



The Roya, AnnaLeah, & Mary
Comprehensive Override Protection
Act of 2017

The RAMCUP Act of 2017

In memory of

Roya Christine Sadigh (forever 26),

AnnaLeah Karth (forever 17), and

Mary Lydia Karth (forever 13)

Along with countless other loved ones

***Precious ones,
your lives were cut far too short.***

An Act

**WHEREAS, road users – pedestrians, cyclists, motorcyclists, and passenger vehicles – are at risk
25 of death and/or serious injury from riding under Commercial Motor Vehicles, the Secretary of
Transportation shall issue regulations to reduce the incidence of preventable truck underride.**

BE IT ENACTED BY THE CONGRESS HERE ASSEMBLED THAT:

SECTION 1. SHORT TITLE

30 This Act may be cited as the “Roya, AnnaLeah and Mary Comprehensive Underride Protection
Act of 2017” or the “RAM CUP Act of 2017”

SECTION 2. FINDINGS AND PURPOSES:

- (a) Underride crashes involving passenger motor vehicles striking and traveling underneath a truck and/or trailer are a significant public health and safety threat.
- 35 (b) The National Highway Traffic Safety Administration (NHTSA) has found that hundreds of preventable fatalities and life-threatening injuries have occurred as a result of underride crashes.
- (c) The National Transportation Safety Board has recommended the installation of side, front, and stronger rear underride guards to improve safety.
- (d) The legislation is introduced in memory of the thousands of victims of underride crashes,
40 including both those whose catastrophic injuries changed their lives and those who lost their lives due to preventable underride – precious ones, whose lives were cut far too short.

SECTION 3. DEFINITIONS--Section 30102 (a) of title 49 is amended as follows:

- (a) by inserting after subsection (a)
45 “(1) 'comprehensive underride protection system' means truck underride protective technology, including front underride guards, side underride guards, and rear underride

guards, installed on a commercial motor vehicle to prevent passenger vehicles, pedestrians, cyclists, and motorcycles from sliding under any part of the commercial motor vehicle”

(b) by renumbering subsections (a)(1) through (a)(3) as subsections (a)(2) through (a)(4)

50 (c) by inserting after renumbered subsection (a)(4)

“(5) 'front underride guard' means a device installed on or near the front of a vehicle so that when the vehicle strikes another vehicle, the device limits the distance that the vehicle that has been struck will slide under the front of the vehicle equipped with the device.”;

55 (b) by renumbering previously numbered subsections (a)(4) through (a)(9) as subsections (a)(6) through (a)(11);

(c) by inserting after renumbered subsection (a)(11)

“(a)(12) 'passenger motor vehicle' means a motor vehicle with motive power designed to carry more not more than 12 individuals that includes a motorcycle.”;

60 “(a)(13) 'Secretary' means the Secretary of Transportation.”;

“(a)(14) 'semi-trailer' means a trailer, except a pole trailer, so constructed that a substantial part of its weight rests upon or is carried by another motor vehicle.”;

65 “(a)(15) 'side underride guard' means a device installed on or near the side of a vehicle so that when the vehicle is struck in the side, the device limits the distance that the striking vehicle's front end slides under the side of the impacted vehicle.”;

(a)(16) 'single unit truck' means a truck with a gross vehicle weight rating (GVWR) greater than 10,000 pounds with no trailer.”;

(d) by renumbering previously numbered subsection (a)(10) as new subsection (a)(17);

(e) by inserting after newly renumbered subsection (a)(17)

70 “(a)(18) 'trailer' means a motor vehicle with or without motive power, designed for

carrying persons or property and for being drawn by another motor vehicle.”;

(f) by renumbering previously numbered subsection (a)(11) as new subsection (a)(19).”

SECTION 4. REAR UNDERRIDE GUARD RULEMAKING–

(a) **RULE REQUIRED:** Not later than 1 year after the date of enactment of this Act, the
75 Secretary shall issue a final rule amending Federal Motor Vehicle Safety Standard Number 223
and Federal Motor Vehicle Safety Standard Number 224 to require all newly manufactured
trailers and semi-trailers as well as single unit trucks with a gross vehicle weight rating
(GVWR) of more than 10,000 pounds to be equipped with a rear underride guard that meets the
performance standards to qualify for the Insurance Institute for Highway Safety’s

80 **TOUGHGUARD Award.** This includes the following:

(1) The revised FMVSS 223 shall require guards that are strong enough to allow the
inherent crashworthiness of modern passenger vehicles to be realized. Specifically,
guards shall prevent underride and occupant compartment intrusion when struck by a
typical passenger vehicle with an impact of at least 35 mph with overlaps ranging from
85 30 percent of the passenger vehicle’s width to full overlap between passenger vehicle
and truck trailer.

(2) The underride guard and trailer structure are a system. As such, dynamic crash
compliance testing of rear impact guard strength shall be conducted with the guard
attached to the trailers and/or a portion of it that includes all structures to which the
90 guard attaches.

(b) **RETRO-FIT REQUIREMENT:** Not later than 1 year after the date of enactment of this Act
the Secretary shall issue a rule requiring that all trailers and semi-trailers as well as single unit
trucks with a gross vehicle weight rating (GVWR) of more than 10,000 pounds be equipped
with a rear underride guard that meets the performance standards required by the final rule

95 issued under subsection (a).

(c) COMPLIANCE DATES: Compliance with the regulations issued by the Secretary under subsections (a) and (b) of this section shall be required beginning 1 year after the date of the publication of the final rule, provided that the Secretary may permit a phase-in period for the retro-fit requirement under subsection (b) of not more than 2 years.

100 **SECTION 5. SIDE UNDERRIDE GUARD RULEMAKING—**

(a) RULE REQUIRED: Not later than 1 year after the date of enactment of this Act, the Secretary shall issue a final rule requiring all newly manufactured trailers, semi-trailers, and single unit trucks to be equipped with a side underride guard that meets the performance standards in subsection (b).

105 (b) PERFORMANCE STANDARDS: The side underride guard required by subsection (a) must meet the following requirements:

(1) Guard Size, Shape, and Position Requirements:

(aa) Must cover and protect from pedestrian, cyclist, and passenger vehicle intrusion, at minimum, the area between a semitrailer's landing gear and the forward edge of the rear tires when the semitrailer axle (s) are positioned in their furthest forward position.

(bb) Must cover and protect from pedestrian, cyclist, and passenger vehicle intrusion, at minimum, the area between a single unit truck's forward edge of the cargo carrying portion rearward to the forward edge of the rear wheels.

115 (cc) Must be constructed to direct a vulnerable road user (VRU), such as a cyclist or pedestrian, out and away from the underside of the vehicle in order to prevent contact with the rear tires.

(dd) Must be composed of a smooth, flat exterior surface that cannot snag, catch,

or entangle a vulnerable road user such as a cyclist or pedestrian.

120 (ee) Must be positioned vertically from the lower edge of the trailer/truck box to within 1.25 feet of the roadway surface.

(ff) Must not extend the length or width of a vehicle beyond the current 3” safety equipment tolerance.

(2) Guard Strength Requirements:

125 Must be sufficiently strong to prevent a mid-sized passenger sedan (3,000 lb nominal weight) traveling at 35 mph from intruding beneath the truck/trailer structure sufficiently to create measurable passenger compartment intrusion (PCI).

(3) Guard Certification:

130 (aa) VRU performance shall be certified by snag/drag tests to simulate cyclist and pedestrian encounters in an urban setting.

(bb) Vehicle performance shall be certified via 35 mph crash tests at 90 degree and 45 degree approach angles with respect to the trailer body.

(c) RETRO-FIT REQUIREMENT: Not later than 1 year after the date of enactment of this Act
135 the Secretary shall issue a rule requiring all trailers, semi-trailers, and single unit trucks to be equipped with a side underride guard that meets the performance standard in subsection (b).

(d) COMPLIANCE DATE: Compliance with the regulation issued by the Secretary under subsections (a) and (c) of this section shall be required beginning 1 year after the date of the publication of the final rule, provided that the Secretary may permit a phase-in a phase-in period
140 for the retro-fit requirement under subsection (c) of not more than 2 years.

SECTION 6. FRONT UNDERRIDE RULEMAKING—

(a) RULE REQUIRED: Not later than 1 year after the date of enactment of this Act, the

Secretary shall issue a rule requiring all new commercial motor vehicles with a gross vehicle weight rating (GVWR) of more than 10,000 pounds to be equipped with a front underride guard. Based upon a review of available global research, regulation, and industry implementation, the Secretary shall issue a rule which will have appropriate performance standards. The rule should require front guards which, per EU regulations, must have 3 levels of resistance:

(1) soft front for pedestrians and cyclists,

(2) middle area must be softer than the partner vehicle in crashes and able to absorb energy such as through crush,

(3) and rear area must be strong and stiff enough to resist underride and rotate high-speed vehicles away from the truck. Extend the front guard from the truck 600 mm (2 feet) to give room for a 500 mm (1.6 feet) radius curve to deflect crash partners

including VRU and cars. The extra 600 mm should give 102 km/h or (63 mph) of protection which would exceed a general goal of 60 mph (100 km/h) -- an average speed for highway crashes in the real world.

(b) RESEARCH: Not later than 2 years after the date of enactment of this Act, the Secretary shall complete research on retrofit options for equipping existing commercial motor vehicles with a gross weight rating (GVWR) of more than 10,000 pounds with a front underride guard to prevent trucks from overriding the passenger vehicle.

(c) RETRO-FIT REQUIREMENT: Not later than 3 years after the date of enactment of this Act pursuant to 49 CFR 1.95, the Secretary shall issue a rule requiring all commercial motor vehicles with a gross vehicle weight rating (GVWR) of more than 10,000 pounds be equipped with a front underride guard.

(d) COMPLIANCE DATE: Compliance with the regulation issued by the Secretary under subsections (a) and (c) of this section shall be required beginning 1 year after the date of the

publication of the final rule, provided that the Secretary may permit a phase-in period for the retro-fit requirement under subsection (c) of not more than 3 years.

170 **SECTION 7. MAINTENANCE OF UNDERRIDE GUARDS—**

(a) STANDARD: The Secretary shall require that the comprehensive underride protection system be properly maintained in like new condition so as to be as effective as possible in saving lives. The Secretary shall therefore revise FMCSA 396.17—Appendix G to require periodic inspection of the comprehensive underride protection system. This shall include:

- 175 (1) a rear underride guard to meet the standards of Federal Motor Vehicle Safety Standard 223 and 224, as revised by this Act.
- (2) a side underride guard to meet the requirements in the final rule required under Section 5, and
- (3) a front underride guard to meet the requirements in the final rule required under
- 180 Section 6.

(b) REQUIREMENTS FOR INSPECTIONS AND REPAIRS: The Secretary shall require that the underride guards are regularly inspected and maintained in like new condition by means of:

- 185 (1) Post-Crash Inspections: The Secretary shall require that immediately following a crash which impacts an underride guard required by this section, the vehicle owner or lessor shall inspect and repair or replace the guard so that it is in like new condition before it is allowed to be driven.
- (2) Pre-Trip Inspections: The Secretary shall revise the Driver Vehicle Inspection Report, FMCSA 396.11, to include an inspection of the comprehensive underride protection system. The truck driver shall conduct a Pre-Trip Inspection and complete the Driver
- 190 Vehicle Inspection Report to identify any cracked welds, cracked or fractured vertical members, cuts and tears in any member, and for dimensional integrity. The necessary

repairs or replacement must be made before the vehicle is operated.

(3) Periodic Vehicle Inspections: The Secretary shall revise FMCSA 396.17 -- Appendix G to require periodic inspection of rear, side, and front underride guards.

195 (aa) If a motor vehicle passes this inspection, it will qualify for a Commercial Vehicle Safety Alliance (CVSA) Inspection Decal. This decal should be affixed to the motor vehicle (tractor, trailer, or single unit truck) and is valid for a period not to exceed three consecutive months. Nothing shall prevent the re-inspection of a vehicle bearing valid CVSA decals.

200 (bb) If the motor vehicle does not pass this inspection, then an Out Of Service (OOS) violation shall be issued for the motor vehicle. The Secretary shall revise the Out of Service Vehicle Form MCS 64, which shall be used to mark vehicles with damaged underride guards as "out of service." The Secretary shall require that the vehicle owner or lessor shall pay a fine and shall repair or replace
205 equipment as necessary to have the comprehensive underride protection system in like new condition before a truck driver may operate the vehicle.

SECTION 8. RESEARCH & PERIODIC REVIEW OF UNDERRIDE STANDARDS—

(a) In light of the long-term awareness of underride deaths as well as the advancement of technology along with research for viable solutions, the Secretary shall immediately issue a
210 Request for Proposals (RFP) and fund the research and design of a high capacity rear underride barrier prototype for the development of a generic guard which shall demonstrate successful prevention of underride and protection against severe passenger injury at high impact capacity (62 mph) in two categories:

(1) with energy absorption

215 (2) without energy absorption.

(b) The results of this research shall then be evaluated and the override standards shall be upgraded as appropriate to provide the best probable override protection.

(c) Thereafter, the Secretary shall conduct a periodic review of override standards every five years in order to assess the need for changes in conjunction with advancements in technology and update the standards accordingly.

(d) Additionally, this periodic review shall include appropriate cross-border collaboration with Transport of Canada, as well as communication with international peers, including the upcoming EU discussion of General Safety Regulations.

SECTION 9. All laws in conflict with this legislation are hereby declared null and void.

SECTION 10. COMMITTEE ON OVERRIDE PROTECTION (COUP)— The Secretary shall establish a Committee On Override Protection (COUP) to oversee the ongoing override rulemaking process:

(a) The COUP shall include representatives from truck and trailer manufacturing, engineering, crash reconstruction, public health/injury prevention, the House Transportation & Infrastructure Committee, the Senate Commerce, Science, & Transportation Committee, and at least two victim survivor advocates.

(b) The COUP shall hold monthly conference calls and collaborate through quarterly meetings at the Department of Transportation (DOT) until the final rules have been issued.

(c) Subsequent to the completion of the comprehensive override rulemaking, the COUP shall hold annual meetings at the DOT to assess the status of override protection.

SECTION 11. AUTHORIZATION OF APPROPRIATIONS--

240 (a) IN GENERAL— The Secretary of Transportation shall allocate \$_____ from the Department's research budget to be designated for underride research, namely the research and design of a high capacity rear underride barrier prototype for the development of an effective generic guard as required by Section 8 of this Act and research for retrofit of front underride guards as required by Section 6 of this Act.

(b) LIMITATION- Funds allocated under subsection (a) shall not be available for the general administrative expenses of the Secretary.

SECTION 12. MEMORIAL FOR UNDERRIDE VICTIMS—The Secretary shall establish a page
245 on the Department's website to honor all victims of truck underride – past, present, and future.

(a) The webpage will be easily accessible and searchable.

(b) The Secretary shall issue a statement in honor of underride victims – describing the Department's efforts to address the preventable underride problem and making reference to the Underride Memorial Webpage. The page will include underride statistics. The Secretary will
250 acknowledge that underride has been a hidden problem for too long and, because it has been underreported/undercounted, there will therefore be many names missing from the Memorial which should rightly belong there.

(c) The webpage will be part of an ongoing project to honor all victims of motor vehicle tragedies through an Interactive Personal Crash Story Map, which will bring honor to victims,
255 comfort to survivors, and public awareness about the reality and immensity of this preventable public health problem.

SECTION 13. DEADLINES— If the Secretary determines that the deadlines applicable under this Act cannot be met, the Secretary shall:

(a) establish new deadlines to which will the Department will strictly adhere; and

260 (b) immediately notify the House Transportation & Infrastructure Committee, the Senate

Committee on Commerce, Science, and Transportation, and the Committee On Underride

Protection of the new deadlines – describing the reasons the deadlines specified under this Act could not be met.