UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

IN RE: Toyota Motor Corp. Unintended Acceleration Marketing, Sales Practices, and Products Liability Litigation

This document relates to:

Case No. 8:10CV 10-01460 JVS
Estate of Ida Starr St. John v. Toyota Motor Sales, U.S.A., Inc., et al.

Case No. 8:10ML 02151 JVS

Order Granting in Part and Denying in Part Motions to Exclude Expert Testimony ("Daubert Motions")

Order Granting in Part and Denying in Part Toyota's Motion for Summary Judgment

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The St. John case is a member case in the multi-district litigation ("MDL"), and arises out of a single-vehicle collision ("the collision") involving a 2005 Toyota Camry ("the Camry") that allegedly resulted from an incident of sudden, unintended acceleration ("SUA"). Defendants in this action are Toyota Motor Corporation ("TMC"), Toyota Motor Sales, U.S.A., Inc. ("TMS"), and Toyota Engineering & Manufacturing America, Inc. (collectively, "Toyota" or "the Toyota Defendants"). Plaintiff is the estate of the driver of the Camry, the now-deceased Ida Starr St. John,[1] and the present action is brought by and through the executor of the estate, William Curtis Grasty, Jr.[2] In the First Amended Complaint ("FAC"), Plaintiff brings claims for strict products liability and negligence.[3] (St. John Docket No. 43.)

This matter is before the Court on sixteen Motions to Exclude Expert Testimony. Toyota moves to exclude all or portions of the testimony and/or opinions of thirteen of Plaintiff's experts; Plaintiff moves to exclude all or portions

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[1] It is not alleged that the collision directly resulted in Mrs. St. John's death.

[2] For this reason, the Court refers to a singular Plaintiff with the masculine pronoun, "he."

[3] In addition to these first two claims, Plaintiff captions a third claim for punitive damages. However, an award of punitive damages is a remedy rather than a separate substantive claim under Georgia law. See, e.g., Mann v. Taser Int'l, Inc., 588 F.3d 1291, 1304 (11th Cir. 2009) (explaining that under Georgia law, "[a] punitive damage claim is derivative of a plaintiff's tort claim, and where a court has dismissed a plaintiff's underlying tort claim, dismissal of a plaintiff's punitive damages claim is also required").

of the testimony and/or opinions of three of Toyota's experts. This matter is also before the Court on Toyota's Motion for Summary Judgment. The parties filed extensive evidentiary records in support of and in opposition to the present Motions, and they filed timely Opposition and Reply briefs to every Motion.

As set forth herein, the Court GRANTS IN PART and DENIES IN PART Toyota's Motions to Exclude Expert Testimony, and the Court GRANTS IN PART and DENIES IN PART Plaintiff's Motions to Exclude Expert Testimony. The Court GRANT IN PART AND DENIES IN PART Toyota's Motion for Summary Judgment. Summary judgment is granted as to the manufacturing defect claim and the negligence claim, but summary judgment is denied as to the design defect claim and the failure to warn claim.

Because much of the expert evidence forms the underpinning of both sides' positions on summary judgment, the Court addresses the Daubert motions first.

PART ONE: THE MOTIONS TO EXCLUDE

I. Introduction—The St. John Collision

As detailed more fully *infra*, Part Two, Section II, the collision at issue here occurred after the driver, Mrs. St. John, was stopped and ready to turn right at a stop sign in front of an elementary school. Before her death, Mrs. St. John testified in both a discovery and a trial deposition that when she removed her foot from the

brake pedal, the Camry immediately accelerated without her depressing the accelerator pedal. She testified that application of the brakes did nothing to stop or slow the Camry, and that she struggled to control the Camry as she drove through the school yard, striking a number of obstacles in her path, including a brick column that formed part of the entryway to the school gymnasium, before ultimately coming to rest.

Given Mrs. St. John's account regarding the Camry's abnormal performance, each side relies extensively on the opinions of experts in support of and in defense of the claims asserted here.

II. Admissibility of Expert Opinion Testimony and Reports

The parties have developed and exchanged volumes of expert reports, and each side challenges the admissibility of a number of the other side's expert opinions. Each side contends that under the standard enunciated in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), and expanded upon in Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999), the challenged expert opinions are unreliable and/or irrelevant. Therefore, the parties call upon the Court to fulfill its role as the "gatekeeper" of such evidence by attending to "the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand." Daubert, 509 U.S. at 597.

Federal Rule of Evidence 702 permits expert testimony from "[a] witness

who is qualified as an expert by knowledge, skill, experience, training, or education," if:

> (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702. A trial court's "gatekeeping" obligation to admit only expert testimony that is both reliable and relevant is especially important "considering the aura of authority experts often exude, which can lead juries to give more weight to their testimony." Mukhtar v. Cal. State Univ., 299 F.3d 1053, 1063-64 (9th Cir. 2002). Nevertheless, "[s]haky but admissible evidence is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not exclusion." Primiano v. Cook, 598 F.3d 558, 564 (9th Cir. 2010). Importantly, the Court's gatekeeper role under Daubert is "not intended to supplant the adversary system or the role of the jury." Quiet Tech. DC-8, Inc. v. Hurel-Dubois UK Ltd., 326 F.3d 1333, 1341 (11th Cir. 2003) (internal quotation marks and citation omitted). In other words, the Court is not supposed "to make ultimate conclusions as to the persuasiveness of the proffered evidence." Id.

The Rule 702(a) requirements address an expert's qualifications and the relevance of the opinions he or she offers, and the requirement set forth in Rule 702(b) relates to the foundation underlying the expert opinions. The requirements set forth in Rule 702(c)-(d) most directly address the reliability of the expert opinions.

The requirement that expert testimony "help the trier of fact to understand the evidence or to determine a fact in issue" goes primarily to relevance. Primiano, 598 F.3d at 564. Where state law provides the substantive law, relevance is necessarily determined by reference to what must be proven pursuant to the state-law claims asserted. Id. at 566-67 (applying Nevada product liability concepts to determine the helpfulness of expert testimony). Thus, the elements of Plaintiff's claims and Georgia case law regarding design and manufacturing defects and negligent failure to warn factor heavily into the Court's relevance analysis.[4]

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[4] In this case, the state-law standards for evaluating Plaintiff's claims have the tendency to significantly broaden the scope of relevant expert evidence. As discussed *infra*, Part Two, Section III(A)(1), Georgia applies a risk-utility analysis to determine whether the manufacturer acted reasonably in choosing a particular product design, giving consideration to many factors, including "the state of the art at the time the product was manufactured, the ability to eliminate danger without impairing the usefulness of the product or making it too expensive," and the desirability, feasibility, and cost of an alternative design. Banks v. ICI Americas, Inc., 264 Ga. 732, 736 n.6 (1994). The risk-utility analysis makes relevant, for example, evidence regarding certain software coding standards, and Toyota's deviation from those standards. See id. (implying the relevance of "a manufacturer's proof of compliance with industry-wide practices, state of the art, or federal regulations"). Moreover, by incorporating reference to available alternative designs, the risk-utility analysis also makes relevant expert testimony regarding alternative designs. Additionally, because Georgia law does not require

The Rule 702(b) "facts or data" upon which the expert opinion must be based may come from the expert's personal observation, or the expert may simply be "made aware of" those facts or data. Fed. R. Evid. 703. The "facts or data" need not be independently admissible if those facts or data are of the type(s) experts in the field would reasonably rely upon. Id.

The Rule 702(c) and (d) reliability indicators are subject to a more flexible analysis. According to the Ninth Circuit,

> [i]n Daubert, the Supreme Court gave a non-exhaustive list of factors for determining whether scientific testimony is sufficiently reliable to be admitted into evidence, including: (1) whether the scientific theory or technique can be (and has been) tested; (2) whether the theory or technique has been subjected to peer review and publication; (3) whether there is a known or potential error rate; and (4) whether the theory or technique is generally accepted in the relevant scientific community.

Domingo ex rel. Domingo v. T.K., 289 F.3d 600, 605 (9th Cir. 2002). The

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that experts identify the precise nature of the product defect, Plaintiff's expert testimony regarding the existence of a multitude of software bugs and other characteristics of the Camry's software that could cause or contribute to SUA becomes relevant.

Supreme Court later held that "a trial court may consider one or more" of the Daubert factors in determining the reliability of nonscientific expert testimony. Kumho Tire, 526 U.S. at 141 (emphasis in original).[5]

The trial court has "broad latitude" in deciding how to determine the reliability of an expert's testimony and whether the testimony is in fact reliable. Mukhtar, 299 F.3d at 1064; see also Kumho Tire, 526 U.S. at 152. The "test of reliability is 'flexible,' and Daubert's list of specific factors neither necessarily nor exclusively applies to all experts or in every case." Kumho Tire, 526 U.S. at 141. For example, in United States v. Hankey, 203 F.3d 1160, 1169 (9th Cir. 2000), the Ninth Circuit Daubert factors were inapplicable to a gang expert's testimony because "reliability depend[ed] heavily on the knowledge and experience of the expert, rather than the methodology or theory behind it." The Daubert factors, with their focus on peer review, publication, and the testability of methodologies, were simply inapplicable in that field of expertise. Id. Similarly, in a products liability case, a surgeon's experience with prosthetic elbow replacements rendered him qualified "by knowledge, skill, experience, training, or education" to render an opinion based on the expected minimum lifespan of an implanted prosthetic elbow. Primiano, 598 F.3d at 566-67.

In a complex case, the opinions of multiple experts may be presented. That is, a number of expert opinions may be necessary to establish a party's theory of

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[5] "Daubert's general holding . . . applies not only to testimony based on 'scientific' knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge." Kumho Tire, 526 U.S. at 141.

liability or to fully defend against liability. Thus, courts have considered to what extent an expert opinion may be based on the opinions of other experts. Generally, although a party's expert testimony may build upon itself, in no instance does the Court relax the admissibility threshold of any given expert opinion, and each opinion remains subject to the underlying requirement that it be premised upon "sufficient facts or data" of the type generally relied upon by experts in the relevant field.

More specifically, expert opinions may find a basis in part "on what a different expert believes on the basis of expert knowledge not possessed by the first expert." Dura Auto. Sys. of Ind., Inc. v. CTS Corp., 285 F.3d 609, 613 (7th Cir. 2002). Indeed, this is common in technical fields. Id. For example, a physician may rely for a diagnosis on an x-ray taken by a radiologist, even though the physician is not an expert in radiology. Id. "[T]here is no general requirement that the [underlying] expert testify as well." Id. There are limits to this general rule, however. Where the "soundness of the underlying expert judgment is in issue," the testifying expert cannot merely act as a conduit for the underlying expert's opinion. Id. at 613-14. Moreover, more scrutiny will be given to an expert's reliance on the information or analysis of another expert where the other expert opinions were developed for the purpose of litigation. See, e.g., In re Imperial Credit Indus., Inc. Sec. Litig., 252 F. Supp. 2d 1005, 1012 (C.D. Cal. 2003).

The Court must pause at the outset to acknowledge that no single expert

provides a self-sufficient opinion that an identified defect or defects in fact caused the St. John collision. This is not dispositive. The case law does not require a plaintiff to identify a specific defect. Nor does it require each expert to present the complete decision tree leading from defect to collision. "Reliable expert testimony need only be relevant, and need not establish every element that the plaintiff must prove, in order to be admissible." Primiano, 598 F.3d at 565 & n.37; see Jarvis v. Ford Motor Co., 283 F.3d 33, 47-48 (2d Cir. 2002) ("The jury was entitled to consider [expert testimony], even if it did not conclusively demonstrate—as it need not—what specific defect caused the Aerostar's cruise control to malfunction.").

With these standards in mind, the Court considers each Motion to Exclude.

III. Motion to Exclude Expert Evidence Regarding Institutional Bias of Investigating Agency

Toyota moves to exclude portions of the expert testimony of Allan Kam.[6] (Docket Nos. 4005 (Motion), 4140 (Opp'n) & 4177 (Reply).)[7] More specifically,

[6] Kam worked as an attorney for the NHTSA for more than 25 years. Since his retirement from the NHTSA Office of the Chief Counsel in April 2000, he has provided consulting services on safety defect, standards compliance, and regulatory issues affecting motor vehicles and motor vehicle equipment. (Kam Report at 1-2, Ex. 1.)

[7] Unless otherwise indicated, "Docket No." references are to the master docket, In re: Toyota Motor Corp. Unintended Acceleration Marketing, Sales Practices, and Products Liability Litigation, ML 10-2151 JVS (FMO). Much of the evidence cited in the following sections are attached as exhibits to the docket entries cited.

Toyota challenges the following opinions of Kam: (1) the National Highway Traffic Safety Administration's ("NHTSA") Office of Defect Investigations ("ODI") has an institutional bias towards finding mechanical and driver error causes of SUA, affecting its ability to effectively regulate and enforce automotive safety in the area of SUA; and (2) the NHTSA has not developed much, if any, real expertise in automotive electronics which, together with its lack of staffing, regulation, and enforcement, undermines its ability to examine the causes of SUA. (Motion at 1.)

Toyota first argues that Kam's opinions lack reliability because they are not based on a reliable foundation or methodology. Instead, they amount to Kam's *ipse dixit*. The Court agrees. An expert who relies solely or primarily on his experience "must explain how that experience leads to the conclusions reached, *why that experience is a sufficient basis for the opinion*, and how that experience is reliably applied to the facts." Fed. R. Evid. 702 advisory committee's note (2000) (emphases added); see also Gen. Elec. Co. v. Joiner, 522 U.S. 136, 146 (1997) (explaining that expert opinions cannot be "connected to existing data only by the *ipse dixit* of the expert"). Kam's opinion that the ODI has an institutional bias towards finding mechanical and driver error causes of SUA is based on his experience as an attorney for the NHTSA. Beginning with the Audi investigations in the 1980s, he explains, the ODI has repeatedly concluded that mechanical and driver error are the most likely causes of UA. (See Kam Report at 18-52.) Kam

believes that the ODI inappropriately relies on the "Silver Book,"[8] a contract report by researchers at the Transportation System Center, as well as other studies that have failed to identify any link between vehicle defects and SUA, in their defect investigations. (Id.)

Kam is an attorney and a consultant by trade. Although he participated in "hundreds of safety defect investigations" while working at the NHTSA (Kam Report at 1), he does not explain his role in those investigations. It appears from Kam's CV and expert report that he has no specific training or education in automotive electronics.[9] Kam does not explain how his experience as an attorney and a consultant provides him with a sufficient basis under Rule 702 and Daubert to reliably opine that the ODI engineers and scientists are biased towards finding mechanical and driver error as causes of UA. Simply put, his opinion lacks a reliable foundation. Kam's opinion regarding the NHTSA's expertise in automotive electronics is unreliable for the same reasons.[10] Therefore, the Court excludes these opinions.

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[8] The "Silver Book" is entitled *An Examination of Sudden Acceleration* and was published in 1989.

[9] Kam has a B.A. and a J.D. (Kam Report Ex. 1.)

[10] In forming his opinion that the NHTSA lacks expertise in automotive electronics, Kam relies on the testimony of Rep. Henry Waxman, Transportation Secretary Ray LaHood, and the NHTSA Administrator David Strickland. (Kam Report at 52-54.) An expert cannot merely repeat the opinions of other experts. See, e.g., Dura Auto. Sys., 285 F.3d at 613-14; Thorndike v. DaimlerChrysler Corp., 266 F. Supp. 2d 172, 185 (D. Me. 2003).

Toyota also argues that Kam's opinions are not relevant. The Court agrees. Plaintiff contends that Kam's opinions will help the jury to understand the role of the NHTSA and relevant Federal Motor Vehicle Safety Standards ("FMVSS"). (Opp'n at 3.) However, such general testimony regarding the NHTSA and FMVSS does not sufficiently fit the facts of this case. Kam offers no opinions that are specific to the Camry or the collision. (See generally Kam Report; Kam Depo. at 261-62.) If Toyota's expert witness Robert Lange misrepresents the meaning of the NHTSA's findings, then Plaintiff may challenge Lange in cross-examination. However, a general overview of the NHTSA and relevant FMVSS will not be helpful to the jury.

The Court need not address Toyota's argument that Kam's opinions should be excluded or stricken pursuant to Rules 402 and 403 (see Motion at 13) because it has ruled that the opinions lack reliability and are not relevant.

The Court GRANTS Toyota's Motion to Exclude the Expert Testimony of Allan Kam.

IV. Motions to Exclude Expert Evidence Regarding Medical/Human Factors

A. Burton

Toyota moves to exclude the expert testimony of Joseph L. Burton, M.D.[11] (Docket Nos. 4003 (Motion), 4139 (Opp'n) & 4167 (Reply).) More specifically, Toyota moves to exclude (1) Dr. Burton's opinion that the injuries sustained by Mrs. St. John in the 2009 collision contributed to her death in 2012, and (2) his occupant kinematic and biomechanics opinions regarding Mrs. St. John's body position during the collision sequence. (Motion at 1.)

Dr. Burton opines that the 2009 collision "resulted in injuries that caused further debility and stress to the overall physical condition" of Mrs. St. John, and that "this stress and medical debility contributed to and set the stage for her uncontrollable urosepsis which occurred and resulted in her death in 2012." (Burton Rebuttal Report at 4.) Toyota argues that this opinion is impermissibly speculative because Dr. Burton cannot determine how much of an effect the injuries from the collision had on Mrs. St. John's death. (Motion at 3-4.) In addition, Toyota points out that Dr. Burton failed to consider the effects of a

[11] Dr. Burton is a forensic pathologist. Among other positions, he has served as Chief Medical Examiner for various counties and Director of the Forensic Pathology Training Program at the Emory University School of Medicine. He has been published in many peer-reviewed journals and given hundreds of lectures in his field. (Burton Rebuttal Report Ex. A.)

subsequent fall suffered by Mrs. St. John, during which she broke her hip.[12] (See Burton Depo. at 179-80.)

Dr. Burton's opinions are not impermissibly speculative. As a rebuttal witness, he may rely largely on other expert reports, as he does, and point out flaws in their methodologies or conclusions. See United States v. 4.0 Acres of Land, 175 F.3d 1133, 1141 (9th Cir. 1999). Dr. Burton also reviewed other materials to form his opinions, including, *inter alia*, Mrs. St. John's medical records and the collision report. (Burton Rebuttal Report at 1-2.) Thus, there is a sufficient factual basis for Dr. Burton's opinions. The argument that he failed to consider other injuries that Mrs. St. John suffered after the collision goes to weight, not admissibility. Toyota may challenge Dr. Burton's opinions, and their factual bases, in cross-examination.[13] See Hartley v. Dillards, Inc., 310 F.3d 1054, 1061 (8th Cir. 2002) ("As a general rule, the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross-examination." (internal quotation marks and citation omitted).)

Toyota next argues that Dr. Burton's occupant kinematic and biomechanics

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[12] Given that Dr. Burton's opinion relates to a contributing cause, he need not address all other causes. See Primiano, 598 F.3d at 565 & n.37; Jarvis, 283 F.3d at 47-48.

[13] Dr. Burton acknowledges that Mrs. St. John had other medical conditions. He opines only that the injuries she suffered in the collision contributed to and set the stage for her death. (Burton Rebuttal Report at 4.) Of course, the jury could find that a subsequent injury also contributed to her death.

opinions should be excluded because they are subjective and purely speculative. (Motion at 8.) Toyota also contends that these opinions are inadmissible because they were not presented before the June 6, 2013 deadline for rebuttal expert opinions; they were disclosed for the first time during Dr. Burton's June 16, 2013 deposition. (Id.) First, the Court agrees that Dr. Burton's opinions on these matters were not timely disclosed and, therefore, could be excluded under Federal Rule of Civil Procedure 37(c). However, because Toyota thoroughly examined Dr. Burton's opinions on these matters shortly after disclosure was required (Burton Depo. at 23-24, 43-45, 63-67, 94-5, 101-10, 193-94, 198-99, 205-08, 211-19), no harm will result from their admission at trial. See In re Sulfuric Acid Antitrust Litig., 235 F.R.D. 646, 659 (N.D. Ill. 2006). Second, in Dr. Burton's deposition testimony, he explains fully the factual basis for his kinematic and biomechanics opinions—Dr. Corrigan's expert report, including surrogate study photographs on which she relied, photographs of the vehicle at the scene of the collision, and Mrs. St. John's medical records. (Burton Depo. at 63-67, 94-95.) Again, Toyota may challenge the factual bases for Dr. Burton's opinions in cross-examination.

The Court DENIES Toyota's Motion to Exclude the Expert Testimony of Dr. Joseph Burton.

B. Cassini

Plaintiff moves to exclude the expert opinion of Peter Cassini, M.D.[14] (Docket Nos. 4011 (Motion), 4118 (Opp'n) & 4186 (Reply).) Dr. Cassini opines that Mrs. St. John's neurologic condition at the time of the collision affected her ability to operate a motor vehicle safely, resulting in the collision. (Cassini Report at 2-3.) Plaintiff argues that Dr. Cassini's opinions are neither reliable nor relevant. (Motion at 1.)

Plaintiff first argues that Dr. Cassini's opinions are unreliable because they are speculative. (Id. at 3-6.) More specifically, Plaintiff contends that Dr. Cassini does not know whether the risk factors discussed in his report actually manifested at the time of the collision. (Id. at 5.) Dr. Cassini need not testify with certainty that the risk factors manifested. See Primiano, 598 F.3d at 565 ("Lack of certainty is not, for a qualified expert, the same thing as guesswork."); see also In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 744 (3d Cir. 1994) ("The evidentiary requirement of reliability is lower than the merits standard of correctness."). Dr. Cassini relied on Mrs. St. John's medical records as well as his extensive experience treating patients with neurologic conditions. (Cassini Report at 2-3; Cassini Depo. at 30, 70, 92.) See Daubert v. Merrell Dow Pharms., Inc., 43 F.3d 1311, 1317 (9th Cir. 1995) ("Daubert II") ("[I]n determining whether proposed

[14] Dr. Cassini has practiced as a medical doctor specializing in neurology and managing a clinical practice since 1998. As part of his practice, he evaluates, diagnoses, and treats patients with a variety of neurologic conditions. (Cassini Report at 1, Attach.)

expert testimony amounts to good science, we may not ignore the fact that a scientist's normal workplace is the lab or the field."). Plaintiff's arguments about other sources that Dr. Cassini could have consulted (Motion at 6-9) and alternative explanations he could have considered (id. at 9-10) go to weight, not admissibility.[15] However, Dr. Cassini may not testify that Mrs. St. John's neurologic condition ultimately caused the collision, as this opinion would be unreliably speculative.

Plaintiff next argues that Dr. Cassini's opinions do not fit the facts of this case. (Id. at 10-11.) The Court disagrees. Whether Mrs. St. John experienced a neurologic condition that may have affected her ability to control the Camry is clearly relevant to a jury tasked with determining the cause of the collision. Plaintiff's citation to select bits of testimony from Dr. Cassini's deposition does not convince the Court otherwise. Further, for reasons already stated, Plaintiff is incorrect that Dr. Cassini's opinions will be unhelpful because he does not know "precisely what happened." (Reply at 1.)

The Court agrees with Toyota that the conflicting testimony of Dr. Cassini, Pierce, and Dr. Polydefkis creates a "battle of the experts," the resolution of which is properly left to the jury. See Am. Booksellers Ass'n, Inc. v. Barnes & Noble, Inc., 135 F. Supp. 2d 1031, 1064 (N.D. Cal. 2001) (explaining that a "battle of the experts can only be decided in the courtroom"). None of these experts will be

[15] Neither Dr. Cassini nor Dr. Polydefkis performed any testing to support their opinions. Nevertheless, the Court finds the opinions of both experts to be sufficiently reliable.

permitted to testify as to the ultimate cause of the collision.

The Court GRANTS IN PART and DENIES IN PART Plaintiff's Motion to Exclude the Expert Testimony of Dr. Peter Cassini.

C. Gill

Toyota moves to exclude the expert testimony of Richard Gill, Ph.D.[16] (Docket Nos. 4001 (Motion), 4137 (Opp'n) & 4172 (Reply).) Toyota contends that Dr. Gill's opinions about Mrs. St. John's alleged brake pumping during the UA event are neither relevant nor reliable. (Gill Motion at 1-2.) Toyota also contends that Dr. Gill's opinions about Mrs. St. John's physical condition and abilities at the time of the collision are unreliable. (Id.)

Toyota first argues that Dr. Gill's brake pumping opinions do not fit the facts of this case and, therefore, are not relevant. (Id. at 4-8.) According to Toyota, Dr. Gill's opinion that Mrs. St. John likely pumped the brakes during the UA event is "anything but definitive." (Id. at 6.) However, to be admissible, Dr. Gill need not prove that his opinions are correct. In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 744 (3d Cir. 1994). Further, Dr. Gill's opinions are not based solely on Mrs. St. John's testimony, as Toyota suggests. Dr. Gill also relies, *inter alia*, on the reports of Robert Caldwell (accident reconstruction expert), Neil Hannemann

[16] Dr. Gill has thirty years of experience in human factors and accident reconstruction of all types, including numerous automotive accidents. (Gill Report at 1, Attach. 3.)

(brake expert), and (researcher) Joel Cooper, as well as data taken from other UA events. (E.g., Gill Report at 3; Walburg Decl. Ex. D (Gill Depo. at 29, 47-48, 50-51, 59-60, 61-62, 64, 168-69, 171-72, 187-89); Gill Opp'n at 5.) Notably, in his report, Dr. Gill explains that one may "pump" the brake pedal without removing all pressure from it. Indeed, according to Dr. Gill, repeated application of the brakes—or "brake pumping"—is "most efficient" when the foot remains in contact with the brake pedal throughout the process.[17] (Gill Report ¶ 4.b.) Thus, there is a sufficient factual basis for Dr. Gill's opinions, which may properly be challenged in cross-examination. See Humetrix, Inc. v. Gemplus, S.C.A., 268 F.3d 910, 919 (9th Cir. 2001) (explaining that a party who seeks to challenge the correctness of an expert's testimony should do so in cross-examination and with its own experts).

Toyota also argues that Dr. Gill's brake pumping opinions are unreliable because they lack sufficient factual support. (Gill Motion at 8-10.) The Court has already found that a sufficient factual basis exists for Dr. Gill's opinions. It is properly left to the jury to determine whether Mrs. St. John actually pumped the brakes and, if so, how may times.

Next, Toyota argues that Dr. Gill unreliably applied methods and principles to reach his brake pumping opinions. (Id. at 11-13.) More specifically, Toyota contends that studies on which Dr. Gill relies, such as the NHTSA and Cooper

[17] At the hearing, citing the Cooper study, Plaintiff explained that there are different gradations of brake pumping, ranging from none to complete. (Oct. 1, 2013 Hr'g Tr. at 9-10 ("Tr.").)

studies, do not support his opinions. Dr. Gill cites the NHTSA study because the driver in the Weller incident pumped what he thought was the brake pedal. Even though he actually pumped the accelerator pedal, the study may support Dr. Gill's opinion that a driver in a UA event is likely to attempt to pump the brake pedal. Dr. Gill cites the Cooper study because, he believes, it shows that a natural human reaction when a driver perceives that brakes are not working properly is to pump the brake pedal. Although roughly 55 percent of drivers in the Cooper study did not pump the brake pedal, 45 percent did. It is up to the jury to determine to what extent these studies support Dr. Gill's opinions.[18]

Finally, Toyota argues that Dr. Gill should be precluded from testifying about Mrs. St. John's physical condition and abilities at the time of the collision. (Gill Motion at 15-16.) Dr. Gill opines only that there is not sufficient evidence, based on his human factors analysis, to conclude that Mrs. St. John was incapacitated during the UA event. (Gill Report at 7-8.) This opinion is supported by Mrs. St. John's testimony, the testimony of eyewitnesses, and Dr. Gill's experience as a human factors expert. (Id.) According to Dr. Gill, Mrs. St. John's alleged reactions to the UA event were typical, indicating that she was functioning normally. Toyota will present experts with contrary opinions. It may also challenge Dr. Gill's opinions in cross-examination.

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[18] As Toyota pointed out during the hearing, there are factual differences between the Cooper study and this case. (Tr. at 16.) Nonetheless, the study may support the proposition that a natural human reaction when a driver perceives that brakes are not working properly is to pump the brake pedal.

Accordingly, the Court DENIES Toyota's Motion to Exclude the Expert Testimony of Dr. Gill.

D. Pierce

Plaintiff moves to exclude the expert testimony of Susan Pierce.[19] (Docket Nos. 4009 (Motion), 4117 (Opp'n) & 4185 (Reply).) Pierce opines that Mrs. St. John's chronic medical diagnoses and age-related impairments put her at risk for being involved in a motor vehicle crash. (Pierce Report at 5.) Plaintiff argues that Pierce's opinions are speculative and unreliable, and would not be helpful to the jury. (Motion at 1.)

Plaintiff first argues that Pierce's opinions are speculative and unreliable because she cannot say whether the "risk factors" discussed in her report actually influenced Mrs. St. John's driving on the day of the collision. Further, Plaintiff contends that Pierce cites no evidence or scientific studies supporting her opinions. (Id. at 3-11.) As to Plaintiff's first point, Pierce need not testify with certainty that the risk factors manifested on the day of the collision. See Primiano, 598 F.3d at 565; In re Paoli R.R. Yard PCB Litig., 35 F.3d at 744. As to Plaintiff's second point, to reach her conclusions, Pierce relies on her extensive experience working with elderly drivers, scientific literature, and Mrs. St. John's medical records.

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[19] Pierce is an occupational therapist and certified specialist in driving, with 36 years of experience. She provides occupational therapy and driver evaluation, and has focused on senior drivers for the past 10 years. (Pierce Report at 2, 13, Attach.)

(Pierce Report 6-9.) Therefore, her opinions are not speculative. The Court has already dismissed Plaintiff's arguments regarding failure to consider alternative causes of the collision.[20] Pierce does not, and could not, opine that the risk factors actually caused the collision.[21]

Next, Plaintiff argues that Pierce's opinions would not be helpful to the jury because they do not fit the facts of this case. (Pierce Motion 11-14.) The Court disagrees. The cause of the collision must be determined by the jury. Pierce's opinions will help the jury to consider possible contributing factors. See Clark v. Heidrick, 150 F.3d 912, 915 (9th Cir. 1998).[22]

The Court DENIES Plaintiff's Motion to Exclude the Expert Testimony of Susan Pierce.

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[20] Any assumptions made by Pierce may be challenged in cross-examination, as they affect weight, not admissibility.

[21] Contrary to Plaintiff's argument, Pierce does not opine that all of the risk factors actually played a role in the collision. (Reply at 3.) Instead, she opines that they put Mrs. St. John at risk for being involved in a motor vehicle crash.

[22] Plaintiff argues for the first time in the Reply that Pierce is not qualified to offer medical opinions. (Reply at 5-6.) In addition to the procedural problem of first presenting this argument in a Reply brief, see Zamani v. Carnes, 491 F.3d 990, 997 (9th Cir. 2007), the Court disagrees. Pierce has extensive experience working with elderly persons who exhibit the risk factors about which she offers her opinions.

E. Polydefkis

Toyota moves to exclude the expert testimony of Michael Polydefkis, M.D.[23] (Docket Nos. 4002 (Motion), 4138 (Opp'n) & 4168 (Reply).) Dr. Polydefkis opines that Mrs. St. John's peripheral neuropathy—a condition that results in decreased sensation in the feet—did not cause the collision. (Polydefkis Rebuttal Report at 1.) This opinion is offered to rebut the opinions of Toyota's experts, including Dr. Cassini, who asserts that Mrs. St. John's neurologic condition contributed to the collision.[24]

Toyota first argues that Dr. Polydefkis's opinion is unreliable because he is not qualified to testify about what did or did not cause the collision. (Motion at 4-9.) Toyota also argues that Dr. Polydefkis does not have a sufficient factual basis for his opinion. (Id. at 9-14.) To be clear, Dr. Polydefkis does not purport to know what caused the collision. Rather, he asserts only that, in his opinion, Mrs. St. John's peripheral neuropathy did not cause the collision. According to Dr. Polydefkis, even with her condition, Mrs. St. John had "ample reaction time" to apply the brakes. (Polydefkis Rebuttal Report at 2.) This opinion is based on his review of Mrs. St. John's medical records, transcripts from depositions taken in

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[23] Dr. Polydefkis is a neurologist with specialty training in neuromuscular disease. He is a Professor of Neurology at Johns Hopkins University School of Medicine and directs the Johns Hopkins Bayview Diabetic Neuropathy Center. He has significant experience studying diabetic neuropathy. (Polydefkis Report at 1; Polydefkis Decl. Ex. B.)

[24] The Court also DENIES Plaintiff's Motion to Exclude the Expert Testimony of Dr. Cassini, as discussed *supra*, Section IV.B.

this case, and his extensive experience with patients who have peripheral neuropathy. (Id. at 1-2; Polydefkis Decl. ¶ 4.) The Court finds that Dr. Polydefkis is qualified to render this opinion, which is based on sufficient facts and data.

Toyota next argues that Dr. Polydefkis's opinion that Mrs. St. John was not confused at the time of the collision is unreliable because it lacks a sufficient factual basis. (Motion at 14.) The Court disagrees. Dr. Polydefkis reviewed Mrs. St. John's deposition testimony, as well as the deposition testimony of other witnesses, who described her as being alert and coherent following the collision.[25] (See Polydefkis Report at 1; Polydefkis Depo. at 53-54.) Dr. Polydefkis also noted during his deposition that Mrs. St. John's blood sugar and vital signs were normal at the time of the collision. (Polydefkis Depo. at 38; Opp'n at 9-10.) Thus, there is a sufficient factual basis for his opinion that she was not confused. Toyota's challenges regarding all of the materials that Dr. Polydefkis did not review go to weight, not admissibility. Toyota may challenge the factual basis of his opinions in cross-examination.

The Court agrees with Toyota, however, that Dr. Polydefkis cannot testify at trial that the Camry "accelerated uncontrollably." (Motion at 16 n.5.) He may rely on Mrs. St. John's testimony to form his opinion, but must refrain from

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[25] Dr. Polydefkis may rely on deposition transcripts from this case to form his opinion. Fed. R. Evid. 703 (explaining that facts need not be admissible for an expert to rely on them, as long as experts in the particular field would reasonably rely on them); Dana Corp. v. Am. Standard, Inc., 866 F. Supp. 1481, 1501 (N.D. Ind. 1994) ("[The expert] based his opinions on his understanding of what various depositions reported, and he may do that under Rule 703.").

presenting it as his own opinion.

Except as noted, the Court DENIES Toyota's Motion to Exclude the Expert Testimony of Dr. Michael Polydefkis.

V. Motions to Exclude Expert Evidence Regarding Mechanical Issues/Corrosion in Throttle Body

A. Anderson

Toyota moves to exclude the expert testimony of Robert N. Anderson, Ph.D.,[26] whose testimony is offered in response to Toyota's expert, Dr. Gary Fowler. (Docket Nos. 3999 (Motion), 4136 (Opp'n) & 4176 (Reply).) Toyota specifically challenges Dr. Anderson's opinion that corrosion in the throttle body of the Camry that he observed in December 2012 existed at the time of the collision in April 2009. (Motion at 1-2.) Toyota offers three grounds for excluding Dr. Anderson's testimony: (1) he lacks the facts and data necessary to support his opinions; (2) he employs scientifically unreliable methods and procedures to develop his opinions; and (3) he can only speculate about whether corrosion in the throttle body existed at the time of the collision and the

[26] Dr. Anderson is a forensic consultant and the President of RNA Consulting, Inc., a forensic engineering consulting corporation that specializes in materials engineering and sciences. He has extensive experience in accident analysis, industrial materials applications, design failures, and corrosion issues and water system failures. (Anderson Rebuttal Report at 2-3, Ex. A.)

progression of that corrosion thereafter. (Id.)

Toyota first argues that Dr. Anderson lacks facts and data necessary to conclude that the battery in the Camry ruptured during the collision. (Motion at 7-10.) The Court disagrees. The parties do not dispute the existence of sulfur in the throttle body. Dr. Anderson opines that sulphuric acid most likely splashed as an aerosol from the ruptured battery during the collision. (Anderson Rebuttal Report at 3.) This opinion is offered in response to the opinion of Toyota's expert, Dr. Fowler, who contrarily opines that industrial pollutants were the source of the sulfur. Dr. Anderson's opinion that the battery ruptured is based on (1) the high levels of sulfur he found under the hood of the Camry, which would not result from industrial pollutants alone; (2) his December 2012 inspection of the Camry, during which he noted the battery's location in the front of the car's engine compartment, which was severely damaged during the collision; and (3) his experience.[27] (Id. at 3-4.)

The Court finds that Dr. Anderson has facts and data sufficient to conclude that the battery in the Camry ruptured during the collision. Toyota's experts may disagree, but Dr. Anderson's opinions need not be proven correct to be admissible. See Hartley, 310 F.3d at 1061; In re Paoli R.R. Yard PCB Litig., 35 F.3d at 744.

[27] During his deposition, Dr. Anderson explained how, in his opinion, the sulfur vented into the throttle body through the normal air intake process. (Anderson Depo. at 137-38.)

Toyota next argues that Dr. Anderson's opinions are unreliable because he employed unreliable methods to develop them. (Motion at 11-16.) The Court disagrees. Toyota points out that Dr. Anderson relied on samples of corrosion products he collected during his December 2012 inspection of the Camry, after years of exposure to environmental elements. However, Dr. Anderson explains how he was able to determine that corrosion existed in the throttle body at the time of the collision. According to Dr. Anderson, the iron throttle valve shaft on the butterfly valve was cathodically protected by corrosion to the aluminum in the throttle body. (Anderson Rebuttal Report at 4.) Again, Dr. Anderson need not prove that he is correct for this opinion to be admissible.

Toyota also contends that Dr. Anderson erroneously relied on a thermodynamic equation that incorporates values for pure metals, not alloys, which are used in the Camry throttle body. (Motion at 14.) But Dr. Anderson contends that the principle he was demonstrating with the equation—that in the presence of battery acid, aluminum will corrode in preference to the iron—holds true in the presence of alloys. (Anderson Rebuttal Report at 4; Anderson Depo. at 158-59.) Toyota's disagreement with this opinion goes to the credibility of Dr. Anderson's testimony, not the admissibility. The use of the same thermodynamic equation for the pure metals and alloys is not so fatally flawed as to counsel exclusion.

Finally, Toyota argues that Dr. Anderson's testimony is unreliable because he did not do any testing and did not review any literature supporting his methodology. (Motion at 15-17.) Toyota's contention that Dr. Anderson

"conducted no testing of any kind" is simply wrong. (Id. at 15.) Dr. Anderson collected samples of corrosion products from the throttle body and performed element analyses, which he explains in his report. (Anderson Rebuttal Report at 2, 4-6.) If Toyota believes that Dr. Anderson should have performed additional testing, then it can challenge his methodology in cross-examination. Contrary to Toyota's apparent position (Motion at 16), Dr. Anderson did not need to do enough testing to prove the correctness of his opinions.

With regard to Toyota's point that Dr. Anderson failed to cite any professional standards that he complied with in his expert report, the Court does not find this particularly troubling. Dr. Anderson is a highly educated and experienced forensic consultant, with significant expertise in corrosion and thermodynamics, who was retained to identify corrosion of the throttle body at the time of the collision. Further, he was on the Board of Directors of the American Academy of Forensic Sciences, and is the current President of the International Board of Forensic Engineering Sciences, which certifies engineering science reports. See In re Fosamax Prods. Liab. Litig., 645 F. Supp. 2d 164, 179 (S.D.N.Y. 2009) (explaining "the more qualified the expert, the more likely that expert is using reliable methods in a reliable manner." (internal quotation marks and citation omitted).). The Court declines to exclude Dr. Anderson's testimony because he did not list all of the standards he complied with in his expert report.[28]

[28] Plaintiff submitted a declaration from Dr. Anderson with its Opposition brief, in which Dr. Anderson affirms his compliance with various industry standards. (Opp'n Ex. D, ¶ 4.) The Court recognizes that Dr. Anderson's declaration is untimely. (See Reply at 8-10.) However, the Court would allow his

The Court DENIES Toyota's Motion to Exclude the Expert Testimony of Dr. Robert Anderson.

B. Kitchen

Toyota moves to exclude the expert testimony of Myles H. Kitchen.[29] (Docket Nos. 4000 (Motion), 4135 (Opp'n) & 4178 (Reply).) Kitchen opines that corrosion in the throttle body of the Camry at the time of the collision caused the throttle valve to "stick," which likely caused the Camry to operate in an erratic and unexpected manner and ultimately led to UA. (Kitchen Report ¶¶ 4, 75.) Toyota generally challenges the relevance and reliability of Kitchen's opinions.[30] (See Motion at 2.)

Toyota first argues that Kitchen's opinions are not relevant because he has

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testimony without the untimely declaration.

[29] Kitchen has been a consultant specializing in automotive electronics since 1986. He has over 40 years of technical experience in the automotive electronics field, including design, development, manufacturing, testing, and analysis of electrical/electronic circuits and electro-mechanical components, as used in all facets of vehicle electronics, including engine/fuel/throttle controls. (Kitchen Report ¶¶ 4-5, Ex. 1.)

[30] Toyota separately moves to exclude Dr. Anderson's opinions regarding corrosion in the throttle body. Because the Court has declined to exclude Dr. Anderson's testimony, as discussed *supra,* Section V.A., Toyota's argument that the Court should exclude Kitchen's opinions because they are based on Dr. Anderson's opinions fails. (See Motion at 8 n.1.)

not determined that the throttle valve actually stuck on the day of the collision and, even if it did, he cannot demonstrate that it would have played a role in causing the collision. (Id. at 10.) The Court disagrees. Kitchen's opinion that the throttle valve stuck on the day of the collision is based on Dr. Anderson's expert report, which concludes that corrosion existed in the throttle body, as well as his own investigation, testing, and experience. (See Kitchen Report §§ VIII-IX.) As noted previously, an expert's opinions need not be proven correct to be admissible. E.g., In re Paoli R.R. Yard PCB Litig., 35 F.3d at 744. Also, Toyota misreads Kitchen's testimony as asserting that the throttle valve was stuck at a 19 percent open position *throughout the incident*. (Motion at 11-13.) Kitchen asserts only that the throttle valve was stuck at the 19 percent open position *when he examined it*. (Kitchen Report ¶ 75; Kitchen Depo. at 26, 75, 204.) According to Plaintiff, this suggests that corrosion in the throttle body likely caused the Camry to operate in an erratic and unexpected manner on the day of the collision.[31] (Opp'n at 11-12.) This opinion is relevant to a jury attempting to determine the cause of the collision, which may involve numerous factors.

Toyota next argues that Kitchen employed unreliable methodologies and extrapolated from facts and data that do not support his opinions. In particular, Toyota challenges Kitchen's testing of a modified Camry, his analysis of exemplar throttle bodies from vehicles involved in other collisions, and his reliance on certain written materials compiled for this case. (Motion at 13-22.) To test

[31] According to Plaintiff, the unexpected and erratic behavior occurred when the Camry "took off like an airplane." (Tr. at 112.)

Toyota's fail-safe mechanisms, Kitchen used a "sticky" throttle body that he created and a 2006 Toyota Camry, which was "substantially similar"[32] to the St. John Camry. (Kitchen Report ¶¶ 68-74; Opp'n at 17.) Toyota may challenge aspects of Kitchen's testing, but such challenges generally go to weight, not admissibility. See Kennedy v. Collagen Corp., 161 F.3d 1226, 1231 (9th Cir. 1998) (explaining that disputes concerning an alleged fault in methodology go to weight). Likewise, Toyota's argument that Kitchen's testing of the Moreau and Parker throttle bodies indicates little, if anything, about the St. John throttle body goes to weight. (See Motion at 18-20.) Finally, in his report, Kitchen cites Identifix postings, automotive technician materials authored by James Halderman, an Exponent report, and Toyota technical service bulletins. (Kitchen Report ¶¶ 38-46.) These sources contribute to the factual bases for Kitchen's opinions. Accordingly, they may properly be challenged in cross-examination. See Hartley, 310 F.3d at 1061.[33]

Toyota did not argue in its Motion that Kitchen should not be permitted to testify that a brake override system ("BOS") would have prevented the collision. But Kitchen only briefly mentions the absence of BOS in his expert report; he does not explain his background with BOS, how it works, or how it would have

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[32] The test Camry was one model year newer than the St. John Camry. (Kitchen Report ¶ 23.)

[33] Toyota also contends that Kitchen did not sufficiently explain his testing so that it could be replicated. However, Toyota's expert replicated the testing enough to conclude that Kitchen's opinions are incorrect. (See James Report at 18-28.) Thus, the Court disagrees with Toyota.

prevented the collision. (See Kitchen Report ¶¶ 4, 76.) Therefore, the Court agrees with Toyota that Kitchen may not testify about BOS.

Except as noted, the Court DENIES Toyota's Motion to Exclude the Expert Testimony of Myles Kitchen.

VI. Motions to Exclude Opinions Regarding Software Defects

Toyota moves to exclude the expert opinions of Michael Barr, Nigel Jones, Phillip Koopman, Steven Loudon, Carl Muckenhirn, and Marthinus van Schoor. (Docket Nos. 4067, 4065, 3997, 4066, 4064 & 3996 (Motions), 4128, 4130, 4133, 4126, 4129 & 4123 (Opp'ns), & 4216, 4212, 4155, 4215, 4214 & 4173 (Replies).)[34] Plaintiff moves to exclude the expert opinion of Ashish Arora. (Docket Nos. 4010 (Motion), 4145 (Opp'n), & 4224 (Reply).)

A. Muckenhirn

Toyota moves to exclude three categories of opinion testimony from Plaintiff's expert Carl Muckenhirn. These include his opinions (1) that a full-throttle bug ("FTB") can lead to the Camry's throttle opening from an idle position of approximately 6.5 degrees to the wide-open throttle ("WOT") position of 84 degrees; (2) that memory corruption can cause SUA in a vehicle that is at a stop or

[34] In addition to exhibits attached to the docket entries cited here, evidence is found attached to Plaintiff's separately filed declarations. (See Docket Nos. 4198, 4203, 4206, 4207, 4208 & 4210.)

idle; and (3) that the Camry's analog-to-digital converter ("A/D converter") is a "single point of failure."

(1) Opinion Regarding the Full-Throttle Bug

Muckenhirn may not testify regarding the existence or effect of the software bug identified as the FTB,[35] nor may any other expert.[36] At his deposition, Muckenhirn testified that he examined the logic of the code and found a software bug—eventually dubbed the FTB by fellow expert Michael Barr—that would, through the occurrence of a specific set of circumstances, reset the target throttle angle to 84 degrees from the idle position.[37] (Muckenhirn Depo. at 59-74.) However, he also testified that, although the FTB was testable, it had not been tested.[38] (Id. at 75-77.)[39] For this reason, the Court excludes testimony regarding

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[35] A fuller discussion of the FTB is found in the Court's Order Granting Motion to Strike. (Docket No. 4086.) Familiarity with that Order is presumed.

[36] Jones appears to refer to the FTB in his deposition. (Jones Depo. at 50; compare Motion at 10, with Muckenhirn Rebuttal Report ¶ 20(f) (referring to the same throttle angle variable).)

[37] Because of the lack of access to source code materials at his deposition, Muckenhirn was understandably unable to recall all the specific occurrences. The Court does not fault Muckenhirn's testimony on this basis.

[38] Although many experts, including Muckenhirn, have testified that the complexity of Toyota's software makes it generally unamenable to testing, Muckenhirn's testimony that this particular portion of the software could be tested is clear. (Muckenhirn Depo. at 75-77.)

[39] At the hearing, counsel for Plaintiff argued that the Court misreads this portion of the Muckenhirn deposition. Specifically, counsel argued that

the FTB.

Much testimony has been elicited regarding how the overall complexity of many portions of the Camry software renders it untestable, either because such testing is impossible as a practical matter because of the number of permutations involved or is otherwise infeasible. To the extent that a software's complexity renders testing unreliable (and thus, useless), sound scientific principles counsel against such testing. However, because Muckenhirn testified that this portion of the software is testable, sound scientific principles counsel that such testing should be performed. (Cf. Daubert, 509 U.S. at 593 ("Ordinarily, a key question to be answered in determining whether a theory or technique is scientific knowledge that will assist the trier of fact will be whether it can be (and has been) tested.").) It appears to the Court that the FTB was not tested because it was simply discovered too late in the process to be subjected to testing.[40]

Muckenhirn actually testified that "System Guard 2," that is, Toyota's fail-safe, could be tested, and not that the FTB could be tested. (See Tr. at 29-34.) Counsel is partially correct. A careful examination of the deposition testimony reveals that Muckenhirn answered affirmatively to defense counsel's question that posited whether a two-part test was feasible. Specifically, counsel questioned whether the software could be tested by (1) triggering the occurrence of FTB to discover (2) if the fail-safe, "System Guard 2," would mitigate any effect of the FTB on vehicle behavior.

[40] The Court need not address whether this opinion was disclosed in a timely manner under Federal Rule of Civil Procedure 26(a)(2).

(2) Opinion that Memory Corruption Can Cause SUA from Idle

Toyota moves to exclude Muckenhirn's opinion that memory corruption can cause SUA in a stopped vehicle with a throttle at idle because he "cites no evidence to back up this assertion." (Motion at 12.) To be sure, neither Muckenhirn nor any other expert can identify a specific software bug, a specific instance of memory corruption, or another specific type of interruption in the normal processes of the Camry's software that caused a SUA event.[41] However, as discussed at length below, Georgia law simply does not require identification of a specific defect.

Muckenhirn explains more generally how memory corruption can cause arbitrary and unpredictable malfunctions in the Camry's software:

> 34. . . . When memory corruption occurs in software, it is typically more like a shotgun blast that spreads out to damage multiple memory locations, than a rifle shot that just damages a single bit. Memory corruption happens in this "scattershot" way because software is all linked together and errors propagate, as described in Barr's Chapter Regarding Toyota's Software Bugs. Thus, Mrs. St. John's vehicle clearly could have accelerated away from

[41] This general failure undercuts the probative nature of much of Plaintiff's expert evidence, which makes it vulnerable to attack in cross-examination. Nevertheless, the Court finds the evidence on the possible causes sufficiently reliable and helpful to admit in evidence.

> the stop sign even without her pressing on the accelerator pedal, due only to a memory corruption event.

(Muckenhirn Rebuttal Report ¶ 34.) Because Barr's testimony on software bugs is itself admissible, Muckenhirn may rely upon it to the extent his opinions build on Barr's testimony. See Dura Auto. Sys., 285 F.3d at 613. Essentially, Muckenhirn opines that memory corruption can lead to unpredictable results and random events, and one of those unpredictable results or random events is the opening of the throttle from its idle position without input from the driver.[42]

(3) Opinion that the A/D Converter is a "Single Point of Failure"

Muckenhirn may testify that both accelerator pedal sensor signals and both throttle sensor signals are converted by the same ESP-B2 monitor CPU. (Muckenhirn Rebuttal Report ¶ 46.) Muckenhirn may also testify that this creates a single point of failure in that, if the conversion circuitry in the ESP-B2 chip fails, the accelerator pedal sensor signals and dual throttle sensor signals will match even

[42] Counsel argues that Muckenhirn's opinion regarding memory corruption should be excluded because the only "real world" occurrence he could identify with specificity is dependent upon the FTB, which the Court has excluded. (Tr. at 46-48 (citing Muckenhirn Depo. at 120.) However, although Muckenhirn's testimony indeed refers to the identified FTB as an example of what might cause memory corruption, he did not testify that the FTB was the only source of memory corruption. Rather, he testifies that the FTB was the only example that he was able to identify with specificity. The admissibility of Plaintiff's expert evidence notwithstanding their inability to pinpoint a specific defect in the Camry that caused the collision is discussed throughout this Order.

if they are inaccurate. (Id. ¶ 47.) This testimony builds on the expert opinion testimony of Dr. Koopman, whose opinion testimony is admissible on this issue, as explained *infra* Section VI.F.

Toyota's reliance on Schudel v. General Electric Co., 120 F.3d 991, 996 (9th Cir. 1997), overruled on other grounds by Weisgram v. Marley Co., 528 U.S. 440 (2000), does not compel a contrary result. Toyota argues that Schudel compels the Court to exclude this opinion because Muckenhirn has not offered the opinion that the A/D converter more probably than not caused the collision. The Court disagrees.

After noting that admissibility of expert testimony necessarily considers state substantive law regarding the merits of a plaintiff's claims, Schudel relied on a Washington Supreme Court decision for the proposition that "the act complained of 'probably' or more likely than not caused the subsequent disability." Schudel, 120 F.3d at 996 (quoting O'Donoghue v. Riggs, 73 Wash.2d 814, 830 (1968)). O'Donoghue, in turn, imposes the substantive requirement that where medical opinion is necessary to establish causation, "the medical testimony must be sufficiently definite to establish that the act complained of 'probably' or 'more likely that not' caused the subsequent disability." 73 Wash. 2d at 830. "[T]he whole of the medical testimony" is considered, but "opinion[s] that the physical disability 'might have' or 'possibly did' result from the hypothesized cause" are insufficient and are "deemed based on speculation and conjecture." Id. As discussed at length *infra* Part Two, Section III(A), Georgia law does not subject

proof of a product defect and causation to the same exacting standard as Washington law subjects proof of causation of disability or injury.

The Court GRANTS IN PART and DENIES IN PART the Motion to Exclude Expert Testimony of Carl Muckenhirn.

B. Barr

Toyota moves to exclude six categories of opinion testimony from Plaintiff's expert Michael Barr. These include his opinions (1) that the FTB can lead to the Camry's throttle opening from an idle position to an 84-degree angle; (2) that Task X can disable the Camry's fail-safes and cause SUA; (3) that an unidentified software bug can cause partial task death of Task X[43] and disable the Camry's fail-safes; (4) that a software bug or bugs caused random access memory ("RAM") corruption, which caused task death, resulting in SUA, which caused the St. John collision; (5) other opinions that Barr did not apply to the St. John collision regarding hardware memory corruption, the watchdog supervisor, and the monitor central processing unit ("CPU"); and (6) other opinions expressed in his deposition, including those related to pedal misapplication and brake pressure. (Motion at 2-3.)

[43] In the Camry software, there is a single large task (referred to as "Task X") that calculates target throttle angle, monitors for system failures, and enters fail safe modes. (Barr Report ¶ 73.)

(1) Opinion Regarding the Full-Throttle Bug

In light of the Court's ruling striking the Barr Supplemental Report regarding the FTB, Plaintiff states that he will not rely on Barr's opinion regarding the FTB.[44] Accordingly, the Court excludes it.

(2)-(4) Opinions Regarding Task Death, Disabling of Fail-Safes, and Causation

The next three categories Toyota seeks to exclude must be broken down into three discrete concepts (which do not correspond to the three categories identified by Toyota). Those concepts relate to task death, disabling of the Camry's fail-safes, and Barr's opinion on the ultimate issue of software bug(s) as the cause of the collision.

(a) Opinions Regarding Task Death

Barr may testify regarding task death generally, how it may be caused, and its possible effects on software operation. The fact that Barr (or any other expert)

[44] Plaintiff does not specifically state this; however, the Court is left with this impression after review of the Plaintiff's representation that he "will not burden the Court with further briefing on this issue, [but rather] states simply that Mr. Barr will defer to Plaintiff's source code expert Carl Muckenhirn as to the details of the [FTG]." (Opp'n at 14.) In any event, as set forth above, the Court has ruled that no expert may testify regarding the FTB because it is testable but not tested.

is unable to identify with certainty a precise software bug (or other specific cause) that can open the Camry throttle from its idle position does not render Barr's opinion regarding the role of task death wholly inadmissible.[45] As discussed more fully *infra*, Part Two, Section III(A), Georgia law simply does not require identification of a specific defect. Barr's opinions are based on sufficient facts and data (review and testing of the source code), and the bases therefor are adequately explained. Moreover, in cases in which the malfunction is not preserved by physical evidence or is not otherwise amenable to tracing, there is more tolerance for consideration by the jury of circumstantial evidence.[46] (See Barr Report ¶ 150 (Toyota's engine control module ("ECM") software lacks an event-logging facility); accord Jones Report ¶ 22 ("Toyota's ECM is designed not to record information that would prove or disprove software failure.").)

However, Barr may not testify as to partial task death. Partial task death was not disclosed in Barr's Report; thus, this opinion is untimely. Fed. R. Civ. P. 37(c)(1). Barr discusses partial task death briefly in his deposition; however, although this testimony may be related to a point made in his Report, this concept cannot fairly be said to be encompassed in the cited portion of the Report. (Compare Barr Report at ¶ 106 & n.73, and Opp'n at 16, with Barr Deposition at

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[45] Nevertheless, given that Barr opines that the death of Task X freezes the target throttle angle, and given Mrs. St. John's account of being at a full stop before the Camry began accelerating uncontrollably, Barr may not testify specifically regarding the death of Task X because his opinion regarding Task X does not fit the facts of the present case. Barr may testify that task death can lead to unpredictable results.

[46] See *infra*, Part Two, Section III(A).

82-83.)

(b) Opinions Regarding Toyota's Fail-Safes

Barr may testify as to how Toyota's fail-safe may have failed to engage.[47] Specifically, Barr may testify regarding the fact that in order for the STP brake switch to have transitioned in the manner required to trigger the fail-safe, Mrs. St. John would have had to remove all pressure from the brake pedal for at least 208-212 ms (approximately 2/10 of a second). (See Barr Depo. at 246-47.) This opinion does not ignore Mrs. St. John's testimony that she took her foot off the brake. There is no suggestion in either the discovery or trial deposition that the participants focused on the exact timing of Mrs. St. John's manipulation of the brake pedal. Instead of focusing on the split-second timing that is relevant to the present narrow question, the participants were focused on the broader issue of Mrs. St. John's account of the car accelerating when she removed her foot from the brake pedal and whether immediately thereafter it was possible that she stepped on the accelerator pedal rather than the brake pedal. To a lesser extent, it was focused on whether Mrs. St. John applied steady pressure or was pumping the brakes. Without more detailed inquiry into this issue, which is no longer possible, the record allows for the inference that Mrs. St. John did not remove all pressure from the brake pedal for the 208-212 ms required to transition the STP brake switch.

[47] Of course, the existence, structure, and operation of these fail-safes are proper subjects for Toyota's expert evidence and for cross-examination of Plaintiff's experts.

(c) Causation Opinion

Barr may not testify as to the ultimate issue of causation. With the exclusion of evidence of the full-throttle bug, Plaintiff's experts have been unable to reliably identity with specificity the defect or defects that actually caused the collision. Although they have reliably identified many factors that could have caused the collision, or that could have combined to cause the collision, absent more specificity as to the defects present in the Camry, the connection between the existence of the defects and the cause of the collision is too tenuous to be admissible. The Court draws the same line with a number of Plaintiff's other experts. Testimony regarding factors relevant to failure, standing alone, does not provide a sufficient foundation to close the evidentiary gap between mere possibility and a reasonable certainty of cause.

(5) Other Opinions Expressed in Report

Barr may testify regarding hardware memory corruption, the watchdog supervisor, and the monitor central processing unit ("CPU"). These are all relevant bases regarding how task death might occur.

(6) Opinion Regarding Pedal Misapplication and Brake Pressure

(a) Opinion Regarding Pedal Misapplication

Barr's opinions regarding the possible causes of the collision necessarily assume that Mrs. St. John was not mistakenly applying the accelerator pedal rather than the brake pedal. This assumption will be manifest in his testimony at trial, but ultimately, this is a question of fact for the jury to decide that is not amenable to expert opinion. For that reason, although Barr may not testify as to this fact (as he lacks personal knowledge thereof), he may acknowledge that this fact is a fundamental assumption of his testimony.

(b) Opinion Regarding Brake Pressure

Barr's opinion regarding the effect of an open throttle and the effect of a driver's actions in pumping the brakes on the effectiveness of vacuum assist braking[48] is based on Loudon's expert testimony. (See Opp'n at 27-28; Loudon Report a 45 (opining that where the throttle is stuck in the open position, "the

[48] The Court had tentatively concluded that Mrs. St. John's testimony that she applied steady pressure to the brake pedal and did not pump the brakes was uncontroverted. However, after consideration of the arguments of counsel at the hearing, a further review of the transcripts of Mrs. St. John's discovery and trial depositions, and review of the video of that same testimony, the Court now concludes that reasonable jurors could come to a contrary conclusion. (Tr. at 11-14; St. John video deposition excerpts.) Moreover, as noted above in connection with Dr. Gill's expert opinions, one may "pump" the brake pedal without removing all pressure from it.

engine vacuum is very low and the available brake boost is reduced . . . [and] Plaintiff's testing [revealed] that with only two pumps of the brakes most of the brake boost is completely lost.").) Because Loudon's testimony on this point is admissible, Barr may rely upon it to the extent his opinions build on Loudon's testimony. See Dura Auto. Sys., 285 F.3d at 613.

The Court GRANTS IN PART and DENIES IN PART the Motion to Exclude Expert Testimony of Michael Barr.

C. Jones

Toyota moves to exclude four categories[49] of opinion testimony from Plaintiff's expert Nigel Jones: (1) that Task X can disable the Camry's fail-safes and cause SUA; (2) that a software bug or bugs caused RAM corruption, which caused task death, resulting in unintended acceleration, which caused the St. John collision; (3) that there are certain scenarios in which task death could cause the throttle to open to cause SUA; and (4) more generally, opinions that Jones did not apply to the St. John collision, including his opinion regarding Toyota's "multiple major mistakes."

[49] Toyota's Notice of Motion mentions a fifth category, but Toyota does not support its argument to exclude Jones' opinion that there is a single point of failure in the Real Time Operating System; thus, the Court does not address it.

(1)-(3) Opinions Regarding Task Death, Disabling of Fail-Safes, and Causation

(a) Opinion Regarding Task Death

Like Barr, Jones may testify regarding task death, how it may be caused, and its possible effects on software operation. As previously noted, failure to identify a specific cause to open the throttle from its idle position makes Jones' testimony vulnerable to cross-examination, but does not render it inadmissible. Jones' opinions are based on sufficient facts and data (review and testing of the source code), and the bases therefor are adequately explained. As Jones explains, proving any particular instance of software failure, such as that in the subject Camry, is impossible in light of the fact that the Toyota ECM is not designed to record data regarding software failure. (See Opp'n at 6 (quoting Jones Report ¶ 22 ("Toyota's ECM is designed to not record information that would prove or disprove software failure. With such information not recorded, Toyota concludes that the absence of proof of failure is proof of the absence of software failure.")).)

(b) Opinion Regarding Toyota's Fail-Safes

Jones may not testify regarding whether or how Toyota's fail-safes may have failed to engage. His deposition testimony reflects that he lacks knowledge of Toyota's fail-safes. (See, e.g., Jones Depo. at 50.) Plaintiff does not argue otherwise. (See generally Opp'n.)

(c) Causation Opinions

Like Barr, Jones may not testify as to the ultimate issue of causation. With the exclusion of evidence of the FTB, Plaintiff's experts have been unable to reliably identity with specificity the defects that actually caused the collision. Although they have reliably identified many factors that could have caused the collision, or that could have combined to cause the collision, absent more specificity, the connection between the existence of the defects and the cause of the collision is too tenuous to be admissible.

(4) Other Opinions Regarding Multiple Major Mistakes

Toyota challenges the entirety of Jones' Report as speculative because he does not express an opinion regarding causation or opine that every identified "major mistake" is a causal factor. This challenge suffers from a lack of specificity. As noted below, in its Motion, Toyota specifically addresses only two of forty "major mistakes" that form the basis of Jones Report.[50] Two additional ones are discussed in the Reply.[51] The Court considers only the admissibility of

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[50] Toyota explains this failure as not wanting to "bore the Court by going through each of Jones' 40 'major mistakes'" and not wanting to "belabor the point." (Motion at 12 & 24.) Instead, Toyota assures the Court that "[n]one of these "major mistakes" opinions have any connection to the facts of case." (Id. at 24.)

[51] The Court disregards this argument, raised for the first time in the Reply. See Zamani, 491 F.3d at 997 ("The district court need not consider arguments raised for the first time in a reply brief.").

those portions specifically addressed in the Motion, and DENIES the Motion as to the remainder.

In its Motion, Toyota argues that "Jones concedes that several of [Toyota's] major mistakes do not 'have anything to do with this crash.'" (Motion at 24 (quoting Jones Depo. at 85-86).) On this point, Toyota overstates Jones' testimony. In the cited testimony, Jones testified that *one* of Toyota's "major mistakes," related to a BOS, is inapplicable. (Id.) Also in the Motion, in the other testimony cited in support of Jones' purported concession that several of Toyota's major mistakes do not apply here, Jones actually testifies to the contrary. Specifically, Jones testified that his opinion that coding violations can cause RAM corruption does apply to the present case.[52] (Jones Depo. at 71-72.)

Thus, the Court holds that Jones may not testify regarding the relative wisdom of placement of the BOS in Task X. It is not relevant, and therefore not helpful; thus, the Court excludes reference to Major Mistake #37. As noted by the Court in a previous Order, the BOS in this context is software that cuts engine power when there are competing brake pedal and accelerator pedal commands. (Docket No. 3804 at 37; see also Kitchen Report at 50-51 (incorporating Toyota's

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[52] Toyota's point may be that Jones' opinion on this topic is inadmissible because although Jones testified that he found coding standard violations that can cause RAM corruption, he has not identified a specific code violation that leads to SUA. (Jones Depo. at 71-72.) As noted elsewhere in this Order, the Court rejects the proposition that Plaintiff's experts' opinions are inadmissible because they fail to identify with specificity a precise defect or defects that caused the collision.

explanation of "Smart Stop Technology")). The BOS does not mediate between a competing brake pedal command and a throttle opening command not caused by the accelerator pedal. Thus, Jones' testimony on this issue is not relevant; accordingly, it is not helpful and it is excluded.

Conversely, Jones may testify regarding Toyota's alleged failure to adopt and enforce a suitable coding standard. In light of the risk-utility analysis applied by Georgia courts to design defect claims, the actions Toyota could have taken in designing the Camry software becomes relevant to the Court's analysis here.

The Court GRANTS IN PART and DENIES IN PART the Motion to Exclude Expert Testimony of Nigel Jones.

D. van Schoor

Toyota moves to exclude a number of categories of opinion testimony from Plaintiff's expert Marthinus van Schoor. Specifically, Toyota moves to exclude Dr. van Schoor's opinions (1) regarding the BOS; (2) related to pedal sensor circuit resistance; (3) that Mrs. St. John was attempting to brake her vehicle at impact; (4) that Mrs. St. John was in control of her 2005 Camry during the collision sequence; (5) related to Toyota's conformance with industry standards; (6) regarding the Camry's brake switch; (7) related to the Camry's vacuum brake-assist booster; and (8) opinions regarding other similar incidents ("OSIs").

(1) Opinions Regarding a Brake Override System

In contrast to Jones' testimony on the BOS, which was excluded, Dr. van Schoor may testify regarding a BOS. This is because where Jones refers to the BOS as designed by Toyota, which is irrelevant to the present action, Dr. van Schoor discusses an alternative design. Rather than just a system that mediates conflicting accelerator and brake pedal commands, Dr. van Schoor defines a BOS (or alternatively, a "Brake Throttle Override System") more broadly: "A Brake Override System is a secondary system, required for a fail-safe system, where a sensor recognizes that the brake is applied while the accelerator pedal is depressed *or that vehicle response is not consistent with the driver's desire to slow the vehicle*." (van Schoor Report at 15 (emphasis added).) He opines that "*a properly implemented* BOS would have avoided the [collision]." (van Schoor Depo. at 160 (emphasis added).)[53] As discussed below, part of the risk-utility analysis involves inquiry into "the ability to eliminate danger without impairing the usefulness of the product or making it too expensive," and Dr. van Schoor's testimony on the BOS alternative design is relevant on this point. See Banks, 264 Ga. at 736 n.6 ("Alternative safe design factors include: the feasibility of an alternative design; [and] the availability of an effective substitute for the product which meets the same need but is safer . . . .").

[53] This is not to say that he may testify regarding causation.

(2) Opinions Related to Pedal Sensor Circuit Resistance

Toyota moves to exclude Dr. van Schoor's testimony regarding pedal sensor circuit resistance as irrelevant because Dr. van Schoor could not opine with a reasonable degree of engineering certainty that resistance caused SUA in this case. (Motion at 2 n.3.) However, as noted previously, experts "need not establish every element a plaintiff must prove[] in order to be admissible." Primiano, 598 F.3d at 565 & n.38. Rather, to be admitted, "[r]eliable expert testimony need only be relevant." (Id.) The Court DENIES Toyota's Motion to Exclude on this point.

(3) Opinion that Mrs. St. John Was Attempting to Brake

As was the case with Barr's opinions regarding the possible causes of the collision, all of Plaintiff's experts' theories necessarily assume the accuracy of Mrs. St. John's account that she was not mistakenly applying the accelerator pedal rather than the brake pedal.[54] To the extent Dr. van Schoor rests his opinions on the same assumption, his testimony is subject to the same parameters as is Barr's. Thus, Dr. van Schoor may not testify as to this as a fact (as he lacks personal knowledge thereof), but he may acknowledge that this fact is a fundamental assumption of his expert testimony.

[54] To be sure, Dr. van Schoor acknowledges that this assumption could be inaccurate. (van Schoor Depo. at 62.)

(4) Opinion Regarding Mrs. St. John's Control of the Camry

Dr. van Schoor may not testify as to whether Mrs. St. John was "in control" of the Camry as she drove through the school yard. This testimony is based upon the presence of tire marks, as testified to by lay witness Anthony Jenkins; however, Dr. van Schoor also conceded that even assuming that these marks were "yaw marks," indicative of steering attempts, they are not conclusive one way or another as to whether the driver is in control of the vehicle. (van Schoor Depo. at 135.) Thus his opinion is both internally inconsistent and unhelpful.

(5) Opinion Regarding Toyota's Conformance with Coding Standards

As noted with respect to Jones' opinions regarding conformance with certain coding standards,[55] Dr. van Schoor's similar opinions are relevant to the risk-utility analysis required to evaluate Plaintiff's design defect claims under Georgia law. The fact that these standards are voluntary rather than mandated is a topic for cross-examination and does not require exclusion.

[55] As noted *infra* n.70, whether these coding standards constitute an "industry standard" within the meaning of the Georgia risk-utility analysis is a conclusion of law that cannot be made at this time and that a jury will have to consider.

(6) Opinion Regarding the Camry's Brake Switch

Dr. van Schoor may not testify regarding "safety risk of the failure mode of a stuck brake switch plunger when in Cruise Control," because there is no suggestion in the record that Mrs. St. John used the Camry's cruise control feature on the date of the collision. Although Plaintiff's experts may testify to a number of hazards found in the Camry software that are implicated by the facts regarding the collision, testimony regarding unrelated hazards is not helpful; thus, the Court excludes it.[56]

(7) Opinion Related to the Camry's Vacuum Brake-Assist Booster

Dr. van Schoor may testify regarding his opinion that "[t]he depletion of the vacuum assist in the . . . Camry poses a serious hazard," and that "an auxiliary vacuum pump or a hydraulic brake pump" could have been used "to maintain vacuum under all conditions." (van Schoor Report at 48.) This testimony builds upon Loudon's testimony that an open throttle or pumping the brakes can result in loss of braking power. (See Loudon Report at 45.) Moreover, this opinion is supported by the discussion found earlier in Dr. van Schoor's report. (van Schoor Report at 7-10.) It is relevant to the question of whether an alternative, safer design was available and feasible. (See Opp'n at 2.)

[56] In his Opposition, Plaintiff identifies another opinion related to the brake switch. (Opp'n at 15.) The Court does not read Toyota's Motion so broadly. Toyota twice quotes the narrow opinion it seeks to exclude. (Motion at 4 & 10.)

(8) Opinions Regarding Other Similar Incidents ("OSIs")

Toyota argues that Dr. van Schoor used an unsound methodology for his selection of other similar incidents. (Motion at 11.) Toyota's point is that Mrs. St. John's vehicle was at a full stop when she recounts that it began to accelerate without her command, and that the OSIs identified did not begin from a full stop. (Id.) In his deposition Dr. van Schoor explained that he selected these OSIs on the basis of an examination of whether the "potentially . . . failing component [is] substantially similar." (van Schoor Depo. at 142.) He elaborated by explaining that he selected 2007 Camrys in addition to 2005 Camrys (such as the St. John Camry) because the electronic throttle control system "ETCS" is similar and those model years "have mostly the same code involved." (Id.)

Dr. van Schoor opines that Toyota has failed to implement effective Failure Modes and Effects Analyses, which he describes as "a standard practice taught in engineering schools and used worldwide by engineers." (van Schoor Report at 24.) Dr. van Schoor identifies these OSIs to support his opinion that Toyota had notice of them and other incidents identified in Toyota Field Technical Reports ("FTRs"). (Id. at 33.) Dr. van Schoor opines that these incidents, in turn, should have led to feedback to Toyota engineers regarding design failure. (See generally id. at 24-35; cf. id. at 34 (describing one example where examination ruled out the throttle body assembly as the root cause of a SUA incident, noting that no attempt was made to remove the ECM or investigate further, and opining that "a defect was identified, confirmed[,] and ignored").) In this context, an OSI cannot be excluded

because it did not involve a fully stopped vehicle.

Thus, the Court finds Dr. van Schoor's opinions relevant and selected based on a sound methodology. Dr. van Schoor may testify regarding the OSIs he identifies.

The Court GRANTS IN PART and DENIES IN PART the Motion to Exclude Expert Testimony of Dr. Marthinus van Schoor.

E. Loudon

Toyota moves to exclude several opinions from the testimony of Plaintiff's expert Steven Loudon: (1) an opinion that Toyota understood that it was important to follow certain coding standards, including that of the Motor Industry Software Reliability Association ("MISRA"); (2) an opinion that Toyota admits that RAM corruption can cause loss of throttle control or cause the throttle to open by itself; (3) an opinion that partial software failure and death of Task X is a plausible and likely cause for the St. John collision; (4) opinions regarding the STP brake switch or sensor design; (5) an opinion that Toyota's software development process and the resulting software was defective, inadequate and/or negligent; (6) an opinion that if Toyota had followed EGAS standards, the St. John incident would likely not have happened; (7) that software or braking defects caused the St. John collision; and (8) an opinion that the lack of a brake override or panic braking system makes the Camry design negligent.

(1)-(2) Opinions Regarding Toyota's Understanding

In his capacity as an expert, Loudon may not offer testimony regarding what Toyota did or did not know or understand regarding the importance of following MISRA coding standards. Nor may he offer an opinion regarding whether Toyota admitted that RAM corruption can effect throttle control. Toyota's knowledge (or lack thereof) is not a proper subject for expert testimony, and it must be established (if at all) by other evidence.

(3), (6) & (7) Causation Opinions

Loudon may not testify as to the ultimate issue of causation. Specifically, he may not testify as to his opinions set forth in his Report, (a) that "software and braking defects . . . caused [SUA] in Mrs. St. John's 2005 Toyota Camry and caused the April 15, 2009 crash," (b) that had "Toyota followed the EGAS standards, and included the software monitoring concepts, the St. John incident would likely not have happened," and (c) that the death of Task X is the likely cause of the collision. (Loudon Report 3-4, 44 & 56.) As it was with Barr's opinion on this issue, although Plaintiff's experts have reliably identified many factors that could have caused the collision, or that could have combined to cause the collision, absent more specificity as to the defects present in the Camry, the connection between the existence of the defects and the cause of the collision is too tenuous to be admissible. Additionally, on the issue of task death as a causal factor, while not expressly disavowing this opinion, Loudon expressly deferred to

the conclusions of the software experts, including Barr. (See Loudon Depo. at 15-18, 59-60, 75 & 77.)

(4) Opinions Regarding the STP Brake Switch or Sensor Design

Toyota moves to exclude Loudon's testimony regarding the unreliability of the brake switch, which is the sensor responsible for sending the STP electronic signal that transitions from high voltage (when brake pedal is applied) to low voltage (when the brake pedal is released). (Motion at 4-5 & n.2.) Toyota also moves to exclude Loudon's testimony that the brake switch sensor is not mechanically redundant and provides inadequate protection against SUA. (Id. at 5.) Toyota moves to exclude these opinions as irrelevant on the basis that testing of the Camry's brake switch revealed normal operation. (Id.) Plaintiff represents he does not intend to elicit testimony from Loudon regarding the unreliability of the brake switch. (Opp'n at 2 n.2.) Accordingly, the Court does not make any ruling as to the admissibility of this evidence.

(5) Opinions Regarding Toyota's Software Development Process and the Resulting Defective Nature of the Software Developed Pursuant to that Process

Toyota moves to exclude Loudon's testimony criticizing Toyota's software development process and opining that process produced defective software. (Motion at 5-6.) These opinions are expressed in a variety of ways throughout

Loudon's Report. (See Motion at 5 (citing large portions of Loudon's Report).) For example, Loudon opines: "Toyota did not have an appropriate software development process, especially for safety critical systems such as automobiles." (Loudon Report at 3.) He also states: "[T]he software and source code used in Toyota vehicles contains serious safety defects, because Toyota failed to write its code in conformity with well-established software coding standards and even in accordance with Toyota's own software coding rules." (Id. at 12.) Toyota argues that because Loudon does not tie these opinions to any causal factor, the opinions are inadmissible. (Motion at 5-6.)

The Court disagrees. Like Jones, Loudon may testify regarding Toyota's software development process because the risk-utility analysis applied by Georgia courts to design defect claims implicate the actions Toyota could have taken in designing the Camry software.

(8) Opinion that the Lack of a Brake Override or Panic Braking System Makes the Camry Design Negligent

Toyota moves to exclude Loudon's opinion regarding a brake override or panic braking system. (Motion at 6-7.) Toyota argues that had Mrs. St. John applied the brakes, the Camry's throttle would have closed to its fail-safe angle. (Id.) Thus, in Toyota's view, there is no need for a brake override or panic braking system because its fail-safe effectuates the same result. (Id.) This argument is unpersuasive because it assumes that the fail-safe was executed without any error

of its own.

Loudon may testify regarding the BOS. In contrast to Jones' testimony regarding Toyota's existing BOS design, which was excluded, Loudon, like Dr. van Schoor, discusses an alternative BOS design that allows a brake pedal application to override the throttle motor itself, rather than overriding only the accelerator pedal position. (Compare Loudon Report at 52 ("For all of its vehicles, Toyota should have designed a BOS that would have shut the engine down at the throttle, i.e., would have controlled the engine at the throttle itself, as opposed to attempting to control it by at the accelerator pedal solely measuring accelerator pedal voltage sensor signals."), with van Schoor Report at 15 (quoted above).)

The Court GRANTS IN PART and DENIES IN PART the Motion to Exclude Expert Testimony of Steven Loudon.

F. Koopman

Toyota moves to exclude Dr. Philip Koopman's opinion testimony that the A/D converter represents a single point of failure that renders Toyota's ETCS unsafe. (Motion at 1-2.) Although stated in a variety of ways, Toyota's point is that Dr. Koopman's opinion focuses on how Toyota's system design created a fault that could cause any type of arbitrary software failure (including an arbitrary failure that could have caused the Camry's throttle to open from the idle position),

rather than focusing on identifying the actual cause of the collision in this case.[57]

Koopman's point is a relatively simple one: In "safety critical analys[e]s, . . . any identified single points of failure should be assumed to yield arbitrary and unpredictable results.[58] (Koopman Depo. at 32 ("[I]f a single point of failure fails in an arbitrary way, it can have any behavior.").) Dr. Koopman, like Muckenhirn, is of the opinion that the A/D converter is a single point of failure. Dr. Koopman explains this is because the A/D converter is located on the same chip as the ETCS's monitor CPU, and thus, they are located in the same "fault containment region." (Koopman Depo. at 71-72.)

Because Dr. Koopman's testimony is relevant, based on sufficient data, and formulated pursuant to a sound methodology, he may testify that the A/D converter represents a single point of failure that renders Toyota's ETCS unsafe.

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[57] More specifically, Toyota first moves to exclude this opinion as unhelpful because Dr. Koopman is unprepared to opine that a failure of the A/D converter is the actual cause of the collision. (Motion at 5.) Next, Toyota argues that Dr. Koopman failed to gather sufficient facts or data because he did not inspect the Camry and did not test to determine if he could replicate the arbitrary fault he opines could be caused by the single point of failure. (Id. at 7-8.) Finally, Toyota argues that Dr. Koopman's methodology is insufficient to establish the actual existence of a defect. (Id. at 5.) That is, Dr. Koopman relies on academic material that is related to system design, which is unrelated to determining cause, thus rendering his methodology inadequate. (Id. at 9-10.)

[58] The Court disagrees with Toyota's characterization that "Dr. Koopman's 'safety analysis' literally consists of simply assuming that what *Plaintiff alleges can, in fact, occur*." (Motion at 10-11.)

First, Dr. Koopman's testimony is relevant, and therefore helpful, because Georgia law requires an assessment of "whether the manufacturer acted reasonably in choosing a particular product design, given the probability and seriousness of the risk posed by the design." Banks, 264 Ga. at 734. The existence of a single point of failure because of Toyota's non-adherence to basic principles of designing safety-critical software is undeniably relevant to this inquiry.

Moreover, this testimony is based on sufficient data, as set forth in Dr. Koopman's Report. (Koopman Report ¶¶ 36-37.)

Finally, Dr. Koopman's opinion is not the result of improper methodology. Dr. Koopman consulted a number of academic reference materials. (Koopman Report ¶ 23 & 237-51.) See Daubert II, 43 F.3d 1311, 1319 (explaining that proper methodology may include reference to "some objective source—a learned treatise, the policy statement of a professional association, a published article in a reputable scientific journal or the like" that supports the expert's conclusions). As for the failure to test the theory that the A/D converter's single point of failure could or did cause SUA, Dr. Koopman opines that intermittent software failure is not amenable to testing. (Koopman Report ¶¶ 108-25.) Although a testable hypothesis (like the FTB) must be tested to be admissible, Plaintiff's experts cannot be faulted for failing to test the untestable, whether due to the impossibility of replicating a specific arbitrary failure or due to a massive number of permutations of possible failures. (See, e.g., Loudon Report at 56 ("Additionally, it is very important to note that there are more than 16 million possible task death combinations in the

2005 Camry L4 . . . . And each one of those task death combinations can have its outcomes affected by the state of the vehicle at the time of the task death and what happens next."); Jones Report ¶ 22 ("Toyota's ECM is designed to not record information that would prove or disprove software failure.").)

The Motion to Exclude the Expert Testimony of Dr. Koopman is DENIED.

G. Arora

Plaintiff moves to exclude all opinions of Toyota's expert Ashish Arora, whom Plaintiff argues is not qualified to render those opinions. Specifically, Plaintiff contends that Arora is an electrical engineer, not a software engineer, and that "[h]e has no real-world experience in analyzing embedded software in a real-time operation system" such as that at issue here. (Motion at 2.) The record belies Plaintiff's contention. First, Arora received an undergraduate degree in engineering, and a master's degree in Electrical and Computer Engineering. (Arora Report, App. A.) Second, as pointed out by Toyota, Arora testified to extensive graduate and undergraduate course work and work experience at Exponent that required extensive reading and writing software in the two software languages found in the Camry. (See Opp'n at 2-6 (citing various passages from Arora's deposition, which is attached to the Opp'n as Ex. A).)

Plaintiff's Motion to Exclude Testimony of Ashish Arora is DENIED.

VII. Motions to Exclude Opinions Regarding Braking System

Toyota moves to exclude the expert opinion of Neil Hannemann. (Docket Nos. 3998 (Motion), 4134 (Opp'n), 4202 Walburg Decl. & 4166 (Reply).) Toyota addresses three categories of opinion testimony from Plaintiff's expert Neil Hannemann: (1) an opinion that Mrs. St. John was applying the brake pedal, not the accelerator pedal; (2) opinions regarding brake pedal application forces; and (3) any opinions arising from his brake testing.

(1) Opinion that Mrs. St. John Was Applying the Brakes

As was the case with similar opinions from Barr and Dr. van Schoor, Plaintiff's expert opinions regarding the possible causes of the collision necessarily assume that Mrs. St. John was not mistakenly applying the accelerator pedal rather than the brake pedal. This assumption will be manifest in Plaintiff's expert testimony at trial, but ultimately, this is a question of fact for the jury to decide that is not amenable to expert testimony. For that reason, although Hannemann may not testify as to this fact (as he lacks personal knowledge thereof), he may acknowledge that this fact is a fundamental assumption of his testimony.[59]

[59] For Hannemann, this assumption derives in part from his reliance on the opinion of Plaintiff's accident reconstructionist, Robert Caldwell. (Hannemann Depo. at 111-12.) Caldwell calculated that the Camry's maximum acceleration capability allowed for a maximum speed of 51 mph, but also reported the EDR data as recording an impact speed ranging between 44-48 mph. (Caldwell Report at 15.) Caldwell himself attributed this difference to either a throttle position at less than a wide-open throttle *or* a reduction in engine power due to braking forces.

(2) Opinions Regarding Brake Pedal Application Forces

Hannemann may not testify that "the majority of drivers apply no more than 30 lbs of force on the brake pedal." (Hannemann Report at 6.) The sources cited do not support this conclusion. (See Hanneman Depo. at 75-96.) However, Toyota does not challenge Hannemann's testimony as to the normal amount of braking pressure (4-5 pounds) used in non-emergency situations; therefore, Hannemann may testify regarding the normal amount of braking pressure. (Hannemann Report at 12.)

(3) Opinions that Flow from Hannemann's Brake Testing

Hannemann may testify regarding the results of his brake testing, including the significance of the partial or total loss of vacuum assist due to an open throttle and/or a driver's actions in pumping the brakes. The brake testing reveals the amount of braking pressure needed to stop the Camry without vacuum assist at various speeds. (Hannemann Report at 8-12.) As Toyota points out and as Hannemann acknowledges, no one knows how much braking pressure Mrs. St. John used. (Motion at 1 (quoting Hannemann Depo. at 97.) Without this knowledge, and with the exclusion of Hannemann's testimony regarding the maximum amount of pressure the majority of drivers apply to the brake pedal, this testimony becomes less relevant because without a point of comparison, the testing results are not helpful. Nevertheless, because the Court also ruled that Hannemann

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(Id.)

may testify as to the normal amount of braking pressure (4-5 pounds) used in non-emergency situations, there is a benchmark for comparison of the amount of additional force needed to stop the Camry, and therefore the Court finds this testimony relevant and helpful.

The Court GRANTS IN PART and DENIES IN PART the Motion to Exclude Expert Testimony of Neil Hannemann.

PART TWO: THE MOTION FOR SUMMARY JUDGMENT

Having ruled on the parties' challenges to expert testimony, the Court now turns its attention to Toyota's Motion for Summary Judgment. Toyota moves for Summary Judgment as to all claims. (Docket Nos. 4029 (Motion), 4122 (Opp'n) & 4211 (Reply).)

I. Summary Judgment Standard

Summary judgment is appropriate only where the record, read in the light most favorable to the nonmoving party, indicates that "there is no genuine issue as to any material fact and . . . the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c)(2); see also Celotex Corp. v. Catrett, 477 U.S. 317, 323-24 (1986). Summary adjudication, or partial summary judgment "upon all or any part of a claim," is appropriate where there is no genuine issue of material fact as to that portion of the claim. Fed. R. Civ. P. 56(a), (b); see also Lies v. Farrell

Lines, Inc., 641 F.2d 765, 769 n.3 (9th Cir. 1981) ("Rule 56 authorizes a summary adjudication that will often fall short of a final determination, even of a single claim . . . .") (internal quotation marks omitted).

Material facts are those necessary to the proof or defense of a claim, and are determined by reference to substantive law. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). "[A] complete failure of proof concerning an essential element of the nonmoving party's case necessarily renders all other facts immaterial." Celotex, 477 U.S. at 322. A fact issue is genuine "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." Anderson, 477 U.S. at 248. To demonstrate a genuine issue, the opposing party "must do more than simply show that there is some metaphysical doubt as to the material facts. . . . [T]he nonmoving party must come forward with specific facts showing that there is a genuine issue for trial." Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574, 586-87 (1986) (internal quotation marks and citations omitted). In deciding a motion for summary judgment, "[t]he evidence of the non-movant is to be believed, and all justifiable inferences are to be drawn in his favor." Anderson, 477 U.S. at 255. Nevertheless, inferences are not drawn out of the air, and it is the opposing party's obligation to produce a factual predicate from which the inference may be drawn. See Richards v. Nielsen Freight Lines, 602 F. Supp. 1224, 1244-45 (E.D. Cal. 1985), aff'd, 810 F.2d 898, 902 (9th Cir. 1987).

The burden initially is on the moving party to demonstrate an absence of a

genuine issue of material fact. Celotex, 477 U.S. at 323. If the moving party meets its burden, then the nonmoving party must produce enough evidence to rebut the moving party's claim and create a genuine issue of material fact. See id. at 322-23. If the nonmoving party meets this burden, then the motion will be denied. Nissan Fire & Marine Ins. Co. v. Fritz Co., Inc., 210 F.3d 1099, 1103 (9th Cir. 2000).

II. Statement of Uncontroverted Facts[60]

Before her death, Ida Starr St. John gave both a trial deposition and a discovery deposition. Excerpts relied upon by the parties are found in numerous exhibits attached to each side's declarations.[61]

In relevant part, Mrs. St. John's testimony may be summarized as follows: On April 15, 2009, after dropping off her friend after the two had been out running errands together, Mrs. St. John began the trip home to put away the groceries she had purchased. (St. John Trial Depo. at 21-22.) She came to a full and complete

[60] Other than most of the proffered deposition testimony, Toyota objects on multiple grounds to the overwhelming majority (if indeed not all) exhibits offered by Plaintiff. Except as noted, the Court declines to expressly rule on each of Toyota's hundreds of objections.

[61] Specifically, the cited portions of Mrs. St. John's trial and discovery depositions are found attached to the Ayers Declaration (Docket No. 4028) at Exhibits L and M, and the Walburg Declaration (Docket No. 4195) at Exhibits 386, 431 and 435-38 (in relevant part). The Court cites to the relevant page number of each deposition rather than each cited portion's exhibit number.

stop at a stop sign in front of Wesley Heights School. (Id. at 23 & 74.) She was about to make a right turn when she "took her foot off the brakes, [her] car just went wild," and she "couldn't control it." (Id. at 23.) She hit a "drug-free school" sign, hit a tree on the left side before hitting a brick wall . . . going into the gym." (Id.) She "kept trying to stop [the Camry] with the brakes, but it kept going faster and faster."[62] (Id. at 24.)

In addition to Mrs. St. John's account of the collision, which the Court takes as true for purposes of the present Motion for Summary Judgment, the parties also expressly agree to a number of facts regarding the collision.[63] Mrs. St. John's Camry traveled across Amber Drive and entered the school grounds. The Camry struck the curb and a sign, then struck a pine tree with the left front wheel, separating the left front wheel from the drive-train which, in turn, resulted in the inability of the vehicle to accelerate. The Camry struck a brick column at the

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[62] The parties disagree about whether Mrs. St. John testified that she pumped the brakes in an attempt to stop the Camry. Her testimony is less than fully clear. (Compare St. John Trial Depo. at 79 (stating that "[she] just kept trying to pump – pump the brakes"), with id. (also stating that "[she] just put [her] foot on the brakes to try to stop the car" and agreeing with counsel's characterization that she "[kept her] foot on the brake and push[ed] as hard as [she] could, to try to stop the car").) As noted previously, although the Court had tentatively concluded that the fact that Mrs. St. John was not pumping the brakes was uncontroverted, upon further review and consideration, including video excerpts of her braking testimony, the Court now concludes that reasonable jurors could draw more than one conclusion.

[63] The facts in this paragraph are uncontroverted. (See Reply to Pltfs.' SGI (Docket No. 4221 (sealed)) ¶¶ 27-31.) Plaintiff suggests that certain descriptions are inaccurate because they are incomplete; however, the more cursory description set forth by Toyota is sufficient for present purposes.

school gymnasium's entryway.

One lay witness, Anthony Jenkins, testified that on the day of the collision, he recalled seeing tire marks on the roadway where the Camry traveled, and that he specifically recalled those marks were not present earlier that same day. (Jenkins Depo. (Walburg Decl. Ex. 439) at 8-9.)[64] Another witness, Janet Partain, testified that as Mrs. St. John drove the Camry through the school yard, she drove around a parked car that was last in a line of cars waiting to pick up soon-to-be dismissed students. (Partain Depo. (Walburg Decl. Ex. 444) at 67.)

Witnesses at the scene reported that Mrs. St. John stated repeatedly that the car would not stop. (See Barnes Depo. at 38; Hall Depo. at 43; Nixon Depo. at 32 & 37; Flowers Depo. at 32 & 67 (attached to Walburg Decl. as Exs. 447-50).)

An internal email between Toyota vice presidents reveals the following: During the first two to six years[65] after Toyota equipped its vehicles with ETCS, a

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[64] Toyota's objection to Jenkins testimony is sustained in part and overruled in part. Jenkins may testify as to the appearance of the tire marks as a fact based on personal knowledge. See Fed. R. Evid. 602. Jenkins may not testify as to any conclusions he might draw from their appearance. See Fed. R. Civ. P. 701.

[65] The language is unclear as to whether it refers to a two-year period or six-year period. The recipient reads the email as referring to an updated search, meaning a six-year period, but has no personal knowledge regarding whether the author was referring to the results of an updated search or the original search, performed four years earlier. (Santucci Depo. (Walburg Decl. Ex. 13) at 651-52.) Nevertheless, in context, the Court agrees the most natural reading of the email refers to a six-year period.

keyword search of Toyota's database designed to identify customer complaints regarding "unintentional acceleration" yielded approximately 60,000 search results. The email's author refers to the need to identify which of the 60,000 might be outside the scope of a specific NHTSA investigation, and that "most of the complaints" were likely related to an identified problem with the Camry that was unrelated to unintended acceleration.[66] (See Walburg Exs. 12-13.)[67]

On May 26, 2010, Toyota Vice President Takeshi Uchiyamada stated in an email communication that Toyota was looking into whether unintended

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[66] In the tentative Order, the Court stated this fact with less specificity, that "[d]uring the two years after Toyota equipped its vehicles with ETCS, including the Camry, Toyota received over 60,000 complaints regarding unintended acceleration (some including the word 'surge') in Camry vehicles." At the hearing, counsel for Toyota argued that this fact (and a number of others) are "not uncontroverted facts." (Tr. at 122-24.) However, Toyota failed to cite to evidence of record that controverts this fact. (See, e.g., Toyota's Reply to Pltf.'s SGI (Docket No. 4221) ¶ 97 (noting, without citation to evidence: "Disputed but Immaterial. Toyota does not dispute that there were NHTSA investigations for speed control complaints involving Toyota vehicles with ETCS-i."); cf. Tr. at 123 ("[T]here is a deposition on this. This is fully vetted in a deposition.").) See Orr v. Bank of Am., 285 F.3d 764, 774-75 (9th Cir. 2002) (discussing moving party's failure to provide pinpoint citations to the record in a statement of undisputed facts); Fleischer Studios, Inc. v. A.V.E.L.A., Inc., 2:06-CV-06229 FMC, 2009 WL 7464165, at *2 (C.D. Cal. Feb. 18, 2009) ("Just as it is not the task of the Court to scour the record in search of a genuine issue of triable fact for the non-moving party, the Court is not required to search the record to determine if the moving party has met its burden of demonstrating the absence of a genuine issue of material fact.").

[67] Toyota's objection to this evidence is overruled. The evidence is not within the definition of hearsay because it is not offered to prove the truth of the matter asserted; rather, it is offered to show notice to Toyota. See Fed. R. Evid. 801(c)(2).

acceleration could be caused by ETCS, that improvements to collection of EDR recorded data would facilitate further analysis, and that additional action would be needed to "clear up any doubt regarding ETCS." (Uchiyamada Depo. (Walburg Decl. Ex. 136) at 170.)

Other internal Toyota documents reveal unexplained events of sudden acceleration. (See generally Walburg Decl. Exs. 160-72 (field technical reports); id. Exs. 173-197 & 199-204 (vehicle owner reports).)[68]

Toyota's ECM does not record software failures that might be relevant to SUA. (Barr Report ¶ 150; Jones Report ¶ 22 & 160-69 (discussing this failure as a conscious design choice). Toyota itself acknowledges the difficulty in replicating or testing for SUA because no diagnostic codes are recorded, and any such event otherwise leaves no trace behind. (See Walburg Decl. Ex. 310.)[69]

Toyota makes extensive use of global variables and does not use MISRA coding standards used by other two other major auto manufacturers, designed to reduce the existence of software bugs.[70] (Barr Report ¶¶ 64, 113, 120.) Software

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[68] Toyota's objection to this evidence is overruled. This evidence falls within the hearsay exception for business records. See Fed. R. Evid. 803(6).

[69] Toyota's objection to this evidence is overruled. This evidence falls within the hearsay exception for business records. See Fed. R. Evid. 803(6).

[70] Toyota argues that the MISRA coding standards cannot properly be considered "industry standards." (Tr. at 93-94.) This point is well taken. Whether MISRA is properly considered an "industry standard" within the meaning of the Georgia risk-utility analysis is a conclusion of law rather than a question of fact.

bugs can cause RAM corruption which, in turn, can cause software task death. (Id. ¶¶ 58 & 63.) In the Camry software, despite the presence of a Monitor CPU, the majority of tasks can die without detection. (Id. ¶ 107.)

Hardware memory corruption, including bit flips, can cause task death as well. (Id. ¶¶ 52 & 69-70.)

Task X calculates target throttle angle, monitors for system failures, and enters fail safe modes. (Id. ¶ 73.) The death of Task X freezes the target throttle angle. (Id. ¶¶ 74-75.) When Task X dies, the fail-safe mode is not triggered unless the driver removes her foot from the brake pedal for a minimum of 208 ms. (Barr Depo. at 246-47.)

Although the Camry has two A/D converters, both accelerator pedal sensor signals and both throttle sensor signals are converted by the ESP-B2 monitor CPU. (Muckenhirn Rebuttal Report ¶ 46.) If the conversion circuitry in the ESP-B2 chip fails, the accelerator pedal sensor signals and dual throttle sensor signals will match even if inaccurate. (Id. ¶ 47.)

When the throttle is stuck at an angle greater than 25 degrees, engine operation reduces the vacuum available to provide power assist to the Camry's

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That Toyota has adopted its own coding standards rather than following the (voluntary) MISRA standards is uncontroverted, although the parties do not agree whether Toyota's internal coding standards incorporate MISRA standards or the equivalent. (See Barr Report ¶ 118.)

brakes. (Hannemann Report at 5; Loudon Report at 45.) Moreover, repeated pumping of the brakes can completely deplete the vacuum. (Id.) Alternative designs were available, including the use of an auxiliary vacuum pump or a hydraulic pump, that would "maintain vacuum under all conditions." (van Schoor Report at 48; accord Hannemann Report at 5-6).) An alternative BOS design that compares the throttle position with the brake pedal sensor rather than the accelerator pedal was also available. (Loudon Report at 52; van Schoor Report at 15.)

III. Claims Asserted and Governing State-Law Legal Standards

In the FAC, Plaintiff asserts a claim for "strict liability" based on a design and/or manufacturing defect, and the failure to warn regarding a defect or defects.[71] (FAC ¶ 19.) Additionally, Plaintiff asserts a negligence claim, alleging duties to manufacture and design the Camry free from defects that would cause an unreasonably dangerous SUA condition when used in a foreseeable and intended use. (FAC ¶ 20.) Plaintiff also alleges a duty to provide appropriate and adequate warnings regarding how to operate the Camry in a SUA event. (Id.) In their three separate Answers to the FAC, the Toyota Defendants assert the affirmative defenses available under Georgia law. (See St. John Docket Nos. 44-46 (relying on Ga. Code Ann. §§ 51-12-31 and 51-12-33).)

[71] Although the FAC is unclear as to the controlling state law, the Opposition makes clear that Plaintiff's claims are asserted under Georgia law.

A. Design and Manufacturing Defects—Statutory Claim

(1) Elements of a Design Defect Claim

Georgia statutory law imposes liabilities upon manufacturers whose products cause injury when those products have design or manufacturing defects that render them unmerchantable or not reasonably suited for their intended purposes. Ga. Code Ann. § 51-1-11(b)(1). Specifically, the relevant statute provides:

> (b)(1) The manufacturer of any personal property sold as new property directly or through a dealer or any other person shall be liable in tort, irrespective of privity, to any natural person who may use, consume, or reasonably be affected by the property and who suffers injury to his person or property because the property when sold by the manufacturer was not merchantable and reasonably suited to the use intended, and its condition when sold is the proximate cause of the injury sustained.

Id.

Under this statute, the plaintiff is not required to show negligence by the manufacturer, but must show that the "product, when sold, was not merchantable

and reasonably suited to the use intended and its condition when sold is the proximate cause of the injury sustained." Center Chem. Co. v. Parzini, 234 Ga. 868, 869 (1975) (internal quotation marks, alteration marks, and citations omitted).

For design defects, Georgia applies a risk-utility analysis to determine whether liability should be imposed for design defects that cause injury. Banks, 264 Ga. at 735 ("[W]e hereby adopt the risk-utility analysis."). "This risk-utility analysis incorporates the concept of 'reasonableness,' i.e., whether the manufacturer acted reasonably in choosing a particular product design, given the probability and seriousness of the risk posed by the design, the usefulness of the product in that condition, and the burden on the manufacturer to take the necessary steps to eliminate the risk." Id. at 734. Courts consider the following non-exhaustive list of general factors in this analysis:

> [T]he usefulness of the product; the gravity and severity of the danger posed by the design; the likelihood of that danger; the avoidability of the danger, i.e., the user's knowledge of the product, publicity surrounding the danger, or the efficacy of warnings, as well as common knowledge and the expectation of danger; the user's ability to avoid danger; the state of the art at the time the product is manufactured; the ability to eliminate danger without impairing the usefulness of the product or making it too expensive; and the feasibility of spreading the loss in the

> setting of the product's price or by purchasing insurance.
>
> . . .
>
> Alternative safe design factors include: the feasibility of an alternative design; the availability of an effective substitute for the product which meets the same need but is safer; the financial cost of the improved design; and the adverse effects from the alternative.

Id. 736 n.6.

(2) Elements of a Manufacturing Defect Claim

In contrast to claims for design defects, which are premised on evidence that an entire product line is defective, a claim for a "manufacturing defect is a defect that is measurable against a built-in objective standard or norm of proper manufacture." In re Mentor Corp. ObTape Transobturator Sling Prods. Liab. Litig., 711 F. Supp. 2d 1348, 1365 (M.D. Ga. 2010) (internal quotation marks and citation omitted). That norm is the manufacturer's designs, and thus a "product's [manufacturing] defectiveness is determined by measuring the product in question against the benchmark of the manufacturer's designs." Id. (internal quotation marks and citation omitted).

(3) Burden of Proof and the Role of Circumstantial Evidence

A plaintiff must establish both a defect and causation. Firestone Tire & Rubber Co. v. King, 145 Ga. App. 840, 842 (1978). Causation consists of both general and specific causation, i.e., that the product can cause the type of injury suffered by a plaintiff and that the product did in fact cause the plaintiff's injuries. Id.

"It is not necessary for the plaintiff to specify precisely the nature of the defect[; instead, a plaintiff] must show that the device did not operate as intended and this was the proximate cause of his injuries." Williams v. Am. Med. Sys., 248 Ga. App. 682, 683 (2001); accord King, 145 Ga. App. 842 (collecting cases regarding the role of circumstantial evidence in establishing the existence of a manufacturing defect).

Georgia courts and federal courts (applying Georgia law) have repeatedly noted that manufacturing defects may be proven through circumstantial evidence. See, e.g., Denton v. DaimlerChrysler Corp., 645 F. Supp. 2d 1215, 1226 (N.D. Ga. 2009); General Motors Corp. v. Blake, 237 Ga. App. 426, 430 (1999); Skil Corp. v. Lugsdin, 168 Ga. App. 754, 756 (1983); King, 145 Ga. App. 840, 842 (1978). It is less clear whether design defects may be proven through circumstantial evidence. Despite Plaintiff's contention to the contrary, Georgia courts have not expressly held that design defects may also be established through circumstantial evidence. (See Opp'n at 6 n.3 (citing Rose v. Figgie Int'l, 229 Ga. App. 848, 853

(1997)).) The authority cited does not stand for this proposition, nor has the Court found any published Georgia case that so holds.

Thus, Georgia lacks controlling authority on this issue. However, examination of Georgia appellate cases persuade the Court that in this instance, the Georgia Supreme Court would hold that the alleged design defect(s) at issue in this action may likewise be proven by circumstantial evidence.[72] This is so because the rationale justifying the use of circumstantial evidence to prove manufacturing defects applies with equal force to the alleged design defect(s) at issue here.

More specifically, a number of Georgia appellate cases have permitted manufacturing defects to be established through circumstantial evidence where the facts reveal that the (presumed) defect destroys the evidence necessary to prove that defect or where the evidence is otherwise unavailable through no fault of the plaintiff. For instance, in Rose, 229 Ga. App. at 851-52, the court permitted the plaintiff to rely on circumstantial evidence to prove that a fire extinguisher

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[72] In analyzing state-law claims, the Court must apply controlling Georgia Supreme Court precedent as it finds it; however, where such precedent is lacking, the Court must consider rulings of other Georgia courts and must attempt to ascertain how the Georgia Supreme Court would decide the issue. See Comm'r v. Estate of Bosch, 387 U.S. 456, 465 (1967) ("If there is no decision by [the state supreme] court then federal authorities must apply what they find to be the state law after giving 'proper regard' to relevant rulings of other courts of the State"); Guebara v. Allstate Ins. Co., 237 F.3d 987, 993 (9th Cir. 2001) ("Our task is to surmise how the state supreme court would decide the issue."); Wyler Summit Partnership v. Turner Broad. Sys. Inc., 135 F.3d 658, 663 n.10 (9th Cir.1998) ("In the absence of controlling [state] Supreme Court precedent, we are Erie-bound to apply the law as we believe that court would do so under the circumstances.").

exploded due to a manufacturing defect notwithstanding the unavailability of the malfunctioning fire extinguisher, which was disposed of by a maintenance employee of the plaintiff's apartment complex. In so doing, the court relied on a number of cases that permitted reliance on circumstantial evidence to prove a defect because of the unavailability of evidence. Id. at 851.

Most pointedly, Rose relies on King, 145 Ga. App. at 842. There, the court permitted a plaintiff to rely on circumstantial evidence where the product malfunction (a tire blowout) destroyed the area containing the allegedly defective material such that it could not be physically examined. Rose, 239 Ga. App. at 851. Rose also relies on Skil Corp. v. Lugsdin, 168 Ga. App. 754, 756 (1983), which upheld a jury verdict rendered upon consideration of circumstantial evidence presented by the plaintiff, including the new condition of the power saw that injured the plaintiff and "expert testimony that there was no other reasonable explanation for failure of the [saw's] blade guard other than a defect in the saw's spring mechanism."

Here, Plaintiff's experts Barr and Jones have both testified that Toyota's software does not record software failures. (Barr Report ¶ 150; Jones Report ¶ 22.) Cf. King, 145 Ga. App. at 842 ("[T]he defect in this case could not be directly observed due to the fact that the material in the area of the [automobile tire] blowout was destroyed by the blowout. To rule that this prevented [the plaintiff] from establishing a prima facie case would be to insulate manufacturers from liability for defective products in any case where the defect causes its own

destruction. Such a result would be totally untenable."). Just as the Court held that Daubert's admissibility standards do not compel Plaintiff's experts to test the untestable, the Court concludes that the Georgia Supreme Court would not require Plaintiff here to trace the untraceable. Thus, the rationale that underlies the Georgia appellate decisions permitting the use of circumstantial evidence to prove a manufacturing defect can easily and logically be extended to apply to a design defect claim under the unique facts of the present case. The Restatement (Third) of Torts: Products Liability comes to the same conclusion. Id. § 3 cmt. b (discussing illustrations in which a plaintiff need not specify whether a design defect or a manufacturing defect caused the harm).

Toyota's arguments do not compel or counsel a contrary result.

Toyota argues that admissible expert testimony as to both the existence of a defect and that the defect caused a plaintiff's injury is necessary to establish liability under Georgia law. (Reply at 11 (relying on Justice v. Ford Motor Co., 1:07-CV-928-TWT, 2012 WL 2513495 (N.D. Ga. June 27, 2012).) In Justice, a federal court case applying Georgia law, the court considered whether a manufacturing defect could be proven by circumstantial evidence. Id. at *2. That case involved a fire that started in a 2000 Ford Expedition while it was parked in the plaintiff's garage, ostensibly caused by a defect in the vehicle's Speed Control Deactivation Switch ("SCDS"). Id. The court noted that because any defect in the SCDS "is not an inference a jury can reasonably draw solely from human experience," expert testimony was necessary to "testify that there was a design or

manufacturing defect, and that this defect caused the product to fail." Id. Because he believed that the evidence he gathered from inspecting the car was insufficient to establish causation under the criteria established by a particular objective standard, the plaintiff's expert could not opine regarding causation. Id. at 3. In the absence of that expert testimony, the Justice court granted defendant's motion for summary judgment. Id. at 4. ("Plaintiffs' own expert will not state, with all of the information available to him, that a preponderance of the evidence supports the conclusion that the SCDS was defectively designed or manufactured, and that the defect caused the fire; meanwhile the Plaintiffs want the jury, with the same evidence and no technical knowledge, to decide that a preponderance of the evidence supports such a conclusion.)

Were this decision controlling, it would be dispositive. However, it is not controlling Georgia authority. Indeed, it is not consistent with Georgia law as decided by Georgia state courts; instead, it relies solely on federal courts in Georgia for its holding. Specifically, Justice relies on Meade v. Ford Motor Company, No. 1:09-CV-1833, 2011 WL 4402539, at *2 (N.D. Ga. Sept. 20, 2011) and (to a lesser extent) Bailey v. Monaco Coach Corporation, 350 F. Supp. 2d 1036, 1045 (N.D. Ga. 2004)). Meade, in turn, relies on Stanley v. Toyota Motor Sales, U.S.A., Inc., 3:07-CV-08CDL, 2008 WL 4664229, at *2 (M.D. Ga. Oct. 20, 2008), which, although in accord with Meade and Justice, cites no authority for this proposition.[73] For its part, Bailey merely cites a federal district court opinion

[73] Meade also cites Jenkins v. General Motors Corp., 240 Ga. App. 636, 637 (1999). To the extent that the holding of Justice can trace any roots to a proposition of Georgia law as enunciated by Georgia state courts, it is through

from Illinois for a corollary to the proposition for which Justice is cited. Bailey, 350 F. Supp. 2d at 1045 (noting that "expert testimony is not required to establish a defect if that defect is one that can be understood by a reasonable juror"). Thus, Justice does not reflect the result which the Georgia Supreme Court would adopt on the present facts.

Toyota also argues that Georgia courts reject the "malfunction doctrine," thus rejecting the proposition that proof of a malfunction is itself evidence an original defect. (See Reply at 3 (relying on Stanley, 2008 WL 4664229, at *2 (collecting cases)). Relatedly, Toyota contends that even if Plaintiff could avail himself of this doctrine, he must show that the collision is of the type that ordinarily occurs as the result of a product defect, and he must negate other reasonable causes of the accident. (Reply at 4 (relying on Restatement (Third) of Torts: Products Liability § 3).)[74] This argument warrants further discussion.

In Stanley, a plaintiff argued that a failure of air bags to deploy after a serious collision was proof of a defect. Stanley, 2008 WL 4664229 at *2. The Stanley court rejected this contention, noting "Georgia courts have squarely rejected the argument that the failure of a mechanical system is itself evidence of

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Meade's citation of Jenkins. Why Jenkins does not convince the Court to grant summary judgment is discussed *infra*, Part Two, Section III.A(3).

[74] Georgia law is in accord with the Restatement § 3, which provides that proof of a specific defect is not required where the incident that harmed the plaintiff "(a) was of a kind that ordinarily occurs as a result of product defect; and (b) was not, in the particular case, solely the result of causes other than product defect existing at the time of sale or distribution."

an original defect in the product." Id. The rationale of these courts is that, under the facts of the case before them, there are a number of causes that may cause malfunction, and the plaintiff must negate those causes to establish the malfunction was due to a defect. For example, in Jenkins, a truck's brake failure could be attributed to a defect, to negligent repair, or due to a heavy load on a trailer it was towing. Jenkins, 240 Ga. App. at 637. In Miller v. Ford Motor Co., 287 Ga. App. 642, 644 (2007), the Court affirmed summary judgment in favor of the manufacturer where air bags failed to deploy in a vehicle that had been driven 50,000 miles in three years. There, the plaintiffs failed to present expert testimony to rule out that the air bags failed to deploy as a result of other causes. Id. (relying on Jenkins). Under this case law, Toyota contends that summary judgment must be granted because "Plaintiff's own experts are unable to rule out human error as a reasonable explanation of M[r]s. St. John's [collision]." (See Reply at 5-7 (so arguing because Plaintiff's experts cannot rule out pedal misapplication).)

Toyota's argument fails to persuade. The Court notes that at issue Stanley, Jenkins, and Miller was the cause of a mechanical malfunction, not the existence of the mechanical malfunction. Here, most fundamentally, at issue is the existence of a malfunction. That is, a jury must consider the issue and conclude either that Mrs. St. John mistakenly pressed the accelerator pedal instead of the brake pedal, or that she did not. If the jury finds that she was not mistaken, that necessarily establishes the existence of a mechanical malfunction. Whether human error rather than mechanical malfunction caused the collision is simply not a proper subject for

expert testimony.[75] If a jury concludes that Mrs. St. John did not press the accelerator, this would eliminate the one competing cause, and thus a jury finding would cure the absence of expert evidence eliminating other causes which the court in Jenkins found dispositive.[76] Thus, the Court rejects the contention that Plaintiff must conclusively negate the possibility that pedal misapplication occurred in order to proceed to trial on his design defect claim.[77]

B. Negligent Product Design and Manufacturing

As they are almost universally, the elements of a negligence claim in Georgia are: "the existence of a legal duty; breach of that duty; a causal connection between the defendant's conduct and the plaintiff's injury; and damages." Seymour Elec. & Air Conditioning v. Statom, 309 Ga. App. 677, 710 (2011); accord Bradley Center v. Wessner, 250 Ga. 199, 200 (1982).

The Georgia Supreme Court has held that negligent design defect claims are

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[75] Indeed, Toyota has successfully moved to exclude such expert testimony. (See, e.g., Barr Daubert Motion at 4; Barr Report at ¶ 149; *supra*, Part One, Section VI.B(6)(a).)

[76] Procedurally, this suggests that the jury should be required to find specifically whether Mrs. St. John applied the gas pedal. This can be addressed when the Court settles the form of special verdict.

[77] To hold otherwise would be contrary to the summary judgment standard. The most direct evidence regarding whether a mechanical malfunction occurred is Mrs. St. John's testimony, and she testified that no pedal misapplication occurred. On summary judgment, Plaintiff is entitled to have the Court assume the accuracy of this testimony.

not actionable. See Ogletree v. Navistar Int'l Transp. Corp., 271 Ga. 644, 645 (1999).

However, claims for negligent manufacturing continue to be recognized by Georgia courts even after Ogletree. See, e.g., Miller v. Ford Motor Co., 287 Ga. App. 642, 644 (2007). To state a claim of negligent manufacturing, the plaintiff must show that the defendant's negligence led to a defect in the product that existed when it left the manufacturer. Miller, 287 Ga. App. at 644.

C. Failure to Warn

In addition to these defect claims, manufacturers who provide inadequate warning regarding known dangers from the use of their products are also subject to liability for injuries that their products cause. "To establish [a] failure to warn claim[, a p]laintiff must show that (1) [the defendant] had a duty to warn, (2) [that defendant] breached that duty, and (3) the breach was the proximate cause of [the p]laintiffs' injuries. Mentor, 711 F. Supp. 2d at 1365-66. "[T]he duty to warn arises whenever the manufacturer knows or reasonably should know of the danger arising from the use of its product." Chrysler Corp. v. Batten, 264 Ga. 723, 724 (1994). That duty can "arise[] from a manufacturer's post-sale knowledge acquired months, years, or even decades after the date of the first sale of the product." Id.

This claim is separate and distinct from the products liability claim in that

even when a product is not defectively designed or manufactured, a manufacturer that "has reason to anticipate that danger may result from a particular use" of the product "may be required to give adequate warning of [a known] danger." Battersby v. Boyer, 241 Ga. App. 115, 117 (1999). Indeed, "a duty to warn can arise even if a product is not defective." Id.

This duty has been expressly preserved by the Georgia product liability statute:

> (c) Nothing contained in this subsection shall relieve a manufacturer from the duty to warn of a danger arising from use of a product once that danger becomes known to the manufacturer.

Ga. Code Ann. § 51-1-11(c).

IV. Discussion

Toyota's Motion for Summary Judgment is premised on the uncontroverted fact that Plaintiff has been unable to identify a precise software design or manufacturing defect and point to physical or otherwise traceable evidence that the defect actually caused the Camry throttle to open from an idle position to a much wider angle without analog input from the driver via the accelerator pedal. To a lesser extent, it is also premised upon the fact that Plaintiff cannot prove the actual

failure of Toyota's fail-safe mechanisms in the Camry on the day of the collision. As explained more fully below, Plaintiff's burden at the summary judgment stage is not so onerous.

Essentially, Toyota asks the Court to conclude that the only reasonable inference that may be drawn from the volumes of evidence proffered by the parties is that Mrs. St. John mistakenly applied the accelerator pedal instead of the brake pedal. The Court cannot so conclude. As Plaintiff points out, and as detailed by the Court more fully below, Mrs. St. John's testimony, together with other evidence, much of it expert evidence, support inferences from which a reasonable jury could conclude that the Camry continued to accelerate and failed to slow or stop despite her application of the brakes.

A. Design Defect

A jury could believe Mrs. St. John's account of her actions, and believing that testimony, could reasonably conclude the existence of a design defect in the Camry. As noted previously, to survive summary judgment, Plaintiff need not definitively negate the possibility that human error rather than design defect caused the collision. Plaintiff need not prove the existence of a specific defect, and she may prove the existence of a design defect that caused injury through circumstantial evidence.[78] The evidence here allows for inferences that would

[78] On this point, the Court is struck by Illustration 5 to Section 3 of the Restatement. As noted, Georgia law is in accord with Section 3. (See *supra* note 74.) Illustration 5 provides:

enable a reasonable jury to find in Plaintiff's favor on her design defect and failure to warn claims.[79]

As to the design defect, Plaintiff has offered a plethora of expert opinion testimony regarding the development and structuring of the Camry software that supports the claim. Plaintiff offers evidence regarding the complexity of the Camry code and the failure to conform with certain coding standards in designing that code. He offers evidence that this complexity leads to an increased number of software bugs, and the inability to correct those bugs without introducing new ones.

> 5. While carefully driving a new automobile at legal speed on a well-maintained road, Driver felt something crack below where the steering column connects with the dashboard. The steering wheel spun to the right and the automobile turned sharply. Before Driver could stop, the automobile crashed into a wall and Driver suffered harm. Driver has brought an action against the manufacturer of the automobile. The automobile had been driven on short trips before the accident and had 300 miles on its odometer. Driver's qualified expert witness testifies that in her opinion the accident was caused by a defect in the steering mechanism. The expert identifies four specific manufacturing and design defects that could have caused the accident, but was unable to say, on a balance of the probabilities, which of the four defects was the cause. Under this Section it is not necessary to identify the specific defect in order to draw the inference that a product defect caused the plaintiff's harm.

[79] This holding is in accord with a recent Georgia appellate decision regarding a negligence claim on the issue of whether an auto accident caused injury to the plaintiff while she was *in utero*. In Nixon v. Pierce County School District, 746 S.E.2d 225, __ (2013), the court reversed summary judgment in favor of a defendant, noting that the plaintiff "presented a sufficient combination of expert and non-expert evidence to create" a triable issue of fact, precluding summary judgment.

He offers evidence that these software bugs can cause memory corruption.

Plaintiff's experts opine that memory corruption can lead to unpredictable results, and that it can lead to task death. They have explained how the death of Task X can affect the target throttle angle in a manner that is inconsistent with driver input.

It is true that Plaintiff has failed to produce admissible evidence regarding a specific defect that could have opened the Camry's throttle from its idle position, but he has raised enough evidence to allow for a reasonable jury to infer its existence. This is particularly appropriate in light of the fact that the Camry software does nothing to track its own failures. If it did, the lack of any identification of a software failure would support Toyota's position; however, absent the ability to trace software failure, the lack of evidence of a specific type of failure is merely inconclusive.

To the extent that the risk-utility analysis implicates "alternative safe design factors," Plaintiff has offered evidence regarding at least two available alternative designs.[80] Specifically, Plaintiff has presented evidence of the availability of an alternative brake-override system that compares the brake pedal sensor to the throttle angle rather than the accelerator pedal sensor. Plaintiff has also presented evidence regarding brake designs that would not allow depletion of vacuum

[80] "[T]he alternative safe design factors" address the desirability, feasibility, and cost of an alternative design. Banks 264 Ga. at 736 n.6.

available for braking assist. Under the present record, a reasonable jury could conclude that either or both of these alternative designs were desireable, feasible, and not cost-prohibitive.

Toyota contends that even assuming Plaintiff could prove the existence of a defect that could cause throttle angle opening from an idle position without driver input, the Camry's software fail-safes would negate its effect. This argument assumes that the fail-safes themselves never malfunction, and that all the occurrences necessary to trigger the fail-safes occurred in the Camry immediately preceding the collision.

At least two points allow for the possibility that the fail-safes would not have been triggered or may not have functioned correctly. Plaintiff's experts explain how a supposed redundancy in the accelerator and brake pedal sensors could be rendered ineffective by a single failure because their signals are all processed by the same A/D converter. Where a failure occurs in the A/D converter, it is possible that the brake echo test—a comparison that triggers the fail-safe to which Toyota points—could operate on stale data to unpredictable results. Moreover, Plaintiff's expert Barr testified that in order for brake pedal application to transition the brake switch such that the brake echo test would have the mismatching data to trigger the fail-safe, Mrs. St. John would have had to release the brake pedal for 208 to 212 ms. These points allow for the reasonable inference that the fail-safe did not operate as intended in this instance.

B. Manufacturing Defect

Toyota represents that Plaintiff is not proceeding on this claim, and Plaintiff does not represent otherwise. Accordingly, the Court grants summary judgment in favor of Toyota as to Plaintiff's manufacturing defect claim.

C. Negligence

As noted, Georgia law does not separately recognize a design defect claim premised on negligence. Ogletree, 271 Ga. at 645. Moreover, as noted above, Plaintiff is not proceeding on his manufacturing defect theory. Accordingly, the Court grants summary judgment in favor of Toyota as to Plaintiff's negligence claim.

D. Failure to Warn

The record reveals that Toyota received repeated complaints regarding uncommanded acceleration and/or engine surging in Camrys in the first two to six years after the ETCS was introduced. Because the duty to warn is a continuing one, a reasonable jury could infer that these complaints triggered a duty to warn Camry owners of their vehicles' tendency to behave as reported, how to avoid any such malfunction, and/or how to react in the event they experienced such a malfunction while driving the vehicles.

V. Conclusion

As set forth *supra* Part One, the Court GRANTS IN PART and DENIES IN PART the Motions to Exclude Expert Testimony.

As set forth in Part Two, because Plaintiff has raised triable issues of fact that would allow a reasonable jury to find in his favor, the Court GRANTS IN PART AND DENIES IN PART Toyota's Motion for Summary Judgment. Specifically, the Court grants summary judgment as to Plaintiff's manufacturing defect claim and negligence claim. The Court denies the Motion for Summary Judgment as to the design defect claim and the failure to warn claim.

IT IS SO ORDERED.

DATED: October 7, 2013

JAMES V. SELNA
UNITED STATES DISTRICT JUDGE