

**Timeline of the Development of a Consensus Side Guard Standard;  
Collaborative Creation of a Standard for Government to Require & Industry to Adopt**

Date	Activity or Event	Resource Information
	<p><b>BASIC UNDERRIDE INFORMATION</b> (<i>running list of most recent posts</i>)</p> <p><u>History of Underride Research &amp; Reports: 1896 to 2022</u></p> <p><u>Truck Underride Studies, Reports, &amp; Patents</u></p> <p><u>Underride Guard Patents</u></p> <p><b><u>Underride Victim Photo Memorial &amp; Underride Crash Memorial Posts</u></b></p> <p><b><u>Federal Register, March 19, 1969: It is anticipated that the proposed standard will be amended, after technical studies have been completed, to extend the requirement for underride protection to the <b>sides</b> of large vehicles.</u></b></p> <p><u>2002-ATA-Prediction-of-Side-Guard-Regulations in 2006</u></p> <p><u>CBS 7 Side Underride Report - 2011 - Roya Sadigh's side underride death on <b>November 24, 2004</b></u></p> <p><b>February 8, 2012, video: <u>Introducing AngelWing: Side Underride Guard/Aerodynamic Trailer Skirt</u></b></p> <p><b><u>Addressing Truck Underride; A Timeline - 1953 to 2017 (IIHS)</u></b></p> <p><b><u>Timeline of Underride Safety video (2021)</u></b></p> <p><b>Truck Underride Victims &amp; Families Host News Conference for STOP Underrides Act Introduction <i>On Monday, March 8, 2021</i></b></p>	 <p><a href="https://annaleahmary.com/2016/03/side-guards-the-original-intent-of-nhtsa-rulemakers-in-the-1969-nprm-docket-no-1-11-notice-2/1969-nprm-docket-no-1-11-notice-2-p-2/">https://annaleahmary.com/2016/03/side-guards-the-original-intent-of-nhtsa-rulemakers-in-the-1969-nprm-docket-no-1-11-notice-2/1969-nprm-docket-no-1-11-notice-2-p-2/</a></p> <p><b>Underreported Underride Data (not an exhaustive list):</b></p> <ul style="list-style-type: none"> <li>• <b><u>FARS Underride Data 1994-2015</u></b></li> <li>• <b><u>Incidence of Large Truck-Passenger Vehicle Underride Crashes in Fatal Accident Reporting System and National Accident Sampling System</u></b></li> <li>• <b><u>Underride Deaths by State, 1994-2015</u></b></li> <li>• <b><u>Potential-benefits-of-underride-guards-in-large-truck-side-crashes-Matt-Brumbelow-IIHS</u></b></li> </ul> <p><b><u>It's Not The Crash That Kills. It's The Underride. A Research Study To Examine the Relative Role of Truck Underride &amp; Passenger Compartment Intrusion (PCI) In Truck Crash Fatalities</u></b></p>
5/4/13	<p>Karth rear underride crash: <i>An Unfair Fight</i></p> <p>In the aftermath, the Karth family became aware of the <u>IIHS rear guard crash testing research.</u></p>	<p><a href="https://annaleahmary.com/about/">https://annaleahmary.com/about/</a></p>

<b>8/13/13</b>	Karth family met with Senator Burr to ask for updated rear guard rule	<u><a href="#">Families push for tractor-trailer regulations</a></u>
<b>9/12/13</b>	Marianne Karth met with Secretary Foxx with the Truck Safety Coalition & asked for comprehensive underide rulemaking - updated rear, side, front and Single Unit Trucks.  <u>Secretary Foxx</u> promised tangible progress in a short period of time.	
<b>Jan/Feb. 2014</b>	Jerry Karth <u>sent letters to trailer manufacturers</u> and transport companies asking for voluntary improvement in rear guard strength.	
<b>March 2014</b>	Karth family launched an online petition asking Secretary Foxx to initiate comprehensive underide rulemaking.	<u><a href="#">Stand Up for Truck Safety - Save Lives and Prevent Injuries!</a></u>
<b>May 5, 2014</b>	Karth family met with DOT officials, including FMCSA and NHTSA to present 11,000+ petition envelopes to Secretary Foxx  David Friedman (NHTSA) said that a decision would be made within two months.	<u><a href="#">WJLA - Couple fights for stricter trucking regulations after daughters' deaths</a></u>
<b>July 2014</b>	An ANPRM was published granting our petition on an updated rear guard rule. It was indicated that our petition for side and front guard regulations would be considered at a later date.	<u><a href="#">NHTSA Has Initiated a Rulemaking Process to Evaluate Options for Improving Underride Guards</a></u>  <b>More on Side Guards (2014)</b>
<b>June 2014</b>	The CEO of Great Dane Trailers (whose rear guard failed in our crash) invited Jerry and Marianne Karth to a tour of the Great Dane Trailer research facility in Savannah. Observing that there was no evidence of a sense of urgency to address the problem, the Karths posted their vision of a collaborative effort of all stakeholders to come around the table and solve the underide problem.	A lengthy post in 2014: <u><a href="https://annaleahmary.com/2014/06/underride-guards-can-we-sit-down-at-the-table-together-and-work-this-out/">https://annaleahmary.com/2014/06/underride-guards-can-we-sit-down-at-the-table-together-and-work-this-out/</a></u>  <u><a href="#">Underride Guards: Now What?</a></u>  Republished in 2016 as a shorter video: <u><a href="#">For Vulnerable Victims of Underride Crashes</a></u>
<b>January 2015</b>	Pitched the idea of an Underride Roundtable to David Friedman (NHTSA Deputy Admin.)	Email & attachments
<b>May 2015</b>	Reached out to Dean Sicking (NASCAR SAFER Barrier) & asked him to write a grant proposal for a stronger rear guard	<u><a href="https://annaleahmary.com/tag/dean-sicking/">https://annaleahmary.com/tag/dean-sicking/</a></u>
<b>May 2015</b>	Began discussions with John Lannen re: planning an Underride Roundtable	

<p><b>June 2015</b></p>	<p>Karth Family incorporated a nonprofit, <b><i>AnnaLeah &amp; Mary for Truck Safety</i></b>, to foster underride research.</p>	
<p><b>June 2015</b></p>	<p>Karths began email and phone conversations about rear guards with George Rechnitzer in Australia.</p>	<p><u><a href="#">The Future of Underride Prevention: A conversation with underride researcher from Australia</a></u></p>
<p><b>June 2015</b></p>	<p>Marianne reached out to SAE &amp; posted a Request for designs for improved rear guards.</p> <p>Marianne also reached out to Jared Bryson, an engineer at the Virginia Tech transportation institute, and subsequently worked with him to get a Senior Design Project Rear Guard Team to develop a guard &amp; present it at the May 5, 2016 Underride Roundtable.</p>	<p><u><a href="https://www.facebook.com/FormulaSAE/posts/418305385022284">https://www.facebook.com/FormulaSAE/posts/418305385022284</a></u></p> <p><u><a href="https://annaleahmary.com/tag/virginia-tech-dream-team/">https://annaleahmary.com/tag/virginia-tech-dream-team/</a></u></p>
<p><b>August 2015</b></p>	<p>Aaron Kiefer (crash reconstructionist in Cary, NC) reached out to Jerry &amp; Marianne Karth about his innovative combination rear &amp; side guard design</p>	<p><u><a href="#">Innovative combined side &amp; rear guard promises better underride protection</a></u></p>
<p><b>September 2015</b></p>	<p>Marianne reached out to David Zuby &amp; asked if the IIHS could host an Underride Roundtable. He said yes and we began planning the event, along with John Lannen (TSC) &amp; others along the way.</p>	
<p><b>March 2016</b></p>	<p>The Karths helped Aaron Kiefer successfully crash test his side guard in North Carolina.</p>	<p><u><a href="#">Collision Safety Consulting at trailerguards.com</a></u></p>
<p><b>March 2</b></p>	<p>An engineer shed light for me on the fact that DOT had published their intention, on <b>March 19, 1969</b>, to add underride protection to the <b>sides</b> of large trucks after further study.</p>	<p>Trailers on North American roads are still not required to have side underride protection -- despite it being anticipated as <u>published</u> in the Federal Register in 1969 by DOT.</p>
<p><b>May 5, 2016</b></p>	<p>The First Underride Roundtable was held at the IIHS Research Facility in Ruckersville, VA. Over 100 people attended -- including trailer manufacturers and transport companies and engineers. The Stoughton Trailer improved rear guard design was successfully crash tested.</p> <p>Aaron Kiefer brought a trailer, to the Underride Roundtable, which was equipped with his innovative combination rear &amp; side guard (<b>SafetySkirt</b>) design:</p>	<p><u><a href="#">Media Coverage of the first Truck Underride Roundtable held at IIHS on May 5, 2016</a></u></p> <p><u><a href="#">Reflections from a bereaved dad on the Underride Roundtable &amp; what that means for rulemaking</a></u></p> <p><u><a href="#">Crash Dummy Survives: Reflections on the Underride Roundtable by the Truck Safety Coalition President</a></u></p>



**SafetySkirt at**

**Roundtable**

Perry Ponder, inventor of the AngelWing side guard, was at the Roundtable. He met Robert Martineau, owner of Airflow Deflector, a small Canadian manufacturer. As a result, Airflow offered to produce/sell AngelWings. Subsequently, the AngelWing was successfully tested in Buffalo in January 2017 and later by the IIHS at 35 mph on March 30, 2017, and at 40 mph at the Second Underride Roundtable on August 29, 2017.

**FARS Underride Data 1994-2015**

**4 out of 8 Major Trailer Manufacturers Have Passed All IIHS Tests: Where do we go from here?**

<p><b>5/7/16</b></p>	<p>Joshua Brown died when his Tesla went under the side of a tractor-trailer in Florida.</p>	<p><a href="https://annaleahmary.com/2019/09/joshua-brown-tesla-side-underride-crash-coded-as-no-underride-in-fars-data/">https://annaleahmary.com/2019/09/joshua-brown-tesla-side-underride-crash-coded-as-no-underride-in-fars-data/</a></p>
<p><b>5/12/16</b></p>	<p>Posted on need to research rear guard standard above 35 mph crash test.</p>	<p><a href="#">Urgent Underride Discussion of Deceleration Forces/High Speeds. Don't Dawdle.</a></p>
<p><b>5/17/16</b></p>	<p>Marianne published a post on a trailer rear guard safety recall</p>	<p><a href="#">Strick to recall 2005-2009 van trailers for faulty rear impact guard. Discovered in 2014. Recall in 2016.</a></p>
<p><b>5/28/16</b></p>	<p>Karths helped Aaron do two more successful side guard crash tests in North Carolina.</p>	<p><a href="https://annaleahmary.com/2016/05/side-guard-crash-test-3-successful-prevention-of-truck-underride-once-again/">https://annaleahmary.com/2016/05/side-guard-crash-test-3-successful-prevention-of-truck-underride-once-again/</a></p>
<p><b>June 24, 2016</b></p>	<p>At the Roundtable, <b>a suggestion was made for negotiated rulemaking</b> to come to a consensus on what was needed for the rear guard standard.</p> <p>The Karths organized a follow-up meeting -- inviting all Roundtable participants. 12 people participated in this meeting at IIHS in Arlington and hammered out a Consensus Rear Guard Standard (based on the IIHS crash testing research) which was subsequently submitted to NHTSA.</p> <p>Ted Scott, VP of Engineering with the ATA, and Gary Fenton, VP of Engineering at Stoughton Trailers, participated in this meeting.</p>	<p><b><u>Knights of the Underride Roundtable: Finding Some Common Ground to Protect Travelers!</u></b></p>

<p><b>July 2016</b></p>	<p>I replied to Treehugger’s Tweet saying that a side guard might have saved Joshua Brown. Then he wrote an article about our story.</p> <p>Later that month, a producer from the TODAY Show called me about a possible investigative report on side guards. I told him about Aaron Kiefer’s side guard. Later that year (after elections were finally over), he called to set up a date to film crash testing of Aaron’s side guard in North Carolina for inclusion in a TODAY Show report.</p>	<p><a href="https://annaleahmary.com/tag/treehugger-com/">https://annaleahmary.com/tag/treehugger-com/</a></p> <p><b>Undercounting:</b> <u><i>Joshua Brown/Tesla Side Underride Crash Coded as “No Underride” in FARS Data</i></u></p>
<p><b>Nov. 2016</b></p>	<p>Began planning in earnest for Second Underride Roundtable at the IIHS -- with possible plans to crash test the AngelWing side guard at the Roundtable -- including talking with international experts on <u>front underride protection</u>.</p>	
<p><b>January 2017</b></p>	<p>Great progress is being made in underride protection on the sides of large trucks in the month of January 2017. While Aaron Kiefer is preparing for a crash test of his innovative TrailerSafe System side/rear guard on January 20 in North Carolina [<u>for filming by the TODAY Show crew</u>], Airflow Deflector tested Perry Ponder’s Angel Wing side guard design in New York.</p> <p>The Angel Wing crash test was <b>declared a success</b>: the side guard prevented the side of the trailer from going past the windshield thus promising protection from Passenger Compartment Intrusion (PCI). In other words, it is likely that, due to the side guard in combination with the crashworthiness of the car, no one would have been killed or seriously injured by the collision between the side of this truck and a smaller passenger vehicle.</p>	<p><u>AngelWing Side Guard Crash Test A Success!</u></p> <p><b>AngelWing Side Guard / Side Underride Protection Device - AirFlow Deflector:</b> <a href="https://www.youtube.com/watch?v=TpXycZS6gJc">https://www.youtube.com/watch?v=TpXycZS6gJc</a></p>
<p><b>February 2017</b></p>	<p>Ronan Farrow gave his side underride investigative report on the TODAY Show. (2/10/17)</p> <p>Following that broadcast, I called Lois Durso who was interviewed for that report after losing her daughter Roya Sadigh in a side underride on November 24, 2004.</p> <p>Stoughton Trailers had asked me to speak at their press conference at the ATA TMC Conference in Nashville at the end of February. They were</p>	<p><u>Truck Side Guards: New Push To Make Safety Devices Mandatory   TODAY</u></p>

	<p>introducing their new RIG design. They provided me with entrance to the conference and, when I asked them, they said that they would also cover for Lois to attend.</p> <p>So Lois and I began a fruitful friendship and working partnership as she traveled from Florida and I from North Carolina to Nashville. We spoke to many people from the trucking industry about our mission to make truck crashes more survivable.</p>	
<p><b>March 2017</b></p>	<p>Lois and I went to DC March 14-15 on the invitation of the Truck Safety Coalition. We attended the Senate Commerce Committee Hearing on Truck Safety Update. Not one word was mentioned about side underride. Yet I knew that, in less than a month, the IIHS would be testing the AngelWing side guard; and I knew that it would most likely be successful.</p> <p>We were so upset at the lack of attention and sense of urgency about this known cause of death and solutions to it that, as we made plans to travel home, we made plans to draft a comprehensive underride bill - for upgraded rear, side, front and Single Unit Truck underride rulemaking.</p> <p>So we did and the next week we began emailing the draft to Congressional Offices. RAMCUP = The Roya, AnnaLeah &amp; Mary Comprehensive Underride Protection Act of 2017.</p> <p>We went back to DC the week of March 27, 2017 to drop off our packet to legislative offices. We met with ATA president Chris Spear. We were interviewed by NPR's Geoff Bennett who later aired our story on Mother's Day.(which <u>Eric Hein</u> heard and learned about the side guard problem which had killed his son, Riley Hein in 2015).</p> <p>Then we drove down to Ruckersville to the IIHS for the March 30 successful <b>historical crash test of the AngelWing</b>. Unfortunately, we missed the <b>historical crash test the next day, March 31, of a car into the UNGUARDED side</b> of a tractor trailer.</p>	<p><a href="https://annaleahmary.com/2017/03/2-moms-sick-tired-of-waiting-draft-truck-underride-legislation/">https://annaleahmary.com/2017/03/2-moms-sick-tired-of-waiting-draft-truck-underride-legislation/</a></p> <p><a href="https://www.npr.org/2017/05/14/528282599/moms-who-lost-daughters-in-truck-underride-collisions-push-for-greater-safety">https://www.npr.org/2017/05/14/528282599/moms-who-lost-daughters-in-truck-underride-collisions-push-for-greater-safety</a></p> <p><b><u>Benefits of side underride guards for semitrailers</u></b></p>
<p><b>May 2017</b></p>	<p>We went back to DC and presented our underride bill to a bicameral legislative meeting hosted by Senator Cory Booker's transportation staffer.</p>	<p><a href="https://annaleahmary.com/2017/03/sen-corybooker-gave-me-directions-carried-my-bag-from-union-station-to-the-hill/">https://annaleahmary.com/2017/03/sen-corybooker-gave-me-directions-carried-my-bag-from-union-station-to-the-hill/</a></p>

	<p>May 10 -- IIHS published the results of the AngelWing crash testing and we were able to share that video with legislative staffers.</p>	
<p><b>July 2017</b></p>	<p>After a milk tanker jackknifed in New York on July 6, two cars went under the side and four men died. As a result, Senator Gillibrand and Senator Schumer showed support for underride legislation. Senator Schumer held a <u>press conference</u> and Senator Gillibrand's staff called us to tell us that she wanted to sponsor the underride bill.</p>	<p><u>"Powerful Senator joins calls for stronger semi-trailer underride guard laws"</u></p>
<p><b>8/29/17</b></p>	<p>The AngelWing side guard was successfully crash tested at the Second Underride Roundtable at 40 mph.</p> <p>Trailer manufacturers attended.</p> <p>Aaron Kiefer had been continuing development of his side guard design and brought it installed on a trailer to the Roundtable.</p> <p><b>Complete results of the IIHS data from the AngelWing 40 mph crash test can be found <u>here</u>.</b></p>	<p><u>Media Coverage of the Second Underride Roundtable</u></p> <p>WUSA9 interviews Jeff Sims (TTMA president) after the side guard crash test at the Roundtable (27:21 on this video):  <a href="https://www.facebook.com/marianne.karth/posts/10214194153315951">https://www.facebook.com/marianne.karth/posts/10214194153315951</a></p> <p><b><u>Data from the Crash Test:</u></b>  <u>Insurance Institute for Highway Safety Large Truck Underride Research 2009 Chevrolet Malibu Front-into-Trailer Side Underride Guard</u></p>
<p><b>June &amp; October 2017</b></p>	<p>We organized an Underride Briefing for a bipartisan group of legislative staffers. The panel of underride experts included the VP of Engineering at Wabash Trailers.</p> <p>On October 12, 2017, staff from Congressional Offices gathered to hear presentations from five experts on the topic of truck underride to better understand the need for the <b>STOP Underrides!</b> bill. The presentations were followed by a question &amp; answer period as legislative staff sought to understand the problem and solutions of deadly but preventable underride crashes.</p> <p>The presentations can be found here: <b><i>Underride Briefing on The Hill; Video Excerpts of Panel Discussion on October 12</i></b></p>	<p><a href="https://annaleahmary.com/2017/06/ramcup-capitol-hill-briefing-june-15-9-noon-be-part-of-the-solution-to-stop-truck-underride-tragedies/">https://annaleahmary.com/2017/06/ramcup-capitol-hill-briefing-june-15-9-noon-be-part-of-the-solution-to-stop-truck-underride-tragedies/</a></p>

<p><b>Sept. 25-28, 2017</b></p>	<p><i>Wabash National Corp. showed off a 53-ft Duraplate HD trailer with a prototype side impact guard at the inaugural North American Commercial Vehicle Show Sept. 25-28 in Atlanta, GA.</i></p> <p><i>Developed in-house, the combination side impact guard and skirt prototype passed tests for a 90-degree centerline vehicle impact at 35 miles per hour, according to Mark D. Ehrlich, Wabash National product development manager. The system uses a braided cable and is 40% to 50% lighter than other designs.</i></p> <p><i>The Duraplate HD trailer features composite sidewalls constructed of two high-strength galvanized steel skins bonded to a high-density polyethylene core to provide structural stiffness, superior damage resistance, and maximum interior width of 101 inches.</i></p>	<p><u>Wabash prototype: Side underride guard with aero skirt</u></p> 
	<p>WUSA9 <b>Big Rigs, Big Risks</b> investigative series begins in May and continues.</p>	<p><a href="https://www.youtube.com/watch?v=VyHPk0UfoxA">https://www.youtube.com/watch?v=VyHPk0UfoxA</a></p>
<p><b>December 12, 2017</b></p>	<p>The bipartisan/bicameral STOP Underrides Bill of 2017 was jointly introduced by the Senate and the House.</p> <p>A new petition was launched.</p>	<p><u>Tractor trailers need to be safer to prevent underride deaths, Gillibrand says</u></p> <p><u>Congress, Act Now To End Deadly Truck Underride!</u></p>
<p><b>2018</b></p>	<p>The NHTSA sponsored Texas A&amp;M side underride research study was published.</p> <p>We submitted a Petition for Supplemental Comprehensive Underride Rulemaking to Secretary Chao.</p> <p>Lois &amp; I attended the TMC Conference in Atlanta, where we saw the Wabash prototype side guard. Prior to the conference, we emailed trailer manufacturers asking them to meet with us at the conference to discuss collaboration on a generic side guard.</p> <p>The <b>Road to Zero Coalition</b> published a <b>Truck Underride Priority Statement</b> with multiple member organizations signing on to show support.</p> <p>We reached out to the industry in multiple ways. We participated in an Ask the Trucker Radio Talk Show on Underride. We met with OOIDA &amp; ATA.</p>	<p><u>Computer Modeling and Evaluation Of Side Underride Protective Device Designs</u></p> <p><u>Appeal to Trailer Manufacturers to Collaborate on Generic Side Guard</u></p> <p><u>Ask the Trucker: Underride Guard Mandate: A Counterargument to Industry Opposition</u></p> <p><u>Confusion in the industry about side underride</u></p>
<p><b>2019</b></p>	<p>STOP Underrides Bill was reintroduced in March.</p>	<p><b>S.665 H.R. 1511</b></p>

	<p>We organized the DC Underride Crash Test Event. Three side crash tests were conducted in D.C. on March 26, 2019. Video of the <b>crash tests</b> are available <b>here</b>.</p> <p>Safety engineers &amp; professionals share their knowledge &amp; thoughts in a Panel Discussion, moderated by Andy Young, at the <b>D.C. Underride Crash Test Event</b> on March 26, 2019.</p> <ul style="list-style-type: none"> <li>■ David Friedman, Consumer Reports, VP, Advocacy, formerly the CR Director of Cars and Product Policy and Analysis, former NHTSA Acting Administrator</li> <li>■ Malcolm Deighton, engineer with Hydro, which supplies aluminum for manufacturing underride protective devices and trailer parts and which produces comprehensive underride protection technology in Europe</li> <li>■ Glen Berry, Safety Director for Thomas Transport Delivery, AngelWing installed since 2017, truck driver</li> <li>■ Perry Ponder, inventor of <b>AngelWing</b>, engineer with an accident reconstruction engineering company</li> <li>■ David Dorrity, worked for Stevens Transport for years and testifies all over the country on safe trucking practices.</li> <li>■ Aaron Kiefer, forensic engineer &amp; crash reconstructionist, inventor of <b>SafetySkirt</b></li> </ul> <p>The <b>GAO Truck Underride Report</b> was publicly released on April 15, 2019.</p> <p><b>August 2019</b> - A successful lawsuit, on behalf of side underride victim Riley Hein, against Utility Trailers for negligence in not installing side guards - \$18 million against the trailer manufacturer - included revelation of a TTMA <b><u>Joint Defense Agreement</u></b> among trailer manufacturers.</p>	<p><u><a href="#">Media Reports &amp; Video Footage Unveil Highlights of the Successful D.C. Underride Crash Test Event</a></u></p> <p><u><a href="#">Video of the Underride Panel Discussion at the D.C. Underride Crash Test Event, March 26, 2019</a></u></p> <p><u><a href="#">Statement of Andy Young to Congress: "SAVING LIVES AND TRUCK DRIVER LIVELIHOODS" - June 12, 2019 - <b>Safety Initiatives Can Benefit Everyone</b></a></u></p> <p>The DC Underride Crash Test Panel Discussion can be viewed in four consecutive videos <b>here</b>.</p> <p><u><a href="#">GAO - Truck Underride Guards: Improved Data Collection, Inspections, and Research Needed</a></u></p> <p><u><a href="#">Hein V. Utility Trailer Manufacturing Company: <b>Jury Sends a Message to Trailer Manufacturers About Side Underride</b></a></u></p> <p><u><a href="#">Excerpt-TTMA-Joint-Defense-Agreement-in-Wilden-v.-Laury-Transportation</a></u></p>
<p><b>2020</b></p>	<p>We organized a Side Guard Task Force Meeting -- originally to be in North Carolina but changed to a Zoom meeting -- on April 17.</p> <p>There were representatives from two trailer manufacturers (Stoughton and Utility) who participated in this meeting.</p>	<p><u><a href="https://annaleahmary.com/2020/02/save-the-date-april-17-side-guard-task-force-meeting-2/">https://annaleahmary.com/2020/02/save-the-date-april-17-side-guard-task-force-meeting-2/</a></u></p>

Consensus Side Guard Standard

We followed up that meeting with monthly (and sometimes weekly) Subcommittee meetings. This included **Engineering Subcommittee Meetings** to which all of the trailer manufacturers were invited. **The goal of the Engineering meetings was to develop a *Consensus Side Guard Standard*.** After months of sometimes weekly meetings, we arrived at a standard to which all agreed.

This group included many of the engineers with whom we had corresponded over the previous 8 years.

From the website post on the **CONSENSUS SIDE GUARD STANDARD**:

The engineering subcommittee met at least monthly and sometimes every other week from May through November. At the outset, the VP of Engineering of one of the trailer manufacturers provided valuable input. Subcommittee members also participated in a Virtual Briefing for Senate Commerce Committee transportation staffers on August 19, 2020.

The goal of the Underride Engineering Subcommittee was to create a ***Consensus Side Guard Standard*** which would provide additional insight for the development of a side guard regulation and industry standard. Lengthy conversation and exchange of information has led this group to submit the following recommendation:

***A side underride guard shall be considered to meet the performance standard if it is able to provide vehicle crash compatibility with a midsize car, to prevent intrusion into the occupant survival space, when it is struck at any location, at any angle, and at any speed up to and including 40 mph.***

The subcommittee members are in agreement as to the details shaping this long-overdue standard, which they anticipate will lead to the saving of countless lives in the days and years to come. The following group of individuals participated in the Underride Engineering Subcommittee and are willing to continue to provide input. **Click on their**

names to hear what they have to say:

**Jared Bryson**

**Malcolm Deighton**

**Keith Friedman**

**Aaron Kiefer**

**Garrett Mattos**

**Perry Ponder**

**NOTE:** It should be mentioned that this standard has, in fact, been verified through the research conducted by the Insurance Institute for Highway Safety when they crashed a car at 40 m.p.h. into the side of a tractor-trailer equipped with *AngelWings* side guards on August 29, 2017, during the Second Underride Roundtable at their Ruckersville, Virginia, testing facility.

There was no underride, no Passenger Compartment Intrusion (PCI), and the **crash dummy data** showed that it was survivable. In other words, this standard is not pie-in-the-sky; it has been proven that the **Consensus Side Guard Standard** is attainable.

**NOTE Regarding voluntary industry standards:**

*“Standards-setting organizations vary in the extent to which they dominate their industries. Standardization in the motor vehicle industry is dominated by SAE, with the TTMA playing a role only with respect to truck trailers. The ABS is likewise dominant in the maritime industry. By contrast, the aviation/aerospace, petrochemical, and electronics industries all have several standards-setting groups which play significant roles.”*

**NEW Research Study: Protecting Passenger Vehicles from Side Underride with Heavy Trucks** *More research on side underride was published by SAE International in April 2021 — following a presentation by Garrett Mattos of the Friedman Research Center at a **SAE Conference**. Hopefully, the Department of Transportation now has enough research to make good on their March 19, 1969 intention to add underride protection to the sides of large vehicles.*

**PLEASE NOTE:** This research study used Finite Element Analysis to confirm the **IIHS results** of crash testing the AngelWing side guard & verifies the validity and practicality of the **Consensus Side Guard Standard**.

Garrett Mattos, primary author of this research, also made a brief presentation of this research at the Feb. 26, 2021, *Side Guard Task Force meeting:*

<https://youtu.be/0XIS7y06bIE?t=6400>

From p.22 in **VOLUNTARY INDUSTRY STANDARDS AND THEIR RELATIONSHIP TO GOVERNMENT PROGRAMS**

<p><b>August 19, 2020</b></p>	<p>On August 19, we hosted another Underride Staff Briefing - this time via Zoom. We provided Congressional Offices with the PowerPoint pdf from that presentation, including comments from engineers with expertise in underride as well as underride families.</p>	<p><b><i>Underride Briefing PowerPoint pdf (inc. links to resources &amp; video)</i></b></p>
<p><b>Oct. 24, 2020</b></p>	<p><u>A fully-guarded trailer hits the road – ready to STOP underride!</u></p> <ul style="list-style-type: none"> <li>• <u>SafetySkirt</u></li> <li>• <u>RIG Retrofit</u></li> </ul> <p><u>Retrofit Solutions for Rear Impact Guards to Prevent Deadly Underride</u></p>	
<p><b>2021</b></p>	<p>The STOP Underrides Bill was reintroduced in March 2021 (with the retrofit requirement removed).</p> <p>We submitted a <b><u>Petition for Supplemental Comprehensive Underride Rulemaking</u></b> to Secretary Buttigieg.</p> <p>On February 26, 2021, we reconvened the <b><i>Side Guard Task Force</i></b> (inviting over 200 people to this Zoom meeting).</p> <p>On a Friday afternoon — February 26, 2021 — over 50 people met via Zoom <u>to discuss comprehensive underride protection</u>. The purpose of the meeting was to report on progress which has been made by several subcommittees since an earlier meeting in 2020 — including Industry Engagement, Research, and Engineering Subcommittees.</p> <p>The goal of the <b><i>Underride Engineering Subcommittee</i></b> — <u>to which trailer manufacturers were invited</u> — was to create a <b><i>Consensus Side Guard Standard</i></b> which would provide additional insight for the development of a side guard regulation. <u>Lengthy conversation and exchange of information has led this group to submit the following recommendation:</u></p> <p><b><i>A side underride guard shall be considered to meet the performance standard if it is able to provide vehicle crash compatibility with a midsize car, to prevent intrusion into the occupant survival space, when it is struck at any location, at any angle, and at any speed up to and including 40 mph.</i></b></p>	<p><u>Engineers, Trucking Industry, &amp; Victim Advocates Collaborate at Side Guard Task Force</u></p> <p><u>What will it take to get UNDERRIDE on DOT Regulatory Agenda?</u></p> <p>The <b>complete recording</b> of the Side Guard Task Force meeting can be found here: <a href="https://youtu.be/0XIS7y06bIE">https://youtu.be/0XIS7y06bIE</a></p> <p><b>Reports from transport companies who have installed side guards:</b> <a href="https://youtu.be/0XIS7y06bIE?t=3750">https://youtu.be/0XIS7y06bIE?t=3750</a></p> <p><b>Report by members of the Engineering Subcommittee on the development of a Consensus Side Guard Standard. Listen here.</b></p>

	<p>The Task Force went so far as to suggest that the Truck Trailers Manufacturers Association (TTMA) discuss the <b>Consensus Side Guard Standard</b> at their annual meeting in San Antonio, April 7-10, 2021. We encouraged them to come together in a <i>Joint Agreement</i> to adopt or improve the <b>Consensus Side Guard Standard</b>, as an association, and fast track the manufacturing of side guards by their 80th Anniversary in 2022.</p> <p><b>Accept the standard; build a guard.</b></p> <p><b><u>Front Underride Protection Panel Discussion - February 26, 2021</u></b></p>	<p><b><u>Side Guard Operational Issues posts:</u></b></p> <p><b>Collaborative Discussion of Side Guard Challenges on Specialty Trucks</b></p> <p><b><u>Should we be concerned about side guards getting hung up on railroad tracks?</u></b></p> <p><b><u>Operational Issues with AngelWing Side Guard</u></b></p> <p><b><u>Transport Companies Provide Feedback on Side Guard Operational Issues</u></b></p>
<p><b>April 2021</b></p>	<p><b>Protecting Passenger Vehicles from Side Underride with Heavy Trucks</b> <i>More research on side underride was published by SAE International in April 2021 — following a presentation by Garrett Mattos of the Friedman Research Center at a SAE Conference.</i></p>	<p><u>Protecting Passenger Vehicles from Side Underride with Heavy Trucks:</u>  <b>Conclusion - The results can support the development of side underride protection recommended practices</b></p>
<p><b>June 28, 2021</b></p>	<p>Eric Hein, as FOIA Officer, filed a FOIA Request to DOT on behalf of AnnaLeah &amp; Mary for Truck Safety for information on documentation regarding side guard rulemaking and cost benefit analysis.</p>	<p>As of 1/22/2022, a partial response with very little useful information (97% being information which we provided to them) has been given to us in response to this FOIA request.</p>
<p><b>July 15, 2021</b></p>	<p>Eric Hein published a “story map” in-depth review of the side underride problem &amp; solutions, including a detailed <b>side underride cost benefit analysis</b> &amp; rebuttal of industry myths.</p>	<p><b><u>Unguarded &amp; Unsafe: Death By Underride</u></b></p>
<p><b>August 13, 2021</b></p>	<p>We submitted a petition to Secretary Buttigieg for Single Unit Truck Underride Rulemaking.</p>	<p><b><u>Will DOT Respond to Petition for Underride Rulemaking on Single Unit Trucks?</u></b></p>
<p><b>Sept. 14, 2021</b></p>	<p>We submitted a <b><u>Petition for NHTSA To Recall Semitrailers Due To Lack Of Side Underride Guards</u></b> to the NHTSA Office of Defects Investigation (ODI):</p>	<p>To see where our Petition is posted, along with relevant ODI documents, follow these instructions:</p> <p><b>Defects Portal:</b></p>

	<p><i>Dear Secretary Buttigieg:</i></p> <p><i>In accordance with 49 U.S.C. 30162 and 49 C.F.R § 552.1, please find our petition to the National Highway Traffic Safety Administration (NHTSA) to promptly initiate a safety defect investigation into van-type or box semitrailers because of a known safety hazard and defect from collisions with passenger vehicles and other vulnerable road users (pedestrians, bicyclists, or motorcyclists) resulting in death and significant injuries due to a lack of side underride guards. This investigation will clearly demonstrate that NHTSA should issue a recall order pursuant to 49 U.S.C. §§ 30118(b), 30119, and 30120 for all van-type and box semitrailers that lack side underride guards.</i></p> <p><i>Respectfully,</i></p> <p><i>Eric Hein, Jerry and Marianne Karth, and Lois Durso</i></p>	<ul style="list-style-type: none"> <li>● Click <a href="#">here</a></li> <li>● Then Click on <b>VEHICLE</b></li> <li>● Then enter this # DP21004</li> <li>● Then click on <b>GO</b>.</li> </ul>
<p><b>11/15/21</b></p>	<p>President Biden signed the Bipartisan Infrastructure Bill, which includes an Underride Mandate.</p>	<p><u><a href="#">Underride Section of the BIL</a></u></p>
<p><b>11/23/21</b></p>	<p>Emailed to Steve Cliff and Robin Hutcheson a chart of Underride Initiative Actions required by the IIJA Underride Mandate, with accompanying deadlines.</p>	<p><u><a href="#">DOT Underride Initiative Action Plan Chart (2022)</a></u></p>
<p><b>11/29/21</b></p>	<p>Emailed to Steve Cliff (NHTSA Acting Administrator) a list of membership recommendations for the Advisory Committee On Underride Protection(ACOUP).</p>	
<p><b>12/19/21</b></p>	<p>Emailed to Robin Hutcheson (OST) and Ann Carlson (NHTSA) a suggested Charter for the ACOUP, plus agenda for the first meeting of the ACOUP, along with a Membership Packet/Binder of information which I volunteered to compile and/or print.</p>	<p><u><a href="#">Charter for the Advisory Committee On Underride Protection</a></u></p> <p><u><a href="#">Member Information Packet Advisory Committee On Underride Protection</a></u></p> <p><u><a href="#">Organization of the Advisory Committee On Underride Protection</a></u></p>

<p>January 2022</p>	<p><b>Vulnerable Road Users</b> (pedestrians, cyclists &amp; motorcyclists) historically have <i>not</i> been included in NHTSA cost benefit analysis for underride rulemaking. In 2017, the FMCSA contracted with the Volpe National Transportation Systems Center to carry out a <b><i>Study of Truck Side Guards to Reduce Pedestrian Fatalities</i></b>.</p> <p>In January 2022, out of concern over probable flawed analysis of the data, I submitted a Fact Sheet to the US DOT: <b><u><i>Fact Sheet on FMCSA Side Guard (LPD) Report</i></u></b>.</p> <p><b><u><i>Volpe Transportation Center Crash Dummy Research: Pedestrian-Bike Side Guards for Trucks: How They Work</i></u></b> (video)</p> <p><b><u><i>Pedestrian Fatally Struck by Big Rig - 1/22/22</i></u></b></p>	<p><a href="#"><u>@SecretaryPete. Will you fix flawed underride analysis or let deaths continue?</u></a></p> <p><b><u><i>VRU Underride Video Graphic</i></u></b></p> 
<p>2021, 2022, 2023</p>	<p><b>BASIC UNDERRIDE INFORMATION</b> (<u><i>running list of most recent posts</i></u>) As of December 5, 2023:</p> <ol style="list-style-type: none"> <li>1. <b>PETITION: Secretary Pete, It's Past Time To End Death By Underride!</b></li> <li>2. <b><i>Underride Crash Memorials</i></b> <i>These are posts in memory of a few of the thousands of underride victims. The tip of the iceberg of senseless, preventable deaths. I will slowly be adding more.</i></li> <li>3. <b>Important Videos: Basics of Underride; Front Underride Protection crash test; Side Guard crash test; Rear Guard crash test; Rear Retrofit crash test</b></li> <li>4. <b>STOP Underrides! YouTube Channel <i>Truck Underride Video Playlist</i></b></li> <li>5. <b><i>Unsung Underride Prevention Heroes</i></b></li> <li>6. <b>My Reactions to Comments on Inside Edition Underride Investigative Report</b></li> <li>7. <b><i>Weak Rear Underride Guards Are Still Killing People</i></b></li> <li>8. <b>Video of Speakers at Underride Victim Vigil</b></li> <li>9. <b><i>A Record of Those Remembered in</i></b></li> </ol>	

***the Underride Victim Vigil***

10. **Media Coverage of DC Underride Victim Vigil & Press Conference**
11. ***A day in the life of an underride crash test crew; A Photographer's Perspective***
12. **Underride Victim Vigil & Press Conference on DOT Steps in DC**
13. ***Simply Mary. . . August 6, 1999 – May 8, 2013***
14. **Video from STOP Underrides Crash Test Event**
15. ***Public Comments on the Side Guard ANPRM (Advance Notice of Proposed Rulemaking)***
16. **Still Time to Submit a Public Comment on Side Guard Rule (July 20)**
17. ***STOP Senseless Roadway Deaths: Give Victims a Voice***
18. **So, what did you think of the PBS/Frontline Underride Documentary?**
19. ***PBS/Frontline Underride Documentary & Petition to Secretary Pete***
20. **Commemorative Bell for Roadway Safety Victims**
21. ***Taking On a Safety Issue: Hazardous Railroad Crossings***
22. **Upcoming PBS/Frontline Documentary: "America's Dangerous Trucks"**
23. ***Global Underride Discussion***
24. **10 years after trucking crash killed 2 girls, mother sees hope for change**
25. ***May 4, 2013 seems like just yesterday; has anything changed?***
26. **What Do Baseball & Truck Underride Have In Common?**
27. ***FARS Coding of a Sample of Rear Underride Crashes***
28. **LPD+ Saves Lives; But what's an LPD+?**
29. ***STOP Underrides Crash Test Tour***
30. **"Economism Is Out Of Control" In**

- Life & Death Regulatory Analysis**
31. ***Remembering AnnaLeah & Mary***
  32. **Someday, Seeing Side Guards & Strong Rear Underride Guards Will No Longer Surprise Me**
  33. ***Successful Side Guard Crash Test in Raleigh***
  34. **NHTSA Failing To Educate Stakeholders On Underride**
  35. ***Side Guard Cost Benefit Analysis Presentation to TEAM Underride***
  36. **Update on Underride Protection Progress**
  37. ***Side Guard Cost Benefit Analysis***
  38. **Launching a Campaign To Flood NHTSA With Underride Complaint Reports**
  39. ***“A Safety Rule, A Fatal Flaw”; Industry Discussed Underride Rules in 2000***
  40. **Another Side Guard On The Road**
  41. ***Too Many Lives Forever Changed***
  42. **Cohen, Gillibrand Call on DOT to Act Expeditiously & Implement Provisions from Their Stop Underrides Act Included in the Bipartisan Infrastructure Package**
  43. ***Five Years Have Passed Since the Historic IIHS Side Guard Crash Test***
  44. **Back of the Envelope Math: How many side underride deaths since March 19, 1969?**
  45. ***53 Years or 19,358 days***
  46. **When it comes to underride, where do you stand?**
  47. ***DOT Announced A National Roadway Safety Strategy; Now It’s Time To Talk About What That Means***
  48. **Timeline Of Research & Collaborative Efforts To Create A Consensus Side Guard Standard**
  49. ***Can the Insurance Industry Help End the Unfair Fight of Truck Underride Tragedies?***
  50. **Why are we working so hard to get weak rear underride guards**

	<p>replaced?</p> <p>51. <b>@SecretaryPete, Will you fix flawed underride analysis or let deaths continue?</b></p> <p>52. <b>Families glad new infrastructure law will address underride crashes, WRTV, November 18, 2021</b></p> <p>53. <b>First responders train to save lives during underride crashes, WRTV, November 23, 2021</b></p> <p>54. <b>Raleigh Mom: Infrastructure Bill Will Prevent Crashes Like the One That Killed My Girls</b> , Raleigh News&amp;Observer, November 18, 2021</p> <p>55. <b>Rear impact guard now part of annual truck inspection, CCJ, November 15, 2021</b></p> <p>56. <b>FMCSA Issues Final Rule: Rear Underride Guards To Be Part Of Annual Inspections</b>, November 20, 2021</p> <p>57. <b>Thoughts on Landmark Underride Legislation</b></p> <p>58. <b>AAJ Supports Trailer Safety Recall Petition: “NHTSA is well within its authority to issue a recall”</b></p> <p>59. <b>Unguarded &amp; Unsafe: Death By Underride</b> by Eric Hein, July 15, 2021</p>	
	<p><b>January 28, 2026 UPDATE</b> (additional posts since 2023)</p> <ol style="list-style-type: none"> <li>1. <b>Unguarded Crash Test 2023, 37.5 mph, 45 Degree Angle Crash; <u>Bicycle Underride Crash Test</u> (September 2024) — with &amp; without side guard</b></li> <li>2. <b>STOP Underrides! YouTube Channel <u>Truck Underride Video Playlist</u></b></li> <li>3. <b>Underride Crash Test Videos</b></li> <li>4. <b>Ralph Nader Radio Hour Highlights Underride. . . Here’s The Rest of the Story</b></li> <li>5. <b>“Georgia looks to police to decide</b></li> </ol>	

- whether to start tracking deadly underride crashes”
6. **Did DOT Violate the Information Quality Act When it Published Side Underride Guard Research?**
  7. **Critique of NHTSA-Contracted Elemance Rear Impact Guard Research**
  8. **Certified Letters Alert 200 Carriers of Underride Dangers & Existing Solutions**
  9. **The Missing Piece of the Roadway Safety Puzzle: National Roadway Safety Advocate**
  10. **DOT Is Asking For Input. Tell Them To Give Crash Victims a Voice**
  11. **First-time Ever: NHTSA Nominee Questioned On Underride By Senator**
  12. **Good News: Stoughton extends IIHS-award-winning underride protection to container shipping**
  13. **What’s New In Underride?**
  14. ***Lateral Protection Device+ Performance Standard = Prevention of Side Underride Tragedies* Updated May 10, 2025**
  15. **Risky Rigs: Thousands of people have died after their car slid under a tractor-trailer**
  16. ***NHTSA’s Neglect of Underride Protection Deserves Congressional Oversight***
  17. **\$462M Jury Verdict Over Rear Impact Guard Design**
  18. ***What Don’t They Want to See? DOT Declines to Send Observer to Underride Crash Test... AGAIN!***
  19. **Industry Response to ACUP Report; Enough of the Bellyaching Already!**
  20. ***NHTSA Defends Itself to Congress – Woulda, Coulda, Shoulda***
  21. **Advisory Committee on Underride Protection Reports to Congress & DOT Secretary**
  22. ***DOT Victim & Survivor Advocate Act Introduced To Give Victims A Voice***

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|  | <ul style="list-style-type: none"><li><b>23. Senior Agency Officials Suppressed Side Guard Research — Impacting Regulatory Analysis</b></li><li><b>24. <i>Underride Crash Memorials</i></b></li><li><b>25. Advisory Committee on Underride Protection, April 24, 2024 Meeting Record</b></li><li><b>26. <i>Advisory Committee on Underride Protection, April 24 Meeting Video Playlist</i></b></li><li><b>27. How To Make Crashes With The Front Of A Truck More Survivable</b></li><li><b>28. <i>Register for April 24 Meeting of Advisory Committee on Underride Protection</i></b></li><li><b>29. Advisory Committee on Underride Protection, February 8, 2024 Meeting Record</b></li><li><b>30. <i>Front Impact Guard Webinar – April 17</i></b></li><li><b>31. Truck Impact Guards = Underride Protection</b></li><li><b>32. <i>Upcoming Underride Advisory Committee Meeting Schedule</i></b></li><li><b>33. Underride Made #1 on 'FRONTLINE Dispatch' Podcast Episodes of 2023</b></li></ul> |  |
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