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DISTRACTED GUARDIANS YIELD DEADLY RESULTS: WHEN MEMORY FAILS, ADDITIONAL REGULATIONS CAN PROTECT CHILDREN AND ANIMALS FROM VEHICULAR HEAT-STROKE

SHANNON MURPHY*

INTRODUCTION

When the sun is shining bright on a scorching ninety-degree summer day, it takes less than an hour for tragedy to strike, even in the shade. Within less than sixty minutes, the temperature inside a closed vehicle will rise rapidly from the outdoor ninety-degree mark to upwards of more than one hundred and thirty degrees.¹ As this temperature spike takes effect, any animal or child left in a vehicle will only have about fifteen minutes before being exposed to potentially deadly conditions.²

While most of us think we are incapable of accidentally leaving our beloved child or companion in the car, the record-breaking number of deaths resulting from this mistake in 2018 paints a different picture.³ According to KidsAndCars.org⁴ an average of thirty-eight children pass away from vehicular heat-stroke each year while waiting for their parents,

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¹ Jon Sutz, *How hot can the interior of a car get—and how quickly?*, HEAT KILLS (Nov. 12, 2015), <http://heatkills.org/how-hot/> [<https://perma.cc/WP93-THVX>] (explaining that “[w]hen temperatures outside range from 80 degrees to 100 degrees, the temperature inside a car parked in direct sunlight can quickly climb to between 130 to 172.”).

² *Hot Cars*, KIDSAFE, <https://web.archive.org/web/20190305214505/http://www.kidsafesa.com.au/road-safety/hot-cars> [<https://perma.cc/466E-SNQD>] (last visited Mar. 9, 2020) (discussing how “75% of the heating [in a car] occurs in the first 5 minutes and 90% in the first 15 minutes.”).

³ *News Release: 2018 Officially the Worst Year Ever for Child Hot Car Deaths*, KIDSANDCARS.ORG (Jan. 29, 2019), <https://myemail.constantcontact.com/2018-Officially-Worst-Year-Ever-for-Child-Hot-Car-Deaths.html?soid=1101740449858&aid=Mmtj6OagpUY> [<https://perma.cc/P9GP-8852>] [hereinafter *News Release*].

⁴ A safety organization formed in an effort to “protect children in and around motor vehicles while on private property[] (nontraffic incidents)[.] an unrecognized danger to children.” *Our Story*, KIDSANDCARS.ORG, <https://www.kidsandcars.org/about-us/our-story/> [<https://perma.cc/H8FQ-UGFT>] (last visited Mar. 9, 2020).

guardians, or caregivers to return.⁵ However, the recorded number of children who succumb to this tragedy may only provide a glimpse into the number of children who actually fall victim to vehicular heat-stroke for two reasons. First, the recorded number does not address the number of children who are rescued from near-death experiences during an incident of vehicular heat-stroke, only to be left with long-term disabling effects.⁶ Second, in a typical case of vehicular heat-stroke, a majority of the first responders who write up their reports are not required to list a child's cause of death with the exact phrase "vehicular heat-stroke" or "hyperthermia."⁷ Instead, first responders typically categorize the child's death as a non-traffic-related incident.⁸ This allows for a presumption that the number of children dying each year is actually much higher than recorded, and that the recorded deaths are only "the tip of the iceberg."⁹ Even worse, these kids are not the only victims. Each year hundreds of animals are left in their owners' vehicles, patiently waiting for them to return.¹⁰ Imagine each one of these animals pacing through the vehicle, alone, while the air around them is rapidly heating up.¹¹ Since 1998, over 900 children have lost their lives,¹² and thousands more children and pets have suffered from the effects of vehicular heat-stroke.¹³ In hindsight, the pain of almost every single one of these victims, children and animals alike, could have been spared.¹⁴

Focusing on congressional history of federal motor vehicle safety standards, coupled with currently available technology, this Note will argue that it is time for Congress to enact legislation requiring the Secretary of Transportation to issue a regulation that addresses,¹⁵ reduces, and

⁵ *Heatstroke*, KIDSANDCARS.ORG, <https://www.kidsandcars.org/how-kids-get-hurt/heat-stroke/> [<https://perma.cc/L3CF-KFDR>] (last visited Mar. 9, 2020).

⁶ Telephone Interview with Amber Rollins, Director, KidsAndCars.org (Oct. 18, 2018).

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ Matt Bershadker, *Leaving Pets in Hot Cars is a Lethal Issue*, ASPCA (July 10, 2018), <https://www.aspc.org/blog/leaving-pets-hot-cars-lethal-issue> [<https://perma.cc/Z8M2-JJB8>].

¹¹ *Id.*; see also Becky Robinson, *Don't leave animals in a hot car. It could be the last road trip they ever take*, HUFFINGTON POST (June 21, 2017), https://www.huffingtonpost.com/entry/don't-leave-animals-in-a-hot-car-it-could-be-the_us_59497f93e4b0d799132a1544 [<https://perma.cc/U22W-MNAZ>].

¹² *News Release*, *supra* note 3.

¹³ Bershadker, *supra* note 10.

¹⁴ *Deaths in Hot Cars: Facts, Figures and Prevention*, NBC NEWS (July 11, 2014), <https://www.nbcnews.com/storyline/hot-cars-and-kids/death-hot-cars-facts-figures-prevention-n153776> [<https://perma.cc/WGZ9-MYZ2>].

¹⁵ Laws regarding vehicle safety are consistently directed towards the Secretary of

hopefully eliminates the number of children and animals passing away or suffering lifelong damages from vehicular heat-stroke.¹⁶ A law mandating regulation would require the National Highway and Traffic Safety Administration (“NHTSA”) to act under the guidance of the Secretary of Transportation and test appropriate safety devices to combat vehicular heat-stroke. The safety devices chosen by the NHTSA would be mandated to appear in all new vehicle models over the next few years. A regulation of this magnitude would not only help protect the lives and safety of both our children and pets, but would also lead to a significant decrease in the number of deaths and injuries resulting from non-crash-related incidents.¹⁷

Part I of this Note will address the facts surrounding vehicular heat-stroke deaths for both children and animals by analyzing the number of victims this tragedy claims each year, the locations where these deaths occurred, the time of year, and the cause behind the deaths. Part II of the Note will study previous statutes enacted by Congress that regulate motor vehicle safety for children. This will be done via an analysis of the motivating factors behind each regulation and their benefits in application. Next, Part III of this Note will survey the technology presently available to prevent vehicular heat-stroke. Finally, Part IV of this Note will provide an overview of state laws and awareness campaigns currently in place, which will prove that our children and animals require further protection. As this Note will display, the problem of vehicular heat-stroke is ripe for congressional action. The longer we wait, the higher the death and injury toll will get.¹⁸

Transportation. *See, e.g.*, Pub. L. No. 110-189 (2008) (“direct[ing] the Secretary of Transportation to issue regulations . . .”).

¹⁶ Congress has introduced and debated legislation that would direct the Department of Transportation to issue a final rule requiring rear seat alert systems. Unfortunately, session after session, this legislation has failed to gain momentum. *See* Helping Overcome Trauma for Children Alone in Rear Seats Act or the HOT CARS Act of 2017, H.R. 2801, 115th Cong. (2017); Helping Overcome Trauma for Children Alone in Rear Seats Act or the HOT CARS Act of 2017, S. 1666, 115th Cong. (2017).

¹⁷ There has been a significant decrease in traffic-related injuries and fatalities due to legislative action and increased public awareness. However, the same cannot be said for non-traffic-related injuries and fatalities. The difference between the level of traffic-related and non-traffic-related injuries can only be remedied through legislation and education. *See* Mark R. Zonfrillo et al., *Unintentional Non-traffic Injury and Fatal Events: Threats to Children in and Around Vehicles*, 19 *TRAFFIC INJ. PREVENTION* 184 (2018).

¹⁸ Jan Null, *Heatstroke Deaths of Children in Vehicles*, NOHEATSTROKE.ORG, <https://www.noheatstroke.org> [<https://perma.cc/JBX8-VQAL>] (last updated Feb. 14, 2020); *see also* Jennifer Calfas, *Child Hot-Car Deaths Are Near Record High This Year*, *WALL ST. J.* (Oct. 15,

I. THE COLD, HARD FACTS BEHIND VEHICULAR HEAT-STROKE CAUSES, INJURIES, AND FATALITIES

Vehicular heat-stroke is the leading cause of non-crash motor vehicle related death and injury in children under the age of fourteen.¹⁹ This silent killer is an omnipresent threat. While the majority of vehicular heat-stroke deaths occur in the spring and summer months, the threat cannot be thought of as a seasonal problem.²⁰ Every year, deaths have been recorded in both the warmer and cooler months.²¹ Moreover, in the right settings, vehicular heat-stroke can occur in any car located within any state. The threat is not limited to one region of the country, as deaths and injuries from vehicular heat-stroke have been recorded in both northern and southern states—thus, not just in the sunbelt region.²² Moreover, having a light-colored vehicle does not remove a child or animal from danger; vehicular heat-stroke can occur in both light and dark-colored vehicles.²³

Each case of vehicular heat-stroke is caused by a distinct set of events. However, there is a common theme that leads to vehicular heat-stroke: a moment of lapse in memory. Nearly 376 of the documented vehicular heat-stroke deaths in children (54 percent) were due to a parent, guardian, or caregiver forgetting their child.²⁴ Oftentimes this lapse in

2019), <https://www.wsj.com/articles/child-hot-car-deaths-are-near-record-high-this-year-11571181952> [<https://perma.cc/X8FF-LNWM>] (addressing the fact that 2018 broke the record for vehicular heat-stroke deaths in children).

¹⁹ See NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., U.S. DEP'T TRANSP., NOT-IN-TRAFFIC SURVEILLANCE: NON-CRASH FATALITIES AND INJURIES 1 (Mar. 2015), <https://www.noheatstroke.org/NHTSA2015.pdf> [<https://perma.cc/JVG6-Y4CP>]; *Child Safety*, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., U.S. DEP'T TRANSP., <https://www.nhtsa.gov/road-safety/child-safety> [<https://perma.cc/FQ5T-CZHZ>] (last visited Mar. 9, 2020).

²⁰ In 2017, twenty-eight out of forty-three deaths occurred in June, July, and August. In 2013, twenty-six out of forty-four deaths occurred in June, July, and August. *2017 Child Vehicular Heatstroke Deaths*, NOHEATSTROKE.ORG, <https://www.noheatstroke.org/original/hyperthermia2017.html> [<https://perma.cc/9LHX-JS3F>] (last visited Mar. 9, 2020); *2013 Heatstroke Deaths of Children in Vehicles*, NOHEATSTROKE.ORG, <https://www.noheatstroke.org/original/hyperthermia2013.htm> [<https://perma.cc/BG8M-R6J7>] (last visited Mar. 9, 2020).

²¹ Sources cited *supra* note 20.

²² In 2017, there were reported vehicular heat-stroke deaths in Idaho, Wyoming, and West Virginia. *2017 Child Vehicular Heatstroke Deaths*, *supra* note 20.

²³ Emily A. Thomas, *Hot Car Fatalities Are a Year-Round Threat to Children and Pets*, CONSUMER REP. (July 31, 2019), <https://www.consumerreports.org/car-safety/hot-car-fatalities-year-round-threat-to-children-pets-heat-stroke/> [<https://perma.cc/QCE3-C5AL>].

²⁴ Jan Null, *Persons Responsible for Heatstroke Deaths of Children in Vehicles*, NOHEATSTROKE.ORG, <https://www.noheatstroke.org/responsible.htm> [<https://perma.cc/7J96-VKDU>] (last visited Mar. 9, 2020); see also 'You live in hell every day': The tragedy of forgetting

memory is due to a change in the parent or guardian's daily routine, a moving of the car seat, a different parent or guardian driving, a new diaper bag, a late start to the morning, or a sleep deprived parent or guardian confusing their days.²⁵ This type of situation is also referred to as an individual's habit memory kicking in, which can completely override a prospective memory.²⁶ For example, when one parent or guardian takes a child to day care for the first time in over a year, they do not have a habit memory of taking the child to day care but rather, they have a prospective memory that they should drop the child off.²⁷ Now, if the child is asleep in the back seat and the parent or guardian does not have a rear seat reminder, they might proceed about their normal morning routine. They may stop for coffee or get a phone call about their upcoming meeting that day. This morning routine is their habit memory kicking in.²⁸ In accordance with their habit memory, the parent or guardian would drive straight to work, essentially *overriding* their prospective memory of dropping their sleeping child off at day care.²⁹ This potential scenario is brought up not to point blame, but to simply shine light on real events that occur across the country day after day, year after year.³⁰

When a child is left inside a vehicle, the trauma is only beginning. Within minutes, a child's body will begin to experience rapid changes internally and within one to two hours, the child will lose their fight against

your child in a car, KIDSANDCARS.ORG (Nov. 16, 2018), <https://www.kidsandcars.org/2018/11/16/you-live-in-hell-every-day-the-tragedy-of-forgetting-your-child-in-the-car/> [<https://perma.cc/SWW6-LZUJ>] [hereinafter *Forgetting Your Child*] (explaining how parents have had lapses in their memory, convincing themselves they dropped their child off when they never did. Psychologists call this lapse in memory a "false memory." A false memory is "when someone either remembers an event that didn't happen, or remembers it differently from how it actually [occurred].").

²⁵ *Forgetting Your Child*, *supra* note 24 (explaining how Balfour's false memory stemmed from a series of events: sleep deprivation, a change in the car seat's placement and diaper bag, and dropping off her husband at work for a change).

²⁶ See Anna Groves, *You say it could never happen, but it does. Here are the reasons infants are left in cars*, MILWAUKEE J. SENTINEL (July 16, 2018), <https://www.jsonline.com/story/news/2018/07/16/psychology-how-infants-forgotten-cars-and-tips-how-prevent/756523002/> [<https://perma.cc/6UHQ-HUGH>] (discussing the distinction between habit and prospective memory: "When the drop-off routine itself is a habit, the child likely gets dropped off even when the parent is 'running on autopilot.' . . . [However,] Diamond explains that the classic forgotten baby case is one where the father always drives the child to day care. One day, the mother is taking the child, which is along her route to work. Habit memory takes over.").

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

heat-stroke.³¹ A simple, preventable mistake will take their future away. This compressed effect leaves a relatively short window for an effective response—a time frame that can only be addressed by federal regulations.³²

Animals' dreaded fate stems from the same problem. Their owners firmly believe they would never forget their companion.³³ This mindset, however, is the exact reason why our society needs technological standards as a back-up reminder. An owner forgetting their companion is not a rare event—nor is it a minor problem that can be ignored. According to People for the Ethical Treatment of Animals (“PETA”), a worldwide organization dedicated to animal rights,³⁴ an animal will suffer from heat-stroke within fifteen minutes of being left in a hot car—regardless of whether the windows are cracked.³⁵ In just a few minutes, animals will begin to experience intense symptoms of heat-stroke, including vomiting, excessive panting, and either restlessness or lethargy.³⁶ Pet owners do not realize that their decision to bring their companion along for a short car ride “can put their beloved companions in grave danger.”³⁷

As a society, we are convinced that we would be the last individual to leave our child or animal in a car. In fact, parents or guardians who

³¹ Laura Geggel, *How Long Does It Take a Parked Car to Reach Deadly Hot Temperatures*, LIVE SCIENCE (May 24, 2018), <https://www.livescience.com/62651-how-hot-cars-get.html> [<https://perma.cc/FE24-MES9>] (explaining how “researchers used data to model a hypothetical 2-year-old boy. When strapped into a car seat in a parked car on a hot day, this child would meet the criteria for heat stroke in just 1 hour if the car were parked in the sun and 2 hours if the car were parked in the shade.”).

³² See *Second Annual National Heatstroke Prevention Day Call to Action to Highlight Dangers of Children Left in Hot Cars*, SAFE KIDS WORLDWIDE (July 31, 2014), <https://www.safekids.org/press-release/second-annual-national-heatstroke-prevention-day-call-action-highlight-dangers> [<https://perma.cc/HCS8-V6DZ>] (describing how “[h]eatstroke sets in when the body isn’t able to cool itself quickly enough. A child’s body heats up three to five times faster than [an] adult’s, making them more susceptible to heat stroke. When a child’s internal temperature reaches 104 degrees, major organs begin to shut down, and when that temperature reaches 107 degrees, the child can die.”).

³³ Bershadker, *supra* note 10 (stating that “[m]any pet owners think this could never happen to them, so they bring their pets along on errands and leave them ‘for a minute,’ or forget about them entirely. They don’t realize that these seemingly innocuous decisions can put their beloved companions in grave danger.”).

³⁴ See *Our Mission Statement*, PETA, <https://www.peta.org/about-peta/> [<https://perma.cc/9LMJ-W27B>] (last visited Mar. 9, 2020).

³⁵ *114 Animal Companions Have Endured Heat-Related Deaths Since 2018 . . . That We Know Of*, PETA, <https://www.peta.org/features/dogs-and-other-companion-animals-suffer-heat-related-deaths/> [<https://perma.cc/24PE-HRU5>] (last updated Mar. 3, 2020) (explaining that heat-stroke within a vehicle is the equivalent of “being baked alive”).

³⁶ *Id.*

³⁷ Bershadker, *supra* note 10.

have forgotten a child have admitted that they did not think they were “capable of forgetting [them] . . . like that.”³⁸ While this mindset is problematic, the solution is clear: we need to target this deadly scenario with preventative measures that are available at our fingertips. While we cannot expect a change in mindset, we should at least be able to expect a change in the preventative measures available. Until Congress enacts a law compelling the NHTSA to require vehicular heat-stroke preventative technologies in each new car, no child or animal is ever truly safe.

A. *Congress Has Consistently Enacted Vehicle Safety Standards to Protect Children Throughout History and Potential Victims of Vehicular Heat-Stroke Deserve the Same Protection*

Congress is no stranger to enacting vehicle regulations that promote the safety and welfare of our society—especially our children. In 1966, President Johnson signed the National Traffic and Motor Vehicle Safety Act—the first federal highway and traffic safety regulation of its time.³⁹ The National Traffic and Motor Vehicle Safety Act established the first federal administrative agency dedicated to motor vehicle safety and charged the agency with the power to regulate and implement federal safety regulations for both vehicles and road conditions.⁴⁰ In 1970, the Highway Safety Act transformed the federal agency charged with highway and traffic safety into the National Highway Traffic Safety Administration (“NHTSA”).⁴¹ Since its creation, the NHTSA has used its powerful regulatory tools to implement thousands of safety regulations that promote uniform vehicle safety standards across auto manufacturers.⁴² In application, these regulations have protected our society in countless ways.⁴³

³⁸ Gael F. Cooper, *I did the unthinkable: Mom shares story of leaving child in car*, TODAY (July 7, 2017), <https://www.today.com/parents/hot-car-warning-mom-shares-story-educate-others-t113520> [<https://perma.cc/K2UK-EXFK>].

³⁹ *National Traffic and Motor Vehicle Safety Act*, ASS’N CTRS. FOR STUDY CONGRESS, <http://acsc.lib.udel.edu/exhibits/show/legislation/traffic-and-motor-vehicle-safe> [<https://perma.cc/U7T2-GVKU>] (last visited Mar. 9, 2020).

⁴⁰ *Id.*

⁴¹ Highway Safety Act of 1970, Pub. L. No. 91-605, § 201(a), 84 Stat. 1713 (1970).

⁴² See NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., UNDERSTANDING NHTSA’S REGULATORY TOOLS, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/understanding_nhtsas_current_regulatory_tools-tag.pdf [<https://perma.cc/2YMZ-3W9W>] (last visited Mar. 9, 2020).

⁴³ *About NHTSA*, NHTSA, <https://www.nhtsa.gov/about-nhtsa> [<https://perma.cc/QM8G-RFV6>] (last visited Mar. 9, 2020).

While these regulations at times are not cheap,⁴⁴ there has always been a compelling benefit behind each enactment—such as preventing a high death and injury rate—to offset the cost. Congress will act on a proposed, potentially costly, safety standard if the number of victims affected is high enough. By failing to take appropriate action against vehicular heat-stroke, Congress appears to be sending a message stating that the vehicular heat-stroke fatality rate is not high enough to offset the cost of safety for children and animals across the nation. Are the lives and future of our children and animals simply not important enough? Congress' actions, or lack thereof, could lead to such an inference.⁴⁵

B. Preventing Trunk Entrapment: The Development of Interior Trunk Releases

In 1998, Congress required the NHTSA to conduct a study on the potential benefits of an interior trunk release device.⁴⁶ The study was to be completed within eighteen months.⁴⁷ On October 10, 2000 the NHTSA fulfilled its obligation and issued a final rule establishing a new Federal Motor Vehicle Safety Standard (“FMVSS”)—the Internal Trunk Release.⁴⁸

The Internal Trunk Release was phased in over the following year and required “[e]ach passenger car with a trunk compartment [to] have an automatic or manual release mechanism inside the trunk compartment that unlatches the trunk lid.”⁴⁹ While NHTSA’s turnaround was relatively quick, the fight to implement this standard was nothing short of an uphill battle as it had taken nearly twenty years to gain Congress’s attention.⁵⁰

At its introduction, the proposed standard did not receive much attention. However, it gained momentum during the summer of 1998 when Congress responded to a spike in children passing away after becoming locked in a trunk.⁵¹ Congress directed the NHTSA to conduct a study

⁴⁴ See Daniel Sperling et al., *The Price of Regulation*, 25 ACCESS MAG. 9, 10–11 (2004), <http://www.accessmagazine.org/wp-content/uploads/sites/7/2016/07/Access-25-03-The-Price-of-Regulation.pdf> [<https://perma.cc/9HTU-BQVQ>].

⁴⁵ See H.R. 2801, 115th Cong. (2017); S. 1666, 115th Cong. (2017).

⁴⁶ Transportation Equity Act for the 21st Century, Pub. L. No. 105-178, § 7106(e), 112 Stat. 107, 469 (1998).

⁴⁷ *Id.*

⁴⁸ 49 C.F.R. § 571.401(S1) (2019).

⁴⁹ § 571.401(S4.1). The rule became effective on September 1, 2001. § 571.401(S4.3(b)).

⁵⁰ See Internal Trunk Release, 65 Fed. Reg. 63,014, 63,014–15 (Oct. 20, 2000) (codified at 49 C.F.R. pt. 571) (explaining how the first individual to petition for an internal trunk release was Mr. William Proehl in 1984).

⁵¹ *Id.* at 63,015 (explaining the data and reasoning behind the implementation of 49 C.F.R. § 571.401).

over the next year and a half that would address “the benefits to the public of a regulation requiring the installation in motor vehicles of an interior device to release the trunk lid.”⁵² In its study, the expert panel organized by the NHTSA acknowledged that the victims of the phenomenon were not just kidnapped children,⁵³ but also children who locked themselves in a trunk.⁵⁴

After an intense period of deliberations and meetings, the expert panel came to a final series of recommendations encouraging the NHTSA to develop a standard that would require “[a]ll automobile manufacturers . . . [to] design and install trunk safety features, including internal release mechanisms”⁵⁵ In light of these recommendations, the NHTSA issued a notice of proposed rule-making where they presented a new FMVSS that would require all new vehicles come with a release latch installed.⁵⁶ According to the NHTSA, most of the comments to the notice were in favor of the new standard, while only a handful expressed concerns.⁵⁷ After further analysis, the proposed rule was ultimately enacted with specific guidelines.⁵⁸ The rule contained a heightened level of requirements, which was likely done in order to ensure car manufacturers adequately complied

⁵² *Id.*

⁵³ The expert panel was comprised of distinguished individuals from multiple industries such as “vehicle manufacturers, law enforcement groups, experts in child psychology and behavior, child safety advocates, the medical community, other Federal government agencies, and other interested parties.” *Id.* Such a panel would be invaluable to address the concerns central to vehicular heat-stroke—specifically psychology experts who can address the most pressing issue our society is inclined to deny: forgetting a child in the car can happen to any parent. *Child Heat Deaths: Thorny Issues, Few Fixes*, KIDSAND CARS.ORG (Aug. 8, 2016), <https://www.kidsandcars.org/2016/08/08/child-heat-deaths-thorny-issue-few-fixes/> [<https://perma.cc/5XA6-YXX9>].

⁵⁴ The two distinct categories that needed to be addressed are similar to the categories at risk in vehicular heat-stroke settings. As discussed, vehicular heat-stroke encompasses children who are left unintentionally and intentionally, as well as children who simply get stuck.

⁵⁵ The expert panel further recommended that the standard developed “should hold the automobile industry accountable for taking action, yet allow manufacturers the freedom to determine optimal design solutions.” Internal Trunk Release, 65 Fed. Reg. at 63,016. Moreover, the panel suggested that the manufacturers should be encouraged to implement the recommended standards on their own instead of “waiting for the effective date of this final rule.” *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.* The comments were determined to come from four categorized groups: the general public, vehicle manufacturers and their respective suppliers and associated trade associations, safety advocates, and other groups and entities. *Id.* at 63,017. Out of the 266 comments only two comments were stated in opposition to the new rule. *Id.* at 63,016.

⁵⁸ See 49 C.F.R. § 571.401(S4) (2019).

instead of utilizing loopholes to stall their participation.⁵⁹ For example, the rule is limited in application as it only applies to passenger cars with trunk compartments.⁶⁰ Moreover, the trunk release had to be automatic.⁶¹ While manufacturers had the option to choose which model of the trunk release they would implement, their selection had to be one of the models specifically provided by the NHTSA within the regulation.⁶² The release models also incorporated further requirements such as glow in the dark displays and a set time frame for when the release would unlock the trunk lid.⁶³ The included requirements were put forward during NHTSA's initial investigation into the internal trunk release options, which provided the public with an opportunity to comment.⁶⁴

While the number of victims this rule could potentially save was limited, the cost of implementing the internal trunk release was also extremely low.⁶⁵ The NHTSA estimated that installation for each vehicle would round out to about \$2.00.⁶⁶ In the end, the device would be installed in about seven million passenger cars over the phase-in period and would cost about fourteen million dollars.⁶⁷

II. A SECOND PAIR OF EYES BACKING OUT: THE DEVELOPMENT OF REAR IMAGE REGULATIONS

On February 28, 2008, Congress took another swing at increasing children's safety in and around motor vehicles.⁶⁸ After years of advocacy,

⁵⁹ Internal Trunk Release, 65 Fed. Reg. at 63,016 (discussing how a rule without any performance requirements will have negative implications such as the goals not being fulfilled or manufacturers opting to use ineffective trunk releases that would comply with the standard but not achieve the result).

⁶⁰ 49 C.F.R. § 571.401(S2) (2019).

⁶¹ § 571.401(S4.1).

⁶² *Id.* (“Each trunk release shall conform, at the manufacturer’s option, to either S4.2(a) and S4.3, or S4.2(b) and S4.3. The manufacturer shall select the option by the time it certifies the vehicle and may not thereafter select a different option for the vehicle.”).

⁶³ § 571.401(S4.2(a)–(b)) (requiring “[e]ach manual release mechanism installed pursuant to S4.1 of this standard [to] include a feature, like lighting or phosphorescence, that allows the release mechanism to be easily seen inside the closed trunk compartment . . . [and] [e]ach automatic release mechanism installed . . . must unlatch the trunk lid within 5 minutes of when the trunk lid is closed with a person inside the trunk compartment.”).

⁶⁴ Internal Trunk Release, 65 Fed. Reg. at 63,015.

⁶⁵ *Id.* at 63,020.

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ Cameron Gulbransen Kids Transportation Safety Act of 2007, Pub. L. No. 110-189, 122 Stat. 639 (2008).

Congress finally passed, and the President signed into law, the Cameron Gulbransen Kids Transportation Safety Act of 2007.⁶⁹ This monumental law required the Secretary of Transportation to initiate rule-making procedures in order to increase rearview visibility standards and decrease the number of deaths stemming from backover crashes.⁷⁰

Prior to the Cameron Gulbransen Kids Transportation Safety Act of 2007, backover crashes presented a threat to almost any passerby walking behind a car.⁷¹ This threat, however, had an excessive impact on children under the age of five years old.⁷² In the years leading up to the final rule, the NHTSA determined that an average of 267 individuals had been killed by backover crashes each and every year.⁷³ Of these 267 individuals, 31 percent were found to be under five years old.⁷⁴

According to the NHTSA's notice of proposed rule-making, the most beneficial technology that would satisfy the rear visibility standard would be a rearview imaging system.⁷⁵ The cost to implement each individual rearview system would be somewhere between \$132 to \$142 for a vehicle without the proper equipment and \$43 to \$45 for vehicles "already equipped with a suitable visual display."⁷⁶ The overall cost of implementing increased rearview visibility standards would add up to more than \$500 million.⁷⁷ Assuming a high-end adoption rate, the NHTSA predicted the proposed regulation would have about a 30 percent effective rate, saving between fifty-eight and sixty-nine lives every year.⁷⁸ Anticipating children would still suffer at the same disproportionate rate of 31 percent that they did before the enactment, the regulation would save between seventeen and twenty-one children in application.

⁶⁹ *Id.* § 1.

⁷⁰ *Id.* § 2(b).

⁷¹ Federal Motor Vehicle Safety Standards, Rear Visibility, 79 Fed. Reg. 19,178, 19,178 (Apr. 7, 2014) (codified at 49 C.F.R. pt. 571) (analyzing the data that factored into the final rule).

⁷² *Id.* at 19,180.

⁷³ *Id.* at 19,179–80 ("Our assessment of available safety data indicates that (on average) there are 267 fatalities . . . resulting from backover crashes every year.").

⁷⁴ *Id.* at 19,180.

⁷⁵ *Id.* at 19,179 (stating that the "NHTSA's [sic] believes that the rear visibility system requirements in today's final rule . . . are the only method for addressing the backover safety risk identified in the K.T. Safety Act that is rationally supported by the totality of the available data.").

⁷⁶ *Id.* at 19,181.

⁷⁷ Federal Motor Vehicle Safety Standards, Rear Visibility, 79 Fed. Reg. at 19,179.

⁷⁸ *Id.* at 19,180.

The potential benefits in terms of lives saved would not be fulfilled until 2054—the year the NHTSA predicts every vehicle on the road will contain a rearview image system.⁷⁹ However, the NHTSA justified this length in time by reasoning that a rearview safety standard was the only solution that could effectively protect the populations at risk, especially children.⁸⁰ As the NHTSA noted, there were nonmonetary benefits of the rule that would be fulfilled immediately.⁸¹ Thus, the regulation was justified by the eventual fulfillment of the monetary costs in conjunction with the nonmonetary benefits. For example, a new regulation increasing rear visibility would protect “the most vulnerable members of our society.”⁸² In addition, the NHTSA recognized that federal action was paramount because solutions already in place such as public knowledge and inefficient back-up warnings were undoubtedly insufficient.⁸³

Most importantly however, was the NHTSA’s focus on the value of a child’s life and the exceptionally high emotional costs that result from interfamily tragedies. The NHTSA acknowledged that a general notion exists regarding the safety of our children: there is a high value on their lives and “a general consensus regarding the need to protect children as they are unable to protect themselves.”⁸⁴ Furthermore, because most backover crashes were committed by parents or guardians themselves, the NHTSA attributed an extraordinary emotional cost to this type of accident, an emotional cost that could be prevented via federal regulation.⁸⁵ After considering all of the potential benefits, the NHTSA concluded the costly rule would be outweighed by long-term benefits and implemented “a minimum standard for . . . motor vehicle equipment performance.”⁸⁶

The nonmonetary benefits that justified the NHTSA’s rule for rear visibility are intertwined throughout vehicular heat-stroke cases. Similar to 49 C.F.R. § 571.111, vehicular heat-stroke cases have a disproportionate effect on children because roughly 88 percent of the victims are under the age of three years old.⁸⁷ Vehicular heat-stroke cases also

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² *Id.* (explaining that the most vulnerable members of society include “young children, the elderly, or persons with disabilities”).

⁸³ Federal Motor Vehicle Safety Standards, Rear Visibility, 79 Fed. Reg. at 19,180.

⁸⁴ *Id.* at 19,180–81.

⁸⁵ *Id.* at 19,181.

⁸⁶ *Id.* at 19,183.

⁸⁷ *Dangers of Hot Cars*, KIDSANDCARS.ORG (Feb. 27, 2019), <https://www.kidsandcars.org/2019/02/27/dangers-of-hot-cars/> [<https://perma.cc/JK63-5U8H>].

contain an extreme emotional cost because more than half of the victims were unintentionally left by a parent or guardian.⁸⁸ This disaster leaves the family with an unexplainable feeling of despair that never goes away.⁸⁹ Most prevalent, however, is the NHTSA's agreement that children are highly vulnerable because they cannot protect themselves. In the case of vehicular heat-stroke, we currently have children *and* animals who can do nothing but rely on either their parents, guardians, or caregivers. Thus, when their parent, guardian, or caregiver accidentally fails them, the only fighting chance they have left is an additional layer of protection from technology.

III. LIFE-SAVING ALERT SYSTEMS ARE AVAILABLE AND READY FOR ACTION—NOW IT IS UP TO CONGRESS TO UTILIZE THEM

The most common argument against regulations implementing sensors or alert systems to warn of children left in cars is that the technology is not yet feasible. However, in light of the technology already presented by manufacturers and individual companies, such an argument is moot. Moreover, as described in the final rule-making analysis for internal trunk release mechanisms,⁹⁰ Congress has the ability to mandate that the NHTSA not only survey new products, but also work with companies to develop improved models of already existing options.⁹¹ For the following reasons, Congress can no longer hide behind the fact that technology is not up to the appropriate standards.

At the moment, there are three viable options that Congress can utilize.⁹² Two of these options are already in a handful of car models, proving further that the technology is available. However, absent federal regulation, the implementation of these models in every vehicle model will never be uniform. The three available models are Hyundai's "Rear

⁸⁸ Null, *supra* note 24.

⁸⁹ As Lyn Balfour explained, "the pain never gets less. It's never dulled." Gene Weingarten, *Fatal Distraction: Forgetting a Child in the Backseat of a Car is a Horrifying Mistake. Is it a Crime?*, KIDSANDCARS.ORG (Mar. 8, 2009), <https://www.kidsandcars.org/2016/07/08/fatal-distraction-forgetting-a-child-in-the-backseat-of-a-car-is-a-horrifying-mistake-is-it-a-crime-2/> [<https://perma.cc/KT42-NPYK>].

⁹⁰ See *supra* Part II.

⁹¹ See 49 C.F.R. § 571.401(S1)–(S2) (2019).

⁹² Car manufacturers have currently introduced similar versions of the two rear seat models that are discussed in this Note. However, for purposes of this Note, all rear seat reminders implemented by other manufacturers will be considered as one available option under Hyundai's "Rear Occupant Alert" system or GMC's "Rear Seat Reminder."

Occupant Alert,”⁹³ General Motors’ “Rear Seat Reminder,”⁹⁴ and “Payton’s Charm.”⁹⁵

The vehicle models that already contain the rear seat reminder systems are the more affordable vehicle models on the market, which disputes any contention that these reminder systems are too costly to enact for the average vehicle model.⁹⁶ The first system, which was recently implemented by Hyundai in their 2019 Santa Fe SUV model, is known as the Rear Occupant Alert.⁹⁷ The Rear Occupant Alert works via a two-step process.⁹⁸ Step one of the system is triggered when the rear door of the vehicle is both opened and closed.⁹⁹ The Rear Occupant Alert notifies the driver that there is a passenger in their back seat by supplying a rear seat reminder notification in the dashboard.¹⁰⁰ Once the driver arrives at their destination and shuts off the vehicle, the alert will appear a second time, supplying the driver with both an audio and visual reminder.¹⁰¹ If the driver exits the vehicle without opening the rear door, the second phase of the two-step alert system will kick in.¹⁰² Step two of

⁹³ Mike Monticello, *2019 Hyundai Santa Fe Rear Occupant Alert Aims to Protect Kids from Hot Cars*, CONSUMER REP. (July 31, 2018), <https://www.consumerreports.org/car-safety/hyundai-santa-fe-rear-occupant-alert-aims-to-protect-kids-from-hot-cars/> [<https://perma.cc/F9MW-FMXG>].

⁹⁴ *GMC’s Rear Seat Reminder Can Help Remind Parents to Check the Back Seat*, GMC: GMCLIFE, <https://www.gmc.com/gmc-life/suvs/acadia-rear-seat-reminder> [<https://perma.cc/A84N-UAHU>] (last visited Mar. 9, 2020).

⁹⁵ Lee Roop, *Alabama company patents device to prevent hot car deaths*, AL.COM (Jan. 11, 2019), <https://www.al.com/news/2019/01/alabama-company-patents-device-to-prevent-hot-car-deaths.html> [<https://perma.cc/GS2Z-29BM>].

⁹⁶ *See 2020 Hyundai Santa Fe*, U.S. NEWS & WORLD REP., <https://cars.usnews.com/cars-trucks/hyundai/santa-fe/prices> [<https://perma.cc/F7RJ-8LLL>] (explaining how “[t]he Santa Fe has a starting price of \$25,900, which is one of the lowest in the class for base models.”); *see also 2020 GMC Acadia*, U.S. NEWS & WORLD REP., <https://cars.usnews.com/cars-trucks/gmc/acadia> [<https://perma.cc/B8AA-VZAY>] (noting that “[t]he Acadia has a below-average starting price . . .”).

⁹⁷ Monticello, *supra* note 93.

⁹⁸ *Id.*

⁹⁹ *Id.* The car must be running for step one to be triggered. *Id.*

¹⁰⁰ *Id.* (“Hyundai’s initial door logic reminder warning appears in the instrument cluster and worked reliably in our testing.”).

¹⁰¹ *Id.*

¹⁰² Monticello, *supra* note 93 (explaining that “[t]he second stage of Hyundai’s system is designed to provide an extra layer of protection. If the vehicle is locked and the ultrasonic sensor detects movement in the rear seat, the horn will honk on and off for approximately 25 seconds. If the alert is not disabled by unlocking the vehicle and opening the rear door, and the sensor detects movement again, the horn will sound for another 25 seconds. This sequence will be performed up to eight times. After the eighth time, the alert will not sound again, even if it has not been disabled. The system also can be configured to send

the system is based on a motion sensor.¹⁰³ If the Rear Occupant Alert detects motion in the back seat after the car has been turned off and the back door has not been opened, the car will sound the horn for roughly twenty-five seconds.¹⁰⁴ This motion sensor will continue to sound the horn on and off until the rear door is opened and the passenger is retrieved.¹⁰⁵ While this alert system presents dual layer protection, the most notable aspect is the system's ability to send a notification to the driver's phone or email.¹⁰⁶ This final alert can be considered a triple layer of protection—the type of protection needed to eliminate the hundreds of vehicular heat-stroke deaths our children and animals are falling victim to each year.¹⁰⁷

In comparison is General Motors' safety device titled the "Rear Seat Reminder."¹⁰⁸ The reminder activates when the rear door is opened and closed.¹⁰⁹ Once the rear door has been opened and closed, the car will sense that there is a passenger in the back seat.¹¹⁰ As soon as the car is turned off at the final destination, the driver will again be notified that there is a passenger in the back seat.¹¹¹

While both the Rear Occupant Alert and Rear Seat Reminder systems are not without their drawbacks, these drawbacks alone are not enough to prohibit the alert systems, or the next generation of them, from being mandated. Some drawbacks, for example, relate to infant movements and how large the movements need to be to trigger the sensor.¹¹²

a text message or an email to the owner via Hyundai's Blue Link telematics when the second alert is triggered.”).

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* (“This sequence will be performed up to eight times. After the eighth time, the alert will not sound again, even if it has not been disabled.”).

¹⁰⁶ *Id.* (“The system also can be configured to send a text message or an email to the owner via Hyundai's Blue Link telematics when the second alert is triggered.”).

¹⁰⁷ While the system did present some drawbacks, these problems are facets that can be worked on during the phase-in period. In fact, this is exactly what the phase-in period is proscribed for. *See id.*

¹⁰⁸ John Irwin, *GM expands rear-seat reminder technology to 20 models*, AUTOMOTIVE NEWS (Dec. 6, 2016), <https://www.autonews.com/article/20161206/OEM11/161209917/gm-expands-rear-seat-reminder-technology-to-20-models> [<https://perma.cc/6HDZ-CQ7R>].

¹⁰⁹ *Id.*

¹¹⁰ *Id.* (discussing how “[t]he feature reminds the driver to check the back seat after a rear door is opened and closed while the engine is on or up to 10 minutes before the vehicle is turned on. Under those scenarios, the vehicle will produce five chimes and display a reminder on the instrument panel that reads ‘Rear Seat Reminder/Look in Rear Seat’ once the engine is turned off.”).

¹¹¹ *Id.*

¹¹² Monticello, *supra* note 93 (acknowledging that “Hyundai officials told CR that the

The Rear Seat Reminder also contains a problematic loophole because the system will notify the driver at the final destination, so if the parents make an interim stop en route, they have to reactivate the system or it will not go off at the second destination.¹¹³

Yet Hyundai's system works to balance out their respective drawbacks by automatically defaulting to "on."¹¹⁴ This action is crucial because as noted, most parents or guardians believe they would never forget their child or pet and might not turn on the notification system at all.¹¹⁵ Thus, by automatically defaulting to "on" the technology is working to help prevent more than half of the cases of vehicular heat-stroke that are caused by parents or guardians simply forgetting their children or pets. General Motors' Rear Seat Reminder is also more reliable than the parent's memory if we have no universal technology at all.¹¹⁶

Even considering these potential drawbacks, the technological instruments should be pictured as the starting point in addressing vehicular heat-stroke. By using these instruments as the floor for safety device requirements, the NHTSA can require that improvements on these pieces of technology be tested throughout the phase-in period to improve their effectiveness.¹¹⁷ The use of these systems is more beneficial in the long run than a lack of action in the present.

A third unique and promising option is a relatively new product on the market: Payton's Charm.¹¹⁸ Payton's Charm, which relies on substances in the air instead of weight or motion sensors, is the first of its kind. The device's functions are twofold. Part one is triggered by the presence of carbon dioxide within a closed vehicle.¹¹⁹ Once carbon dioxide is detected, Payton's Charm will call the owner on their cell phone to

sensor's limitations prevent it from detecting slight movements, such as the rise and fall of the chest when breathing.").

¹¹³ Emily A. Thomas, *GM's Child-Reminder Feature Is a Simple, Clever Way to Save Lives*, CONSUMER REP. (July 31, 2017), <https://www.consumerreports.org/car-safety/gm-child-reminder-feature-simple-clever-way-to-save-lives/> [<https://perma.cc/KG7Y-NTDC>] (stating that "[i]t's important to note that the reminder feature is activated only once per vehicle ignition cycle. So if you turn off your car during your trip, the rear door has to be opened again to reactivate the feature. But this shortcoming can be anticipated in normal use.").

¹¹⁴ Monticello, *supra* note 93.

¹¹⁵ *Id.*

¹¹⁶ See Thomas, *supra* note 113.

¹¹⁷ See *supra* Part II.

¹¹⁸ Roop, *supra* note 95.

¹¹⁹ *Id.* (explaining how "CO2 is the gas living things exhale when they breathe. If the baby's in the car and breathing, Payton's Charm will detect the CO2 . . .").

alert them that someone might be in danger in the car.¹²⁰ Part two of the device is the first of its kind: if the call goes unanswered, Payton's Charm provides another level of protection by contacting another designated person and ultimately, 911.¹²¹ In considering all of the protective measures Payton's Charm provides, it becomes clear that nearly every child and animal subject to vehicular heat-stroke could be protected with a device like Payton's Charm. By relying on air substances, the device protects children and animals who are sleeping, those who do not weigh enough to trigger the weight notification, and children or animals who have fallen unconscious due to the heat.

Payton's Charm has a projected market value of \$349 per car.¹²² While this cost may sound steep, it is still subject to review and is not a final determination. Prior statutes that require rule-making authorize the NHTSA, under the guidance of the Secretary of Transportation, to conduct internal studies to determine if more cost-efficient and effective options were available.¹²³ The NHTSA could also authorize auto manufacturers to select from different options as they did with the internal trunk release regulation in 49 C.F.R. § 579.401.¹²⁴ Simply put, the mere price tag on this device is not enough to justify the continued risks our children and animals face.

A. *State Laws and Awareness Campaigns Across the Nation Are Ineffective in Both Preventing and Combating Vehicular Heat-Stroke*

Across the nation, a few individual states have enacted laws that promote bystanders to act when they see an animal or child alone and distressed within a hot car.¹²⁵ While some of these laws go as far as holding parents, guardians, and pet owners accountable for leaving their children or animals in hot cars and putting them in danger in the first

¹²⁰ *Id.*

¹²¹ *Id.* (explaining that how if the call is unanswered then the device "will text you first and, if you don't respond, it will text a second person. If that person doesn't respond, there's a quick decision tree that ends with a 911 call.").

¹²² Ben Coxworth, *Payton's Charm sounds the alarm on kids in hot cars*, NEW ATLAS (Dec. 4, 2018), <https://newatlas.com/paytons-charm-child-hot-car-alert/57513/> [<https://perma.cc/9UH3-ZQWT>].

¹²³ *See, e.g.*, Internal Trunk Release, 65 Fed. Reg. 63,014, 63,016 (Oct. 20, 2000).

¹²⁴ *See supra* Part II.

¹²⁵ *State Laws*, KIDSANDCARS.ORG, <https://www.kidsandcars.org/resources/state-laws/> [<https://perma.cc/J3FY-QSU2>] (last visited Mar. 9, 2020).

place, not all impose such strict liability. These pieces of legislation alone are ultimately ineffective to bring awareness to the general population and combat the problem. In order for these laws to be effective, they need to be uniform in nature. Yet, realistically, every state law in place has a unique standard as to when liability kicks in as well as the respective punishment an individual at fault may receive. In addition, many state laws implement a different age for the definition of a child, which reinforces the concern that due to a lack of uniformity across the nation, our children are not being adequately protected.

As displayed, 2018 saw a record number of deaths in children and likely animals as well. This leads to the inference that state laws are failing to protect our children and animals and consequently renders the laws ineffective. Most concerning, however, is the fact that only half the states across the nation have laws protecting children and animals left in hot cars. This lack of protection leaves children and animals vulnerable in areas where there is no governing law in place to protect them from vehicular heat-stroke.¹²⁶ Congressional action could fix this problem entirely.

Only twenty-one out of our fifty states have enacted laws targeting vehicular heat-stroke liability for children.¹²⁷ According to the National Safety Council's analysis, of the twenty-one states, "nine lack protections for any person who tries to save a child, and just eight states consider felony charges for those who leave a child."¹²⁸ One state in particular does not even authorize liability for leaving a child in a hot car.¹²⁹ Instead, officers are only authorized to respond to a near-death experience with a simple verbal warning.¹³⁰

B. The Most Vigorous State Laws Fail to Effectuate Change on the Ground as Vehicular Heat-Stroke Continues to Kill Children Within Those States

A survey of state laws in place shows that Florida and Kentucky promote aggressive state laws to address the problem of children left in

¹²⁶ Tanya Mohn, *Kids in Hot Cars: States Aren't Doing Enough To Protect Children 'Being Left to Die'*, FORBES (June 23, 2018), <https://www.forbes.com/sites/tanyamohn/2018/06/23/kids-in-hot-cars-states-arent-doing-enough-to-protect-children-being-left-to-die/#660530c03e59> [<https://perma.cc/6WEP-68PK>] (arguing that state laws are not doing enough to protect children in the United States).

¹²⁷ *Id.*

¹²⁸ *Id.*

¹²⁹ 31 R.I. GEN. LAWS § 31-22-22.1 (2018).

¹³⁰ *Id.*

a vehicle.¹³¹ In Kentucky, any individual who leaves a child in a motor vehicle “under circumstances which manifest an extreme indifference to human life and . . . create[s] a grave risk of death to the child, thereby causing the death of the child,” is guilty of manslaughter in the second degree.¹³² This broad application encompasses situations where parents left their child either intentionally or unintentionally, in turn providing an incentive for parents and guardians to take heightened precautions.

Florida’s statute encompasses both a time period for liability and general conduct.¹³³ Under this law, an individual will be held liable if they leave a child unsupervised for more than fifteen minutes.¹³⁴ While this law is a step in the right direction, it still leaves a child exposed to a life-threatening risk because the most disastrous moments of vehicular heat-stroke are during the first fifteen minutes.¹³⁵ Especially in consideration of the fact that Florida was one of the leading locations for children who passed away from vehicular heat-stroke during 2018.¹³⁶ While this law addresses a vulnerable time frame for children suffering from vehicular heat-stroke, it fails to effectuate any change at the time of the event, nor does the law alter the outcome for a child trapped in this situation. In comparison, a rear seat reminder system could bring attention to a child trapped within a vehicle during those crucial fifteen minutes and could ultimately save the child’s life before it is too late.¹³⁷

In comparison to Kentucky and Florida, California’s state law addressing children left unattended in vehicles falls on the opposite side of the spectrum as it imposes almost no liability.¹³⁸ If a parent has been found to have left a child unattended in a vehicle, the law does nothing more than implement a \$100 fine against the adult. Thus, in California’s opinion, a child’s entire future is worth nothing more than \$100.¹³⁹ If the state legislature cannot change their mindset on children’s safety, then technology must.

Connecticut is another prime example of a state law that fails to address the heart of the issue encompassed within vehicular heat-stroke.¹⁴⁰

¹³¹ See FLA. STAT. § 316.6135 (2018); KY. REV. STAT. ANN. § 507.040 (West 2018).

¹³² KY. REV. STAT. ANN. § 507.040.

¹³³ FLA. STAT. § 316.6135.

¹³⁴ *Id.*

¹³⁵ See KIDSAFE, *supra* note 2 and accompanying text.

¹³⁶ See 2018 U.S. Child Hot Car Fatalities, KIDSANDCARS.ORG, <https://www.kidsandcars.org/2018-u-s-child-hot-car-fatalities/> [<https://perma.cc/HJT2-57B9>].

¹³⁷ See KIDSAFE, *supra* note 2 and accompanying text.

¹³⁸ See CAL. VEH. CODE § 15620 (Deering 2018).

¹³⁹ *Id.*

¹⁴⁰ See CONN. GEN. STAT. § 53-21a (2018).

The law categorizes vehicular heat-stroke as a misdemeanor.¹⁴¹ The law only bumps the crime up to a felony if the child has been left in the vehicle overnight.¹⁴² Yet this scenario is quite problematic because the child will have lost their battle against vehicular heat-stroke within the first hour of being left in the car, regardless of whether or not they are continued to be left there overnight.¹⁴³

Nevada's state law attempts to fight vehicular heat-stroke by holding individuals liable if they "knowingly and intentionally" leave the child in the car when conditions present a serious risk to the child's health.¹⁴⁴ Because vehicular heat-stroke presents a serious risk to the child's health, this law may appear to target the central issue on its face. However, the law expresses a heightened requirement with a knowingly and intentionally mens rea.¹⁴⁵ Raising the condition to knowingly or intentionally presents the issue of proving such intent. In application, this law fails to address the majority of the vehicular heat-stroke cases that are committed by parents who simply *forget*.

Thus, a small glimpse into the laws governing the safety of our children demonstrates a lack of uniformity, accountability, and incentives for parents to take extra precautions in ensuring their child is never left behind. A child's future should not be dependent on the law within the boundaries of their state lines. Rather, children deserve immediate protection in these situations, protection that can only come from a regulated technological requirement.

C. *Animals Receive Even Less Protection Under State Statutes, Rendering Them Helpless Without Rear Seat Alert Systems*

In comparison, thirty-one states possess laws that "prohibit leaving an animal in confined vehicle under dangerous conditions"¹⁴⁶ While

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ See KIDSAFE, *supra* note 2 and accompanying text.

¹⁴⁴ NEV. REV. STAT. § 202.485 (2018).

¹⁴⁵ *Id.*

¹⁴⁶ Rebecca F. Wisch, *Table of State Laws that Protect Animals Left in Parked Vehicles*, ANIMAL LEGAL & HISTORICAL CTR., MICH. ST. U. (2019), <https://www.animallaw.info/topic/table-state-laws-protect-animals-left-parked-vehicles> [<https://perma.cc/3HDR-RCYZ>] (explaining how "[m]ost laws provide that the animal must be confined or unattended in a parked car or stationary vehicle. For a person to violate the law, the conditions in the motor vehicle have to endanger the animal's life. Some of the statutes specifically state that extreme hot or cold temperatures, lack of adequate ventilation, or failing to provide proper food or drink meet this definition. Other laws simply state that the conditions pose an imminent threat to the animal's health or safety.").

the number of states that legislate to protect animals is higher than the number of states that legislate to protect children, their penalties for leaving an animal in a car are much weaker. For example, Maryland promotes a statute that imposes nothing more than a \$70 fine.¹⁴⁷ Minnesota's statute contains similar language by subjecting the perpetrator to an astonishing \$25 fine.¹⁴⁸ The most problematic legislation in place however is Delaware's, which issues a first offender nothing more than a warning—a warning for an individual who is guilty of leaving an animal in a hot car causing them to overheat to death.¹⁴⁹

IV. WHILE AWARENESS CAMPAIGNS SHINE A LIGHT ON THE PROBLEM, THEY FAIL TO PROMOTE CHANGE AS THE NUMBER OF DEATHS ARE CLIMBING

In light of the increasing vehicular heat-stroke incidents occurring across the nation, the NHTSA has declared July 31 as Heatstroke Awareness Day.¹⁵⁰ On July 31, the NHTSA dedicated their social media platforms to spreading awareness on the dangers of vehicular heat-stroke, encouraging people to post short clips on the effects of vehicular heat-stroke.¹⁵¹ Most importantly, the NHTSA used this day to remind parents, caregivers, and guardians across the nation that vehicular heat-stroke can lead to lifelong disabilities, or death, in minutes.¹⁵²

While awareness campaigns bring attention to the national problem, they still fail to provide change when an actual vehicular heat-stroke incident occurs. Awareness campaigns are not going to alert the parent with a reminder that their child is in the back seat when they are running on autopilot, awareness campaigns are not going to alert the passerby that there is a sleeping child or lethargic animal in the back seat slowly succumbing to the effects of vehicular heat-stroke, and awareness campaigns are not going to provide technological protection to a child or animal in the final stages of their life.

¹⁴⁷ *Id.*

¹⁴⁸ MINN. STAT. § 346.57 (2018).

¹⁴⁹ DEL. CODE ANN. tit. 11, § 1325(g) (2018).

¹⁵⁰ *Save Lives: Join the Heatstroke Awareness Challenge*, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., <https://www.nhtsa.gov/es/child-safety/save-lives-join-heatstroke-awareness-challenge> [<https://perma.cc/S9X4-N47F>] (last visited Mar. 9, 2020).

¹⁵¹ *Id.*

¹⁵² *See id.*

CONCLUSION

Individuals' behavior that impacts other members of society runs the gamut from benign to dangerous to deadly. Regardless of initial intent, the severity of the impact should be the key criteria that drives the level and severity with which such behavior is addressed. Such behaviors range from a simple lack of respect for norms and politeness, such as littering and loitering, to the more dangerous, such as driving while distracted, to the potentially deadly, such as driving under the influence. Society has, at its disposal, several tools that can be implemented to address behaviors that have reached the point where their impact warrants action. Such is the case with irresponsible behavior that leads to vehicular heat-stroke in children and animals.

Awareness campaigns are well-intended, and any effect they have is positive. However, given again the severity of the outcome of irresponsible behavior while in the role of guardian, more action is desperately needed. The technology and legislative power exist to effectively combat this problem. Vehicle safety regulation examples are numerous and, in many cases, highly effective. The reasons or excuses for these instances of neglect are irrelevant. Awaiting changes in guardian behavior or relying solely on awareness campaigns' impact is not the answer. Federally mandated technological enhancements are critically needed at this point to at least lessen the frequency of these avoidable, tragic, and deadly incidents.

Upon signing the Highway Safety Act, President Lyndon B. Johnson stated that the government was going to make sure every new car purchased would be "as safe as modern knowledge knows how to build it."¹⁵³ Until Congress acts, our government is falling short of its obligation to ensure every vehicle being produced is up to the safety standards of modern knowledge. Modern knowledge can prevent vehicular heat-stroke; it is up to Congress to use it.

¹⁵³ President Lyndon B. Johnson, Remarks at the Signing of the National Traffic and Motor Vehicle Safety Act and the Highway Safety Act (Sept. 9, 1966).