No. 21-2112

In the Supreme Court of the State of Fremont

WILLIAM ASHPOOL, PETITIONER

V.

EDISON INCORPORATED, RESPONDENT

ON PETITION FOR A WRIT OF CERTIORARI
TO THE COURT OF APPEALS
FOR THE STATE OF FREMONT

BRIEF FOR THE PETITIONER

Oral Argument
Date:
Round:

Team C

Attorney for Petitioner
William Ashpool

QUESTIONS PRESENTED

I. Under the risk-utility test, does the Marconi's inability to sense stationary objects at speeds exceeding thirty-five miles per hour render it "unreasonably dangerous" to support a design defect claim?

II. Should the State of Fremont impose a duty to retrofit safety defects within the semi-autonomous car industry based on the industries capacity to centrally control and update software for the vehicle's automatic driving functions?

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

TABLE OF AUTHORITIES

Page(s)

CASES

UNITED STATES SUPREME COURT

UNITED STATES COURT OF APPEALS

UNITED STATES DISTRICT COURTS

TABLE OF AUTHORITIES (CONT.)

STATE SUPREME COURTS

TABLE OF AUTHORITIES (CONT.)

TABLE OF AUTHORITIES (CONT.)

TABLE OF AUTHORITIES (CONT.)

ELECTRONIC SOURCES

STATEMENT OF THE CASE

Statement of the Facts

When William Ashpool left his longtime career as a criminal defense attorney to become a social worker, he bought a new car to accommodate his job. (R at 3). Because his position as a social worker required drives around the county to visit families and conduct home visits, he sought a new vehicle to replace his aging truck. (R at 3). After learning about the Edison Marconi and its Autodrive technology, Mr. Ashpool visited the dealership to test drive the car in November 2019. (R at 4). The salesperson at the Edison dealership told Mr. Ashpool that the Autodrive feature would enable him to input his destination and "enjoy the ride, with no further action required." (R at 4). In November 2019, Mr. Ashpool bought the vehicle because of its Autodrive technology. (R at 4).

On December 20, 2019, Mr. Ashpool was using the Autodrive feature in his Marconi and when its sensors failed to register a brown bear in the middle of the road, the car crashed into the animal. (R at 4). While the bear left the accident unscathed, Mr. Ashpool suffered severe and extensive injuries including a concussion, whiplash, five broken ribs, a dislocated shoulder, and a broken wrist. (R at 4). To treat the severity of Mr. Ashpool's injuries, he was hospitalized for a costly two-and-a-half weeks. (R at 4). Unfortunately for Mr. Ashpool, his insurer also determined that his Marconi was a total loss. (R at 4). Had the vehicle's twelve-sensor system recognized the bear in the road, Mr. Ashpool would have maneuvered the car to avoid a collision and the subsequent injuries. (R at 4).

Edison is an automobile corporation registered in Fremont that has a history of designing luxury and sport electric vehicles. (R at 2). In 2014, it released the Marconi, an economy sedan. (R at 2). Edison's market research revealed that economy consumers valued safety features and

ease of use over cutting-edge technology. (R at 2). Despite this research, Edison distributed the Marconi knowing its twelve-sensor system had difficulty identifying stationary objects when going over thirty-five miles per hour. (R at 5). At the time of distribution, Edison knew additional sensors could improve the collision rate. (R at 5). However, Edison abandoned these safety improvements due to feasibility and cost concerns. (R at 5). The addition of sensors would increase the cost of the Marconi by at least five thousand dollars per vehicle and effectively take the Marconi out of the price range of economy range sedans. (R at 5). Recognizing that the inclusion of additional sensors was safer, Edison planned to include these sensors on its future luxury and sport vehicle models. (R at 5).

Edison did not know until afterwards that a software update to existing sensors could also improve the collision rate. (R at 6-7). Specifically, the accident rate of the Marconi was 13% higher when the vehicle was driving over thirty-five miles per hour. (R at 5). Following the release of the Marconi and within the two years before the instant case, there were approximately twelve accidents in similar situations with the Marconi going over thirty-five miles per hour and hitting a stationary object. (R at 5-6). Each of these accidents involved faulty sensors and a stationary object such as a median strip, light pole, or an already-deceased deer. (R at 5-6).

Procedural History

On January 12, 2020, Mr. Ashpool brought a product liability claim under a theory of design defect against the Edison Marconi Autodrive feature at the Hayward County District Court. (R at 8). In creating the Autodrive feature, Mr. Ashpool alleged that Edison should not have cut safety costs on a feature that the public is not accustomed to. (R at 5). At the Hayward County District Court, Mr. Ashpool sought the inclusion of the duty to retrofit in his jury instructions; these were denied by the district court. (R at 7). By denying jury instructions on the

duty to retrofit, the district court also excluded Mr. Ashpool's compelling argument that Edison could have prevented the accident by providing a new update to the Autodrive feature. (R at 7).

On the final day of the trial, the district court denied Mr. Ashpool's motion for a judgement as a matter of law pursuant to Fremont Rule of Civil Procedure 50(a) and submitted the case to the jury for consideration. (R at 7). The jury returned a verdict for Edison finding that the sensors did not cause Mr. Ashpool to crash and denied Mr. Ashpool's design defect claim. (R at 7). Following the jury's verdict, Mr. Ashpool moved unsuccessfully for a renewed motion judgement as a matter of law pursuant to Fremont Rule of Civil Procedure 50(b). (R at 7).

Mr. Ashpool then appealed to the Court of Appeals for the State of Fremont to challenge the district court's denial of his renewed motion of judgement as a matter of law pursuant to Fremont Rule of Civil Procedure 50(b). (R at 7). On appeal, Mr. Ashpool argued the district court erred in two ways: 1) its denial of Mr. Ashpool's renewed motion for judgement as a matter of law and 2) its refusal to include the duty to retrofit in its jury instructions. (R at 7). The Court of Appeals for the State of Fremont affirmed the decision of the district court and held the appeals court found "nothing in the inherent design of Autodrive's shortcomings to render the vehicle any more dangerous than a sedan without such advanced technology." (R at 10-11). Mr. Ashpool petitioned this Court for writ of certiorari which was ultimately granted. (R at 20).

SUMMARY OF ARGUMENT

The Court of Appeals for the State of Fremont erred in affirming the decision of the lower court and denying Mr. Ashpool's design defect claim. Mr. Ashpool presented a valid design defect claim that should have been recognized under his renewed motion for judgement as a matter of law. Mr. Ashpool proved that the Marconi was in such a defective condition as to make it unreasonably dangerous under the six factors of the risk-utility test.

The risk-utility test is designed for courts to use to analyze weigh the benefits of a product against the danger it poses to consumers and ensure consumers are not using products that are unreasonably dangerous. The Marconi is unreasonably unsafe under this test because Edison knew about the design defect in the Marconi and could have feasibly fixed it. Moreover, selling the Marconi to consumers without including the additional sensors rendered the car unreasonably dangerous. Because the Marconi's design did not include the sensors necessary to render it safe, it caused a 13% increase in car accidents. Thus, the Marconi, as it was put on the market, was unreasonably unsafe and fails fails the risk-utility test.

Additionally, the Supreme Court of the State of Fremont should adopt a duty to retrofit to ensure emerging manufacturers are held liable for the human safety dangers their products pose. The Supreme Court of the State of Fremont should also recognize that Mr. Ashpool is entitled to a remedy because Edison maintains a continuing relationship with the consumers of the Marconi that establishes a duty to retrofit.

ARGUMENT

I. EDISON'S MARCONI VEHICLE IS UNREASONABLY DANGEROUS UNDER THE RISK-UTILITY TEST AND PRESENTS A VALID DESIGN DEFECT CLAIM.

Manufacturers have a duty to ensure that the products they distribute will not unreasonably cause harm. Edison did not abide by this duty in its design and distribution of the Marconi and as a result, Mr. Ashpool brought this design defect claim. (R at 4).

There are three elements required to demonstrate a design defect: 1) the injury was caused by the product, 2) at the time of the injury, the product was in essentially the same condition as when it left the manufacturer, and 3) the injury occurred because the product was in a defective condition such that it was unreasonably dangerous. (R at 8). *Citing* Fremont Rev. Code § 5552.321; *Cf* W. Prosser, *Law of Torts* 671-72 (4th ed. 1970). The first two elements are

not at issue here, and thus this action focuses solely on whether the Marconi's inability to sense stationary objects at speeds exceeding thirty-five miles per hour rendered it unreasonably dangerous. Edison's decision not to add the necessary sensors to make the Marconi safe rendered the car unreasonably dangerous and, if ignored, will endorse a company's decision to prioritize profit over human life.

A product is unreasonably dangerous if the "foreseeable risks of harm posed by the product could have been . . . avoided by the adoption of a reasonable alternative design . . . and the omission of the alternative design renders the product not reasonably safe" pursuant to the Restatement (Third) of Torts: Products Liability §2(b) (Am. Law. Inst. 1998). Courts use various tests to determine if a product is unreasonably dangerous.

The State of Fremont analyzes design defect claims under the widely used, six factor risk-utility test. *Fickell v. Toyoma Motors Inc.*, 758 XE 821, 830 (Fremont 2014). *Compare* Restatement (Third) of Torts: Products Liability §2(b) (Am. Law. Inst. 1998) (adopting the risk-utility test) *with* Restatement (Second) of Torts § 402A (Am. Law. Inst. 1979) (adopted the now less favored consumer expectation test). The burden of proof is on the Petitioner to provide evidence of the six factors: 1) that the severity of the injury was foreseeable by the manufacturer, 2) that the likelihood of occurrence of her injury was foreseeable by the manufacturer at the time of distribution of the product, 3) that there was a reasonable alternative design available, 4) that the available alternative design was practicable, 5) that the available and practicable reasonable alternative design would have reduced the foreseeable risk of harm posed by defendant's product, and 6) that omission of the available and practicable reasonable alternative design rendered defendant's product not reasonably safe. *Peck v. Bridgeport Machs., Inc.*, 237 F.3d 614, 617-18 (6th Cir. 2001). After weighing all six factors, this Court should find that Edison's

Marconi was unreasonably dangerous and consequently hold that judgement as a matter of law in favor of Mr. Ashpool is appropriate.

A. The Severity of Mr. Ashpool's Injuries was Foreseeable by Edison at the Time of Distribution Because Edison's Own Internal Pre-Distribution Testing Revealed the Design Defect Within the Sensors.

The dangerousness of automobiles is well-known; therefore, any manufacturers entering the semi-autonomous car market is on notice and aware that severe and extensive injuries are a foreseeable and likely result of automobile accidents from defective semi-autonomous cars.

1. Edison's own pre-distribution, internal testing revealed the design defect within the Marconi's sensors.

Edison's own pre-distribution, internal testing revealed the foreseeability of Mr. Ashpool's injuries and the defects in the Marconi's design. (*Ashpool v. Edison*, No. 20-1000, ____ at 4-5.) As a result of Edison's hundreds of sensor tests, Edison learned "that the sensors had difficulty identifying stationary objects when the vehicle was driving above [thirty-five miles per hour] and a stationary object was present in the vehicle's path." *Id*. at 5. In a design defect claim, the "emphasis is on the manufacturers conduct, not the product" since the "manufacturer chooses the design of its product." *Ostendorf v. Clark Equip. Co.*, 122 S.W.3d 530, 535 (Ky. 2003). *See also Gregory v. Cincinnati Inc.*, 538 N.W. 2d 325, 335 (Mich. 1995) (holding a "conscious *decision* to design a product in a certain manner necessitates that the focus be on conduct rather than the product"). When focusing exclusively on Edison's conduct, the severity and likelihood of Mr. Ashpool's injuries was certainly foreseeable.

When Edison's CEO testified, he admitted that the reason they did not include additional safety sensors to the Marconi's design, in light of this known safety issue, was due solely to cost concerns. Edison refused to take the Marconi outside the economy range of sedans by increasing its price by five thousand dollars. In declining to alter the defective design by adding more

sensors, Edison effectively shifted what could have been manufacturing costs to more irreparable human safety costs. Instead of allowing consumers to choose safety, Edison made that decision for them; rather than stand proudly behind its safer product and accept liability,[1] Edison believed its cost concerns were enough to avoid liability. Edison's own internal testing revealed that there was a reasonable alternative design available: the addition of new sensors to improve the Marconi's ability to identify stationary objects when driving above thirty-five miles an hour.

2. The Marconi's design defect is more dangerous than a sedan without such advanced technology.

Rather than fully consider the evidence aforementioned, the Court of Appeals of Fremont found that the Marconi's Autodrive shortcomings did not "render the vehicle any more dangerous than a sedan without such advanced technology." (R at 10-11). The court's conclusion is misguided because the Marconi and its Autodrive defects are not comparable to an ordinary sedan.

The U.S. Supreme Court faced a similar question involving a new technical advancement in *Kyollo v. United States*. 533 U.S. 27 (2001). The Court was faced with whether a police officer's use of a thermal imaging device, a technical advancement, constituted an unconstitutional search under the Fourth Amendment. *Id*. Writing for the majority, Justice Scalia recognized that "[w]hile the technology used in the present case was relatively crude, the rule we adopt must take account of more sophisticated systems that are already in use or in development." *Id*. at 36.

Here, the Court of Appeals failed to consider and adopt a holding that would take into

[1] *See* Volvo Cars, *US urged to establish nationwide Federal guidelines for autonomous driving*, Volvo Cars (Oct. 7, 2015), https://www.media.volvocars.com/global/en-gb/media/pressreleases/167975/us-urged-to-establish-nationwide-federal-guidelines-for-autonomous-driving (Volvo's President and Chief Executive has said, "Volvo will accept full liability whenever one of its cars is in autonomous mode, making it one of the first car makers in the world to make such a promise").

account the more sophisticated and dangerous nature of semi-autonomous automobiles. If not held legally liable, Edison and the Marconi's design defect will set a low standard for the semi-autonomous car industry that does not consider the dangerousness of these features that are already in use *and* in development. Thus, this Court should recognize the novel issues that accompany emerging technology and consider them in its risk-utility analysis.

3. Automobile manufacturers are well-aware of the dangerousness of their product.

The likelihood and extent of Mr. Ashpool's injuries is foreseeable even if the Court does not consider Edison's pre-distribution, internal testing. Automobiles have "long been held to be a dangerous instrumentality."[2] *Chrysler Corp. v. Wolmer*, 499 So. 2d 823 (Fla. 1986). The Centers for Disease Control and Prevention (CDC) claim that road traffic crashes are a leading cause of death for people in the United States aged 1-54. *Road Traffic Injuries and Deaths—A Global Problem*, Centers for Disease Control and Prevention, (https://www.cdc.gov/injury/features/global-road-safety/index.html).

Beyond the United States, the World Health Organization (WHO) estimates that each year 1.35 million people are killed on roadways around the world:[3] the dangerousness of automobiles is universally recognized and not disputed.[4] Even before the advent of semi-autonomous automobiles, automobiles have a well-established reputation for their inherent

[2] While long held to be dangerous instrumentalities, automobiles are not subject to strict liability and have not been claimed to be inherently dangerous in and of itself. But with the advent of semi-autonomous automobiles, legal commentators have advocated for strict liability and in fact, some plaintiffs have even sued under a strict liability theory. *See Umeda v. Tesla Inc.*, No. 20-cv-02926, 2020 U.S. Dist. LEXIS 175286 (N.D. Cal. Sep. 23, 2020) (A semi-autonomous automobile lawsuit alleging design defect and strict liability claims against a semi-autonomous automobile manufacturer but dismissed on a motion for forum non conveniens).

[3] Notably, automobiles cost more than just lives. *See* Simiao Chen, Michael Kuhn, Klaus Prettner, & David E. Bloom, *The Global Macroeconomic Burden of Road Injuries: Estimates and Projections for 166 Countries*, 3 The Lancet Planetary Health 390, 390-98 (2019) (Estimates suggest that fatal and nonfatal crash injuries cost the world economy approximately $1.8 trillion dollars (in 2010 USD) from 2015-2030).

[4] *See* World Health Organization, Global Status Report on Road Safety 2018, (2018), https://apps.who.int/iris/bitstream/handle/10665/277370/WHO-NMH-NVI-18.20-eng.pdf?ua=1.

dangerousness. Therefore, when Edison decided to pursue the creation of a semi-autonomous vehicle, the dangers of a defective design were well-known, and Edison knew that a defective design could easily have resulted in injuries like Mr. Ashpool's, or even worse, such as death.

The potential dangers semi-autonomous automobiles pose to human safety are well-known and widespread. Congress had recognized the unique danger semi-autonomous vehicles pose to human health. When testifying before the Senate Committee on Commerce, Science, and Transportation, the Chairman of the National Transportation Safety Board warned that "[w]hile there is often a desire to jump directly to the end of the technological spectrum—highly automated 'self-driving' vehicles—it is imperative that regulators and policy makers do not ignore the risk associated with *partial* driving automation systems currently being operated on our highways." *Hearing on Highly Automated Vehicles: Federal Perspectives on the Deployment of Safety Technology Before the S. Comm. On Commerce, Science, and Transportation*, 116th Cong. 1 (2019) (Testimony of The Hon. Robert L. Sumwalt, III Chairman National Transportation Safety Board) (emphasis added). Importantly, the promise of these systems is that they "will be safer than a human driver. [But] [u]ntil that promise is realized, the testing of developmental ADS—with all its expected failures and limitations—requires appropriate safeguards when conducted on public roads." *Id*. at 3. This is why the National Highway Traffic Safety Administration (NHTSA) requires companies like Edison to implement hundreds of sensor tests. (R at 4). Partial driving automation systems, like Edison's Autodrive, must be treated with caution and much differently than traditional cars.

A judge on the Connecticut Supreme Court noted that "anyone who drives a car knows that safe driving requires far more than rote ministerial compliance with pre-scripted directives." *Borelli (Estate of Giordano) v. Renaldi*, No. 20232, 2020 Conn. LEXIS 140, at 139-40 (June 24,

2020). That same Judge recognized that "bad human judgement causes accidents, but the right kind of human judgement seems essential to good driving" which may explain why our "automakers are experiencing such difficulty perfecting a self-driving car." *Renaldi*, at 140 n.54. Courts are recognizing the complexity of cars with advanced technology and their potential to cause harm differently than traditional cars.

Similarly, legal scholarship has identified three unique concerns to semi-autonomous vehicles that do not apply to traditional automobiles: freedom, privacy, and liability. Jack Boeglin, *The Costs of Self-Driving Cars: Reconciling Freedom and Privacy with Tort Liability in Autonomous Vehicle Regulation*, 17 Yale J. L. & Tech. 171, 173 (2015). Concerns include compromising users' privacy by transmitting the present location of the vehicle, the user's unique travel patterns, and the use's future travel plans, which could be used for targeted marketing, law enforcement or surveillance. *Id.* at 181. These issues indicate the additional problems that concern semi-autonomous vehicles but not ordinary cars.

Additionally, studies have shown that individuals operating partially semi-autonomous vehicles are prone to passive fatigue and distraction. Mitchell Cunnigham and Michael Regan, *Automated vehicles may encourage a new breed of distracted drivers*, (September 26, 2018), https://phys.org/news/2018-09-automated-vehicles-distracted-drivers.html. Passive fatigue occurs when drivers are operating a car that does not require frequent vehicle controls but are on the lookout for obstacles. *Id*. Unlike ordinary cars, semi-autonomous vehicles can result in drivers, that are using these cars exactly as instructed, losing focus. Because this safety issue exists uniquely in semi-autonomous vehicles, it would be illogical to compare their safety to that of ordinary vehicles.

Legal scholarship has also indicated a need to hold manufacturers of self-driving cars responsible for accidents that occur as a consequence of their technology. Kenneth S. Abraham & Robert L. Rabin, *Automated Vehicles and Manufacturer Responsibility for Accidents: A New Legal Regime for a New Era*, 105 Va. L. Rev. 127 (2019). After the first fatality caused by a self-driving car, legal experts indicated that if the driver was exercising reasonable car preceding the accident, then the manufacturer would be held liable. *Id*. Products liability scholars have even advocated for a new regime to effectively promote safety in semi-autonomous cars and adequately address the myriad unique legal issues that arise because of the technology. Increased manufacturer responsibility is necessary to motivate manufacturers to focus on safety in automated vehicles. *Id*. at 26. The advocacy for a unique approach to products liability law regarding automated vehicles highlights the magnitude of the difference between these cars and regular sedans. To ensure consumer safety, manufacturers should be responsible for the unique problems that accompany advanced technology.

Whether Mr. Ashpool would have noticed the bear when driving an ordinary sedan is insignificant. The Marconi is far from an ordinary sedan and poses unique dangers and legal issues that should be recognized by this Court in its analysis and treated with caution. Mr. Ashpool was operating the Marconi exactly as he was instructed to, with both hands on the wheel and his eyes on the road. (R at 4). He may have been suffering from passive fatigue, as is common for drivers of automated vehicles. This would explain why he did not register the bear in his path despite his focus on the road. Alternatively, he may have become accustomed to the sensors working effectively and was relying on this feature. Both of these possibilities are consequences the Autodrive feature that would not affect drivers of an ordinary sedan, and courts must evaluate the dangers of the Marconi within that unique framework.

The Court of Appeals of Fremont erred in treating the Marconi's design defect and potential for danger like they would treat an ordinary sedan. This approach ignored the nuances of the advancing technology and its unique safety threats. Edison should have included the additional sensors as a reasonable alternative design, and the decision not to resulted in unreasonable danger to consumers.

B. The Reasonable Alternative Design for The Marconi was Practicable, Available, and Would Have Reduced the Foreseeable Risk of Harm.

The addition of sensors to the Marconi is a reasonable alternative design that was available, practicable, and would have reduced the foreseeable risk of harm.

1. Additional sensors were a reasonable alternative design that Edison could have implemented to reduce the foreseeable risk of harm.

Installing additional sensors in the Marconi was a feasible and practicable alternative design that would have decreased the chance of collision. (R at 11). In employing the risk-utility test, the trier of fact considers "alternative safer designs and the accompanying risk pared against the risk and utility of the design chosen 'to determine whether . . . the manufacturer exercised reasonable care in making the design choices it made.' " *Gregory*, 538 N.W.2d at 329-30 quoting *Prentis v. Yale Mfg. Co.*, 421 Mich. 670, 688 (1984). When determining the practicability of alternative designs, courts consider various factors including "competing cost trade-offs, tactical market decisions, product development and research/testing demands . . . and federal and other regulatory restrictions . . ." *Banks v. Ici Ams.*, 264 Ga. 732, 736 (1994). The lower court mistakenly concluded that the price increase of $5,000 for the necessary technology and labor necessary rendered the alternative design, while possible, was not economically feasible. (R at 11).

Even if a design satisfies safety standards, it can still fail the risk-utility test according to the Supreme Court of Georgia in *Doyle v. Volkswagenwerk Aktiengesellschaft*. 267 Ga. 574 (1997). The court reasoned that excusing companies from liability for implementing minimum safety features would potentially allow dangerous products to harm consumers. *Id*. at 576. There, the court concluded that despite a car's compliance with federal safety regulations, it could still be held liable for a design defect resulting in injury. *Id*. at 576. The court explained that exempting companies from liability because they met the minimum safety regulations would have negative effects and "grant complete immunity from design defect liability to an entire industry." *Id*. at 576-77. Thus, even if a design meets safety regulations, it can still be unreasonably unsafe under the risk-utility analysis.

When considering a reasonable alternative design, courts should note the target market for the product. The Supreme Court of Texas concluded that "when a market for a product is segmented such that identifiable groups of users require or prefer different designs, the determination that a product is defectively designed should be made with reference to the market segment for which the product is intended." *Hernandez v. Tokai Corp.* 2 S.W.3d 251, 263 (Tex. 1999). Therefore, a consumer's desire for safety should be included in the Court's analysis of a reasonable alternative design.

Moreover, putting excessive weight on the reasonable alternative design aspect of the consumer expectations test runs counter to good policy by requiring too much of the plaintiff. John F. Vargo, *The Emperor's New Clothes: The American Law Institute Adorns a "New Cloth" for Section 402A Products Liability Design Defects—A Survey of the States Reveals a Different Weave*, 26 U. Mem. L. Rev. 493 (1996). Legal scholarship has identified the issues with requiring consumers to present a reasonable alternative design, "there have been products in the

past and there will be products in the future of such high risk and such low social utility that they will flunk a risk-utility test, but because the plaintiff cannot get through the gatekeeper of reasonable alternative design, that claim will either not be brought or will fail." *Vargo*, 26 U. Mem. L. Rev. at 525, 527. It would have been nearly impossible for any plaintiff to provide a reasonable alternative to asbestos, and yet companies should still be held liable for knowingly endangering consumers with it. *Id.* For these reasons, many jurisdictions that employ the risk-utility test do not require proof of an alternative feasible design for a design defect claim. *See* Patrick Lavelle, *Crashing into Proof of a Reasonable Alternative Design: The Fallacy of the Restatement (Third) of Torts: Products Liability*, 38 DUQ. L. REV. 1059 (2000); *See also Vautour v. Body Masters Sports Indust.*, 147 N.H. 150, 156 (2001) (declining to adopt the reasonable alternative design requirement for New Hampshire). This Court should not over rely on "rigid prerequisite of a reasonable alternative design [which] places too much emphasis on one of many possible factors that could potentially affect the risk-utility analysis." *Vautour*, 147 N.H. at 156. The reasonable alternative design requirement imposes an "undue burden on plaintiffs because it places a 'potentially insurmountable stumbling block in the way of those injured by badly designed products.'" Vautour, 147 N.H. at 155 (citing Note, *Just What You'd Expect: Professor Henderson's Redesign of Products Liability*, 111 Harv. L. Rev. 2366 (1998)). By requiring expert testimony costs and containing broad exceptions that create complex issues for juries and judges, plaintiffs are discouraged and deterred from bringing design defect claims. *Vautour*, 147 N.H. at 155-56.

Mr. Ashpool's expert at trial concluded that if additional sensors were included in the Marconi's design, the collision rate would have been reduced by 13%. (R at 11). The Court of Appeals of Fremont did not find this persuasive because the driver retained the ability to stop the

car. However, Edison's own studies revealed that consumers in the economy range placed higher value on safety features and ease of use than cutting-edge technology. (R at 2). Edison's studies demonstrate the risks associated with distributing a less safe product to consumers in the economy range, yet it created this product with knowledge of the consumer's desire for safety features. Therefore, Edison should have incorporated, in its design, consumer's expectations for a safe vehicle.

Pursuant to the reasoning in *Doyle*, the Marconi's compliance with safety standards does not exempt Edison from liability even if it was somewhat safe. Exempting Edison from liability would signal to all car companies that they can cut corners when creating cars using novel technology. It is imperative that the law incentivizes companies to create products that consumers can safely use, which may require additional research or investment. Allowing Edison to escape liability would encourage other manufacturers to exploit economy consumers by creating products that are dangerous in nature.

The effects of adding the necessary sensors to the Marconi's design does not render the improvement unreasonable. Edison claimed that the five thousand dollar increase that additional sensors would have cost would have resulted in a price increase on the Edison that would have exceeded their target market for this model. (R at 11-12). However, exceeding the company's desired price range does not render a design unreasonable, especially when the alternative is selling a car that becomes dangerous when going thirty-five miles per hour. A relatively small price increase is not unreasonably when the alternative is risking consumer lives.

Economy buyers value safety over advanced technology, illustrating the feasibility of the reasonable alternative design for this market. Marconi's own research indicated that consumers in the economy range put greater value on the safety of a car than its technological features, and

the Court should include this in its analysis of the feasibility of the Marconi. (R.at 2). Making a more expensive car that was safer would likely have been preferable to consumers based on Edison's research. Thus, the reasonable alternative design, despite its increased price, would be feasible for the consumers that the car was designed for and marketed to.

Even if the installation of the additional sensors necessary to make the vehicle safe was economically unfeasible, Mr. Ashpool, a social worker, should not be responsible for coming up with a solution that even car manufacturers haven't yet found. Edison should have sold the vehicle at a higher price to accommodate the additional sensors or come up with a reasonable alternative design that would not have affected the safety of the vehicle. Since the Autodrive technology has been marketed to consumers there have been numerous serious and fatal accidents that could have been prevented with more responsible manufacturing. Lawrence Ulrich, *Driverless Cars May Be Coming, But Let's not Get Carried Away*, (June 20, 2019) (https://www.nytimes.com/2019/06/20/business/self-driving-cars-cadillac-super-cruise.html). While the development of technology is important, it does not outweigh an industry's responsibility to value human life over new products. Exempting Edison from responsibility would be valuing industrial progress of human life and safety.

2. The omission of the available and practicable reasonable alternative design rendered Edison's Marconi not reasonably safe.

A product is unreasonably unsafe "if the design defect [was] known at the time of manufacture, a reasonable person would conclude that the utility of the product did not outweigh the risk inherent in marketing a product designed in that manner." *Voss v. Black & Decker Mfg. Co.*, 59 N.Y.2d 102, 108 (1983). A reasonable person would conclude that a 13% increase in car accidents, and at least 12 accidents so far rendered the Marconi unreasonably safe.

When considering if a product is unreasonably unsafe, the Court can weigh several factors including "the degree of awareness of the potential danger of the product which can reasonably be attributed to the plaintiff." *Voss*, 59 N.Y.2d. at 109. Generally, "[a] product is 'reasonably fit' for its purposes if the design prevents the 'reasonably forseeable [sic] risks attending the product's use in that setting.'' *Marchant v. Dayton Tire & Rubber Co.*, 836 F.2d 695, 698 (1st Cir. 1988). An individual driving a car that was designed to alert the driver when there was a hazard in the road would anticipate the car doing just that. The severe danger associated with a driver's expectations under these circumstances outweighs the benefits of semi-autonomous cars.

The 13% increased collision rate for Edison's Marconi when exceeding thirty-five miles per hour is not safe because a reasonable person would conclude that the risk of accident outweighs the benefit of the Autodrive feature. A reasonable person driving a car and using a feature called "Autodrive" will naturally depend on the car to be somewhat autonomous, especially because the feature works so well until the car exceeds thirty-five miles per hour. Moreover, the salesperson told Mr. Ashpool when he bought the car that the car would drive itself once he input his destination. The car is arguably more dangerous because drivers were accustomed to the sensors working even when they were driving above thirty-five miles per hour. These factors demonstrate the inherent danger in the Marconi's design and the high risk that the design will result in collisions that endanger consumers for using the car as it was marketed.

The faulty sensors in the Marconi result in drivers hitting stationary objects, an incredibly dangerous type of collision. About 20% of automobile related deaths are due to cars hitting stationary objects. *Fatality Facts 2018: Collisions with fixed objects and animals*, (2018),

https://www.iihs.org/topics/fatality-statistics/detail/collisions-with-fixed-objects-and-animals. Unlike faulty mirrors or other minor design defects, this defect is incredibly dangerous and can result in serious consumer injuries and death. A 13% increase in collision rate that causes accidents with a 20% mortality rate is undoubtedly too large of a risk to be worth a small decrease in production and sales price.

II. EDISON'S AUTODRIVE FUNCTION IMPLICATES A DUTY TO RETROFIT DUE TO ITS EFFECT ON HUMAN SAFETY.

When a manufacturer develops a product and discovers some dangerous defect, it has a duty to immediately correct the product as well as to ensure that defects are corrected on products already sold. *Braniff Airways Inc. v. Curtiss-Wright Corp.*, 411 F.2d 451, 453 (2d Cir. 1969). A duty to retrofit, sometimes referred to as a continuing duty or a post-sale duty, requires that a manufacturer correct dangerous defects or, provide warnings or methods to mitigate the risks if a product recall is not feasible. *Id.* at 453. While this duty has not been adopted by a majority of courts, some courts have imposed this duty on certain manufacturers and industries based on the nature of the products in question and the practices of the organizations themselves. *See Noel v. United Aircraft Corp.*, 342 F.2d 232, 237 (3d Cir. 1964) (imposing a duty to retrofit on a manufacturer of an airplane propeller system based on its likelihood to endanger the public); *see also Hernandez v. Badger Const. Equip. Co.*, 28 Cal. App. 4th 1791(1994) (judgment against crane manufacturer for failing to install safety devices developed after crane had been sold).

Imposing a duty to retrofit depends both on policy concerns and the factors specific to a particular case, making imposing such a duty a matter of law and within the power of this Court to implement. *Gregory*, 538 N.W. 2d at 330. This Court should adopt a duty to retrofit for Edison's semi-autonomous vehicles because Edison has demonstrated its capacity to perform

such a duty based on its current business practices and relationship with its customers after the point of sale.

A. Traditional Challenges for Post-Sale Retrofitting Do Not Apply to Edison's Marconi Because Edison Use and Maintains an Automatic Software Update System on its Vehicles.

Traditionally, a manufacturer's retrofit campaign involves three steps: 1) identification of the product or consumer, 2) notification to the consumer of the need to retrofit, and 3) remediation of the potential problem or hazard. Douglas R. Richmond, *Expanding Products Liability: Manufacturers' Post-Sale Duties to Warn, Retrofit and Recall,* 36 Idaho L. Rev. 7. (1999). These three steps often make liability burdensome for manufacturers who often have extreme difficulty locating the defective product, reaching the consumer, and providing a remedy for the potential problem. *Id*. These three steps required for retrofitting are often impossible and have provided justifications for jurisdictions to avoid adopting a duty to retrofit. However, in the case of Marconi's Autodrive feature, none of the aforementioned traditional concerns apply.

The quantity of products on the market is a relevant factor to the feasibility of fulfilling a duty to retrofit. *Readenour v. Marion Power Shovel,* 149 Ariz. 442, 447-448 (Ariz. 1986). The defendant in *Readenour* was a mining shovel manufacturer that inadequately guarded the conductors of the shovel, which resulted in the electrocution and amputation of the plaintiff's arm. *Readenour*, 149 Ariz. at 444. The shovels were highly specialized and only approximately one-hundred and twenty were ever produced. *Id*. The manufacturer provided warning signs on the conductor guards for shovels previously produced but the sign did not fit the conductor guard on the shovel in question and was instead mounted elsewhere. *Id*. The facts that the manufacturer only had a small number of shovels to retrofit and had already shown the capacity to contact and provide warning signs, albeit warning signs that were improperly sized, demonstrated the

feasibility of providing adequately retrofitted guards to protect the conductors. *Readenour*, 149 Ariz. at 447.

Here, while Edison has sold much more than one-hundred and twenty Marconis, Edison has no difficulty identifying and locating the product and the consumer via software updates. Since Edison maintains a system that creates software updates and sends them automatically to Marconi drivers, Edison completely avoids the traditional issues that preclude a duty to retrofit because locating the product is instantaneous and done often by Edison. (R at 16). Essentially, this system means that any changes Edison makes to the Marconi's Autodrive feature would require the same amount of time, effort, and capital to push out to update ten vehicles as it would ten thousand. This demonstrates the same feasibility to impose a duty to retrofit on Edison that the *Readenour* court found since Edison can locate and correct issues with its products, even after the point of sale, with relative ease.

For the same reason, Edison has no difficulty notifying customers of the issues with the Marconi. Edison has repeatedly used its update feature to both notify its customers and locate the Marconi. The third reason a duty to retrofit has traditionally been denied is that requiring manufacturers to retrofit their products is often extremely costly. However, in Edison's case, it does not have to engage in the costly practice of installing new sensors on every Marconi vehicle but rather can simply disable the Marconi's Autodrive feature via a software update, eliminating the risk that the function has on the market until Edison enables consumers to install additional sensors.

In the cases where courts have adopted a duty to retrofit for manufacturers, "the manufacturer has typically regained control of the product after learning of a way to improve its safety" or as in the instant case "has retained the ability to force an owner or operator to make

the necessary improvements." *Richmond*, 36 Idaho L. Rev. at 50. Adopting a duty to retrofit has "often arise[d] in specialized markets, such as helicopters and airplanes, although a few courts appear to have recognized a duty to correct a later discovered design defect outside the context of specialized markets." *Richmond*, 36 Idaho L. Rev. at 50-51. While it is not entirely clear what defines a specialized market, Edison's semi-autonomous Autodrive feature and the Marconi appear likely to be part of a specialized market where they have retained the unique ability to force its owners to make necessary improvements to the Marconi through mandatory and automatic updates. Additionally, semi-autonomous car manufacturers are analogous to aircraft manufacturers who have had a duty to retrofit imposed on them for two reasons. First, both industries have consumers that rely on the technology implemented to function properly to ensure successful transportation. Second, any failure of that technology could result in severe harm to the passengers on board, such as the injuries Mr. Ashpool suffered.

1. Concerns About Stifling Innovation and Discouraging Safe Design Are Overstated.

Additionally, a common argument against adopting a duty to retrofit are concerns about stifling innovation and discouraging the design of safer products. These were echoed by the Court of Appeals for the State of Fremont in its opinion: "it would be contrary to public policy to hold the company liable for the shortcomings of a safety innovation." (R at 12). However, the Court of Appeals for the State of Fremont erred in prioritizing these potential concerns over those of public safety. While legal liability can discourage innovation of new products and the creation of new safety features, a semi-autonomous car should be treated as the dangerous instrumentality it presently is, and liability should be weighed against the potential damage that could be done.

If manufacturers of semi-autonomous cars advantageously position themselves to benefit from the estimated to be 2.44 billion dollar semi-autonomous car market by 2027,[5] these manufacturers can afford to ensure that their products are safe—even if that means absorbing a five-thousand dollar safety cost. The estimated profitability potential of the semi-autonomous car market explains why much of the leading case law for semi-autonomous cars deals exclusively with trade secrets. *See Waymo LLC v. Uber Techs., Inc.*, No. C 17-00939 WHA (N.D. Cal. Jan. 18, 2018); *Swarmify, Inc. v. Cloudflare, Inc.*, No. C 17-06957 WHA, (N.D. Cal. Feb. 27, 2018); *Weride Corp. v. Huang*, 379 F. Supp. 3d 834 (N.D. Cal. 2019). Unfortunately, the general public would be better protected if lawsuits shifted away from profitability and trade secret concerns and focused more on product liability claims and protecting the emerging group of unknowing consumers like Mr. Ashpool.

Furthermore, the argument that legal liability will dissuade technological safety innovations also fails to consider that innovation may also be brought forth due to competition between manufacturers' themselves. Consumers are and should be interested in purchasing a vehicle that can provide safe and reliable transportation. As such, when a manufacturer develops a safer product, it develops the potential edge against other products that its competitors may be developing. The potential to avoid technological stagnation in a competitive market will likely lead to increased innovation for safety technology even if there is also the likelihood that the manufacturer may need to take action to retrofit older designs or ensure that less safe features do not remain on the market.

[5] Fortune Business Insights, *Autonomous Cars Market Size, Share % COVID-19 Impact Analysis, By Type, By Vehicle Type and Regional Forecasts, 2020-2027*, Fortune Business Insights (Aug. 2020), https://www.fortunebusinessinsights.com/industry-reports/autonomous-cars-market-100141

Based on the nature of the technology used for semi-autonomous vehicles and the fact that Edison's current business model inherently mitigates traditional concerns for imposing a duty to retrofit, this Court should find that Edison and the semi-autonomous car industry is a specialized market that should have an affirmative duty to retrofit its technology that implicates human safety.

B. Edison Assumed a Duty to Retrofit by Developing Safer Alternatives to its Product and Maintaining a Special, Controlling Relationship with the End User.

When a manufacturer develops a product that has the potential to cause substantial injury or death upon failure, there should be an imposed duty that the manufacturer continue to improve and ultimately retrofit those improvements on existing products even after the final sale to the consumer. This duty to retrofit existing products is created when the product involves human safety. *Noel,* 342 F.2d at 236. Additionally, once a manufacturer produces a design known to be safer than their current product, it owes a duty retrofit or remove the obsolete product from service. *Bell Helicopter Co. v. Bradshaw,* 594 S.W.2d 519, 530 (Tex. Civ. App. 1979). Furthermore, even if the duty to retrofit is not imposed on manufacturers, a manufacturer may still assume such a duty if there is a continuing, controlling relationship between the manufacturer and the user that would allow that manufacturer to mandate that the retrofit be implemented when the product is serviced. *Gregory,* 538 N.W. 2d at 335.

When a manufacturer has knowledge of the dangers its current product creates and fails to make improved technology available that mitigates the product's defects, it breaches its continuing duty to retrofit. *Noel*, 342 F.2d at 242. In *Noel,* the manufacturer of the plane's propellor was aware of a tendency for the propellor to overspeed or rotate faster than the engine shaft could allow based on seventy-nine instances of overspeeds on aircrafts with the propeller

system prior to the crash in question. *Noel,* 342 F.2d at 236. An overspeed of the propellor that is not controlled will inevitably result in a separation of the propellor from the engine shaft as well as overheating the system and causing a fire. *Id.* at 234. The court determined that the danger of an uncontrollable overspeed in the propellor system was not a hypothetical risk, but rather a "generally recognized danger." *Id.* at 235. The court found that due to the dangers present in the system that presented a risk to human safety, the manufacturer was under a continuing duty to improve its propellor system. *Id.* at 236. Additionally, the manufacturer was aware that the there was a need for an alternative device to mitigate the risk of overspeeds, as well as the catastrophic failure that could result if such an alternative was not implemented, as early as six years prior the fatal accident. *Id.* at 237. Additionally, the manufacturer, prior to the accident, developed a Pitch Lock mechanism that was able to detect and limit overspeeds. *Id.* at 237. This mechanism was used on Lockheed Electra aircraft but not the aircraft in question, the Lockheed Constellation, at the time of the accident. *Id.* at 237. The manufacturer was held liable for the accident based on its knowledge of the risk and failure to more actively implement the means to mitigate the risk on the aircraft. *Id.*

When a manufacturer develops a safer alternative to a known issue after the sale of a product, the manufacturer assumes a duty to retrofit to ensure that the safest system that the manufacturer can provide is available to the consumer. *Bradshaw*, 594 S.W.2d at 530. The manufacturer, Bell, a helicopter manufacturer, developed a rotor blade that was prone to fatigue cracks and required constant and detailed inspections to ensure that the system was still safe. *Id.* at 526-27. Subsequently, Bell developed a new, substantially more damage resistant rotor blade system that had four times the service life and required fewer routine inspections than the older system. *Id.* at 527. While Bell was not obligated to create a safer design than the older rotor

blade system, once it did develop a new, safer rotor system, it had a duty to not allow consumers to continue to use the less safe rotor blades. *Bradshaw*, 594 S.W.2d at 530. Once Bell began implementing the safer blades on the new aircraft it produced, it assumed a duty to ensure that the less safe rotor blades were not provided or serviced for the aircraft that already had the blades installed. *Id.* at 532. This duty was imposed by the court because Bell maintained control of the aircraft because all aircraft manufactured by Bell had to go to Bell certified service stations, meaning that Bell could require that the users adhered to Bell's safety notices and only replaced parts from its own approved list. *Id.* at 528.

Even if the duty to retrofit is not imposed on a manufacturer, that duty may still be assumed by the manufacturer so long as there is a continuing, controlling relationship between the manufacturer and the owner of the product. *Gregory*, 538 N.W. 2d at 335. The defendant, Cincinnati, a press brake manufacturer, was accused by the plaintiff, Gregory, of failing to repair or recall its product to install safety guards that Gregory asserts would have prevented the accident that resulted in his thumb's amputation. *Id.* at 327. Michigan does not have a continuing duty to repair and will only find that a manufacturer assumes such a duty if the defect is discovered while the product is still under the manufacturer's control. *Id.* at 330.

Even if this Court does not impose a duty to retrofit on all manufacturers, Edison still assumed such a duty by developing a safer Autodrive system. Based on Edison's CEO's testimony, Edison had developed an Autodrive system for the Marconi that would have detected stationary objects more effectively. (R at 5). Edison planned to implement this safer system on its newer luxury and sport vehicles. (R at 5). This is like the manufacturer in *Bradshaw* which developed and implemented safer rotor blades on its newer aircraft, demonstrating a duty to prevent the less safe system from remaining in operation. Not only did Edison have a more

technologically advanced alternative to the Autodrive feature, it knew that the current system increased the danger of accidents by 13%, which is analogous to the *Noel* manufacturer being aware of the increased risk of its propellor's tendency to overspeed. Edison was further aware of the need to implement its safer alternative to Marconi's Autodrive when it learned of twelve separate accidents that occurred prior to Mr. Ashpool's injuries that all involved stationary objects when the car was moving above thirty-five miles per hour. (R at 6). These accidents indicate that, like in *Noel*, that there was a general, not merely hypothetical risk to human life in using the Marconi Autodrive feature. Given that Edison developed a safer system that employed additional sensors for the vehicle, Edison assumed a duty to implement this new system and ensure that the less safe Autodrive feature was replaced or removed from its vehicles.

Additionally, even if Edison had never developed a safer Autodrive feature, it still assumed a duty to repair or remove the current Autodrive system based on its special and continuous relationship with the driver even after the sale of the vehicle. This relationship is established through Edison's continuous updates to the Autodrive software. (R at 3). This is analogous to the service stations implemented by Bell in *Bradshaw* in that Edison retained complete control of what updates would be sent to the user based on its own policies and safety guidelines.

Edison had the capacity to send an update to the software that would disable the Autodrive feature unless the car was retrofitted with the additional sensors required to improve its capacity to avoid collisions with stationary objects. As a result, Edison should be found liable for failing to remove or repair the Autodrive feature after assuming its duty to retrofit.

CONCLUSION

Mr. Ashpool brought a valid design defect claim that was improperly dismissed by the lower court. All six factors of the risk-utility test establish that Edison's semi-autonomous vehicle was unreasonably dangerous and consequently support a design defect claim. Edison had a duty to retrofit the Marconi to ensure only the safest iteration of Autodrive was implemented based on its special controlling relationship that permitted updating the vehicle's software, even after the point of sale. Edison's practice of updating the software on its vehicles after being sold, indicates that it had the capacity to effectively correct or remove less safe features such as the Autodrive feature from the Marconi. Edison's failure to correct or remove this hazardous product from the market demonstrates its failure to uphold its duty to provide its customers with the safest driving experience that it could provide.

APPENDIX A: STATUTORY PROVISIONS

Fremont Rev. Code § 5552.321 Rule of Liability:

One who sells any product in a defective condition unreasonably dangerous to the driver or consumer or to his property is subject to liability for physical harm caused to the ultimate driver or consumer, or to his property, if

(a) The seller is engaged in the business of selling such a product, and

(b) It is expected to and does reach the driver or consumer without substantial change in the condition in which it is sold.

APPENDIX B: RESTATEMENTS

Restatement (Second) Torts

§ 402A: Special Liability of Seller of Product for Physical Harm to User or Consumer:

(1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if

(a) the seller is engaged in the business of selling such a product, and

(b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.

(2) The rule stated in Subsection (1) applies although

(a) the seller has exercised all possible care in the preparation and sale of his product, and

(b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.

Restatement (Third) of Torts

Products Liability §2(b): Categories of Product Defect

A product is defective when, at the time of sale or distribution, it contains a manufacturing defect, is defective in design, or is defective because of inadequate instructions or warnings. A product:

> (a) contains a manufacturing defect when the product departs from its intended design even though all possible care was exercised in the preparation and marketing of the product;
> (b) is defective in design when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the alternative design renders the product not reasonably safe;
> (c) is defective because of inadequate instructions or warnings when the foreseeable risks of harm posed by the product could have been reduced or avoided by the provision of reasonable instructions or warnings by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the instructions or warnings renders the product not reasonably safe.