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CRASH TEST DUMMIES: WHAT DRIVES AUTOMOBILE SAFETY IN THE UNITED STATES?

*Joseph Gavin**

Invented at the end of America's gilded age nearly 125 years ago, the automobile has grown up with this country, not only facilitating our industries and growth but also becoming an inextricable element of our cultural identity. Early innovators like Henry Ford helped transform what was once a novel luxury into an affordable and eventually ubiquitous tool. As of 2008, approximately 256 million vehicles were registered in the United States.¹ While consumers tend to focus on safety, quality, and performance when evaluating which car to purchase, few people pay further attention to car safety once it leaves the dealer's lot. In reality, every time an individual gets in a car, they are entrusting their safety to the design and function of the vehicle. They are dependent not just on the owner's successful maintenance, but also on the bumpers, seatbelts, airbags and 30 or more on-board computers.

Fortunately, there are forces beyond the attentive vehicle maintainer and the altruistic manufacturers that are constantly working behind the scenes to make us safer on the roads. There are three aspects of consumer culture that each claim credit for the development of auto safety in the U.S. Broadly, these elements include regulation, litigation and manufacturer

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¹ RESEARCH AND INNOVATIVE TECH. ADMIN., U.S. DEP'T OF TRANSP., RESEARCH AND INNOVATIVE TECH. ADMIN., NATIONAL TRANSPORTATION STATISTICS, TABLE 1-11: NUMBER OF U.S. AIRCRAFT, VEHICLES, VESSELS AND OTHER CONVEYANCES (2009).

accountability. This note will evaluate these three parties and their role in auto safety and additionally uncover a hidden fourth enforcer who is essential to the success of the other three.

Finally, this note will discuss the relevance of the automotive safety technology currently on the horizon in this country and conclude by addressing the relative safety of subcompact vehicles popular in Europe and whether these cars will ever find favor in America.

I. THE SOURCES OF SAFETY

A. *The Historical Context of the Movement for Automobile Safety*

For the first half-century of the automobile's existence, automotive safety was rarely a priority for manufacturers or the government. As automobiles became increasingly popular in the early part of the century, the federal government saw little reason to preempt state vehicle laws and therefore confined its involvement in the industry to contributions for building roads.² In fact, the first time the U.S. implemented legislation governing automobile design was not until 1940.³

At the end of World War II, American soldiers returned home to a severe housing shortage, which led to a major suburban sprawl facilitated by the automobile, thereby increasing the demand for new automobiles and highways.⁴ Throughout the early and middle twentieth century, the U.S. government focused on injury and fatality prevention primarily through changing driver behavior rather than improving mechanical safety.⁵ According to the Insurance Institute for Highway Safety (IIHS):

Engineering attracted some attention, but it was engineering to prevent crashes. Reducing the

² MARTIN ALBAUM, INS. INST. FOR HIGHWAY SAFETY, *SAFETY SELLS: MARKET FORCES AND REGULATION IN THE DEVELOPMENT OF AIRBAGS* 1 (2005).

³ This legislation required all new cars to have sealed beam headlights, a then-recent invention. Because the law remained in effect until 1984, critics note the requirement actually resulted in freezing headlight innovation rather than promoting safety, a pattern that permeated other aspects of automotive safety design legislation.

⁴ ALBAUM, *supra* note 2, at 1.

⁵ JAMES CASTELLI, CARL NASH, CLARENCE DITLOW & MICHAEL PECHT, *SUDDEN ACCELERATION: THE MYTH OF DRIVER ERROR* 19 (2003).

consequences of crashes didn't get much notice. Because of the focus on crash prevention, many lifesaving vehicle designs were overlooked. For example, a few physicians advocated safety belts in the 1930s, but U.S. automakers didn't begin installing lap belts as standard equipment until the 1960s – and then in response to state mandates. Shoulder belts didn't become standard until the 1968 model year when they were mandated by federal law.⁶

One point to keep in mind is that during this time frame, the majority of the country had not yet abrogated contributory negligence in favor of comparative negligence. Because driver error or negligence was so often partially to blame in automobile injuries and fatalities, manufacturer liability was precluded. Therefore, there was little incentive for the manufacturing industry to investigate deeper into safety concerns.⁷

There were, of course, some early advocates of automobile safety. For example, Hugh DeHaven, a World War I pilot, started the Crash Injury Research project at Cornell University in 1942 and later patented the first three-point seatbelt.⁸ Dr. William Haddon, Jr., another early safety advocate, applied his background as a public health physician and initiated the shift in focus from crash avoidance to crash survival.⁹

In the mid-1960s, the ideas of DeHaven and Haddon started to gain momentum, and there was a major shift in the national consciousness regarding auto safety. The first impetus in this shift was Ralph Nader's *Unsafe at Any Speed: The Designed-*

⁶ *Id.*

⁷ See *NHTSA Removes 'Accident' from Its Vocabulary*, 3 INJ. PREVENTION 82 (1997). The government favored the no-fault word "accident" over "crash" until 1997. In a letter explaining the shift away from use of the word "accident," NHTSA Administrator Ricardo Martinez said that the word "accident" worked against the idea that highway injuries and fatalities could be prevented; see also Robert J. Eaton, Chairman and CEO, Chrysler Corp., *Automobile Safety: Transp., Mobility, Safety and Fun*, Address Before the Chief Executive Club of Boston (Nov. 18, 1997), in 64 VITAL SPEECHES OF THE DAY 214-17, 216 (1998) ("Up and down the halls, signs were changed to reflect the conviction that when something goes wrong, it's not simply an accident. Somebody must be at fault").

⁸ *Combination Shoulder and Lap Safety Belts*, U.S. Patent No. 2,710,649 (filed Feb. 19, 1951) (issued June 14, 1955).

⁹ CASTELLI ET AL., *supra* note 5, at 19; see also ALBAUM, *supra* note 2, at 1.

In Dangers of the American Automobile, (“*Unsafe at any Speed*”), which was published in 1965.¹⁰ The book is famous for vilifying Chevrolet’s Corvair, which Nader referred to as “The One-Car Accident,” but it focused on much more than that single problematic model.¹¹ It paid significant attention to the interior surfaces and the idea of the “second collision,” meaning the collision between the driver or passenger and the interior surfaces of the vehicle.¹² Most importantly, Nader revealed how automobile manufacturers were generally reluctant to include safety features despite the awareness that these features could save lives.¹³ Complementing Nader’s informative book, the National Research Council issued a report the following year titled *Accidental Death and Disability: The Neglected Disease of Modern Society*, which also served as a call to action for consumers to demand improvements in automotive safety.¹⁴

In response to the growing outrage from consumers regarding the prevalence of preventable automobile injuries and fatalities, Congress unanimously passed the National Traffic and Motor Vehicle Safety Act (“Act”).¹⁵ The Act, signed by President Johnson on September 9, 1966, was designed to reduce traffic accidents and resulting injuries and fatalities.¹⁶ The Act was passed with the Highway Safety Act of 1966, which laid the foundation for establishing uniform standards for state highway safety programs.¹⁷ The powers created by these Acts were delegated to the administrator of a new government agency called the National Highway Safety Bureau, which became the

¹⁰ RALPH NADER, UNSAFE AT ANY SPEED: THE DESIGNED-IN DANGERS OF THE AMERICAN AUTOMOBILE (1965).

¹¹ *Id.*

¹² *Id.* at 86.

¹³ Following the publication of this book, GM engaged in aggressive tactics directed at undermining and intimidating Nader. *See also* Nader v. General Motors Corp., 255 N.E.2d 765, 767 (N.Y. Ct. App. 1970).

¹⁴ COMM. ON TRAUMA AND COMM. ON SHOCK, DIV. OF MED. SCIENCES, NAT’L ACAD. OF SCIENCES & NAT’L RESEARCH COUNCIL, ACCIDENTAL DEATH AND DISABILITY: THE NEGLECTED DISEASE OF MODERN SOCIETY 1 (1966). Because this report was issued in September 1966, the same month that President Lyndon B. Johnson signed the Highway Safety Act, the report is more important as an indicator of the changing public sentiment than as an impetus for the legislation.

¹⁵ ALBAUM, *supra* note 2, at 12.

¹⁶ THE NATIONAL TRAFFIC AND MOTOR VEHICLE SAFETY ACT, PUB. L. NO. 89-563, *reprinted in* 1 NATIONAL TRAFFIC AND MOTOR VEHICLE SAFETY ACT OF 1966: LEGISLATIVE HISTORY at 3-15.

¹⁷ ALBAUM, *supra* note 2, at 14-15.

National Highway Traffic Safety Administration (NHTSA) in 1970.¹⁸ In 1979, the NHTSA created the New Car Assessment Program (NCAP) which effectively rates and compares the safety performance of various cars, providing consumers with a meaningful safety rating relative to similar vehicles, thereby encouraging manufacturers to voluntarily improve safety performance.¹⁹ These steps were the first substantive attempts by the federal government to moderate auto safety through regulation. This method of reform gained significant momentum in the following decades and has an important effect on automotive safety today.

B. Federal Regulation

As discussed above, the first organization controlling automotive safety in the United States was the NHTSA. This agency has a “primary mission of saving lives and preventing injuries associated with motor vehicle crashes.”²⁰ The NHTSA is responsible for: 1) promulgating uniform standards for State highway safety programs; 2) improving vehicle safety by establishing, prescribing, and enforcing National safety standards; and 3) informing the public of the comparative safety of passenger motor vehicles on the market.²¹ In order to set these safety performance standards, the NHTSA has broad authority to test vehicles and conduct research as it sees fit.²² It can issue requests, subpoena documents or other information, conduct formal hearings or administrative depositions, and request special reports from relevant entities.²³ Finally, once the NHTSA has

¹⁸ *Id.* at 15.

¹⁹ DEP’T OF TRANSP., NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., DOT HS 810 698, THE NEW CAR ASSESSMENT PROGRAM SUGGESTED APPROACHES FOR FUTURE PROGRAM ENHANCEMENTS 3 (2007) [hereinafter NCAP APPROACHES].

²⁰ DEP’T OF TRANSP., NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., DOT HS 811 337, REPORT TO CONGRESS NHTSA’S CRASH DATA COLLECTION PROGRAMS at II (2010).

²¹ 49 C.F.R. §1.4. (pertaining only to its direct efforts to effect new car safety and therefore this paper will not address efforts directed at the used car market. In addition, the vast power the NHTSA wields through the Corporate Average Fuel Economy (CAFE) regulations will be addressed in section III of this paper).

²² 49 U.S.C. § 30168, *repealed by* Pub. L. No. 112-141, 126 Stat. 405 (2012).

²³ 49 C.F.R. §510.3 (2012); 49 C.F.R. §510.7 (2012).

established a standard for future automobiles, it must enforce it.

Since its creation in 1966, the NHTSA has had enormous success. In March 2010, agency administrator David Strickland told the House of Representatives, “This agency has one goal. That is to keep people alive and safe on the road.”²⁴ Illustrating its success, Strickland reported, “the number of highway fatalities in 2009 – 33,963 – was the fewest since 1954.”²⁵ This is especially impressive considering how many more cars and drivers are on the road today compared to 1954. In fact, a better illustration of the success of this agency is that the fatality rate per 100 million vehicle miles traveled was 1.16 in 2009 versus 5.5 in 1966 (and 6.03 in 1954).²⁶ Further bolstering the accomplishments of the NHTSA, as the number of vehicle miles traveled has increased consistently year after year, the total annual fatality number increased every year until 1969 when it began steadily decreasing.²⁷

The New Car Assessment Program was so successful in encouraging both manufacturers to design safer vehicles and consumers to make these demands, that the NHTSA saw fit to revamp the crash testing and safety rating criteria.²⁸ Unveiled in October 2010, the new Government 5-Star Safety Ratings Program incorporates new tests, new safety rating criteria, and crash test dummies in new sizes that collect more data regarding the forces and potential injuries at the time of impact.²⁹ As a result of these more rigorous tests, “vehicles that previously earned five stars may not continue to earn five stars—even if no changes have been made to the model. . .”³⁰ In theory, these more stringent standards will lead to even safer vehicles.

²⁴ Jenna Greene, *Toyota Troubles Shielded by Agency*, 32 NAT’L 4, 5 (2010).

²⁵ *Id.*

²⁶ DEP’T OF TRANSP., NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., DOT HS 811 346, AN ANALYSIS OF THE SIGNIFICANT DECLINE IN MOTOR VEHICLE TRAFFIC FATALITIES IN 2008 (2010).

²⁷ *Id.*

²⁸ Lorraine Gilbert, *NHTSA Rolls Out New Safety Rating System: Features Stiffer Tests, One Score, More Data*, 38 PRODUCT SAFETY & LIABILITY REP. 1053, 1053 (2010).

²⁹ DEP’T OF TRANSP., FISCAL YEAR 2011 BUDGET HIGHLIGHTS 6 (2010).

³⁰ See Gilbert, *supra* note 28, at 1053-1054. An important component of this program is helping consumers make more educated decisions regarding safety, so the NHTSA created two simple consumer websites to explain the new tests: www.safercar.gov and www.newstarsoncars.com. The test performance information can also be found on the vehicle’s window sticker.

Despite these improvements, the NHTSA suffers from some major deficiencies, the most serious of which is funding. Although the Department of Transportation (DOT), which oversees the NHTSA, claims safety as its top priority, of the DOT's budget (approximately \$79 billion for FY 2011) only a very small percentage is allocated to the NHTSA.³¹ Despite the fact that traffic fatalities account for more than 90 percent of transportation-related fatalities in the United States, and motor vehicle crashes are the leading single cause of death for individuals between the ages of 4 and 34, the NHTSA's FY 2011 budget request was only \$877.6 million.³² This was approximately 1.1% of the DOT budget. Furthermore, less than a third of the NHTSA's already-small budget will actually go to safety programs.³³

These budget limitations contribute to other deficiencies in the NHTSA. In prepared testimony before Congress on March 11, 2010, NHTSA administrator David Strickland reported that the agency receives more than 30,000 complaints annually, "and we review each and every one."³⁴ However, the NHTSA employs just 57 people to investigate these complaints.³⁵ Another weak point for the NHTSA is the way it aggregates crash data provided by consumers and manufacturers. By keeping the information in separate databases, the NHTSA makes it more difficult for investigators to spot issues and for consumers to research and compare each model's safety records.³⁶

Given these limited resources, the agency is particularly susceptible to harboring historical biases when determining

³¹ DEP'T OF TRANSP., NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., FY 2011 CONGRESSIONAL BUDGET JUSTIFICATION 1 (2010); DEP'T OF TRANSP., FISCAL YEAR 2011 BUDGET HIGHLIGHTS 1 (2010).

³² DEP'T OF TRANSP., FISCAL YEAR 2011 BUDGET HIGHLIGHTS 18 (2010).

³³ *Id.* at 15. (NHTSA's FY 2011 Budget Request of \$877.6 million includes \$117.4 million for Behavioral Safety, \$132.8 million for Vehicle Safety, \$676.7 million for the National Driver Register, and \$620.7 million for State Grants, High Visibility Enforcement Support, and Grant Administration).

³⁴ *NHTSA Oversight: The Road Ahead: Hearing Before the Subcomm. on Commerce, Trade, and Consumer Prot. & the Comm. on Energy and Commerce*, 111th Cong. 6 (2010).

³⁵ Ken Thomas & Stephen Manning, *Toyota Troubles Put Spotlight on US Safety Agency*, CNBC.COM (Mar. 11, 2010) http://www.cnbc.com/id/35821504/NHTSA_Says_May_Need_More_Authority_Over_Auto_Industry.

³⁶ *Cars Must Be Safer*, CONSUMER REPORTS, May 2010, at 6.

whether to launch new investigations. For example, because the NHTSA had been unsuccessful in pinpointing the causes of sudden unintended acceleration in the past, particularly with Audi in the late 1980s, the agency was more inclined to attribute the problem to driver error than expend its limited resources on such an elusive problem.³⁷ According to Sean Kane, a consultant who frequently works with plaintiff's attorneys, in response to the early complaints against Toyota, "from a policy and resource standpoint," the NHTSA "made a decision to walk away" as a result of this historical bias.³⁸ Furthermore, although the NHTSA has broad powers to subpoena information from the manufacturers, critics note that it is a rare occasion when it actually invokes those rights, and the NHTSA tends "to side with the conclusions reached by the carmaker."³⁹ On the even rarer occasion that it does not side with the manufacturer, the maximum fine that the NHTSA can impose is \$16.375 million, which is hardly even noticeable to a multi-billion dollar auto manufacturer, let alone a strong deterrent.

In addition to problems related to its limited budget and authority, the NHTSA has been criticized as having "a culture where enforcement is a low priority."⁴⁰ One of the reasons for this may be that the agency suffers from "regulatory capture," which is the idea that regulators can become overly deferential to the industries they are assigned to oversee, forgetting their public-interest mission in the process.⁴¹ In fact, the NHTSA relies primarily on the manufacturers themselves to identify the perils posed by their vehicles.⁴² "During agency reviews, officials have at times minimized or simply rejected consumer accounts of what happened in favor of the manufacturers' assessments, records

³⁷ See Kimberly Kindy & Peter Whoriskey, *NHTSA's Previous Car Pedal Safety Efforts Died, Stalled Amid Industry Opposition*, WASH. POST, Feb. 12, 2011, at A12 (Audi had a major issue with sudden unintended acceleration in the late 1980s, and the NHTSA expended considerable resources investigating the issue without ever finding a definitive cause. According to E. Donald Sussman, one of the lead NHTSA researchers studying the complaints against Audi in 1989, the "NHTSA rarely requires industries to do design changes. They hope they will voluntarily do the right thing").

³⁸ GREENE, *supra* note 24, at 5.

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ Ben Kelley, Op-Ed, *Decades Later, Still Unsafe at Any Speed*, BALT. SUN, Feb. 7, 2011, at 6.

⁴² Peter Whoriskey, *NHTSA Overly Reliant on Carmakers' Accounts During Complaint Reviews, Critics Say*, WASH. POST, Feb. 5, 2010, at A01.

show.”⁴³ For example, Andrew Card, President George W. Bush’s chief of staff who had previously served as an auto industry lobbyist for General Motors, said: “While NHTSA staff tries to do a good job, they are headed up by political appointees in the administrative and legal counsel offices. During the 2001-2008 era, those appointees included lawyers from GM and Chrysler . . . So it may be that some investigations were terminated for political reasons.”⁴⁴ More recently, the two Toyota executives who convinced the NHTSA to terminate the initial investigation into sudden unintended acceleration, joined Toyota immediately after leaving the NHTSA.⁴⁵ These practices bring up questions regarding the legitimacy of the investigations and consequently the protections being afforded to consumers.

In sum, despite the NHTSA’s commendable efforts to improve automotive safety since 1966 as well as their statistical success, the agency’s limited resources and biased nature severely diminish its willingness and ability to identify new safety concerns and respond quickly and effectively.

C. Litigation

The second force driving automotive safety is litigation, generally in the form of civil suits brought against carmakers. After all, *MacPherson v. Buick Motor Co.*, a 1916 suit against an automobile manufacturer, helped shape modern product liability law.⁴⁶ For more than half a century following that case, courts generally held that automobile manufacturers merely had a duty to construct a vehicle that was “free of latent and hidden defects.”⁴⁷ However, as Ralph Nader highlighted in his 1965 book *Unsafe at Any Speed*, automobile manufacturers continued to

⁴³ *Id.*

⁴⁴ Andrew Clevenger, *W.Va. Lawsuit Targets Toyota*, CHARLESTON GAZETTE (West Virginia), January 30, 2010, at 7.

⁴⁵ R. Graham Esdale, Jr. & Timothy R. Fiedler, *Toyota’s Deadly Secrets*, TRIAL MAG., Sept. 2010.

⁴⁶ AM. ASS’N FOR JUSTICE, DRIVEN TO SAFETY: HOW LITIGATION SPURRED AUTO SAFETY INNOVATIONS 11 (2010); *see also* *MacPherson v. Buick Motor Co.*, 111 N.E. 1050 (N.Y. Ct. App. 1916).

⁴⁷ *See* *Evans v. Gen. Motors Corp.*, 359 F.2d 822, 825 (7th Cir. 1966) (holding that defendant manufacturer had no duty to construct a crash-proof car because collisions were not an intended purpose of the vehicle), *overruled by* *Huff v. White Motor Corp.*, 565 F.2d 104 (7th Cir. 1977); *See also* Richard M. Nixon, *Changing Rules of Liability in Automobile Accident Litigation*, 3 DUKE L.J. 476, 477 (1936).

exhibit willful negligence in their design of vehicles they knew to be unsafe in collisions.⁴⁸ Prior to the 1960's, design decisions that valued style over safety were not only possible but even commonplace because courts generally only held automobile manufacturers liable when defects in *construction* resulted in crashes.⁴⁹ Thanks in part to the growing public outrage regarding auto safety in the mid-1960s, the court took a hard line against automakers in the 1968 case *Larson v. General Motors*.⁵⁰ In that case, General Motors claimed that automakers had no duty to manufacture a product that would be safe in collisions they had no direct part in causing.⁵¹ The court reasoned that collisions, with or without fault of the driver, were statistically inevitable, and therefore should be foreseeable by the manufacturer.⁵² The court imposed upon automobile manufacturers "a duty to use reasonable care in the design of its vehicle to avoid subjecting the user to an unreasonable risk of injury in the event of a collision."⁵³

Following a trajectory set by *Larson*, courts continued to broaden the duties of manufacturers, especially over the 15 subsequent years. Particularly important cases include *Dyson v. General Motors*, which established that carmakers have an obligation to provide "a reasonably safe container within which to make the journey," and *Grimshaw v. Ford Motor Co.*, the famous 1981 case involving the Ford Pinto, explained later in this note.⁵⁴ The American Association for Justice (formerly the Association of Trial Lawyers of America) claims that lawsuits, beyond merely giving victims a right to redress, provide an essential avenue by which manufacturers are encouraged to improve their products.⁵⁵ Litigation is particularly important in

⁴⁸ See NADER, *supra* note 10, at 172. See also AM. ASS'N FOR JUSTICE, *supra* note 46, at 3.

⁴⁹ AM. ASS'N FOR JUSTICE, *supra* note 46, at 3; see also Harold A. Katz, *Liability of Automobile Manufacturers for Unsafe Design of Passenger Cars*, 69 HARV. L. REV. 863, 865 (1956).

⁵⁰ See *Larson v. Gen. Motors Corp.*, 391 F.2d 495, 503 (8th Cir. 1968) (reversing policy voiced in *Evans v. General Motors Corp.* 359 F.2d 822 (7th Cir. 1966), *cert. denied* 385 U.S. 836, 87 (1966) (holding that the risk of collisions was foreseeable and therefore automobile manufacturers had duty to design crash-worthy vehicles).

⁵¹ *Id.* at 497.

⁵² *Id.* at 501-502.

⁵³ *Id.* at 504.

⁵⁴ *Dyson v. Gen. Motors Corp.*, 298 F.Supp. 1064 (Pa. 1969); see also *Grimshaw v. Ford Motor Co.*, 119 Cal. App. 3d 757 (4th D. 1981).

⁵⁵ AM. ASS'N FOR JUSTICE, *supra* note 46, at 3.

convincing automakers to redesign certain components such as power windows, seat belts, and tires, among other things, because historically the NHTSA has been averse to mandating specific design changes.⁵⁶

In addition, there are other less direct ways in which litigation spurs automobile safety, such as providing manufacturers with financial incentive to build safer vehicles. Estimates of the total annual legal expenses of auto manufacturers varies greatly year to year, but broad liability is always lurking for automakers. For example, although some of the Toyota unintended acceleration suits have not yet reached trial, one expert warned that “legal expenses and damages resulting from the safety defects could tack billions of dollars onto the \$2 billion that Toyota had said it would cost the company in repairs and lost sales.”⁵⁷ More recently, Toyota customers have filed “diminished-value” lawsuits whereby Toyota could be liable for the diminished resale value, possibly around 4%, of the millions of its cars affected by the recall.⁵⁸ Though diminished-value lawsuits are notoriously difficult to prove, the economic damages to Toyota in such a case could exceed \$3 billion.⁵⁹

Although these numbers seem impressive at first glance, they pale in comparison to a general manufacturer’s overall revenue. Even a \$3 billion loss to a company like Toyota would not be catastrophic considering Toyota “reported more than \$200 billion in worldwide sales for the fiscal year that ended March 2009.”⁶⁰ Furthermore, these financial incentive arguments fail to support the idea that litigation serves as more than an expensive hassle. It leaves unanswered the question of whether the lawsuits really figure into the automakers’ design and production decisions. In Toyota’s case, the scandal caused the company to reform its management and design process in order to encourage better communication and more thorough engineering.⁶¹

⁵⁶ *Id.* at 5, 6, 9; *See also* Kindy & Whoriskey, *supra* note 37, at A12.

⁵⁷ Jerry Hirsch & Stuart Pfeifer, *Toyota Faces Massive Legal Liability*, L.A. TIMES, Feb. 12, 2010, at 9.

⁵⁸ *Id.*; *see also* Justin Berkowitz, *Unintended Depreciation: Former and Current Owners Suing Toyota for Lost Resale Value*, Car & Driver (last visited Oct. 21, 2012) <http://blog.caranddriver.com/unintended-depreciation-former-and-current-owners-suing-toyota-for-lost-resale-value/>.

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ Mark Rechtin & Hans Greimel, *How Toyota Attacked the Crisis*, AUTOMOTIVE NEWS, Jan. 24, 2011, at 10.

However, the Toyota scandal is the exception rather than the rule. Moreover, it was not litigation alone that drove the company to overhaul its corporate structure.

Critics of this pro-litigation argument are quick to point out that manufacturers often debut safety features in European countries, which are vastly less litigious than the United States, years before installing those features on the U.S. versions of their cars.⁶² One likely explanation for this paradox is that the European version of the New Car Assessment Program (EuroNCAP) imposes tougher safety standards than the NHTSA.⁶³ The Alliance of Automobile Manufacturers, a group that represents 11 automakers, likened lawyers taking credit for safety innovation to “the rooster taking credit for the sunrise.”⁶⁴ The group argued that in fact litigation and innovation were mutually exclusive and that focusing on litigation “does nothing to advance technology, instead it delays progress.”⁶⁵

In conclusion, although there is some truth to the claim that “the civil justice system, when called upon through litigation, spurs motor vehicle innovation and enforcement of safety standards,” the manufacturers make clear that other important and unrelated forces are also at work behind the scenes making this possible.⁶⁶

D. Manufacturers and Market Forces

The third force driving automotive safety is the manufacturers themselves. Not surprisingly, carmakers strongly disagree with the perspective that favors litigation as the main catalyst for changes in automotive design. Today, “automakers expect to be sued no matter what they do,” meaning there is an argument to be made that they are best served by focusing primarily on the design elements that will make a car sell rather than what would make a passenger safe.⁶⁷ In the 1950s, Lee Iacocca, who would later go on to become president at Ford and

⁶² Lorraine Gilbert, *Attorney Group Says Litigation Spurs Innovation in Vehicle Safety Features*, Regs, 38 PRODUCT SAFETY & LIABILITY REPORTER 424, 424 (2010).

⁶³ Tristan Honeywill, *Marketing Safety*, 34 AUTOMOTIVE ENGINEER 3, 3 (2009).

⁶⁴ Gilbert, *supra* note 62, at 424.

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

create the Pinto, famously quipped that “safety doesn’t sell.”⁶⁸ Regardless of his intent, the truth is that before the 1960s, safety really was not a selling point for consumers. Fortunately, that is no longer the case.

The sudden flurry of interest in automotive safety that resulted in the creation of the NHTSA in the late 1960s repeated itself a decade later. As mentioned previously, in 1978 a jury awarded Richard Grimshaw, a driver who had been permanently injured in an accident in a Ford Pinto, \$125 million in punitive damages against Ford.⁶⁹ Although the damages were eventually scaled back significantly, Grimshaw’s case caused the public to take notice of the importance of automobile safety features. Following the creation of the NCAP in 1979, the number of references to safety features in automotive advertisements began to increase.⁷⁰ The importance of safety performance really took off in the mid-1990s, when the NCAP introduced the five-star ratings system that made it easier for consumers to compare a vehicle’s safety performance. Beginning September 1, 2007, manufacturers have been required to place NCAP star ratings on all automobile price sticker labels.⁷¹

Thanks to the efforts of the NHTSA and litigation, today’s consumers care about automotive safety, and manufacturers are responding appropriately. Now that safety sells, “no automaker wants to be seen as being behind the curve.”⁷² According to the Insurance Institute for Highway Safety (IIHS), automakers “have really taken the lead in the safety arena” since mid-2008.⁷³ Moreover, as consumers demand the latest crashworthiness features and safety systems, carmakers are already going “far beyond what the federal government has required,” by developing and installing early warning systems and other crash-avoidance features.⁷⁴

⁶⁸ Mark Dowie, *Pinto Madness*, MOTHER JONES, Sept./Oct. 1977, at 18.

⁶⁹ *Grimshaw v. Ford Motor Co.*, 119 Cal. App. 3d 757, 772 (4thD. 1981); see also Gary T. Schwartz, *The Myth of the Ford Pinto Case*, 43 RUTGERS L. REV. 1013 (1990-1991); John R. Danley, *Polishing Up the Pinto: Legal Liability, Moral Blame, and Risk*, 15 BUS. ETHICS Q. 205 (2005).

⁷⁰ Ronald G. Burns & Michael J. Lynch, *A Space for Safety: The Transformation of Automobile Safety Advertising in Response to NHTSA Crash Test Implementation, 1977 to 1981*, 40 SOC. SCI. J. 635 (2003).

⁷¹ NCAP APPROACHES, DOT HS 810 698, at 4.

⁷² Gilbert, *supra* note 62, at 424.

⁷³ *Id.*

⁷⁴ *Id.*

Despite these great advances, critics warn against giving the manufacturers too much credit. The nature of the safety-sells mentality means that the dedication to safety will only endure as long as consumers' dedication to spend money on safety endures. Critics like *Consumer Reports* also warn that automakers frequently abuse the high demand for safety features by making them only available when packaged with unnecessary, high-margin options.⁷⁵ For example, the Honda Civic, which is consistently one of the top ten best-selling cars in the country, is advertised as having a base price of approximately \$16,000.⁷⁶ However, in order to get a Civic with electronic stability control, which many critics believe is an essential safety mechanism that should already be standard on all cars and which typically costs an additional \$1,500 on its own, the buyer must upgrade to the EX-L model.⁷⁷ The EX-L has a base price of \$22,000 and includes such unnecessary features as alloy wheels, heated seats, and a power sunroof.⁷⁸

Still, it appears as if manufacturers are accepting a larger role in the design and implementation of safer vehicles, overall. This is an important component of creating consistent auto safety, however, the manufacturers generally only respond to the demands of other market forces. Therefore, it is necessary that all of the components that drive auto safety in the U.S. continue to evolve and work in unison. So far, this note has discussed the effects of regulation, litigation and manufacturer action based on consumer demand, however, these enforcement mechanisms on their own aren't responsible for the full power behind the development of safer vehicles.

E. Conclusions Regarding the Sources of Automotive Safety

Although the NHTSA is crucial in creating the long-term policies that dictate many aspects of the automotive industry, regulation has proven to be insufficient on its own because its culture and limited resources all but prevent effective reactive measures. Similarly, while litigation is an essential tool for individual victims seeking redress, it fails to directly encourage

⁷⁵ *Cars Must Be Safer*, *supra* note 36, at 6.

⁷⁶ *Build and Price Your Honda*, HONDA.COM, (last visited Apr. 19, 2011) <http://automobiles.honda.com/tools/build-price/models.aspx> (click on "2011 Civic Sedan Starting at \$15,805").

⁷⁷ *Id.*

⁷⁸ *Id.*

consumer behavior and may not directly drive manufacturers' conduct either. Finally, market forces may provide manufacturers with the best incentive to develop safety features, but the roots of this interest in safety are only as deep as consumers' pockets. Based on these considerations, it is clear that there must be more than these three forces fueling the development of automotive safety technology. A brief examination of a few of the major automotive scandals of the last 50 years may help shed some light on the elusive fourth element.

As we first saw in the mid-1960s following the publication of Ralph Nader's *Unsafe at Any Speed*, the real force behind automotive safety is deeply rooted in the public perception. Ralph Nader was not the first person who tried to shame the manufacturers, but he was the loudest. Once the public consciousness had been engaged, Congress was quick to begin developing the NHTSA, and courts broadened the duties imposed on the automakers. A decade later, Mark Dowie prompted a similar level of moral indignation from consumers when his article "Pinto Madness" was featured in the magazine *Mother Jones*. In the mid-1980s, the NHTSA launched an investigation into the complaints it had been receiving about sudden unintended acceleration in Audi sedans. Audi voluntarily added a brake transmission interlock, and the number of complaints quickly dropped off.⁷⁹ According to the lead author of the NHTSA's 1989 investigation, Robert Quinn Brackett, the agency dropped the matter entirely before pinpointing the exact cause of the acceleration or determining whether the brake interlock system could make other cars safer. Brackett said: "The noise level dropped. The issue had moved on in terms of notoriety, which does drive research budgets."⁸⁰

Toyota's recent sudden unintended acceleration scandal is another perfect example. In March 2007, the NHTSA and Toyota first launched an investigation based on five complaints of jammed gas pedals in the 2007 Lexus ES350s.⁸¹ Following a fatal accident that July, the NHTSA required Toyota to recall 55,000 floor mats and then closed the investigation.⁸² In a confidential

⁷⁹ Kindy & Whoriskey, *supra* note 37, at 2.

⁸⁰ *Id.*

⁸¹ Bill Vlasic, *Toyota's Slow Awakening to a Deadly Problem*, N.Y. TIMES, Feb. 1, 2010, at 11; Eric Owles & Daniel McDermon, *A Toyota Timeline*, NYTIMES.COM, Feb. 1, 2010, http://www.nytimes.com/interactive/2010/02/10/business/20100210_TOYOTA_TIMELINE2.html.

⁸² *Id.*

presentation to Toyota executives, the company estimated that it saved \$100 million by negotiating with the regulators to limit the breadth of the recall. The two Toyota employees responsible for the company's favorable outcome were former NHTSA employees.⁸³ Similar incidents continued through 2008, including another fatality in a 2005 Camry that had not been included in the original recall, but nothing further was done.⁸⁴ Then, on August 28, 2009, an off-duty highway patrol officer was traveling with his family in a 2007 Lexus ES350 when the pedal got stuck.⁸⁵ A frantic 911 call recorded the passengers' terror in the moments before they were killed.⁸⁶ By mid-September the national media outlets latched onto the story, which was quickly becoming a major problem for Toyota. Approximately two weeks after the first national headline, Toyota announced on September 29, 2009 that it would recall 3.8 million vehicles due to faulty floor mats.⁸⁷ From these examples emerges a much clearer picture of the true force driving automotive safety: the media.⁸⁸

The pattern that has developed over the past 50 years is quite disturbing. Consistently, every 10 years the media identifies a major safety deficiency, outraged consumers change their buying habits, the manufacturers scramble to change some aspect of production, and politicians, salivating at the thought of stump speech consumer protection regulations, demand special hearings and draft new legislation. Unfortunately, the fervor with which the automakers and legislators respond endures only as long as the public pays attention. Once the media moves on, the legislation falls by the wayside and automakers let down their guard, allowing a new problem to take root.

Recognizing the role of the media reveals the true

⁸³ Kaufmann, *supra* note 39.

⁸⁴ Owles & McDermon, *supra* note 81.

⁸⁵ *Id.*

⁸⁶ Vlastic, *supra* note 81, at 11.

⁸⁷ Nick Bunkley, *Toyota Recalls 3.8 Million Vehicles*, N.Y. TIMES, Sept. 29, 2009, at 12.

⁸⁸ The media frenzy reached a fever pitch in December 2009 when four people were killed when a Toyota Avalon inexplicably sped into a lake. The police found the floor mats in the Avalon's trunk. The original recall was eventually broadened to include more than 11 million Toyota and Lexus vehicles globally, and Toyota paid three fines totaling \$48.8 million for not properly reporting known problems to the NHTSA. Following a 10-month investigation, the NHTSA announced on February 11, 2011 that the cause of the sudden unintended acceleration must have been a mechanical problem rather than an electronic one. Many critics remain unconvinced.

relationship of the three disparate forces that have each historically claimed primary responsibility for automotive safety. The picture that emerges is that each one has a specific strength that is indispensable to the overall development of automotive safety. First, litigation verifies individual complaints and creates incentives for attorneys and consultants to watch for early warnings and patterns and then to seek justice for victims. Second, the media uses the information collected by attorneys and legitimized by the courts to bring major safety concerns to the public's attention. Finally, the sudden public awareness provides manufacturers with incentive to fix the problem before it affects the brand and consumer behavior.

As we move forward with the hope of making preventable traffic fatalities a thing of the past, we need to use this new understanding to encourage each of these elements to work together and capitalize on the growing momentum behind new safety technology. By focusing on the individual strengths of these four elements, we may finally break the automotive defect scandal cycle and learn to correct problems before they result in serious injuries and fatalities.

II. THE FUTURE OF AUTOMOTIVE SAFETY TECHNOLOGY

As a result of the 2010 Toyota sudden acceleration scandal, politicians drafted legislation aimed at broadening the powers of the NHTSA to prevent such a large-scale quality control crisis from reoccurring. Due to significant pushback from automakers and their lobbyists, the Motor Vehicle Safety Act of 2010 died quietly at the end of the that Congressional session. The potential for a safer future on the road, however, has never been greater.

With the annual number of traffic fatalities per vehicle mile traveled sharply declining, it is clear that the automotive safety is improving. While government programs designed to educate drivers and improve roadways have certainly contributed to this progress, it is the technology in the vehicles themselves that have the greatest potential to impact driver safety.⁸⁹

⁸⁹ VANASSE HANGEN BRUSTLIN, INC., DEPT. OF TRANSP., TOWARD ZERO DEATHS: A NATIONAL STRATEGY ON HIGHWAY SAFETY 10 (2011) [hereinafter TOWARD ZERO DEATHS].

Since the advent of the automobile, safety advocates including automakers have focused almost exclusively on passive safety features, but, historically, the primary cause of highway injuries and fatalities is not defects but rather some kind of driver error. Resigned to the belief that collisions were unavoidable “accidents,” safety advocates developed features, such as seat belts, crumple zones, anti-lock brakes and airbags, all of which were primarily aimed at ameliorating injuries rather than preventing them outright. Over the past several decades, major improvements have been made to provide safety systems like anti-lock brakes and electronic stability control, which when used together have proven to reduce fatalities dramatically.⁹⁰ While these passive safety features will always be invaluable, safety advocates have begun to wonder whether there might be a better approach to making cars safer.

Thanks to the recent advances in technology and telecommunications that have already saturated nearly every other aspect of our culture, a new way of thinking about automotive safety has emerged. This new approach rejects the old assumption that collisions were unavoidable. In this new era, automakers have the tools they need to begin introducing active safety features that finally address the real cause of most collisions—driver error. Examples of the active safety features that are currently on the market include lane departure warning systems, which can act as an in-car rumble strip to alert the driver when he or she is unintentionally leaving the roadway, driver alertness monitoring, which monitors eye orientation and activity, and side-object detection systems that alert drivers when another vehicle is in their blind spot. A recent study predicts that each of these features has the potential to reduce traffic fatalities by five to ten percent.⁹¹

Currently, the consensus seems to be that drivers are better off having more safety features, as long as the dangers avoided outweigh the in-car distractions created by a single safety feature. This delicate balance hints at the massive problem posed by distracted drivers. According to the NHTSA, “5,780 people lost their lives and an estimated 515,000 people were injured in police-reported vehicle accidents in 2008 in which at least one

⁹⁰ Drew Winter, *Electronics Taking Over Safety*, WARD’S AUTO WORLD, Sept. 2009, at 26.

⁹¹ TOWARD ZERO DEATHS, *supra* note 89, at 16.

form of driver distraction was reported on the accident report.”⁹² Because this is a detail that drivers are unlikely to divulge and police officers have a hard time knowing without being told, the true numbers are likely much higher. With these startling statistics in mind, as we look to improving highway safety over the next decade, eliminating driver distractions needs to be a major focus not just for auto manufacturers but also for regulators.

Each automaker decides how these active safety features communicate the warnings to drivers, and therefore the delivery methods vary dramatically.⁹³ Not surprisingly, Americans have reacted very negatively to these bells and whistles, and as a result, automakers try to balance useful alerts without making the driver feel any less in control of his or her vehicle.⁹⁴ Methods of warning drivers vary from simple sounds to flashing lights and haptic feedback. For example, when a vehicle enters the blind zone of a Buick LaCrosse sedan, an amber light is illuminated on the driver’s side-view mirror.⁹⁵ Some vehicles alert the driver by vibrating the steering wheel or tugging lightly on the seatbelt.⁹⁶ Other manufacturers have begun introducing features that go a step further and actually intervene on behalf of the driver. For example, when the Acura RL sedan recognizes that a crash is imminent and the driver is unresponsive to audio, visual, and tactile alerts, the car applies the brakes itself.⁹⁷ In the current market, however, the sense among consumers is that there is a fine line between good safety features and annoying ones. To combat this, “most automakers are installing switches that allow drivers to deactivate” the more pervasive and unnecessary features.⁹⁸

These new active safety features are not only important because they save lives, but also because many of them address

⁹² *Dangers of Driver Distractions*, 31 *INDUSTRIAL ENGINEER* 12, at 13 (2009).

⁹³ Michael LeGault, *As Radar Safety Features Spread, When Will Drivers Say ‘Enough?’*, *AUTOMOTIVE NEWS*, Nov. 1, 2010, at 13.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ Jameson M. Wetmore, *Redefining Risks and Redistributing Responsibilities: Building Networks to Increase Automobile Safety*, 29 *SCI., TECH., & HUM. VALUES* 377 (2004).

⁹⁷ Jamie Page Deaton, *Keep Your Mind on the Road: How Technology Can Help Fight Distractions*, *U.S. NEWS & WORLD REP.*, Dec. 2010, at 73.

⁹⁸ *Id.*

issues that are likely to grow dramatically over the coming decades. Americans are not only living longer these days, they're also driving longer. According to census projections, by 2020 there will be approximately 40 million licensed drivers over the age of 65 in the United States.⁹⁹ Unfortunately, older drivers are at considerably greater risk of suffering from slower reaction times, diminished vision, and chronic health issues requiring medication that alters perception and alertness.¹⁰⁰ Recognizing these risks, the American Medical Association, with support from the NHTSA, created the Physician's Guide to Assessing and Counseling Older Drivers. Now in its second edition, this guide is crucial not just in helping physicians advise patients' families about when it is time to stop driving, but also in educating older drivers that there are simple steps they can take to reduce their risk without having to give up their license altogether.¹⁰¹

Active safety features are also important in counteracting the growing list of distractions that face today's drivers. Some safety advocates caution that manufacturers are going overboard with hands-free technology, warning that, paradoxically, many of the tools offered under the auspices of mitigating distractions actually just create bigger ones. For example, in late 2010 General Motors announced that OnStar, the communications system already installed on many of its vehicles, would soon allow drivers to update their Facebook status using voice commands, as if the technology cannot distract a driver who has his or her hands free.¹⁰² John Capp, director of global active safety at General Motors, said: "As we put more of these features into vehicles, there's always a risk of information overload or causing a distraction."¹⁰³ Some skeptics warn of a more troubling risk, "the offset hypothesis." This hypothesis suggests that the proliferation of innovations intended to improve safety will cause drivers to be less vigilant themselves.¹⁰⁴ Fortunately, some automakers are taking responsible steps to alleviate some of the distractions. Ford, for example, equips a growing number of their models with a "Do Not Disturb" button on the front console,

⁹⁹ AM. MED. ASS'N, PHYSICIAN'S GUIDE TO ASSESSING AND COUNSELING OLDER DRIVERS 3 (2d ed. 2010).

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 4.

¹⁰² Deaton, *supra* note 97, at 73.

¹⁰³ LeGault, *supra* note 93, at 14.

¹⁰⁴ *Study Examines Effect of Safety Features on Driver Behavior*, PROFESSIONAL SAFETY, 6 (2006).

which blocks incoming calls and texts while the vehicle is moving.¹⁰⁵

Thanks to the media's coverage of auto safety scandals and the public's reactions, automakers are now taking a growing interest in the development of auto safety technology. Until recently, automakers invested significant sums of money in developing outlandish "concept cars" that purported to reveal where the brand saw itself a few decades in the future. The vehicles rarely bore any resemblance to the rest of the brands' cars nor were they intended to predict future styles. Instead, these cars were merely publicity stunts, intended to make their otherwise-bland minivans, for example, seem part of a "cool" brand. When the recent downturn in the auto industry caused automakers to curtail their spending, many automakers realized that safety technology development offers a better bang for their buck and seem to be redirecting some of their design resources toward safety.

As much as automakers are trying to build their brands around safety, they have not yet completely abandoned their long tradition of dragging their feet with respect to such features. In fact, it was the auto industry's powerful lobbyists that killed the Motor Vehicle Safety Act of 2010 by demanding countless revisions. Fortunately, the NHTSA has recognized both the potential these features have to mitigate fatalities and the importance of demanding that manufacturers uniformly comply. In an effort to promote new technology, for example, the NHTSA recently announced that manufacturers will be required to equip all cars with electronic stability control by 2012. In an effort to encourage automakers to adopt other features as well, under the new NCAP testing procedures unveiled in October 2010, only cars with collision warning and lane-departure alert systems were eligible for the coveted five-star safety rating in 2011.¹⁰⁶

It is through this long-term policy development that the NHTSA is most influential in developing safer automobiles. The NHTSA has never been as important as it is right now because the next automotive safety feature on the horizon will never work if it has nothing more than market forces to rely on. For example, car-to-car communications systems may eventually allow vehicles to broadcast their speed, location, and other key data to other vehicles nearby in order to help prevent crashes and generally

¹⁰⁵ LeGault, *supra* note 93, at 14.

¹⁰⁶ *Id.*

improve the flow of traffic. Despite the obvious obstacles presented from a privacy perspective, auto manufacturers are already starting to develop and debate implementation. The problem, according to Volkswagen development chief Dr. Ulrich Hackenberg, is that there needs to be “a critical mass of 10% of all the vehicles on the road to be equipped before there are any benefits for customers.”¹⁰⁷ Even if regulators mandate equipping every new vehicle with car-to-car communications technology, it would take at least five years before market saturation reached 10%.¹⁰⁸ In the meantime, manufacturers and consumers would be paying for technology that had little or no effect on their safety. Although already working on developing the technology, automakers disagree about whether regulators should require that all new cars have the technology.¹⁰⁹ While some automakers opine that such regulation would help bring down costs and speed up the implementation process, other manufacturers warn, albeit less convincingly, that it may be detrimental to their overall safety development programs because it eliminates an incentive to compete.¹¹⁰ The unspoken concern among automakers is that such systems will likely create a vast new source of tort liability.

III. CONCLUSION: THE FULL-SIZE FUTURE OF THE SUBCOMPACT AUTOMOBILE

The NHTSA’s real power, though rooted in its long-term policy-making, is not limited to making safety requirements. The NHTSA also wields enormous influence over the auto industry by setting the fuel efficiency standards. Until the 1973 OPEC crisis, gas prices had been consistently low enough that fuel economy was not a major concern for consumers considering buying a new car. Instead, during the 1960s and early 1970s, the American automobile companies were engaged in a full-scale horsepower war, with each new vehicle consuming more gas in order to produce more power. Meanwhile, in Europe, higher gas prices, narrower roads, and more crowded cities provided consumers with a natural incentive to favor smaller cars. The gas shortage in the early 1970s, however, provided the U.S. with a

¹⁰⁷ Tristan Honeywill, *The Long Hard Road to Safety*, 34 AUTOMOTIVE ENGINEER 4, at 34 (2009).

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.* at 35.

rude awakening regarding its dependence on gasoline. In an effort to lessen the country's vulnerability should another gas shortage hit, the NHTSA created the Corporate Average Fuel Economy (CAFE) regulations in 1975 to guide manufacturers' development of more fuel-efficient vehicles.

Between 1978 and 1985, the fuel economy standards rose from 18 miles per gallon (mpg) to 27.5 mpg.¹¹¹ With hybrid technology and lighter weight materials still decades away from being feasible, the only way to achieve better fuel economy was by selling more small and underpowered vehicles. In response to the new fuel standards, the Big Three American automakers, General Motors, Ford, and Chrysler, began developing subcompact cars, including the Ford Pinto. When gas prices returned to their normal levels, however, these automakers struggled to convince consumers to purchase these subcompact vehicles. As evidenced by the infamous Ford Pinto, the automakers stripped the subcompacts of all their luxuries so as to lower the price enough to generate sufficient demand.

However, profit margins were still much larger on full-size vehicles, so over the next three decades, automakers developed lighter materials and more efficient engines, and applied them to their bigger vehicles. In other words, despite the great progress being made in fuel efficiency overall, average fuel economy stayed right at 27.5 mpg while cars resumed their pre-1973 rate of growth. The NHTSA allowed this trend by keeping the fuel economy standards at about 27.5 mpg from 1985 until 2005.¹¹² During this time, the average weight of an automobile increased by approximately 1,000 pounds and the average dimensions increased by approximately four inches in each direction.¹¹³ In addition, less stringent light truck fuel economy standards have caused manufacturers to market high profit margin vehicles such as the minivan and sport utility vehicles (SUVs) to populations that would otherwise have only bought a full-size car. Sadly, by not increasing their fuel economy standards to match the manufacturers' technological progress, the NHTSA missed an

¹¹¹ DEP'T OF TRANSP., NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., AUTOMOTIVE FUEL ECONOMY PROGRAM ANNUAL UPDATE CALENDAR YEAR 2003 5 (2004).

¹¹² *Id.*

¹¹³ Karl Brauer, *Time Is Right for Small Cars – As Long as Somebody Else Is Driving Them*, EDMUNDS AUTO OBSERVER, <http://www.autoobserver.com/2010/09/time-is-right-for-small-cars-as-long-as-somebody-else-is-driving-them.html> (last visited Apr. 30, 2011).

important opportunity to encourage the development of small cars and their safety components. However, the NHTSA has taken important steps to change this. In April 2011, the NHTSA announced that average fuel economy for each manufacturer must reach 35.5 mpg by 2016.¹¹⁴ In addition, the light truck segment, which accounted for approximately half of all automotive sales in the U.S. during the first eleven months of 2010, will need to achieve 30 mpg.¹¹⁵

With gas prices currently on the rise, it seems likely that in approximately 15 years, Americans will embrace the subcompact automobile to the same degree that such cars have been popular in Western Europe for decades.¹¹⁶ In order for this to happen, there are essentially three cultural shifts that need to take place to make subcompacts nearly replace all full-size cars and trucks that are nonessential to consumers' work. First, rising gas prices will make bigger cars less desirable. Second, people will begin to see small cars as safer. New safety features are already making headway in this respect. More importantly, car-to-car communication systems that safety experts predict will begin to saturate the market in six to eight years may greatly diminish the possibility of an accident caused by another vehicle. Similarly, considering that these larger vehicles pose the greatest safety threat to small cars, subcompacts will also benefit from there being fewer SUVs and trucks on the road, which will help this shift develop momentum. Third, people will begin thinking about subcompacts as more than just bare-bones economy cars. In order for this third shift to take place, automakers will need to recognize that the optional equipment such as leather seats and navigation systems that buyers associate with "luxury vehicles" provide higher profit margins for subcompact cars and make

¹¹⁴ Deepa Seetharaman, *Meeting Fuel Standards Without Losing Brawn*, CHI. TRIB., Apr. 4, 2011, at 2.

¹¹⁵ *Id.*

¹¹⁶ Microcars such as the Smart car, on the other hand, are unlikely to become more popular in the United States in the foreseeable future. Like the subcompacts, they are popular in Europe because they take up very little room and achieve excellent fuel economy. Their only real distinction from subcompacts is that they are generally shorter in length, taller in height, and usually offer seating for no more than two people and virtually no cargo area. Considering the U.S. does not face overcrowding issues to the same degree Europe does, even as the subcompact's popularity rises and ameliorates some of the safety concerns surrounding the microcar's inherently light and tight construction, the car's slightly smaller footprint will not sufficiently offset its striking lack of utility.

them more desirable to consumers as well.

The good news is that all three of these trends have begun to occur. When gas prices peaked a few years ago, many automakers realized their supply of small cars was inadequate. Many automakers temporarily boosted production levels, and also began developing new subcompact vehicles that are only now coming to market as gas prices are again increasing. Second, in addition to the safety features that are expected in the next decade, other major steps have been made to rid the roads of the threat-posing larger vehicles. The Car Allowance Rebate System that ran in July and August 2009, also known as the Cash-for-Clunkers program, had a major impact on the number of larger vehicles on the road. Nearly 700,000 “clunkers” with an average fuel economy of 15.8 miles per gallon were traded in during this program, and consumers opted for new cars that were generally smaller and 58% more fuel efficient than the vehicles they traded in.¹¹⁷ Furthermore, the NHTSA recently raised its fuel economy standards, providing manufacturers with a very compelling reason to sell more subcompacts in order to meet those tough fuel economy standards.

While full-size sedans and trucks are currently seen as the safest vehicles on the road, their safety status comes from the comparative advantages they have over small cars. Considering that fuel prices and CAFE fuel economy standards are likely to necessitate smaller and lighter cars in the coming decade, the move to a more ubiquitous use of subcompact vehicles would be a strong step in the right direction for automotive safety in the United States. As this note discussed, however, there are many components that must continue to work in unison for the optimum safety level to be reached. Regulations must continue to be monitored, especially as new technologies and safety standards are developed. In the event that manufacturers aren't responding fast enough to regulatory mandates or public demand, litigation can speed the process of reform. For each of these factors to work, the media must maintain a vigilant eye on the design updates made to vehicles so that informed consumers can make the necessary demands if not decisions to litigate. These factors must be taken together to drive automotive design in the U.S. to even greater levels of safety.

¹¹⁷ Press Release, Department of Transportation, Cash For Clunkers Wraps Up with Nearly 700,000 Car Sales and Increased Fuel Efficiency (Aug. 26, 2009) *available at* <http://www.dot.gov/affairs/2009/dot13309.htm>.