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ASLEEP AT THE WHEEL OF AUTO SAFETY?
RECENT AIR BAG REGULATIONS BY THE
NATIONAL HIGHWAY TRAFFIC SAFETY
ADMINISTRATION

In 1991, Congress enacted the Intermodal Surface Transportation and Efficiency Act (ISTEA) which directed the National Highway Traffic Safety Administration (NHTSA or the Agency) to implement air bag regulations. During congressional hearings on the proposed directive, domestic auto makers failed to disclose that driver air bags were responsible for the deaths of five drivers. Unaware that air bags posed any safety problems, Congress required NHTSA to mandate air bags in all new automobiles. NHTSA, under this legislative directive, issued rules in 1993 mandating that all new cars and light trucks have dual-side air bags by the 1998 and 1999 model years.

But before the ink was even dry on NHTSA’s air bag mandate, news of air bag-related deaths began filtering back to Washington. Just


3. See Air Bag Safety: Hearings on FMVSS 208 before the Senate Comm. on Commerce, Science and Transportation, 101st Cong. (Oct. 8, 1991) (convening the nation’s three largest auto manufacturers, General Motors (GM), Ford, and Chrysler to a hearing on the proposed air bag mandate). The information on both driver-side air bag fatalities known, and significant risks of injury or death to children, was not revealed at the hearing. See PARENTS FOR SAFER AIR BAGS, THE AIR BAG CRISIS CAUSES AND SOLUTIONS 1, 31 (1997) [hereinafter THE AIR BAG CRISIS].


5. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, U.S. DEP’T OF TRANSP., SPECIAL CRASH INVESTIGATION REPORT (Jan. 1999) (revealing that NHTSA investigated its first fatal crash involving a child who was killed by an air bag on April 4, 1993); U.S. NEWS STORY PAGE, Government Makes it Official: Air Bags Can Kill Children (visited Feb. 18, 1999) <http://cnn.com/US/9610

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months after the 1993 mandate went into effect, requiring air bags in every new vehicle, NHTSA was forced to address an apparent crisis in auto safety.6

Although mandating air bags was intended to save lives, the NHTSA reports that 125 vehicle occupants have been killed by air bags.7 The vast majority of air bag-related deaths occur in collisions where the vehicles are travelling at less than fifteen miles per hour (mph). Even more disturbing, NHTSA acknowledges that in each of these cases the occupant would have survived if the air bag did not deploy.8 Intensifying this problem, the number of cars sold containing air bags on both the driver and passenger side continues to grow.9 Meanwhile, millions of air bag-equipped vehicles, already on the road,10 are killing and seriously injuring children11 and short-statured adults.12

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7. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5. These statistics include 56 adults, both drivers and passengers, and 69 children. In addition, a total of 39 more unconfirmed air bag fatality cases are pending at the Agency. See id.; see also Lori Tripoli, Air Bag Deployment: A Call to Action to Protect Children, LEADER'S PROD. LIAB. L. & STRATEGY, Nov. 1995, at 6 (discussing the negative side effects associated with air bag deployment).


9. Dual-side air bags means that the automobile contains both driver-side and front passenger-side air bags, which were mandated in all new cars in 1991. Before this statute went into effect, many cars were sold with only driver-side air bags. See THE AIR BAG CRISIS, supra note 3, at 1.


11. See, e.g., Elisa R. Braver et al., Reductions in Deaths in Frontal Crashes Among Right Front Passengers in Vehicles Equipped With Passenger Air Bags, 278 JAMA 1437, 1439 (1997) (concluding that although passenger air bags reduce the risk of death in frontal crashes for right front adult passengers, air bags kill
Air bags were touted as life-saving devices in the 1980s, and NHTSA estimates that air bags have indeed saved 3,808 lives. Yet alarmingly, a deploying air bag kills one child for every ten adult passengers it saves. Further, adult drivers and passengers are not immune

more children than they save); Air Bag Decapitates Baby in Minor Wreck, St. LOUIS POST-DISPATCH, Nov. 28, 1996, at 18A (describing fender-bender in which a one-year-old girl was killed when the Volkswagen Jetta’s passenger-side air bag deployed into the child’s forward-facing safety seat); Death of Fetus Blamed on Car’s Air Bag, THE ASSOCIATED PRESS, Oct. 29, 1996, available in 1996 WL 4446513 (reporting that NHTSA concluded air bag deployment caused the death of a thirty-five-week old fetus where the mother had only sustained bruises in a low-speed crash); John C. Ensslin, Air Bag Inflates, Injures Infant in Two-Car Crash, ROCKY MOUNTAIN NEWS, Nov. 17, 1995, at 36A (writing that a three-month-old seated in the front suffered a skull fracture from a deploying air bag); Girl Killed by Air Bag Was Properly Belted, L.A. TIMES, Oct. 24, 1996, at D2 (reporting that for the first time, NHTSA found that air bag inflation killed a five-year-old girl who was wearing a seat belt properly); Dealer, GM Sued After Air Bag Death, Boy, 2, Decapitated During Christmas Lights Tour, FORT WORTH STAR-TELEGRAM, Jan. 2, 1997, at B2 (detailing a lawsuit filed against a car dealer and General Motors Company after a child was decapitated by air bag deployment); Robert C. Sanders, Air Bags Can Kill Kids, WASH. POST, Oct. 23, 1996, at A23 (editorial alerting the public of the risks to children by air bags by author whose child was killed in a low-speed crash from air bag deployment).

12. See Cindy Skrzycki, Crash Test Raises New Concerns on Older Air Bags, WASH. POST, Mar. 2, 1999, at E1 (reporting that a NHTSA study revealed air bags are dangerous to small women); Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. 807, 808 (1997) (to be codified at 49 C.F.R. pt. 571) (“A majority of the fatally injured drivers were short-statured women who moved the driver’s seat forward.”).

13. Air bags are made of nylon and sealed into the dashboard (passenger-side air bags) or the center of a car’s steering wheel (driver-side air bags). Crash sensors at the front of the vehicle signal the ignition of sodium azide, which triggers an explosive charge of nitrogen gas into the bags. See THE AIR BAG CRISIS, supra note 3, at xiv. The bags deploy in 0.05 seconds at speeds between 90 and 211 miles per hour with a force of up to 2,600 pounds per square inch. See U.S. DEP’T OF HEALTH AND HUMAN SERVS., 45 MORBIDITY & MORTALITY WKLY REP. 1073, 1074 (1996); Don Sherman, Blink of an Eye, MOTOR TREND, May 1993, at 81, 82.

14. See generally Ben Kelly, GM and the Air Bag: A Decade of Delay, 35 BUS. & SOC’Y REV. 54 (Fall 1980) (chronicling the actions taken by General Motors in its delay in introducing air bags). The senior vice-president of the Insurance Institute for Highway Safety asserts the life-saving nature of air bags and decries GM for “pursuing a policy of withholding technology from the public.” Id.

15. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5.

16. See Graham et al., supra note 10, at 1424. (“One can question whether it is
from the risk posed by these safety devices. While air bag deployments on the passenger side have largely been responsible for child fatalities, they have also taken the lives of adults.\(^\text{17}\) In addition, driver-side air bags have caused the deaths of fifty-one adults nationwide.\(^\text{18}\)

The rising air bag death toll has prompted a host of responses from consumer groups,\(^\text{19}\) auto manufacturers,\(^\text{20}\) government agencies,\(^\text{21}\) Con-

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\(\text{17. See \textit{National Center for Statistics & Analysis}, supra note 5 (confirming that five adult passenger deaths occurred because of air bag deployment while three more adult passenger deaths are currently being investigated).}\)

\(\text{18. See \textit{id.} (estimating that an additional 12 cases of adult driver air bag deaths are pending).}\)


Professional organizations such as the American Academy of Pediatrics, Air Bag Safety Campaign, National Safety Council, Brain Injury Association, National Association of Children's Hospitals, National Association of Governors Highway Safety Representatives, and Related Institutions teamed together with the Centers for Disease Prevention and Control and the National Transportation Safety Board to study the Special Crash Investigation data maintained by NHTSA, pertaining to child air bag fatalities.

\(\text{Id.}\)


\(\text{21. See \textit{National Highway Transp. Safety Admin.}, \textit{U.S. Dep't of Transp.}, Third Report to Congress, Effectiveness of Occupant Protection Systems and Their Use 1 (Dec. 1996) [hereinafter \textit{Third Report to Congress}]. On May 21, 1996, the Department of Transportation formed the National Automotive Occupant Protection Campaign. See \textit{id.} at 29. A coalition comprising consumer safety organizations, insurance groups, air bag manufacturers, members of the auto industry, and the federal government pledged ten million dollars toward the campaign to prevent injuries and fatalities. See \textit{id.} at 31-32; \textit{The Air Bag Crisis, supra note 3, at 39. The National Transportation Safety Board (NTSB), in an effort to advise auto manufacturers of investigated child air bag deaths, issued a safety recommendation in October 1995, urging auto makers to accomplish two}\)
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gress, and the President, all aimed at alerting the public to this national safety problem. The death toll has also prompted NHTSA to initiate a series of rulemakings to address the crisis. These NHTSA rulemakings attempt to address the harmful risks posed to vehicle occupants. Certain air bag systems installed in vehicles in the United States can be fatal to those occupants who are too close to the air bag at the time of deployment. Generally, these include short-statured adult passengers, drivers, and children. These occupants, known as out-of-things. First, the NTSB wanted enhanced warning labels in vehicles to warn occupants of air bag risks. See id. Second, the agency was recommending notification letters to consumers who had already purchased cars with dangerous air bags. See id.


24. See THIRD REPORT TO CONGRESS, supra note 21, at 29-30. The risk of adverse effects from air bags primarily relate to occupants who are in the zone of deployment at the time of inflation. See id.

25. The National Highway Traffic Safety Administration describes these systems as consisting of three components:

[A]n air bag module, crash sensor, and a diagnostic unit. The air bag module, containing an inflator and a ... lightweight fabric air bag, is located in the hub of the steering wheel .... Crash sensor(s) [are] located on the front of the vehicle [and] ... measure [the] deceleration [of the vehicle]. [T]hese sensors, [upon] detect[ing] [rapid car] decelerations ... send an electronic signal to the inflator to trigger or deploy the bag. The diagnostic unit is an electronic device that monitors the operational readiness of the air bag system.

Id. at 2.

26. Of the 51 adult drivers who have been killed, 18 were short-statured women, 5'4" or under, who tend to sit closer to the steering wheel. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5. Thirty-two of the adults were not using their seat belt, while fifteen drivers were belted properly at the time of death. See id.

27. See, e.g., U.S. DEP'T OF HEALTH AND HUMAN SERVS., supra note 13, at 1074-75 (citing six reasons why children in the front seat are more likely to be
improperly positioned and at increased risk of death or serious injury from air bag deployment).

First, children are more likely to move around or lean forward . . . . Second, because of the positioning of forward-facing child re-

strains, children who are properly buckled into such restraints are several inches closer to the intense forces of air bag deployment. Third, because children's feet usually do not touch the floor, they cannot brace themselves on the floor during precrash braking. Fourth, children too small to have the shoulder [or lap] belt fit properly . . . may place the shoulder belt under their arm or behind their back, allowing their upper torso to move forward into the deploying air bag during pre-crash braking. Fifth, because most children are shorter than adults, a child's neck and head are more likely to con-

 tact the deploying air bag . . . . Finally, a rear-facing child-safety seat cannot be positioned far enough from the air bag to eliminate any risk of serious or fatal injury.


Most child fatalities attributed to an air bag fall into one of two groups: (1) infants riding in rear-facing infant seats, thus placing them very close to the air bag at the time of deployment, or (2) older children . . . without any type of restraint . . . allowing them to slide forward during pre-crash braking . . . .

Id. at 808.

28. See U.S. DEP’T OF HEALTH AND HUMAN SERVS., supra note 13, at 1074-75. See, e.g., Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. 807, 813 (discussing the Agency’s criteria for smart air bags). The Agency states, “[T]he two groups of children that experience has shown to be at special risk from air bags: infants in rear-facing child seats, and children who are out-of-position (because they are unbelted or improperly belted) when the air bag deploys.” ld. See, e.g., Graham et al., supra note 10, at 1418 (“The energy produced by the rapidly deploying air bag has the potential to injure someone whose hands, arms, chest, head or face are in the path of the air bag while it deploys.”); 62 Fed. Reg. at 808 (“The sudden release of energy by an inflating air bag can harm some front seat occupants, particularly if they are too close to the air bag at the time of deployment.”).

29. In keeping with the minimum requirements of the crash test standard, many auto makers built their air bags to protect an adult male. See Graham et al., supra note 10, at 1424 (“In addition, U.S. air bag systems were optimized to protect an unbelted 76.5-kg adult male . . . .’’).
sions. Twenty-two infants restrained in rear-facing child safety seats were seriously injured or killed by front-passenger air bags in these low-speed collisions. The injuries were caused by the positioning of the safety seats, which place the infant’s head in close proximity to the air bag that deploys at rates of up to 200 miles per hour, causing massive head trauma. Of the sixty-nine children who have sustained fatal injuries, forty-four were unbelted. As a result of braking before impact, called pre-crash braking, children are thrust forward into the area of deployment and suffer broken necks and other severe injuries from the explosive force of air bag inflation.

30. See THE AIR BAG CRISIS, supra note 3, at xv, xvi (describing the injuries sustained to children during air bag deployment). There are three kinds of air bag blows that inflict injuries upon children. These blows are labeled “punch out,” “catapult,” and “bag slap.” Each distinct blow can harm children in different ways:

Punch out occurs when the child’s head is near the dash and is struck by the bag in the first 20 milliseconds of deployment as it bursts through its plastic cover on the dash. Catapult injuries . . . [are sustained] when the inflating bag envelops a forward positioned child and, as it rapidly reaches peak deployment, drives the child’s head upwards and backwards. Ironically . . . when [a] child is restrained . . . [t]he lap belt holds the child’s body down while the bag accelerates rapidly under the child’s chin driving the head upward and backward with tremendous force. ‘Bag slap’ injuries occur when the bag whips out at the occupant at the moment of peak excursion, before it draws back into its fully inflated shape. The forward tip of the bag lashes out and snaps at the occupant [usually] caus[ing] serious eye injuries.

31. See NATIONAL CENTER FOR STATISTIC & ANALYSIS, supra note 5. The crash scenario for fatalities to infants in rear-facing seats is:

Upon impact, the deploying . . . air bag interacts violently with the back of the rear-facing infant seat, typically with sufficient force to crack or break the plastic shell. The force and rapid acceleration of this impact are carried through the seat and into the child’s head causing skull fractures and associated brain injuries.

THIRD REPORT TO CONGRESS, supra note 21, at 30.

32. See CENTERS FOR DISEASE CONTROL AND PREVENTION, Update: Fatal Air Bag-Related Injuries to Children, 277 JAMA 11 (Jan. 1, 1997) (“Air bags deploy within 0.05 seconds at velocities of 140-200 miles per hour . . .”).

33. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5.

34. See THIRD REPORT TO CONGRESS, supra note 21, at 30 (describing in grue-some detail the manner in which children suffer fatal injuries from air bags).

[T]he air bag deploys into the out-of-position child’s chest, neck, and face. As the air bag expands, it results in the rapid translation and rotation of the child’s skull, causing a number of injuries. These include fractures of the cervical spine, bruising and laceration of the spinal cord, and brain stem injuries . . . Mandibular (jaw
Adult injuries and deaths in driver and passenger seats occur in a similar fashion. Shorter drivers generally sit close to the steering wheel, the place of deployment. Of the fifty-one adult fatalities, twenty were women under five feet, two inches in height. These statistics highlight a common risk factor for air bag-related fatalities and injuries: the out-of-position occupant, sitting close to the bag during inflation, is at risk.

Regulatory agencies and auto manufacturers now confront two looming questions, whether these deaths are the direct result of the air bag mandate, and could they have been prevented? The cause of this crisis is widely disputed. The auto industry points to government regulations mandating the installation of dual-side air bags in every vehicle. Consumer groups, on the other hand, blame the dangerous air bag design systems that some auto makers install in vehicles, despite industry awareness that children and adults may be seriously harmed, or even killed. In addition, some Congressional members argue that the government-imposed crash test standards, which include optimizing air bag systems to protect an unbelted adult male, should be suspended until

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Bone) fractures and avulsed (knocked-out) teeth have also been reported as a result of air bag or cover flap impact with the chin and face . . . [I]njuries to the lungs and heart have [also] been reported. Id.


37. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5.

38. Telephone Interview with Kyle Johnson, Attorney for General Motors (Nov. 5, 1997). “We knew that these [airbags] would cause harm to children . . . [It was] a known quantity when [the] law was originally written . . . [and] should be no surprise.” Id.

39. See The Air Bags are Coming, CONSUMERS’ RES., May 1980, at 15, 16 (reporting on consumer and insurance group opposition to the Agency’s push for air bags as a form of passive restraint due to concerns on the effectiveness of air bags); Kelly, supra note 14, at 58 (reporting that in October 1979, GM warned there were concerns over possible injuries to out-of-position children); see discussion infra Part I (describing domestic auto makers’ testing that revealed certain air bags were dangerous to children sitting close to the bag); THE AIR BAG CRISIS, supra note 3, at 29 (revealing that General Motors and Mercedes had successfully developed dual stage deployment air bags that would increase safety for children).

40. See discussion infra Parts II.B.1. & II.B.2.
the crisis is resolved. In response, NHTSA announced on August 6, 1996, an array of proposed rulemaking actions, termed a comprehensive strategy, to address air bag fatalities.

As of 1999, the final rules include: requiring placement of enhanced sun visor warning labels in cars, alerting consumers to the dangers associated with air bags; permitting auto manufacturers to depower air bags so they deploy at a less forceful rate; and allowing car owners to deactivate either driver or passenger-side air bags if they petition NHTSA for such action. Other rulemaking measures extend the time period in which auto manufacturers can offer manual cut-off switches, and request comments regarding a possible moratorium on testing with unbelted dummies. Most recently, NHTSA proposed a rule which would...
require advanced air bags in all vehicles and light trucks by the year 2005. A final rule is expected by the end of 1999. Whether these measures will translate into effective remedies for the air bag crisis remains to be seen. What is certain is that several triggering events, occurring from the 1970s throughout the 1990s, needlessly provoked and aggravated the crisis.

Four predominant factors have contributed to the escalation of air bag fatalities. First, although air bag researchers documented deadly risks associated with certain types of air bag systems in the 1970s, many unsafe systems were installed into automobiles in the United States in the 1980s. Second, crash test standards developed by NHTSA, to which all air bag restraint systems must conform, required that air bag deployment occur at a rate of force sufficient to protect an unbelted adult male. In efforts to comply with the standard's minimum requirements, auto manufacturers failed to test air bags on female or child-size dummies. Third, the 1991 mandate from Congress, requiring both driver and passenger-side air bags in all new vehicles, increased the number of unsafe air bag systems on the roads. Fourth, the recent NHTSA rulemakings, intended to combat the fatal risks posed by air bags, have been largely inadequate in resolving the crisis.

Part I of this Note provides an overview of the complex legislative history of the passive restraint rule. Particular focus is given to the development of air bag systems and their delayed introduction into the market.

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49. See discussion infra Part I (outlining the history of air bag design and its introduction on the market).
50. See discussion infra Parts II.B., II.C. (discussing depowering the force of air bag deployments by changing the standard).
51. See Joint Petition submitted to NHTSA on March 12, 1998, by Consumer Federation of America, Parents for Safer Air Bags, and Public Citizen, to upgrade the federal air bag performance requirements to include: 1) barrier crash tests, 2) a "family of dummies" with 5th percentile female dummies and child dummies, 3) belted and unbelted dummies, 4) dummies in upright and leaning forward positions, and 5) cars traveling at 15 mph and 30 mph (on file with author). See Skrzek, supra note 12, at E11 (describing that while the 5th percentile female dummy is only about 108 lbs. and 4'11" tall, the 50th percentile male dummies, currently used to test air bags, are 165 lbs. and 5'9" in height).
52. See discussion infra Part II (discussing the inadequacies in the recent NHTSA rulemakings).
domestic market. Part II provides a summary of NHTSA regulatory actions taken in response to air bag deaths, as well as an assessment of the impact of each rule. An analysis of the policy concerns raised by the issuance of these rules follows. Finally, Part III summarizes the benefits and disadvantages vehicle occupants can expect from the recent rules. This Note concludes that in order to avoid further air bag fatalities, NHTSA must pursue three goals: 1) mandate safer air bag design systems which certain auto companies currently use; 2) require notification to vehicle owners with potentially unsafe air bag systems; and 3) initiate the introduction of “smart” air bag technology. Beyond the scope of this Note is the mounting wave of lawsuits concerning car manufacturers’ liability and preemption issues in air bag-related cases.

I. THE HISTORY OF THE FEDERAL MOTOR VEHICLE SAFETY STANDARD 208 AND EARLY AIR BAG DESIGN SYSTEMS

The Federal Motor Vehicle Safety Standard No. 208 (FMVSS 208) 53

53. See Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. 806, 813 (1997) (“The Agency’s criteria for smart passenger air bags includes any design system that automatically prevents an air bag from injuring the two groups of children that are at increased risk of air bag injuries or deaths: infants in rear-facing child seats, and children who are either unbelted or improperly belted when the air bag deploys, rendering them out-of-position.”).


has one of the most contentious and prolonged legislative histories in administrative law. Its inception thirty-one years ago marked the first federal requirement that auto manufacturers install seat belts in all new cars. In the late 1960s, due to the nation's appallingly low seat-belt use rate, coupled with a growing number of highway fatalities, NHTSA introduced "passive restraint systems" to an unwilling industry.

The first patent for a prototype air bag was issued in 1953 to a retired industrial engineering technician named John Hetrick. Auto manufacturers, such as General Motors (GM) and Ford, also began experimenting with air bag design systems during this decade. It was not until 1969, however, that the Department of Transportation (DOT) decided to set a standard requiring all vehicles to be equipped with some form of passive restraint. Yet that same year, GM warned federal safety officials that, according to the results of its testing, children sitting in close proximity to an inflating air bag could be severely injured.


58. Passive restraint means that no independent action by the occupants is necessary in order for the safety restraint to function. See 58 Fed. Reg. 46,552 (1993) (to be codified at 49 C.F.R. § 571.208) (describing that such systems "protect their occupants by means that require no action . . ."). The government wanted "nets that would envelop the occupant," cushioned interiors and dashboards, as well as motorized seat belts. See The Air Bag Crisis, supra note 3, at 2.

59. When the first passive restraint rule was issued by NHTSA in 1970, the Agency received dozens of petitions for reconsideration from the auto industry. See 36 Fed. Reg. 4,600 (1971). Petitions were filed from the following auto makers: Japan Automobile Manufacturers Association, Inc.; Peugeot, Inc.; American Motors Corp.; Volvo, Inc.; Ford Motor Co.; Chrysler; Chrysler United Kingdom Ltd.; Automobile Manufacturers Association; General Motors Corp.; Volkswagen of America, Inc.; Takata Kojyo Co., Ltd.; Renault, Inc.; American Motors (Jeep); Rolls-Royce, Ltd.; Checker Motors Corp.; and Eaton, Yale and Towne. See id.; see also, Sherman, supra note 13, at 83 ("The auto industry insisted the technology was expensive, immature, and unwanted by consumers.").

60. See Sherman, supra note 13, at 81.


or killed.\textsuperscript{63}

Despite concerns over safety risks posed by air bags and criticism from the auto industry, NHTSA amended FMVSS 208 in 1970 to require the installation of passive restraints.\textsuperscript{64} With this amendment, the Agency sought to specify requirements for all passive occupant crash protection systems.\textsuperscript{65} Two obstacles, however, delayed the passive restraint mandate. First, the mandate did not become effective because several auto manufacturers challenged the Agency’s legal authority to impose such a rule.\textsuperscript{66} Second, the auto industry was concerned about the financial implications of the mandate.\textsuperscript{67} Thus, the deadline for compliance was extended from the 1974 model year to 1977.\textsuperscript{68}

Auto makers like GM, independently recognizing the need for further

\begin{itemize}
\item[\textsuperscript{63}] See \textit{Air Bag Chronology}, USA TODAY, (last modified Aug. 5, 1998) <http://www.usatoday.com/money/consumer/autos/mauto133.htm>.
\item[\textsuperscript{64}] See 35 Fed. Reg. 16,927 (1970) (describing the purpose of the proposed amendment, NHTSA stated that passive restraint was “imperative” due to the “wide-spread failure of the public to fasten [their] seat belts”).
\item[\textsuperscript{65}] See \textit{id}. Under the standard, all vehicles manufactured by the 1974 model year were to be equipped with a passive restraint device, designed to protect an unbelted average-sized male (5'9" 165 pounds) in a 30 miles per hour (mph) crash into a fixed barrier. \textit{See id.}
\item[\textsuperscript{66}] See Chrysler Corp. v. Dep’t of Transp., 472 F.2d 659, 659 (6th Cir. 1972) (rejecting a petition brought by Chrysler, Jeep, AMC, and Ford arguing that NHTSA's rule setting a 1973 deadline for the passive restraint rule was arbitrary and capricious). In rejecting the petition, the court upheld NHTSA’s authority to impose a requirement of advanced technological devices such as air bags. \textit{See id.} at 660. “[T]he [p]urpose of [the] Motor Vehicle Safety Act is to enable the federal government to impel auto manufacturers to develop and apply new technology to the task of improving the safety design of [vehicles] as readily as possible.” \textit{Id.} at 661. Hence, while the court decided that the test procedures and devices required by the safety standard failed the “statutorily required criteria of objectivity,” the court noted that NHTSA’s authority was not limited to “issuing standards based solely on devices already fully developed.” \textit{Id.} at 660-61.
\item[\textsuperscript{67}] See Chadwell, \textit{supra} note 56, at 141, 145, & 181 n.30 (citing to National Archives White House Conversations). In 1971, during the Nixon Administration, Ford Motor Company President, Lee Iacocca, met with the President. \textit{See id.} at 181. During this meeting, Iacocca lobbied President Nixon to “shelve” the air bag requirement. \textit{See id.} Iacocca argued that forcing American car manufacturers to install air bags would create a financial burden on domestic auto manufacturers, thereby placing U.S. companies at a disadvantage with respect to Japanese car manufacturers. \textit{See id.}
\item[\textsuperscript{68}] See 40 Fed. Reg. 16,217 (1975).
\end{itemize}
testing and development of air bags, launched a "dual deployment" system in 1973.\textsuperscript{69} It conducted a field trial program of the new system in 1,000 cars.\textsuperscript{70} In these systems, the bumper sensor "produced a signal early in the crash . . . caus[ing] an initial lower level of deployment . . . ."\textsuperscript{71} If the force of the crash is more serious, in high speed crashes for example, a secondary, more aggressive burst is discharged, when necessary, that "eliminates the standing child problem and helps the out-of-position occupant problem."\textsuperscript{72} If Ford and Chrysler testing on dual deployment systems revealed positive outcomes in air bag development, why were these systems not introduced in cars when the air bag mandate finally went into effect in 1991? The reason may well be corporate disregard.\textsuperscript{73}

GM marketed dual stage inflators in approximately ten thousand of its cars in the mid-1970s.\textsuperscript{74} Although there were no instances in which children were injured by deploying air bags with this system,\textsuperscript{75} GM dis-

\textsuperscript{69} See Sherman, supra note 13, at 83 (describing GM's field trial as 18% effective at mitigating injuries).


\textsuperscript{71} See THE AIR BAG CRISIS, supra note 3, at 7 (quoting E. Klove and R. Oglesby, Special Problems and Considerations in the Development of Air Cushion Restraint Systems, SOCIETY OF AUTOMOTIVE ENGINEERS 720411 (1972)). This low-level deployment for small collisions "minimized the action of the cushion against out-of-position occupants." Id.

\textsuperscript{72} Id. at 7, 8 (quoting Chrysler Inter-Company Correspondence, P.D. Vrzal to R.M. Sinclair).

\textsuperscript{73} See id. at 169 (discussing how automobile manufacturers "placed profit before safety.").

\textsuperscript{74} See Air Bag On-Off Switches, 62 Fed. Reg. 62,406, 62,411 n.11 (1997) (to be codified at 49 C.F.R. pts. 571 & 595) (arguing that the FMVSS 208 does not require a certain air bag design that is dangerous to children; rather, the Agency argues that FMVSS allows a variety of design features that would reduce or eliminate air bag fatalities, and that auto makers, like GM, manufactured such air bag systems in the 1970s).

\textsuperscript{75} See THE AIR BAG CRISIS, supra note 3, at 11 (citing NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION, Report: Automobile Occupant Crash Protection, July 1980). "[T]here have been no instances in which children are known to have been injured by deploying air bags." Id. at 11. The only infant death in the 1,000 dual deployment field program occurred in May 16, 1973, where an unrestrained, seven-week-old infant was killed in the passenger seat. See id. at 9. NHTSA determined that there was a significant amount of pre-impact braking before the collision, causing the child to be thrown to the floor at the time of air bag
Asleep at the Wheel?

continued the option at the end of the 1976 model year, citing lack of consumer interest. Apart from corporate decisions affecting the introduction of air bags into the American market, a regulatory war was brewing over the issuance of the passive restraint rule.

The most clear and direct impact on the fate of mandated passive restraint, however, came from changing political winds. The rule was suspended indefinitely under the "lame duck" administration of President Gerald Ford. The next round of presidential appointees, this time under President Jimmy Carter, reimposed the passive restraint rule in June of 1977. The reissued rule required a complete phase-in of passive restraints by 1984.

The rule's oscillating trend did not end there. After the rule was reimposed, it was later postponed, rescinded, and again suspended before surviving a court challenge in the U.S. Court of Appeals for the District of Columbia. In 1981, President Ronald Reagan's political appointees, "determined to get the government monkey off of [the public's] back," delayed and then completely rescinded the passive restraint rule. The United States Supreme Court subsequently ruled that

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76. See id. at 11.
79. See id.
83. See Pacific Legal Found. v. Dept of Transp., 593 F.2d 1338, 1347 (D.C. Cir. 1978) cert. denied, 444 U.S. 830 (1979). ("Rapidly inflation air bags also may injure out-of-position passengers in the front seat, especially children. New methods of gas generation, however, permit an initially slower inflation, with the aim of more gently moving the occupant back from the dashboard and out of harm's way.").
84. See Chadwell, supra note 56, at 147 (citing to the President's Remarks to Annual Convention of United States Jaycees, 17 WEEKLY COMP. PRES. DOC. 675, 676 (June 24, 1981) and the President's Remarks to Central City and California Tax Payers' Association, 17 WEEKLY COMP. PRES. DOC. 684, 685-86 (June 25, 1981)).
86. See Federal Motor Vehicle Safety Standards; Occupant Crash Protection,
the recission was "not properly reasoned" and remanded the issue back to the DOT. 87

With increasing vehicular fatalities on the roads, Elizabeth Dole, then Secretary of Transportation, reissued the passive restraint rule in July 1984. 88 This rule required a phase-in of passive restraints beginning in all vehicles manufactured after September 1, 1986, to be completed by September 1, 1989. Much to the chagrin of air bag proponents, 89 the final rule did not require the installation of air bags. 90 The passive restraint rule required auto makers to include one of the following: 1) a driver-side air bag with automatic front seat belts; 2) automatic front seat belts; or 3) manual front seat belts with a belt warning system. 91

Congress did not force NHTSA to mandate air bags until the Fall of 1991, when it enacted legislation that required a phase-in of air bags in all light vehicles during the 1997 and 1998 model years. 92 This legislation, part of the Intermodel Surface Transportation and Efficiency Act of 1991, provided that air bags would be the only means by which automobile manufacturers could comply with the passive restraint rule. 93

Ironically, consumer demand for air bags, and not the passive restraint mandate, prompted the installation of most air bags. 94 By the beginning

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88. See Federal Motor Vehicle Safety Standard; Occupant Crash Protection, 49 Fed. Reg. 28,962 (1984); 35 Fed. Reg. 16,927 (1970). This "passive restraint rule" had its origins in the early 1970s, where Transportation Secretary John Volpe first issued the rule requiring all vehicle manufacturers to implement a restraint that required no action on the part of the driver (an unbelted average-sized male 5'9" 165 pounds). See id. This could take the form of automatic safety belts, air bags, padded interior dashboards, or some combination. See id.

89. See Timothy Wilton, Federalism Issues in "No Airbag" Tort Claims: Pre-emption and Reciprocal Comity, 61 NOTRE DAME L. REV. 1, 2 (1986). "Airbag proponents have been disappointed by NHTSA's consistent refusal to mandate installation of airbags, and the latest NHTSA decision has caused them to develop a new strategy and to seek a new forum." Id. at 2.


91. See id.


93. See id.

94. See Sherman, supra note 13, at 83 ("The buying public has voted strongly
of the 1990s, several years after the initial air bag deadline, manufacturers were rapidly installing air bags in all passenger cars and light trucks. Between 1989 and 1996, more than fifty-six million vehicles equipped with driver-side air bags were sold in this country.\(^9\) Of those cars, twenty-seven million had front passenger air bags.\(^6\) Many of the air bag systems placed on the market had design features dangerous to children and out-of-position occupants, namely: 1) single mode deployments,\(^7\) 2) single thresholds,\(^8\) and 3) horizontal deployment.\(^9\) One con-

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in favor of airbags (and against automatic belts), so manufacturers currently are struggling to meet demand.”); THE AIR BAG CRISIS, supra note 3, at 28. Chrysler discovered at consumer clinics in 1985 and 1987 that consumers did not favor the motorized belts. See id. Chrysler then quickly became the first domestic automobile manufacturer to make driver-side air bags standard in all cars in 1990 and the first to install a driver’s side air bag in minivans in 1991. See id. “[T]o avoid losing market share, [other auto makers] quickly followed Chrysler. The air bag gold rush of the 1990’s was on.” Id. at 29.

95. See Graham et al., supra note 10, at 1418.

96. See id. But see THIRD REPORT TO CONGRESS, supra note 21, at 6-7 (reporting that between 1987 and 1995 only 13.5 million vehicles with passenger-side air bags were registered).

97. See THE AIR BAG CRISIS, supra note 3, at 59. Single deployments utilize an inflator that fills the bag with a single explosive burst of nitrogen gas. See id. A dual deployment system has a gentler bag deployment in low-speed collisions and a more aggressive deployment in high-speed collisions. See id. GM marketed over 10,000 vehicles with dual-deployment air bag systems in the mid-1970s. See id. at 10. According to NHTSA statistics, these systems caused no deaths or severe injuries. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5; see also NAT’L HIGHWAY SAFETY ADMIN., U.S. DEPT. OF TRANSP., AUTOMOBILE OCCUPANT CRASH PROTECTION, Progress Report No. 3, July 1980, at 69 (stating with respect to GM’s mid-1970s dual deployment systems, “[t]here have been no instances in which children are known to have been injured by deploying air bags”).

98. The difference between single thresholds and dual thresholds is that single thresholds deploy in minor collisions, even if the occupant is lap-belted. See THE AIR BAG CRISIS, supra note 3, at xviii. Dual threshold systems have a higher deployment threshold if the occupant is lap-belted. See id. If the occupant is unbelted, the air bag deploys in collisions of 12-18 mph. See id. “If the occupant is belted (and air bag protection is less necessary), the air bag does not deploy unless the collision exceeds 18 mph.” Id. Mercedes Benz, BMW, and Audi use dual thresholds. See id. According to NHTSA, no occupants have been killed or severely injured by these dual threshold air bag systems. See id.

99. Horizontal deployment occurs when air bags inflate “horizontally” towards the passenger. See THE AIR BAG CRISIS, supra note 3, at xix. Vertical deployment,
sumer group contends, "[H]ad these manufacturers tried to design an air bag system that was dangerous to children, they could not have done much better."  

Reports of problems with these designs surfaced almost immediately. Between 1990 and 1993, reports of air bag fatalities and injuries began filtering back to NHTSA.  

This only prompted NHTSA to issue a sun visor warning label that failed to adequately warn of the danger. Following Congress' mandate, air bag fatalities involving children began to surface for the first time between 1993 and 1995.  

By the end of 1995, NHTSA was aware of thirty-seven air bag fatalities. The Agency, however, took only marginal measures to address what clearly became a crisis in auto safety. Finally, on August 6, 1996, the Agency that had "promulgated, modified, revoked, and reinstated various Federal Motor Vehicle Safety Standards concerning air bags," now issued a wave of rulemakings intended to combat the growing number of air bag fatalities. These rulemakings, a patchwork of indirect measures, inadequately address the problem.

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100. Id. at 29.  
101. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5.  
103. See NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5.  
104. See id.  
105. In 1995, NTSB issued a press release warning of the incidence of several fatalities. See THE AIR BAG CRISIS, supra note 3, at 38. Even though NHTSA was aware that air bags were causing injury and even death, the Agency only requested public comments to share information about the adverse effects of air bags. See Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 60 Fed. Reg. 56,554 (1995) (to be codified at 49 C.F.R. pt. 571). A final rule was published permitting installation of a manual device, an on-off switch, allowing for deactivation of the passenger-side air bag. See id. This measure was only for motorists whose vehicles did not permit placing an infant restraint in the back seat. See 60 Fed. Reg. 27,233 (1995). In 1997, NHTSA would later extend this option to all people. See infra Part II.C. (discussing deactivation).  
106. Wilton, supra note 89, at 1.
II. NHTSA: PUTTING THE BRAKES ON THE AIR BAG CRISIS OR JUST A LOT OF HOT AIR?

A. Labeling and Notification Requirements

1. The Belated Rule

In 1992, the American Automobile Manufacturers Association\(^9\) petitioned NHTSA to promulgate a rule requiring a uniform labeling design "to ensure that all vehicle manufacturers provide the same information to occupants."\(^*\) The first label warnings mandate was not enacted until 1993.\(^\rangle\) These labels contained language that insufficiently alerted the public to the substantial risks.\(^\rangle\) Although the rule invited auto makers to provide additional information in other

\footnotesize{107. The organization was formerly known as the Motor Vehicle Manufacturers Association and consists of three members: Chrysler Corporation, Ford Company, and General Motors.}

\footnotesize{108. Letter Petition from Thomas H. Hanna, President of Motor Vehicle Manufacturers to the Honorable Jerry R. Curry, NHTSA Administrator (Feb. 27, 1992). Some citizens groups criticized the auto industry’s attempt at labeling requirements as “a cynical effort . . . to shield themselves from the lawsuits they knew would come because of their terrible air bag designs.” THE AIR BAG CRISIS, supra note 3, at 33.}

\footnotesize{109. See Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 58 Fed. Reg. 46,551 (1993); see also infra note 110 and accompanying text.}

\footnotesize{110. See 58 Fed. Reg. at 46,551. The language requirements of this label were as follows:

\begin{itemize}
\item Caution -- To Avoid Serious Injury
\item For maximum safety protection in all types of crashes, you must always wear your safety belt.
\item Do not install rearward-facing child seats in any front passenger seat position.
\item Do not sit or lean unnecessarily close to the air bag.
\item Do not place any objects over the air bag or between the air bag and yourself.
\item See the owner’s manual for further information and explanations.
\end{itemize}

\textit{Id.} at 46,564.
places, few did so.\textsuperscript{111}

In 1995, the National Transportation Safety Board (NTSB)\textsuperscript{112} investigated six car accidents in which children in the front seat had been killed, and concluded these fatalities would not have occurred, but for the deployment of the air bag.\textsuperscript{113} Following this investigation, in October 1995, an Urgent Action NTSB Safety Recommendation was sent to all vehicle manufacturers.\textsuperscript{114} It urged the auto industry to place enhanced warning labels in its vehicles and send letters to the registered owners of cars with passenger-side air bags warning against placing children in the front seat.\textsuperscript{115} The auto industry did not respond in a timely manner to this recommendation, but waited over a year before mailing notification letters.\textsuperscript{116} In this time, air bags killed thirty children.\textsuperscript{117}

The next petition to NHTSA for labeling requirements on the adverse

\textsuperscript{111} See 58 Fed. Reg. at 46,564 (authorizing vehicle manufacturers to provide additional information by way of car manuals). Suzuki corporation was the only manufacturer who subsequently petitioned NHTSA to substitute the word “caution” for the stronger word, “WARNING.” See THE AIR BAG CRISIS, supra note 3, at 37.


\textsuperscript{113} See THE AIR BAG CRISIS, supra note 3, at 38 (citing a National Transportation Safety Board Safety Recommendation (Nov. 2, 1995) (on file with author)).

\textsuperscript{114} See id.

\textsuperscript{115} See id.

\textsuperscript{116} “On November 2, 1996, Andrew J. Card, Jr., President of the American Automobile Manufacturers Association announced that GM, Ford, and Chrysler would mail the notification letters.” THE AIR BAG CRISIS, supra note 3, at 41. These letters were eventually mailed in the first quarter of 1997, after the number of children killed by air bags rose to thirty-eight. See id.; see also Daniel McGinn & Daniel Pedersen, A Life-or-Death Choice?, NEWSWEEK, Oct. 20, 1997, at 40 (explaining that on December 25, 1996, the air bag in a 1995 Plymouth Voyager deployed in a low-speed collision, leaving a six-year-old child “ventilator-dependent” for the rest of his life). In February 1997, the family received a notification letter regarding air bags from Chrysler. The letter included adhesive warning labels to be placed in the car. See id. at 44.

\textsuperscript{117} See THE AIR BAG CRISIS, supra note 3, at 39. For a table chart outlining the data associated with each air bag death, such as the make and year of the car, as well as the age, height, and sex of each victim, see NATIONAL CENTER FOR STATISTICS & ANALYSIS, supra note 5.
effects of air bags was filed in July 1996.\textsuperscript{118} NHTSA granted the petition in part, mandating the placement of enhanced warning labels in all vehicles.\textsuperscript{119} The Agency did not rule on the second part of the petition that mandated the mailing of notification letters to owners.\textsuperscript{120} Media coverage surrounding the controversy over warning labels prompted the auto industry to send owners information on the fatal nature of some air bag deployments.\textsuperscript{121}

The final rule promulgated by NHTSA requires new, attention-drawing labels to replace the existing labels in cars that do not have smart air bag technology.\textsuperscript{122} NHTSA acknowledges that the new labels will increase awareness about air bag risks. The Agency concedes, however, that the labels will produce "only a 'very little' reduction in fatalities and injuries."\textsuperscript{123} Indeed, it appears as though the warning labels have not substantially impacted the reduction of risks to children.\textsuperscript{124}

\textsuperscript{118}See \textit{The Air Bag Crisis}, supra note 3, at 40-41.


\begin{itemize}
  \item Warning! Death or Serious Injury Can Occur
  \item Children 12 And Under Can be Killed by the Air Bag
  \item The Back Seat is the Safest Place for Children
  \item Never Put a Rear-Facing Child Seat in the Front
  \item Sit As Far Back As Possible From the Air Bag
  \item Always Use Seat Belts and Child Restraints
\end{itemize}


\textsuperscript{120}See Federal Motor Vehicle Safety Standards; Occupant Safety Protection, 61 Fed. Reg. at 60,206, 60,214. Adopted in 1996, NHTSA's final rule concerning warning labels states, "NHTSA is aware that some manufacturers intend to send letters to current owners of vehicles with passenger-side air bags. These letters may include copies of the new warning labels. NHTSA encourages manufacturers to do this." \textit{Id.} at 60,214.

\textsuperscript{121}See \textit{The Air Bag Crisis}, \textit{supra} note 3, at 41.

\textsuperscript{122}See Federal Motor Vehicle Safety Standards; Child Restraint Systems, 63 Fed. Reg. 52,626 (1998) (adopting amendments to the final rule on labeling requirements that concern vehicle owners whose passenger air bags are deactivated, thus allowing drivers to place infants' car seats in the front of the car).


\textsuperscript{124}See \textit{Many Parents Still Place Infants Near Air Bags} (visited Feb. 18, 1999)
2. The Effects of the Labeling Requirements

The labeling requirements imposed by NHTSA are nonetheless vital to the resolution of the air bag crisis. The new language of the warning labels will effectively alert consumers that the air bags in their vehicles may be fatal to children, short-statured drivers, or out-of-position occupants. Yet, while the Agency imposed bright label warnings in all vehicles, it refused to mandate notification letters to individual owners of vehicles with these air bag design systems installed.125 The Agency determined that in order to require notification letters, it must find a “defect” in certain air bag equipped vehicles.126

The auto industry’s decision to refrain from mailing notification letters to vehicle owners with unsafe air bag designs has already had deadly repercussions. In one example, a child was left ventilator-dependent for life due to head and neck injuries resulting from an air bag deployed in a fender-bender.127 The accident occurred on Christmas day in 1996. Two months after the accident, the family received a letter in the mail from Chrysler Corporation with adhesive warning labels enclosed to be placed in the car. Had NHTSA required automobile manufacturers to disseminate this information, fewer fatalities and injuries would have occurred.128 Not only is it disturbing that car companies

<http://cnn.com/US/9807/16/infant.air.bags/> (reporting on findings from The Air Bag Safety Campaign which indicates that nearly 175,000 babies are still riding in the front seat of cars with air bags, despite parental knowledge of the risks associated with air bag deployment).

125. Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 61 Fed. Reg. at 60,214 (acknowledging that letters may be sent to current owners about the risks of air bag deployment, NHTSA “encourages” manufacturers to mail out such letters).
126. See THE AIR BAG CRISIS, supra note 3, at 40.
127. See McGinn & Pedersen, supra note 116, at 40.

At first, we were certain that Frances must have hit her head on the dashboard... because the swelling and pressure in her head was five times what that of a normal person’s was. Imagine the horror to learn that all she had come into contact with was an air bag exploding in her face at 200 miles per hour... [H]ad we been notified in November of 1995 of the dangers of passenger-side air bags, as the NHTSA had requested, Frances might still be alive today.

Id. at 9.
would choose to forego sending safety alerts to consumers, it is uncon-
scionable that an administrative agency devoted to U.S. auto safety
would permit such a delay in warning the public about the risks associ-
ated with air bags.

B. Depowering Forceful Air Bags Has Only
Short-Term Benefits

1. The Depowering Rule and Its Effects

In January 1997, NHTSA proposed to amend the FMVSS 208 tempo-
rarily to provide auto makers discretion to depower the force of their air
bags. In an effort to ensure that air bags would inflate less aggres-
sively, the proposal allowed manufacturers to make quick changes in air
bag design. One approach replacing the standard’s barrier crash test
requirement permitted manufacturers to use a sled test option,

130. See Automakers Reach Consensus on Air Bag Improvements (visited Feb. 18, 1999) <http://www.cnn.com/US/9611/15/air.bags./index.html> (detailing the agreement of auto makers at a Toronto conference where participants agreed that the AAMA depowering proposal was the preferred approach, allowing depowering “to occur quickly”).
131. A barrier-crash test is a frontal collision into a wall.
132. See THE AIR BAG CRISIS, supra note 3, at 45. A sled test can be distin-
guished from a barrier crash test by the manner in which the test is conducted.
In a sled test the vehicle is placed on a platform or sled mounted on
a track. The sled is then thrust backwards along the track by a hy-
draulic piston. The deceleration of this reverse propulsion simulates
the deceleration seen in a frontal crash. As such, the reverse propul-
sion causes the air bag to deploy as it would in a frontal crash.
Id. The unbelted sled test option would incorporate a 125 millisecond crash pulse. See THE AIR BAG CRISIS, supra note 3, at 45. Crash pulse determines the string-
gency of the test and refers generally to the acceleration-time history of the “occu-
pant compartment of a vehicle” during a crash. See Federal Motor Vehicle Safety
Standards; Occupant Crash Protection, 62 Fed. Reg. at 12,960, 12,961 n.5. This
pulse is the time in milliseconds that it takes for a car to come to a complete stop
after striking a fixed barrier at 30 mph. See id. For example, “an occupant will
undergo greater forces if the crash pulse g’s are higher at the peak, or the duration
of the crash pulse is shorter.” Id. at 12961. Head and chest injury criteria are
measured in g’s. See id. G-force measures the “acceleration of gravity,” or force
of an impact. See Kevin Clemens, AIR BAGS CAN KILL CHILDREN, AUTOMOBILE, Sept.
1993, at 24 (exposing the risks to children seated in the front passenger seat).
where the vehicle is stopped instantly, rather than actually crashed. Another option is the reduction of the chest acceleration requirement\(^\text{133}\) that an unbelted male dummy must meet at speeds up to thirty miles per hour.\(^\text{134}\) Both options were a change from the barrier crash test, which had been in place during the 1990s air bag manufacturing.

Before the final rule was issued in March 1998, the air bag standard\(^\text{135}\) for automatic protection required the use of: 1) a 50th percentile male dummy,\(^\text{136}\) 2) a barrier-crash test, 3) speeds of up to 30 mph, and 4) certain injury criteria for the head and chest.\(^\text{137}\) The depowering method requested by the American Automobile Manufacturers Association attempts to address the high level of force at which the air bag inflates during deployment, the leading cause of air bag fatalities.\(^\text{138}\)

The AAMA’s petition prompted the Agency to adopt an interim rule permitting, but not requiring, auto manufacturers to depower all air

133. The chest acceleration requirement, initially at 60 g’s, would be raised to 80 g’s, which would make it easier for manufacturers to meet the requirement. *See* 62 Fed. Reg. at 12,962. In its final rule on depowering, the Agency did not provide such a reduction in the chest acceleration requirement because no manufacturer indicated that they would pursue this approach. *See* Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. at 12,965.


135. *See* Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. at 8,917. While the standard does not specify the design requirements of an air bag, the vehicles must meet specified injury criteria.

[T]he Standard specifies two crash tests for determining whether vehicles comply with the standard’s injury criteria. Both tests involve crashing a vehicle into a barrier at speeds of up to 30 mph. One crash uses unbelted anthropomorphic test dummies, while the other uses belted dummies. The unbelted crash test ensures that the vehicle provides effective ‘automatic protection’...


137. *See* 62 Fed. Reg. at 12,964. Specific injury criteria measured on the test dummies must be met in barrier crashes at speeds up to 30 mph, and at a range of angles from zero to 30 degrees off-center. *See id.*

138. *See* Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. at 813 (describing in its final rule the reasons behind the petition initiated by the American Automobile Manufacturers Association (AAMA)).
After research, NHTSA concluded that an average depowering of twenty to thirty-five percent reduces the risk of air bag fatalities in low speed crashes. In its final rule, the Agency adopted, as a temporary alternative, the option to utilize the unbelted sled test protocol to allow for depowered systems. The NHTSA Reauthorization Act of 1998 provides that the unbelted sled test option will remain in effect only until advanced air bags are completely phased in.

2. Why the Alternative Sled Test Does Not Make the Grade

In permitting the depowering of air bags by use of a sled test, NHTSA adopted a remedy with significant drawbacks. Many of the flaws in the rule are acknowledged by the Agency, but are justified as necessary to provide auto makers with “maximum flexibility” in decreasing the injurious effects of their designs. The Agency itself stated that the rule “would most likely result in trade-offs for adults.” Further, NHTSA

139. See 62 Fed. Reg. at 12,964 (stating “[t]he issuance of any rule narrowing the discretion [of] vehicle manufacturers . . . would involve considerably more complex issues than a rulemaking simply adding greater flexibility.”).

140. See Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. at 12,966 (discussing the steps taken by the Agency after receiving comments on its NPRM to depower air bags).

141. Overall, the decision was supported as a quick, interim solution of adverse effects caused by air bags. See Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. at 12,963. Commentors in support of depowering included, Public Citizen, Advocates, Insurance Institute for Highway Safety, the AAMA, Association of International Automobile Manufacturers (representing all domestic and foreign auto manufacturers), and Automotive Occupant Restraints Council (representing suppliers). See id.


In the meantime, however, NHTSA wants to be sure that the vehicle manufacturers have the necessary tools to address immediately the problem of adverse effects of air bags . . . . Until the agency conducts its rulemaking regarding smart air bags [our] best . . . focus [is] on ensuring that manufacturers have appropriate flexibility to address . . . the problem.

Id.

144. Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. at 12,963. In rationalizing this sacrifice of adult safety for child safety, the Agency noted that this is a temporary rule, with only a four year “sunset” provision on the sled test, requiring the standard of barrier crash testing by model year
Administrator Martinez has "characterized depowering as 'a wash' because the benefits of depowering in low-speed collisions may be offset (or exceeded) by [an increase in adult deaths]."\textsuperscript{145}

NHTSA also concedes that various solutions exist that are superior to the depowering of air bags, including higher deployment thresholds, dual stage inflators, and smart air bags.\textsuperscript{146} The Agency posits that these alternatives are already permitted under FMVSS 208 and that this rulemaking simply takes less time if the Agency mandated other alternatives.\textsuperscript{147} NHTSA erred in permitting flawed but expedient alternatives to the crisis when better, more time-consuming solutions exist.

Admittedly, Agency rulemaking on requiring dual deployment systems, higher sensor thresholds, or smart air bags would be a lengthy process. But the Agency considered these safer alternatives for women and children when the passive restraint rule was issued in 1984, yet failed to set rigorous performance requirements that would have compelled auto makers to use these types of safer designs.

Permitting auto makers to depower bags will not solve the problem of air bag fatalities because depowering is needed only in low-speed collisions.\textsuperscript{148} Today's single deployment systems or "single burst inflators" cannot be depowered enough to make them safe for children and also protect against death or injury for unbelted adults in severe collisions.\textsuperscript{149} Because depowerment is not likely to diminish the risks associated with air bag deployment, other measures promulgated by the Agency must be examined.

\textsuperscript{2002. See} \textit{id. at} 12,967.
\textsuperscript{145.} \textit{THE AIR BAG CRISIS, supra note} 3, \textit{at} 46 (citing 62 Fed. Reg. 12,960, 12,963).
\textsuperscript{147.} \textit{See id. at} 12,963 (noting that although there are a variety of other alternatives to depowering, implementing these measures would simply take too long on which to rule, due to the inherently lengthy processes of administrative agencies).
\textsuperscript{148.} \textit{See THE AIR BAG CRISIS, supra note} 3, \textit{at} 86.
\textsuperscript{149.} \textit{See id. at} 87.
C. The Deactivation Option: A Dangerous Alternative to the Air Bag Crisis

1. The Deactivation/On-Off Switch Rule

Under current federal safety standards, a vehicle dealer or repair business is not permitted to deactivate any safety feature installed in an automobile, including air bags.\(^{150}\) From 1996 to 1997, spawned by the growing skepticism of air bag safety,\(^{151}\) NHTSA was inundated with requests from the public to deactivate their air bags.\(^{152}\) As of January 1997, the Agency issued exemptions in seventy-six cases for the deactivation of air bags\(^ {153}\) to owners who transport at-risk occupants.\(^ {154}\) NHTSA granted these waivers to owners whose vehicle did not have a back seat where a child could be placed or where drivers needed to monitor a child with special medical conditions.\(^ {155}\) Due to the volume of

\(^{150}\) See 49 U.S.C. § 30122 (1994). Under the standard, “[a] manufacturer, distributor, dealer, or motor vehicle repair business may not knowingly make inoperative any part of a device or element of design installed on or in a motor vehicle or motor vehicle equipment in compliance with an applicable standard.” Id.

\(^{151}\) See Air Bag On-Off Switches, 62 Fed. Reg. 62,406, 62,416. (“The volume of these requests peaked in the spring, possibly in response to the extensive publicity surrounding the NTSB hearings in Mid-March . . .”).

\(^{152}\) See id. (“From October 1, 1996 through October 30, 1997, NHTSA received 11,838 written requests for air bag deactivation.”).


\(^{154}\) At-risk occupants include children, short drivers, and persons with medical conditions that would be adversely affected by the deployment of the air bag. See 62 Fed. Reg. at 12,961 n.2.

\(^{155}\) See id. “The majority of medical conditions were related to apnea, although exemptions have also been granted for children in wheelchairs, and children with a tendency to spit up and choke.” Id. at 833 n.3. In situations where the Agency permitted deactivation of air bags, the Agency strongly suggested that the bag be reactivated once the medical condition is no longer present. See generally THE RONALD REAGAN INSTITUTE OF EMERGENCY MEDICINE DEPARTMENT OF EMERGENCY MEDICINE & THE NATIONAL CRASH ANALYSIS CENTER, Final Report to the National Conference on Medical Indications for Air Bag Disconnection, presented to the George Washington University Medical Center, Washington, D.C., (July 16-18, 1997) (enumerating specific medical criteria which place an occupant in a high-risk category for air bag deployment injuries that outweigh the benefits of air bags). The panel, consisting of 17 George Washington University physicians, concludes that while most vehicle owners should keep their air bags connected, persons with certain medical conditions are recommended to disconnect their air bags.
requests received to deactivate front-passenger and driver-side air bags, the Agency issued a final rule effective January 1998. The final rule authorizes retrofitted on-off switches for consumers who apply to NHTSA and are considered to be at risk.

NHTSA evaluated a number of policy considerations in determining whether deactivation of air bag systems would reduce the risk of harm to children. In permitting passenger air bag deactivation, NHTSA enumerated several reasons why parents may need to place children in the front seat. Among these reasons were: 1) the need to closely monitor a child with a medical condition, 2) the predicament faced by some drivers who transport a greater number of children than the number of rear seats in the vehicle, and 3) the reality that children usually have a strong desire to seat themselves in the front.

These concerns, however, were weighed against the Agency’s belief that deactivation is “more problematic with respect to older children.” While NHTSA maintained that older children who are properly restrained may benefit from air bags in certain crashes, it is more likely that they will be unrestrained. Due to the probability of improper or no restraint, and the severe risks of injury or death to the unrestrained child, NHTSA is allowing deactivation, only when necessary, for passenger-side air bags.

The policy concerns, as well as statistical data, change considerably

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157. See id. The air bag deactivation rule constitutes an exception to the federal prohibition against deactivating any safety device.
159. See id. at 834.
160. See id.
161. Id.
162. See Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. 12,960, 12,961 (1997) (describing that fatalities involving children “have a number of fairly consistent characteristics;” among them is a lack of any type of restraint on older children).
163. See John Elliot Leighton, Are Children Caught in the Seat of Disaster?, TRIAL, Mar. 1998, at 54. “Nearly 2,800 children under 15 are killed annually in crashes. Forty percent of children under 5 are improperly restrained in child safety seats, while as many as 90 percent of child restraints are not installed correctly.” Id.
164. See Air Bag Deactivation, 62 Fed. Reg. at 834.
when discussing the need for deactivation of driver-side air bags. Because the total number of deaths attributed to driver-side air bags is less than two percent of the number of lives saved, NHTSA does not regard the need for deactivation on the driver side as compelling as the need for the passenger side. Nonetheless, due to the risks air bags pose to some drivers, the Agency will allow deactivation for the driver side with a more limited scope.

NHTSA’s deactivation rule imposes several conditions on vehicle owners wishing to deactivate a driver-side air bag. First, the rule does not permit deactivation in vehicles equipped with smart air bags. Second, provided that evidence shows depowerment reduces death and injury, the rule prohibits the deactivation for vehicles that have already been depowered. Third, making an informed decision to deactivate is a requirement written into the rule. Other conditions, aside from those required of the vehicle’s owner, have also been imposed by the rule. For instance, dealers who deactivate air bags prior to purchase are required to provide the vehicle owner with a NHTSA information sheet on the risks associated with deactivation. Further, the owners of such vehicles must sign a written authorization form stating that they have read the information sheet. Finally, for each deactivated air bag, the new rule requires labeling of the deactivated air bags in the car’s interior.

In issuing the final rule, NHTSA was concerned whether deactivation should be permitted at the owner’s discretion or whether a showing of serious risk of harm would be required. The new rule incorporated a provision that owners must certify she, or another user of the vehicle, is a member of one of the risk groups. Data is not yet available on

165. See id. at 835.
166. See id.
167. See id. at 834; see also Graham et al., supra note 10, at 1418-19.
169. See id.
170. See id. at 832.
171. See id. at 835.
172. Discussing requirements for deactivation, the Agency states that only when the dealer or repair businesses provide the owner with a NHTSA information sheet for review and signature, will they be permitted to deactivate. See id.
174. See id.
175. See id.
176. See id.
177. See McGinn & Pedersen, supra note 116, at 40 (comparing two starkly
whether the implementation of this rule has substantially impacted the number of lives lost as a result of air bag deployment. But because deactivation may vitiate the benefits of air bags to adults, this interim solution may produce an increased risk of death or injury to vehicle occupants sitting in front of deactivated air bags.

2. Why Deactivation May Do More Harm Than Good

In adopting this interim deactivation policy, NHTSA created a balancing test. Safety benefits to adults were weighed against those of children. Although this final rule is effectively at odds with the 1993 passive restraint rule in that it allows vehicle owners and manufacturers to deactivate the very safety feature whose installation was mandated, the rule is a necessary interim solution. The final rule indicates the Agency is extremely hesitant to permit vehicle owners to deactivate air bag systems. This is due, in part, to the significant overall safety benefits of air bags. Yet because certain types of vehicles have air bag designs that are dangerous for children, short-statured adults, and out-of-position occupants, deactivation of such air bags may be a necessary evil.

Sadly, the deactivation option, as well as the other interim measures discussed in this Note, would not have been necessary but for NHTSA's own failure in 1984 to permit rather than require auto makers to install design systems that were proven to be safer for children and short-

different air bag-related cases). One exposé was on a young woman who arguably would have been saved had her car been equipped with an air bag. See id. This was contrasted to a young boy rendered quadriplegic due to an air bag deployment that severed his vertebrae in a low-speed collision. See id. The stories were intended to highlight the inherent difficulties consumers may face in deciding whether to deactivate their air bags. See id.


179. See Air Bag Deactivation, 62 Fed. Reg. at 832.

180. The passive restraint rule required that all air bags be installed in vehicles due to its propensity to reduce the number of deaths on the roads. See Air Bag Deactivation, 62 Fed. Reg. at 832. This measure allows owners to deactivate the very air bags that Congress mandated be installed. See id.


182. See Graham et al., supra note 10, at 1424.
statured adults. While some auto makers designed systems proven to be
safe and effective in all types of crash conditions,\textsuperscript{183} most auto makers
marketed systems that merely satisfied the minimum standard provided
by the Agency.

To disallow vehicle owners from minimizing the risk to themselves or
their children would be a preposterous position for the Agency to take.
This is especially so in light of the fact that the Agency is engaged in a
massive education campaign to inform the public that air bags pose seri-
ous risks to children and adults. The Agency realizes its predicament
noting, "While air bags are providing significant overall benefits, they
are also causing an unacceptable risk . . . .\textsuperscript{184}"

One concern with this final rule is the risk of over-deactivation. Al-
though only a temporary measure, the element of fear is likely playing
into consumers' decisions to deactivate their systems. As such, those
skeptical of air bags due to current negative publicity surrounding them,
may be more inclined to deactivate even when there is no particular risk
to that vehicle owner.

Deactivation in these situations renders vehicles wholly ineffective in
providing passive restraint to an occupant, thereby eliminating any of
the safety benefits of air bags.\textsuperscript{185} In anticipating this potential unint-
tended effect, the Agency "urges all owners who choose to deactivate
their air bag to reactivate the air bag once the perceived need for deacti-
vation has abated."\textsuperscript{186} The rule, fully effective in 1998, has yet to pro-
duce a massive rush by American car owners to deactivate their air bags.

Aside from this potential undesirable effect, it is critical that NHTSA
provide information to consumers allowing them to make an informed
decision. Simply put, the Agency that set unacceptably low perform-
ance standards for air bags now has an obligation to ensure that consum-
ers considering on-off switches be fully apprised of the circumstances
on which the switches should be used. The Agency was correct in

\textsuperscript{183} See THE AIR BAG CRISIS, supra note 3, at 24.
\textsuperscript{184} Air Bag Deactivation, 62 Fed. Reg. at 836.
\textsuperscript{185} See Insurers Want Names of Drivers Who Disconnect Air Bags (visited
NHTSA's refusal to release the names of more than 3,000 people who have per-
mission from the Agency to install on-off switches for their cars). The report de-
tails that some insurance companies may charge higher premiums to those insured
who have on-off switches due to the added risk to passengers when the bag is de-
activated. See id.
\textsuperscript{186} Air Bag Deactivation, 62 Fed. Reg. at 836.
passing the air bag deactivation rule, but it bears responsibility for allowing auto makers to sell millions of vehicles with dangerous air bag systems to an unsuspecting American public. Fortunately, however, this is only a temporary measure designed to reduce air bags’ negative effects while the Agency awaits implementation of smart air bag technology.

D. Proposed Moratorium on the Unbelted Test

Protocol Increases Risk to Adults

1. Should NHTSA Test Air Bags on Belted or Unbelted Occupants?

Another depowering rule pending at NHTSA addresses the risks posed to particular vehicle occupants by placing a moratorium on testing with unbelted dummies. The standard currently mandates that the rate at which air bags deploy should be forceful enough to protect dummies not restrained by seat belts. The Agency’s request for comments states, “[T]he Agency has concluded that section 2508 of the Intermodel Surface Transportation Efficiency Act of 1991 precludes it from eliminating the unbelted test requirement.” Nonetheless, the Agency seeks information regarding the positive and negative effects of eliminating the unbelted test requirement in an effort to study all potential solutions to the air bag deaths.

The threshold question involved in this petition is whether the standard should continue to require protection of unrestrained occupants. As explained by NHTSA in its request for comments, the present standard requires occupant protection “by means that require no action by vehicle occupants.” If the unbelted test was eliminated, the Agency argues, there would be “no way to ensure that the air bags would in fact

189. See id.
190. See id.
191. 62 Fed. Reg. at 8,918. “Section 4.1.2.1(c)(2) provided that the vehicle must meet these frontal crash protection requirements through the use of manual seat belts . . . ‘in addition to the means that require no action by the vehicle occupant.’” Id.
provide automatic protection." After testing, NHTSA further concluded that depowering beyond a level of twenty-five to thirty percent would "produce little additional benefit for children, and markedly increased risk for larger occupants." Former United States Senator Dirk Kempthorne (R-ID), a key proponent of the moratorium on testing with unbelted dummies, argues that air bag test requirements were developed and later mandated at a time when few Americans wore seat belts. Even though air bags were described as "supplemental restraint systems" to be used in conjunction with safety belts, they were largely designed to protect unbelted occupants. The Chairman of the National Transportation Safety Board endorses this view, commenting that "[a]ir bag regulatory standards, based on unrestrained occupants, are no longer appropriate.

Safety and consumer groups, however, believe the unbelted crash test requirement is not the problem. These groups contend that the standard currently does not prohibit auto makers from making a bag with less power. Under FMVSS 208, auto makers have the capabilities to comply with the standard and make "a bag that has a lot of power when it is needed, for an adult, and less power when it's not needed, for a child . . ."

At the time of this Note's publication, NHTSA had not yet issued a final rule on this petition. This is most likely because the Agency's preferred solution in alleviating the air bag crisis is through mandating smart air bags, and not through changing test requirements. A discussion of the unbelted test requirement is nonetheless necessary because a key area of disagreement between the auto industry and NHTSA over

193. Id.
194. See id. at 8,918. In 1984, 14% of Americans were wearing seat belts, but by 1991, seat belt use increased to 59% (largely due to increase in state legislation requiring seat belts) and has increased to a 68% usage rate today. See id. at 8,917-18.
195. See id. at 8,917.
196. Id. at 8,919.
198. See THE AIR BAG CRISIS, supra note 3, at 40.
200. See infra Parts II.E.1 and II.E.2.
2. Eliminating the Unbelted Test Would Dramatically Reduce the Benefits of Air Bags for Adults

Many compelling policy reasons dictate that the unbelted test requirement should be eliminated.\(^\text{202}\) First, maintaining a safety standard that permits air bag testing and design to be based on an amount of force necessary to restrain an unbelted occupant is inherently unwise when such force may be fatal to children and others who comply with seat belt laws.\(^\text{203}\) Although it is disputed whether the current standard results in overly forceful deployment rates, if the unbelted test requirement is, in fact, contributing to the air bag crisis, the standard must be assessed and amended immediately. Second, the need for an unbelted dummy may be obsolete as the increase in national belt use continues to rise.\(^\text{204}\) Third, the safety of those obeying the laws by wearing seat belts is considered secondary to the safety of those who refuse to buckle-up.\(^\text{205}\) Therefore, because air bags are intended to be a supplemental safety device, the test crash should be optimized to protect belted occupants.

While the request appears well-reasoned, several arguments advanced in the moratorium petition are problematic. First, the unbelted test requirement does not mandate the particular air bag designs that are causing deaths in low speed crashes.\(^\text{206}\) Several air bag types have the ability to prevent deaths in low speed crashes “while preserving the ability of air bags to protect occupants in higher speed crashes.”\(^\text{207}\) These methods

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\(^{201}\) See infra Part II.E and text accompanying note 217 and 218.

\(^{202}\) See 62 Fed. Reg. at 8,920 (framing issues involved in debate on whether to eliminate the unbelted test requirement).

\(^{203}\) See id.

\(^{204}\) See Federal Motor Vehicle Safety Standard; Occupant Crash Protection, 63 Fed. Reg. 49,958, 50,019 n.26 (1998) (to be codified at 49 C.F.R. pts. 571, 585, 587, & 595). “The National Occupant Protection Use Survey reported in August 1997 that young adults (16-24 years old) were observed with the lowest belt use rate (less than 50%) of any of the reported observed categories.” Id.

\(^{205}\) See 62 Fed. Reg. at 8,920.

\(^{206}\) See THE AIR BAG CRISIS, supra note 3, at 87.

\(^{207}\) Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 62 Fed. Reg. at 8,920. (These air bag types include dual-level inflators, higher deployment thresholds, and smart air bags).
are already available to auto makers under the standard.\textsuperscript{208} Also, even though sixty-eight percent of vehicle occupants wear seat belts, many drivers and front seat occupants involved in fatal crashes do not wear safety belts.\textsuperscript{209} For unbelted drivers, the air bag is their primary means of protection.

NHTSA must be cautious in allowing the depowering of air bags. The Agency accurately recognizes that further depowering will thwart the purpose of air bags. It is therefore unwise for the Agency to promulgate a rule that will inevitably cause serious safety risks to adults to compensate for the safety risks to children.\textsuperscript{210} This would be, in effect, reaching a stage of diminishing returns with auto safety and is something NHTSA should not consider.

\textbf{E. The Proposed Rulemaking on Requiring Advanced Air Bags}

\textit{1. The Agency's Newest NPRM and Request for Comments}

The most recent addition to NHTSA's comprehensive air bag plan occurred on September 18, 1998,\textsuperscript{211} and is a step in the right direction in effectively ending the air bag crisis. In 1998, with the passage of the NHTSA Reauthorization Act, Congress mandated that the Agency issue

\begin{itemize}
  \item \textsuperscript{208} See Federal Motor Vehicle Safety Standards; Occupant Crash Protection, 63 Fed. Reg. at 49,963 (explaining that the existing provisions of FMVSS 208 make no specifications as to the design of air bags, therefore, auto manufacturers are encouraged to use more advanced means of meeting the performance requirements). "Although Standard No. 208 permits vehicle manufacturers to install air bags incorporating advanced features, very few current air bags do so. Instead, vehicle manufacturers have thus far used designs that inflate with the same force under all circumstances." \textit{Id.} at 49,963.
  \item \textsuperscript{209} Fifty percent of drivers involved in fatal crashes were not wearing their safety belts. \textit{See} 62 Fed. Reg. at 8,918.
  \item \textsuperscript{210} In a letter to former Senator Dirk Kempthorne (R-ID) dated January 13, 1997, NHTSA stated:
    
    "Our research indicate[s] that depowering air bags in the range of 20-35 percent would reduce the risk to children without significantly increasing the risk that the bags would be too weak to protect occupants in high-speed crashes. Our tests indicat[e] that depowering beyond that level produced little additional benefit for children, and markedly increased the risk for larger occupants."
    
    \textit{Id.} at 8,920.
\end{itemize}

First, the Agency proposes to upgrade FMVSS 208 by adding a new set of performance requirements that includes testing dummies representing a twelve-month-old, a three-year-old, and a six-year-old child, as well as using 5th percentile adult female dummies.\footnote{See id. at 49,958. In describing the utility of such a test, NHTSA states: 'In relatively 'soft' pulse crashes, some current air bags do not deploy until after the occupants have moved so far forward that they are near the air bag cover when deployment begins. Such 'late deployments' lead to high risks of injury. This proposed new crash test requirement is intended to ensure that air bag systems are designed so that the air bag deploys earlier, before normally seated occupants, including small-statured ones, move too close to the air bag. Id. at 49,958-59.} Second, in an effort to ensure that air bags protect a "broader array of vehicle occupants," NHTSA proposes additional testing requirements using both belted and unbelted dummies.\footnote{See id. at 49,960.} Third, NHTSA is also proposing to add a "deformable barrier crash test, representing a relatively 'soft' pulse crash,"\footnote{See id. at 49,958.} that moderates the existing rigid barrier test.\footnote{See id. at 49,965. ("[T]he agency is proposing to amend FMVSS 208 so that both the sled test option and manual cut-off switch provision are phased out as the new requirements for advanced air bags are phased in.").} Auto manufacturers are adverse to a portion of the measure that requires a phasing out of the sled test option and manual cut-off switches.\footnote{See id. at 49,961. ("[T]he agency is proposing to amend FMVSS 208 so that both the sled test option and manual cut-off switch provision are phased out as the new requirements for advanced air bags are phased in.").} Opponents of the rule consider a return to the full-barrier test a step backwards in ending the crisis.\footnote{See Rebecca Porter, NHTSA Proposes Advanced Air Bag Requirement by 2006, TRIAL (Jan. 1999) ("Auto manufacturers . . . say this type of unbelted occupant test resulted in the first-generation air bags that were too powerful.").}

The Agency has requested comments on numerous options in air bag performance testing requirements.\footnote{See 63 Fed. Reg. at 49,979-82.} For instance, the Agency proposes options that would test the performance of systems designed to either suppress air bag deployment in the presence of children and out-of-
position occupants to ensure air bags avoid causing injury, or to test requirements for low risk deployment, involving deployment of the air bag in the presence of a twelve-month-old Crash Restraints Air Bag Interaction dummy in a rear-facing child restraint.\textsuperscript{220} The proposed rule attempts to amend FMVSS 208 so that installation of advanced air bags will be required in some new cars and light trucks beginning on September 1, 2002, and in all new cars and light trucks beginning on September 1, 2005.\textsuperscript{221} It is possible then, that at the advent of the new millennium, air bag deaths and injuries will be a thing of the past.

2. Why the Smart Air Bag Rule Makes Sense

Currently, the only required testing for air bags is a thirty mile per hour barrier crash or optional sled test, which does not destroy the vehicle, both tests using an average size (50th percentile) male dummy.\textsuperscript{222} By contrast, the air bag performance requirements set forth in the proposed rulemaking test "real world" crash conditions, which were not included in the original FMVSS 208. That is, the proposed family of dummies, with improved injury criteria, better represents human tolerances. Because the family includes a one-year-old, three-year-old, and six-year-old dummy, as well as a small female and average size male dummy, the air bag proposal will reduce the risks to infants, children, and out-of-position occupants. The proposal's inclusion of full car crash tests will also preserve and enhance the current level of air bag protection.

While the Agency's failure to act earlier this decade unnecessarily contributed to air bag deaths and injuries,\textsuperscript{223} the Agency's newest proposal marks the beginning of the end of the air bag crisis. Indeed, requiring auto makers to install air bags that have advanced technology will lead to a rapid decline in the number of air bag fatalities, as well as


\textsuperscript{221} The implementation schedule for the advanced air bag phase-in is proposed as follows:

25\% of each manufacturer's light vehicles manufactured during the production year beginning September 1, 2002;
40\% of each manufacturer's light vehicles manufactured during the production year beginning September 1, 2003;
70\% of each manufacturer's light vehicles manufactured during the production year beginning September 1, 2004;
100\% of vehicles manufactured on or after September 1, 2005.

\textit{Id.} at 49,977.

\textsuperscript{222} See supra discussion Parts I & II and text accompanying notes 51 and 65.

\textsuperscript{223} See THE AIR BAG CRISIS, supra note 3, at 117.
a decrease in the number of risks air bags pose to out-of-position occupants. The rule puts an end to the “one-size-fits-all” air bag and mandates air bags which recognize the weight, size, and or location of the vehicle occupant.\textsuperscript{224} If the Agency is serious about combating one of the most serious risk factors of air bag injury, this proposal should be adopted as a final rule. Ironically, however, the long term solution was promulgated by NHTSA only after a mandate from Congress requiring advanced air bags.\textsuperscript{225}

### III. RESOLVING THE AIR BAG CRISIS: AN END IN SIGHT?

The federal air bag mandate was approximately thirty years in coming. What began in 1970 as a passive restraint rule to protect vehicle occupants from car collisions had its culmination in 1993, with a federal requirement of dual-side air bags in all vehicles.\textsuperscript{226} These changes, fully implemented by September 1997, were amended even before they became effective.\textsuperscript{227} In tracing the origins of this impending air bag crisis, NHTSA and the auto industry, in the midst of their regulatory bickering, were the sole sources of this disaster.

The fatalities caused by air bags were avoidable. The auto industry developed air bag systems two decades earlier that were safe for out-of-position occupants.\textsuperscript{228} The Agency was also aware of air bag designs that were proven to be harmful or deadly. Sadly, this information was not considered in the eventual installation of air bags in the 1990s. In an effort to provide maximum flexibility for the auto industry, NHTSA failed at its most core function, to protect the American people from unsafe auto features.

The problem with most of the Agency’s recent air bag regulations is they are remedial rather than preventive measures. The labeling requirements, only now, adequately warn parents of the possible injuries to children. The country, however, is nearing the end of the decade where dozens of people were not warned and millions of others may be at risk. The depowering of air bags likewise is a measure that may increase risks to unbelted occupants and adults and could also render the system’s safety features ineffective in high speed collisions. While the

\begin{footnotes}
\footnotetext{224}{See 63 Fed. Reg. at 49,959.}
\footnotetext{225}{See id. at 49,961; infra text accompanying note 229.}
\footnotetext{226}{See 49 C.F.R. § 571.208 (1996) and discussion supra Part II.}
\footnotetext{227}{See 58 Fed. Reg. 46,551 (1993) and discussion supra Parts I & II.A.1.}
\footnotetext{228}{See discussion supra Part I & text accompanying notes 69-75.}
\end{footnotes}
more recent rule permitting on-off switches for air bags may decrease the risk of fatalities and injuries, it is hardly a satisfactory solution. Consumers should be provided with safe, well-designed air bags, not the choice of whether to sit in front of a dangerous system or turn it off. The latest proposal on requiring advanced air bags, however, is a marked shift from the earlier measures. It is the one, single most effective measure taken by the Agency to reduce air bag fatalities. As such, NHTSA should promulgate the rule as final by the end of this year.

NHTSA’s responsibility to the nation remains three-fold: 1) to disallow further installation of unsafe air bag design systems, 2) to require the auto industry to notify owners of vehicles with such design systems, and 3) to actively encourage the introduction of smart air bag technology into the automotive industry. Poorly designed systems, then, will no longer be able to slip through the cracks and onto our streets. Pursuing these objectives would certainly at least allay the rising death toll caused by air bags.

Lauren Pacelli


230. See THE AIR BAG CRISIS, supra note 3, at 170.
