witness has a reliable opportunity to view the vehicle." (internal quotation marks omitted)). There was likewise no evidence that North Carolina's certification procedure for estimating speeds is dependent upon distance or time.

In my view, conditioning the materiality of a visual estimate of speed on the existence of a mathematical calculation ignores the realities of traffic enforcement and unduly ties the hands of officers who must have the freedom to exercise their judgment. Indeed, as a practical matter, it seems likely that visual estimates would perhaps most often come into play where police officers observe a speeding vehicle while engaged in their routine patrol duties and not while positioned where they can check speeds utilizing a time/distance mathematical calculation.¹¹

¹¹The majority additionally charges that the district court's finding "rings in the absurd," because no one can "discern the speed of a vehicle . . . without discerning both the increment of distance travelled and the increment of time passed." Majority Op. at 11-12. To answer the majority's question, I do not quibble with the mathematical formula for speed, and express no opinion as to whether we should take judicial notice of it. However, I do disagree with the majority's holding that witnesses cannot offer an *estimate* of speed without knowing precisely the distance traveled and time elapsed. This is not a classroom or a laboratory, nor are the roads upon which police officers patrol. District courts are often called upon to make determinations as to a witness's ability to offer opinion testimony, based upon the witness's personal observations. Estimates of speed fall squarely and historically within the realm of opinion testimony that may be received even from lay witnesses, and which fall within the province of the factfinder (be that the district court or a jury) to evaluate and weigh. Credibility determinations must be made, which likewise rest with the factfinder and not with us.

In sum, a lay witness's *estimation* of speed, as opposed to an expert's mathematical *calculation* of speed, is not tied to distance or time, or contingent upon a mathematical formula, when offered in a court of law, and the majority points to no case in which it has been. It is instead tied to the

Finally, and to the extent the majority's determination on this factual finding or its holding at all rests upon Deputy Elliott's personal competency, I note that whatever difficulties Deputy Elliott might have had in recalling the measurements of feet and yards while being questioned in a courtroom, these difficulties have not prevented him from passing the certification tests nor prevented him from accurately determining the speed of moving vehicles while on the street and engaged in his normal law enforcement duties.

The *uncontradicted* evidence in this case demonstrates that Deputy Elliott's ability to estimate vehicle speeds was based upon his experience, training, and opportunity to observe the vehicle as it approached and passed him, rather than upon a known distance or minimum time. In my view, the evidence was more than sufficient to provide a foundation for his opinion in this case and to support his objectively reasonable belief that Sowards was speeding. For the same reasons, I am not left with a definite and firm conviction that the district judge, who had the opportunity to observe Deputy Elliott, made a mistake in finding that Deputy Elliott's testimony regarding small measurements was immaterial to his estimate of the speed of Sowards's vehicle, or in concluding that Deputy Elliott had probable cause to stop him.

V.

In my opinion, the majority's decision today strikes a blow to the professional judgment of police officers, substitutes our opinion regarding the ability of officers to accurately assess

"witness's perception," and, in particular, his fair opportunity to personally observe the moving object. *See e.g.* Fed. R. Evid. 701. It is an estimate, not "a guess," based upon the witness's personal observation, and the type of opinion evidence routinely received by courts. When evaluated in the context of probable cause, it is further evaluated with reference to the training and experience of the police officer, which, as it happens in this case, was quite substantial.

the speed of vehicles for the facts presented, and severely ties the hands of trained and experienced police officers to enforce traffic safety laws. Whether, and to what extent, we might require corroborating evidence for slight speed differentials for purposes of sustaining a conviction should remain for another day. Whether visual estimates of speed within a slight speed differential are sufficiently reliable to prove that a vehicle was speeding "by a preponderance of the evidence" in the civil context is likewise not before us today. For purposes of the probable-cause determination, the officer need only have a "reasonable ground for belief of guilt." *Brinegar*, 338 U.S. at 175 (internal quotation marks omitted), which need not even "be more likely true than false," *Humphries*, 372 F.3d at 660.

Additionally, the majority completely invalidates the road test North Carolina has employed for its traffic officers to demonstrate their ability to estimate the speed of cars. From pages 20 to 23 of the majority opinion, my colleagues give their reasons for finding the test inadequate to demonstrate an officer's expertise to judge speed without the use of radar. Although my colleagues summarily deny that they have taken this step, they nonetheless set forth in some detail the perceived "shortcomings" of North Carolina's test for the purpose of discrediting Deputy Elliott's demonstrated abilities in this area and rendering his opinion, and all others like it, unreliable as a matter of law. *Majority Op.* at 22. Consequently, it seems clear to me that trained and certified police officers can no longer stop a speeding vehicle based only on their visual speed estimates unless satisfied that the vehicle falls within the as yet undefined "significant speeding" category. Given that it is only such "significant" speed differentials that do not require corroboration or other indicia of reliability under the majority's holding, I can only view this as a wholesale rejection of North Carolina's testing and visual-estimate certification procedures as they would apply to "slight" speeding violations. Yet the certification procedure was never challenged below or on appeal, and there is no evidence to support

its invalidation. There is no telling what the ramifications will be in North Carolina and the other states of our circuit now that this certification procedure has been found insufficient.¹²

Based upon his substantial training, experience, multiple certifications, and personal observations, Deputy Elliott had an objectively reasonable belief that Sowards was speeding, and thus had probable cause to stop him. Accordingly, I would affirm the district court's denial of his motion to suppress and respectfully dissent from the majority's decision.¹³

¹²The majority asserts that my concern regarding North Carolina's certification test is nothing more than a policy consideration. I express no policy view as to whether North Carolina, Ohio, or any other state should certify officers in this manner, or what their legislatures should require in the way of traffic stops and convictions. My concern is that the majority has invalidated what appears to be a well-accepted test for police officers to demonstrate their proficiency in this area, without any evidentiary support and based instead upon their common sense and judicial notice of the mathematical formula for speed. If the reliability of North Carolina's certification procedure is to be challenged, I believe we should leave it to a defendant who chooses to challenge it and who introduces evidence in support of that challenge, and that the government should be given the opportunity to defend it.

¹³I would also affirm the district court's decision that Deputy Elliott had reasonable suspicion sufficient to prolong the stop and perform a canine sniff while waiting for the BLOC information, and that he had probable cause to conduct a search of the vehicle once the canine alerted to illegal drugs.