July 19, 2023

BY ELECTRONIC SUBMISSION

Deputy Administrator Sophie Shulman
National Highway Traffic Safety Administration
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590-0001

Re: **Request for Comments on Advance Notice of Proposed Rulemaking Regarding Side Underride Guards**

Docket No. NHTSA-2023-0012

Dear Deputy Administrator Shulman:

The undersigned organizations—the Institute of International Container Lessors ("IICL"), the Association of American Railroads ("AAR"), the American Association of Port Authorities ("AAPA"), the National Association of Waterfront Employers ("NAWE"), TTX Company, and the Intermodal Association of North America ("IANA")—submit these comments on the National Highway Traffic Safety Administration's ("NHTSA") Advanced Notice of Proposed Rulemaking regarding Side Underride Guards, Docket No. NHTSA-2023-0012 (the "ANPRM"). These organizations collectively represent thousands of member companies and employees engaged in virtually all aspects of the freight transportation supply chain, from ports to marine terminal operators to railroads to various intermodal supply chain participants, including chassis providers, intermodal truckers, and suppliers that design, manufacture, and maintain intermodal chassis. These comments will specifically address the significant adverse impacts of new regulations that would require side underride guards on newly manufactured intermodal chassis, which are critical to the smooth functioning of the nation's intermodal supply chain.

Our members serve millions of customers each and every day. More than 52 million containerized units are handled by U.S. ports each year, and 17 million intermodal loads are carried by America's railroads, moving everything from consumer goods to manufactured products to agricultural exports. These shipments are supported by more than 14,000 trucking companies and nearly 500,000 drivers. Worldwide, approximately 95% of all manufactured goods are moved in a container at some point, and there are more than 40 million twenty-foot equivalent units ("TEUs") in service. The Ports of Los Angeles-Long Beach and the Port of New York-New Jersey alone handled almost 15 million TEUs in 2022. Container shipments in the United States are supported by more than 750,000 chassis in service across the country.

Section 23011(c) of the Infrastructure Investment and Jobs Act ("IIJA") requires the Secretary to conduct additional research on side underride guards to better understand their overall

effectiveness and to assess the feasibility, benefits, and costs of side underride guards, **taking into account any impacts on intermodal equipment, freight mobility (including port operations), and freight capacity** associated with the installation of side underride guards on newly manufactured trailers and semitrailers, including intermodal chassis. This work was to be done before determining if a side underride guard requirement is warranted. During the deliberations on the IIJA, Congress included language that **specifically requires the U.S. Department of Transportation ("DOT") to consider the unique structural and operational aspects of intermodal chassis** when evaluating a side underride guard requirement.[1] In response to the IIJA requirements, the ANPRM called for more information from the public on "[t]he practicability and feasibility of side underride guards regarding intermodal operations and effects of side underride guards on intermodal equipment, freight mobility, freight capacity, and port operations."[2] While the ANPRM did not specifically discuss the requirement that DOT consider "the unique structural and operational aspects of intermodal chassis," **this statutory requirement has not been completed and must be duly considered**.

Lastly, the IIJA requires DOT to "assess the feasibility, benefits, and costs of" installing side underride guards on newly manufactured trailers and semitrailers.[3] While the ANPRM did *not* assess the feasibility, benefits, and costs of installing side underride guards on intermodal chassis specifically, including the impact on freight mobility, freight capacity, and port operations, the ANPRM *did* include a preliminary cost-benefit analysis tied to newly manufactured trailers and semitrailers. NHTSA's initial findings are that the total discounted annual cost (including lifetime fuel cost) of equipping new trailers and semitrailers with side underride guards is estimated to range between $970 million and $1.2 billion, and the resulting cost per equivalent life saved according to NHTSA is in the range of $73.5 million to $103.7 million.[4] NHTSA's cost-benefit analysis overview states that "the cost-benefit analysis presented here indicates that equipping CT [combination truck] trailers with side underride guards would mitigate fatalities and would likely also mitigate serious injuries for light passenger vehicles [LPV] occupants associated with side underrides, **but that the costs of doing so exceed the benefits across the range of assumptions considered in the analysis**."[5] Even accounting for underreporting, NHTSA stated that "benefits increase relative to our central case, but are still much lower than estimated costs."[6] NHTSA also acknowledges in the ANPRM that this high cost-benefit analysis does not take into account a range of other factors.

These comments are responsive to NHTSA's request for comments from the public regarding the impacts of a side underride guard mandate on intermodal equipment, freight mobility, freight capacity, and port operations. We understand that side underride crashes occur, albeit rarely, and some of those crashes tragically result in the loss of human life. Our comments are not intended to minimize the human impacts of such incidents; however, as reflected in our comments, we have serious concerns about the "feasibility, benefits, and costs" of a side underride guard mandate for newly manufactured trailers and semitrailers, specifically intermodal chassis, and the likelihood

[1] *See* Section 23011(c)(1)(C)(i) of the IIJA.
[2] *See* 88 Fed. Reg. 24535, 24540 (Apr. 21, 2023).
[3] *See* Section 23011(c)(1)(B) of the IIJA.
[4] *See* 88 Fed. Reg. 24535, 24536 (Apr. 21, 2023).
[5] *See* NHTSA, Side Impact Guards for Combination Truck-Trailers: Cost-Benefit Analysis, p. i (April 2023) (emphasis added).
[6] *Id.* at 9.

that such a mandate would lead to more frequent and less efficient movement of chassis, thus adversely impacting both safety and the environment. Finally, we believe that such a requirement would have an immediate and extensive *adverse* impact on freight fluidity in this country at a time when DOT and other stakeholders are focusing on ways to *improve* supply chain resiliency post-COVID-19.

1. Intermodal chassis are a key part of our nation's supply chain.

Before considering the numerous ways that a side underride guard requirement would hinder the efficient use of intermodal chassis, we want to underscore the important role that intermodal chassis play in the efficient movement of goods. Chassis are critical to the effective operation of marine and rail terminals across the United States. They ensure that containerized cargoes are efficiently transferred over the road from ports and other intermodal hubs to their final destinations, whether that is a distribution center, a manufacturer, or any other location. While containers are placed directly on ships and railcars for transport, intermodal chassis are required to move containers over the road and within port and rail terminals. Chassis are therefore integral for transferring containers between ships, railroad terminals, warehouses, and other delivery points in "first mile" and "last mile" service.

Although chassis are used at multiple locations across the country—from large port areas with complex chassis pooling systems to smaller ports and terminals with simplified operations—the physical structure of a chassis remains the same. An intermodal chassis is a wheeled unit of equipment that is composed of a steel frame, tires, brakes, and a lighting system, as seen in the below image:

[7]

The simple design of a chassis is critical for the efficient and effective transport of containerized goods. Chassis can be used across the country in various locations where they are needed, which, in turn, has a direct impact on the U.S. economy. Of the total U.S. international trade of goods and services, the import and export of goods alone exceeded $4.6 trillion (77.4%) in 2021, up from $3.8 trillion in 2020. Ports handled 41.1% (over $1.8 trillion) of the U.S. international trade by value in 2021. U.S. imports of goods grew by almost $506 billion or 21.5%, while the export of goods grew by more than $329 billion or 23% between 2020 and 2021.[8] Of that cargo, waterborne vessels are the leading transportation mode for U.S.-international trade in goods. DOT noted in its report this year that vessel-borne transport of U.S.-international freight is at record levels, with cargo value peaking at more than $205 billion in May 2022—up $105 billion

[7] Photograph of chassis, courtesy of Direct ChassisLink (DCLI).
[8] U.S. Dep't of Transp., Bureau of Transportation Statistics, *2023 Port Performance Freight Statistics Program: Annual Report to Congress* at 15.

from the $100 billion low recorded in May 2020. Chassis are also critical to the health of the entire domestic intermodal market, which connects consignors who ship containers using a global supply chain of stakeholders—including railroads, ocean carriers, ports, intermodal truckers and over-the-road highway carriers, intermodal marketing and logistic companies, and suppliers—that transport and deliver the shipments to the consignee. IANA, one of the coalition partners submitting these comments, estimates that the North American intermodal market is worth $40 billion, which makes it the largest in the world. That market depends on a fleet of more than 750,000 chassis to move the domestic and international containers on its network.[9] In short, the efficient transport of containerized goods is crucial to the U.S. economy.[10]

Chassis are also unique in terms of their structure from other types of trailers and semitrailers, despite all allowing for the shipment of goods. Specifically, chassis are unique because: (a) they are separate from the container actually carrying the cargo, and (b) because that cargo carrying unit/container is separate from the chassis, the chassis can be stacked and bundled for transport and storage purposes. The ANPRM is written to include all trailers, including intermodal chassis, despite significant differences in their structure and use from other trailers and semi-trailers. Recognizing that intermodal chassis have unique characteristics and operations, Congress required NHTSA in the IIJA to consider the impact of installing side underride guards on intermodal chassis, including the feasibility, costs, and benefits of doing so, before undertaking any regulatory action. That statutorily required analysis has not been performed, and it is a threshold issue to consider—in addition to the traditional cost-benefit analysis—before any decisions are made on side underride guards as part of this rulemaking process. The impacts of a potential side underride guard mandate for chassis are highlighted in the rest of this submission.

2. Side underride guards would pose multiple practical and feasibility issues for intermodal chassis.

The application of a side underride guard requirement to intermodal chassis would pose significant physical and operational issues at every major port and rail terminal in the United States. There are five main challenges posed by the potential installation of side underride guards on chassis, namely: (a) side underride guards make it operationally impossible to stack inverted chassis for over-the-road transport and also likely result in significant negative impacts on yard storage of chassis, which allows for efficient use of terminal space; (b) the additional weight of side underride guards would limit necessary intermodal operations; (c) specialized intermodal chassis (such as chassis that move refrigerated cargo or that have a sliding wheel base) would be unable to function; (d) the addition of side underride guards would be cost prohibitive; and (e) intermodal chassis do not have crossmembers, which would be needed to properly design and install an AngelWing side underride guard. We address each of these issues in turn.

a. *Side underride guards prohibit the inverted stacking of intermodal chassis in addition to making storage during yard operations extremely difficult.*

i. It would be operationally impractical to reposition chassis without stacking them.

[9] Intermodal Ass'n of N. Am., Intermodal Factbook: An Introduction to Intermodal Freight Transportation, Intermodal-Factbook_rev.indd.
[10] *Id.*

Intermodal chassis are stacked on top of each other for: (a) over-the-road transport or forms of rail transport between locations in the United States (discussed in this subsection), and (b) efficient storage, either at a port or rail terminal (discussed in subsection (ii)). Any limitation on the stacking capacity of chassis would necessitate an alternative method of transporting chassis over the road for repositioning between different locations, which is crucially important for the fluidity of the supply chain. Repositioning operations involve stacking chassis for over-the-road or rail transport, which would be operationally impractical, if not impossible, with side underride guards. Stacking would no longer be possible for over-the-road or forms of rail transport because of the way transported chassis are stacked on top of each other (see picture on right below).

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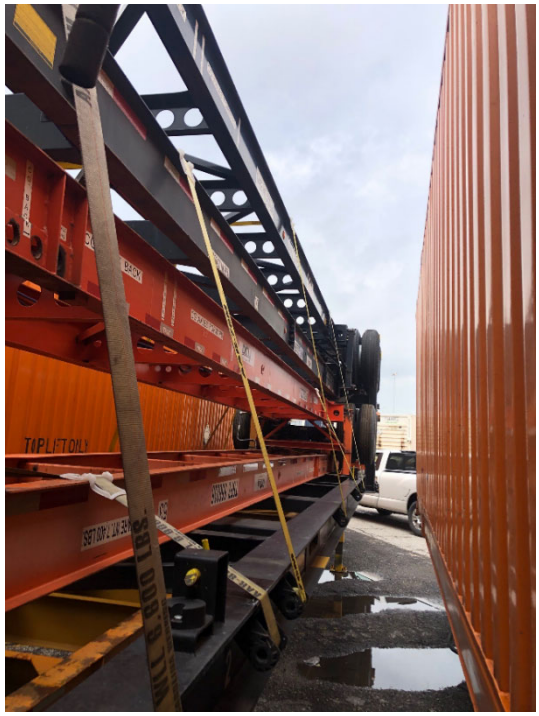
For transport over the road, stacks generally consist of four to five chassis bundled together and placed and strapped on top of a bottom "runner" (or underlying trailer). Chassis are typically inverted in order to ensure that the chassis are safely stacked as they move over the road, as they can nestle inside of one another easily (see photos below). Intermodal Equipment Providers ("IEPs") spend millions of dollars each year repositioning chassis between/among markets to ensure that chassis supply matches demand so they can meet their customers' needs. This was particularly important over the last few years as major pandemic-driven volumes began on the West Coast in the second half of 2020, moved to Midwest markets in 2021, and shifted to East Coast and Gulf Coast ports during 2022. Two IEPs report that they collectively relocated well over 25,000 over-the-road chassis in 2022 alone to help ensure that they had supply that matched demand in markets across the country. Those units are typically stacked and moved dozens at a

[11] Photograph courtesy of FlexiVan Leasing, showing that a side underride guard on the lower chassis would interfere with the guard on the chassis above.

[12] Picture of chassis stacked for over the road transport. Photograph courtesy of TRAC Intermodal.

time in response to dynamic demand for containerized goods. This repositioning work would be economically infeasible without stacking, thereby having a massive ripple effect on fluid movement across the supply chain.

Additional movements of chassis, which would be necessary if one could no longer stack chassis, would also increase the risk of incidents on the road, decrease fluidity in the supply chain, and increase cost, making it more difficult to respond to peaks in transportation demand when it is most needed. These additional movements would also increase the number of trucks on the road and lead to more harmful emissions, in addition to the increase in trucks leading to more deterioration on the roads and related infrastructure.
[13]



As the pictures above illustrate, chassis are specifically designed so they can be tightly packed together on an alternating basis in order to be transported from one market to another. Chassis can be moved over the road or by rail, but in each case the ability to stack them with minimal space in between each unit is critical. This is important both in terms of maximizing the number of units that can be transported in each load but also to ensure the safe movement of the equipment. With the addition of side underride guards, this configuration would simply not be possible.

Finally, consider that last year just one IEP moved approximately 15,000 chassis on long-haul routes in order to reposition chassis to locations that needed them more urgently. This IEP states that the majority of these repositioning moves were done by stacking chassis four high on the back of a flatbed truck. Last year, it needed 3,750 trucks in order to move those chassis to where they were needed. If this IEP had been unable to stack the chassis four high, then it would have needed double the amount of trucks to move the chassis (since chassis could still be stacked two high,

[13] Photographs courtesy of DCLI. Left side photo: side view of inverted stacked chassis. Right side photo: inverted chassis stacked for rail transport.

with one chassis face down on the other). In addition to the increased wear and tear on infrastructure caused by doubling the number of trucks on the road, more trucks and chassis on the roadways will also increase the likelihood of accidents. Being able to use 3,750 trucks instead of 7,500 also significantly reduces the exhaust emissions needed to reposition chassis, which is important, as there are current efforts underway to reduce vehicle emissions around large port complexes.

ii. Side underride guards would make chassis use and storage at terminals much more difficult and would require hundreds of acres of additional storage space if implemented.

Chassis are not only stacked for over-the-road and rail transport; they are also stacked in terminals and yards for storage purposes. When chassis are stacked in groups of fewer than five chassis in terminals and yards, they are often stacked wheel to wheel, instead of being inverted (see picture below). To our knowledge, an AngelWing side underride guard has never been tested on an intermodal chassis in any configuration.

Chassis are often subject to immense wear and tear in yards and terminals, as they are moved via forklift and placed on top of one another.[14] Maintenance and repair costs are the single largest expense for IEPs, and chassis have to be maintained to prime safety conditions in order to be used for transporting containers. When the chassis are undergoing repairs, they are classified as "out of service" and are not able to be utilized. Stacking chassis, even if the chassis are only stacked two or three high, would likely result in immediate damage to side underride guards, which would result in much higher out-of-service rates for chassis.

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Moreover, when terminals or yards are extremely space constrained, bare chassis are sometimes stacked eight or nine high. When chassis are stacked that high, the chassis are stacked in an inverted fashion. Without the ability to stack efficiently, intermodal chassis would require hundreds of additional acres of storage space, whether located at a marine terminal, rail terminal, or other location. Stacking is important because it preserves space in terminals, which results in downstream benefits for the supply chain. The addition of side underride guards would disrupt

[14] For a video of how chassis are stacked in yards, please see here: 40' Chassis Stack – YouTube.
[15] Picture courtesy of FlexiVan Leasing.

terminal operations by eliminating the terminal's ability to invert and stack chassis to minimize the utilization of limited terminal space.

Marine and rail terminals across the United States are often located near major population centers in order to meet consumer demand most effectively. An inability to stack chassis as needed at terminals, as well as the likely higher out-of-service rates for chassis due to side underride guard damage, would have an immediate impact on freight fluidity. It would delay the availability of chassis to move containers, as the equipment would have to be moved onto the terminal from an off-dock location. Marine terminal or rail terminal space in the United States generally comes at a premium, and there is little excess land, either on terminal or off, to handle the additional storage requirements that would arise from a side underride guard mandate for chassis. As such, it would result in immediate and severe disruptions to the nation's port and rail operations, chassis pool operations, and ultimately the supply chain itself.

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[16] Chassis rack at a rail terminal. Photography courtesy of DCLI.
[17] Example of how chassis stack. Photograph courtesy of DCLI.

As just one example of the need for additional acreage if you could not stack chassis efficiently, consider the case of the Port of Los Angeles and the Port of Long Beach (POLA and POLB), which together form the largest port complex in the United States. With twelve marine terminals and four rail ramps, the POLA and POLB complex supports more than a third of the total container movements into or out of the United States each year. The complex relies heavily on readily available intermodal chassis to support the movement of containers around the complex, including the delivery of containers to rail yards for inland movements or to distribution centers across Southern California. Given the density of the port complex and surrounding population, there are more than 80,000 chassis serving the region. The footprint of a chassis is approximately 40' x 10', or approximately 400 square feet. Without stacking, the space needed to accommodate the exact same freight operations would be increased by more than fivefold. Therefore, five chassis that used to take up 400 square feet of space would now take up more than 2,000 square feet of space. For a visual example, see the below aerial photo of the POLB (specifically, the Total Terminals International terminal).[18] If chassis could not be stacked, it would severely restrict the space available for containers coming off of the ships.

Both of these ports –POLA and POLB—conduct inventories of annual air emissions, including emissions from heavy-duty trucks. If the thousands of intermodal chassis serving the ports in that region could no longer be stacked and had to be moved off-terminal, it could lead to a doubling or even tripling of truck movements and related emissions, adversely affecting local communities and inhibiting the ports' ability to improve air quality just as the state is launching a major effort to electrify the drayage fleet serving those facilities in the future.

The same issue holds true at smaller port terminals. Currently, port terminals can typically park 50 single chassis (or 250 chassis if stacked five high) on one acre. In other words, without stacking, a fleet of 8,000 chassis would require 160 acres for storage. A rail terminal can typically place 45 single chassis in slant parking slots per acre, which means that when the chassis are stacked five

[18] Photograph courtesy of IANA.

high in each slanted parking slot, then 225 chassis could be stored per acre. This vividly illustrates how the underride guard attachment would have a dramatic effect on storage capacity. The below picture is one of the South Carolina Ports Authority's terminal in Charleston, South Carolina.

The importance of this photo is that the entire facility would be needed (and then some) to store chassis if they could not be stacked, which would render the terminal moot for the interchange of cargo. [19]

These impacts are also not limited to ports. The inability to stack chassis for repositioning to other locations using chassis stacking units ("CSUs") in rail terminals creates serious inefficiencies. Railroads have invested in CSUs to increase efficiency, but that investment would be lost without the ability to stack these assets. In addition, if rail terminals are forced to make use of outside storage terminals for chassis, it will force more moves onto the roads, which will negatively impact the environment by creating more traffic congestion in areas where there are attempts to quiet traffic, not increase it. Increasing the distance between the chassis storage location and the intermodal facility will cause delays in retrieving chassis and extra fuel usage for retrieving the chassis from a depot location, which would negatively impact the users of such chassis.

As a result, the number of chassis moves by truck would increase dramatically, adding to the emissions profile of chassis movement in and around densely populated areas near ports, a deleterious impact on roads and related infrastructure, and increasing the likelihood of incident, as more trucks would be on the road relocating empty chassis sets. While it is difficult to quantify the exact impact on both safety and the environment of mandating side underride guards on intermodal chassis, with 15 million gate moves made each year by chassis in or out of marine and rail terminals, the impact would certainly be dramatic.

iii. NHTSA's reliance on the AngelWing guard fails to consider its lack of suitability for the intermodal chassis market.

The ANPRM references the AngelWing side underride guard, and it acknowledges that it is the only side underride guard currently available, that it was designed for traditional truck trailers,

[19] *Id.*

and that it underwent limited testing more than five years ago. To our knowledge, it has never been tested on intermodal chassis, which have unique design characteristics given the way they are used, stored, and transported.

The AngelWing side underride guard is not suitable for an intermodal chassis as they are currently constructed (see section (e) below). In addition, to our knowledge, the AngelWing design and specification does not account for the unique circumstances under which intermodal chassis operate, as described above. This includes being stacked for on-terminal availability and inverted stacking for movement between markets, as well as the ability to withstand repeated handling (and sometimes abuse) by mobile cranes and forklifts that are used to move and stack chassis throughout port and rail facilities. As the pictures in this submission and the video referenced above show, the process of handling intermodal chassis is demonstrably different from that of a standard truck trailer. This lack of information (including both testing and failure to consider the unique circumstances of chassis operations), compounded with our operational experience, suggests that the addition of an AngelWing would completely upend how chassis are constructed and operated today, and that is greatly concerning to the undersigned freight industry representatives.

b. *Additional weight of side underride guards would limit necessary intermodal operations.*

The addition of new underride guards would significantly increase the gross weight of any intermodal chassis. Chassis already make up on average about 10% of the current federal 80,000-pound gross vehicle weight limit for trucks (chassis weigh about 8,000 pounds). The AngelWing side underride guard, according to the ANPRM, weighs approximately 450–800 pounds. The addition of underride guards would thus increase the weight of intermodal chassis from anywhere between 6–10%.

Trucks cannot weigh greater than 80,000 pounds in order to move on major roads. If 450–800 pounds is the weight of the side underride guard, then such a weight increase would, by necessity, mean that 450–800 fewer pounds of cargo could be loaded in a container to ensure compliance with highway weight limitations. This will increase the number of trucks overall on the road and create a larger carbon footprint per ton of material moved. Thus, in order to move exactly the same amount of cargo, adding side underride guards on intermodal chassis would increase the number of trucks and chassis on the roads. Those additional trucks and container sets that would be needed to carry that additional cargo would heighten pressure on the fluidity of the supply chain, while increasing the environmental impact of surface transportation by having more trucks on the roads to carry the same amount of cargo.

c. *The AngelWing side underride guard would particularly negatively impact certain types of intermodal chassis.*

In addition to the generalized impacts, there are particular issues with using the AngelWing system on specialized chassis units. Intermodal chassis are often equipped with portable generators ("gensets") on the underside of the intermodal chassis mainframe to power refrigerated cargo containers (each, a "reefer") during overland transit. The proposed AngelWing side underride guard would directly impede the usage of these underside generators, rendering refrigerated chassis units impossible to operate. Limitations imposed by the side underride guards on the use

of such gensets would impede the transportation of refrigerated containers used for many U.S. agricultural[20] and chemical products. As of 2019, over 82% of all refrigerated volume worldwide was carried in reefer containers on container ships, and a growing percentage of U.S. agricultural exports are also carried via reefer containers. Agricultural and chemical products are a core component of the country's imports and exports, thus making it critical to the smooth functioning of the nation's supply chain that refrigerated cargo containers, powered by underslung gensets on intermodal chassis, continue to function.

As another example, although many intermodal chassis are designed to accommodate 20-foot, 40-foot, 45-foot, or 53-foot containers, some are built as extendable-length units that can be adjusted to handle 20-foot or 40-foot containers (see below photos for extendable-length chassis). A side underride guard mandate would largely eliminate this flexibility, which helps ensure that the right intermodal chassis is in the right place to serve customers across the United States. The addition of the AngelWing side underride guard would likely prevent the extendable-length part of the intermodal chassis from functioning because the chassis would be unable to slide and lock into place if the side underride guard was mounted on the chassis.

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d. *The financial costs of adding side underride guards, including the impact of wear and tear on side underride guards from stacking, outweigh any perceived benefits.*

In addition to the impacts outlined above, it is worth noting that the potential cost of adding side underride guards to intermodal chassis, and maintaining them over time, would be substantial. The ANPRM estimates that the average total cost of installing side underride guards on a trailer, including hardware and labor, would be about $2,990 in 2021 dollars, but the sourcing experts used by members of IICL have not validated that number. Given significant increases in inflation over the last few years, the cost could be much higher. The labor costs cited in the ANPRM ($31/hour) are also low in the operational experience of the undersigned members. The total cost to purchase a new intermodal chassis has already risen substantially in recent years in response to an anti-dumping and countervailing duty case that eliminated all Chinese production and resulted in a major shift in production to the United States and other higher-cost countries. The total cost

[20] Cyrus Ramezani & Chris Carr, *Determinants of Refrigerated Container Provisioning for Agricultural Exports from California and Northwest Ports* (Jan. 2022).
[21] Photographs courtesy of DCLI.

for a new chassis is now typically more than $18,000–$22,000, and those increased costs are necessarily passed onto consumers in the form of higher prices. The price of a side underride guard as a percentage of the total cost would add a major expense when buying each new unit with very limited benefits, and that cost will be passed along to chassis customers and ultimately U.S. consumers.

The cost estimate included in the ANPRM also does not account for any ongoing maintenance costs associated with the side underride guards, which could be substantial, or any of the inefficiencies outlined above, such as additional costs for offsite chassis storage and increased costs/inefficiencies associated with moving them between terminals to offsite yards. Specifically, NHTSA states that the "estimated cost impacts do not include additional costs that accrue due to incremental wear and tear on equipped trailers" and that side underride guards could "add stresses that decrease trailer lifetimes" and "side guards may also strike or become tangled with road structures and loading area components."[22]

In particular, we want to highlight the impact of wear and tear on the side underride units themselves, particularly given the fact that one chassis member reports experiencing damage to their units in about one of every three repair events on average. Chassis are often stacked in groups of five or more, and their steel frames are subjected to major wear and tear as they are moved throughout a facility. Chassis, even when they are stacked in smaller groups (such as two chassis stacked wheel to wheel) are subject to a lot of force when they are moved either via forklift or crane. A side underride guard, even if it could be physically attached to an intermodal chassis, would be subject to constant force while moving intermodal chassis, either for terminal operations or for over-the-road or rail transport. Operational experts from the IEPs are all in agreement that side underride guards would likely need to be replaced often due to normal wear and tear in chassis operations. Because chassis are inspected every time they leave a terminal, any substantial damage to the side underride guard would result in the chassis being placed out of service. That chassis would thus be unavailable for normal intermodal movements until the side underride guard is replaced, which, in addition to the immediate effects on the normal flow of freight, would be prohibitively expensive.

Finally, it is worth noting that the ANPRM does take into account the increased cost of fuel. The ANPRM states that with a weight increase of 450–800 pounds per trailer, requiring side underride guards is estimated to increase lifetime fuel costs for new trailers entering the fleet each year by approximately $250 million to $430 million at a 3% discount rate and approximately $200 million to $340 million at a 7% discount rate. Given that NHTSA expects this requirement to apply to 260,000 new trailers sold annually, that is an increase of $961–$1,653 or $769–$1,307 per trailer. NHTSA also recognizes that this estimation is only for costs associated for side guard weight. NHTSA states that if "a side guard requirement led to a 5-percent increase in CT VMT [vehicle miles traveled], the lifetime fuel costs associated with the VMT are estimated to be approximately $2.5 billion at a 3-percent discount rate ($2 billion at a 7% discount rate).That represents a fuel cost that is 5 to 10 times as large as just the fuel costs associated with side guard weight.[23] Needless to say, the added financial burden of requiring a side underride guard would be significant for operators of intermodal chassis either way, since the side guard could increase

[22] *See* NHTSA, Side Impact Guards for Combination Truck-Trailers: Cost-Benefit Analysis, p. 6 (April 2023).
[23] *Id.* at 15.

the weight of the chassis and cause additional trips since 450-800 pounds of cargo could be displaced.

e. *Intermodal chassis do not have crossmembers, which would be needed to design and install an AngelWing side underride guard.*

The ANPRM contemplates the use of the AngelWing side underride guard.[24] The AngelWing, to our knowledge, has never been tested on an intermodal chassis. The operational experts at several IEPs believe that the AngelWing side underride guard is likely not suitable for an intermodal chassis as they are currently constructed. The AngelWing is installed to the bottom rails and crossmembers of a trailer, which an intermodal chassis does not have. In order to use the AngelWing side underride design, it appears that additional strength members would be required, adding to the weight and increasing the financial costs that are highlighted in subsection (b) and subsection (d), respectively.

3. The safety profile of intermodal chassis is remarkably strong.

Finally—and perhaps most importantly—it is also unclear whether such a side underride guard requirement for intermodal chassis would save lives. NHTSA has not demonstrated a safety case for requiring side underride guards on intermodal chassis, and our own analysis of recent incidents suggests that intermodal chassis do not present a substantial safety risk that would warrant requiring side underride guards on intermodal chassis. Chassis operator members of the IICL report that there have been no fatalities identified over the last five years from side underride incidents involving intermodal marine chassis. We understand that there was one crash that occurred in 2018 that involved a domestic 53-foot chassis with a rear tandem axle, which are different than standard intermodal marine chassis. Domestic 53-foot chassis all have sliding subframes. As noted above, there are several benefits to having sliding combination unit chassis as well, which enable cargo to be moved effectively. It is also likely that even if a side underride guard was able to be physically put on a sliding chassis, which IICL operational experts do not think is possible, then the side underride guard could prevent access to tires on the chassis and could be operationally infeasible in that way.

On a larger scale, inspection and repair processes for intermodal chassis are well established and in place throughout the United States. Equipment in-service problems after departing the marine terminals are minimal, and accidents resulting from intermodal chassis equipment failures are very low. For example, the largest intermodal chassis pools in the country at the POLA and POLB port complex processed on a combined basis about 2.85 million intermodal chassis out-gates in 2019, out of which only 0.06% were found to have a violation during their roadability review, and only 0.015% had an issue when subjected to a roadside inspection.

4. Conclusion.

The COVID-19 pandemic demonstrated just how interconnected supply chains are and how a disruption to one link can have far-reaching impacts on our economy, including consumers, manufacturers, and agricultural exporters who rely on intermodal chassis to deliver their goods

[24] Angel Wing Side Underride Protection Device, available at Side Underride Protection Devices for Semi-Trailers – Truck Side Guards (airflowdeflector.com)).

and support their livelihoods. As explained in detail above, we do not believe there are benefits sufficient to offset the costs of a side underride guard mandate, particularly for intermodal chassis, which are utilized in very unique ways, serve as a critical link in global supply chains, and already have a remarkably strong safety profile. Anything that causes intermodal transportation to be less efficient means an increase in truck transportation, thereby increasing highway congestion, emissions, and the likelihood of accidents. Moreover, intermodal chassis are constructed differently than other trailers, with no bottom rails and crossmembers to attach side underride guards, significantly increasing the cost of compliance with any new side underride requirement for trailers. Those costs have not been adequately assessed for intermodal chassis.

The undersigned companies and organizations would be happy to offer a detailed briefing to NHTSA staff on the use of intermodal chassis across the supply chain and the potential effects of a mandate. While these comments give a flavor of how chassis are utilized in everyday life, it is difficult to put into words the operational challenges that would result from a side underride guard mandate. Accordingly, we would like to offer a tour of terminal and rail operations in order to provide a more detailed look at how any mandate would affect intermodal chassis. We appreciate the opportunity to comment, and we look forward to providing any additional data that might be needed.

Sincerely,

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President and CEO
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