KANSAS LIVESTOCK ASSOCIATION

Since 1894

To: Senate Committee on Transportation
Sen. Mike Petersen, Chairman

From: Tucker A. Stewart, Associate Counsel, Kansas Livestock Association

Re: **HB 2095 providing a special vehicle permit for certain vehicle combinations;**

Date: March 14, 2017

The Kansas Livestock Association (KLA), formed in 1894, is a trade association representing nearly 5,200 members on legislative and regulatory issues. KLA members are involved in many aspects of the livestock industry, including seed stock; cow-calf and stocker cattle production; cattle feeding; dairy production; swine production; grazing land management; and diversified farming operations.

The Kansas Livestock Association (KLA) supports HB 2095 which would allow the Department of Transportation to issue a special permit for divisible loads of up to 90,000 pounds gross vehicle weight on non-interstate roads if the vehicle has six or more axles (semi with a triple-axle trailer). This is a modest, reasonable, and responsible increase (by special permit) to the current maximum gross vehicle weight rating of 85,500 pounds on non-interstate roads for vehicles with five or more axles. The coalition supporting this bill was careful to consider and address many issues surrounding increased trucking weights to mitigate opposition to the bill, many of which will be addressed in this testimony.

KLA is a grassroots organization whose policy is directed by membership. Annually, in December, KLA members meet at a convention to discuss and decide a number of policy issues. The immediate past convention, KLA members passed the following policy: "the Kansas Livestock Association supports an increase in the maximum gross vehicle weight limit, of up to 90,000 pounds, for trucks operating in Kansas and at a level compatible with weight limits imposed by neighboring states."

There is no question, agriculture and the livestock industry are an important sector of the Kansas economy. The use of trucks and trailers are a necessary part of every farmer's and rancher's operation in the state. The passage of this bill would positively impact any business that relies on trucking at any point in the production chain, which quite frankly is a vast majority of businesses that deal with tangible goods. This modest weight increase will help to increase efficiency, decrease transportation costs, relieve driver shortages, and combat the increased cost of federal regulations. All this could be accomplished while also being responsible with regard to motorist safety and infrastructure needs.

This modest increase can save farmers, ranchers, and agribusinesses time and money, which is necessary in today's tough times. For many haulers this could save a load every 20th trip. To put this in perspective a 40,000 head feedlot in western Kansas could save over 500 loads (including incoming grain and livestock and outgoing livestock) a year utilizing triple-axle trailers. This would mean over $30,000 in efficiency gains per year for one outfit.

Specific to the livestock industry, trucks are the only mode of transportation available as rail has not been used for cattle since the mid-1900s. That means livestock hauling is at a unique disadvantage compared to other commodities and products that have access to rail. In fact, many agricultural commodities in Kansas also have limited access to rail. Those with access to rail would still benefit from this bill because they would be able to get more product to a rail terminal, quicker.

This bill will harmonize Kansas with many surrounding states' gross vehicle weights. Currently, Kansas is at a competitive disadvantage with neighboring states. Iowa and Nebraska allow 90,000 pounds on six axles and even higher on seven axles. North Dakota and South Dakota have gross vehicle weight limitations over 100,000 pounds

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on six and seven axles. Colorado has a special permit for divisible loads on five or six axles up to 97,000 pounds. Oklahoma has a 90,000 pound special permit for vehicles with six or more axles. Missouri has a tolerance for certain agricultural commodities allowing up to 88,000 pounds on five axles. Simply put, Kansas has lower weight allowances than our surrounding agricultural states and this only compounds the driver shortages in Kansas. Harmonizing this will give Kansas access to more drivers, it will also incentivize Kansas drivers to invest in new equipment and allow our drivers to take jobs across state lines. This is important because the American Trucking Association estimates a national shortage of roughly 175,000 commercial drivers in the next 10 years.

Critics will use “big truck” scare tactics to allege severe road degradation and increased danger to the motoring public. Recent science and research shows that this is simply not the case. Instead, studies show that increases in weight similar to HB 2095 are responsible and help ensure mitigation of any degradation to roads as well as the same or increased motorist safety. To help illustrate that these trucks are not bigger (just modestly heavier), attached are two diagrams. One showing a semi-tractor and cattle pot operating at current gross vehicle weight limitations, and another that illustrates the type of vehicle this special permit would allow. The difference is an additional axle on the trailer.

This additional axle is key to those studies that indicate the same or improved pavement conditions as well as the same or increased motorist safety. For many truck combinations, adding the additional axle will lower axle weights from 19,750 pounds to roughly 14,600 pounds on the load bearing axles. Generally speaking increased axle weights determine road degradation. The Kansas Department of Transportation looked at what increasing trucking weights to 92,000 pounds on six axles would do to state highways and issued an executive summary which indicated the additional axle was necessary to mitigate infrastructure issues. The current bill only seeks an increase via special permit to 90,000 pounds.

Further, a study performed by *informa economics* on behalf of the Soy Transportation Coalition and the United Soybean Board concluded that an additional axle supporting heavier weights would result in the same or slightly lower pavement costs. Because pavement damage increases sharply with axle weight, the reduced weight per axle means less pavement damage.

The Local Road Research Board of the Minnesota Department of Transportation also performed a study on increasing truck load limits. They found similar results to KDOT and *informa economics*. Minnesota DOT performed a cost-benefit analysis which found a total net benefit to allowing 6 axle, 90,000 pound trucks; Minnesota DOT actually found pavement savings due to the additional axle.

There is little doubt that the sixth axle would mitigate and perhaps even reduce costs associated with roads especially when considering the modest weight increase under this bill.

The same studies also looked into the costs associated with bridges. The Minnesota DOT cited a slight increase in some costs associated with bridges, however, keep in mind that they still found a net monetary benefit to increased weights on additional axles. An excerpt of the Minnesota study is attached. The United States Department of Transportation Comprehensive Truck Size and Weight study (cited by *informa economics*) indicates the maximum weight for no impact on bridges to be 90,300 pounds on six axles. An excerpt of the USDOT study as it appears in the *informa economics* study is attached. Also, as a general rule, bridges constructed after the 1965 can support heavier trucks than allowed by current rules as many are built in accordance with the federal bridge formula. It is also important to note that the Federal government has mandated that all state and local bridges be load rated for the states' max gross vehicle weight, currently at 85,500 in Kansas. The Federal government has federal funding available for the load rating of bridges. If Kansas passes this modest increase to 90,000 pounds then federal funding is available to load rate bridges at 90,000 pounds. However, if this bill isn't passed then Kansas will be missing an opportunity for federal funding to load rate bridges up to 90,000 pounds and will only be able to utilize the federal funding to load rate at 85,500 pounds.

With regard to safety, the *informa economics* study cited to an increase in braking capacity associated with the six-axle truck and trailer. In fact, there is more stopping power with 6 axles at 90,000 pounds than there is with five axles at 80,000 pounds. Also adding an axle increases the number of tires on a truck from 18 to 22 reducing the load weight per tire that improves tire surface and braking friction. Because of this stopping power, a six-axle truck and trailer at 90,000 pounds can stop in a shorter distance than a five-axle truck and trailer at 80,000 pounds. Also, if there is a break failure a six-axle truck and trailer will perform better than a five-axle combination. According to the *Highway Safety and Truck Crash Comparative Analysis Technical Report* by the USDOT, "The brake failure has a

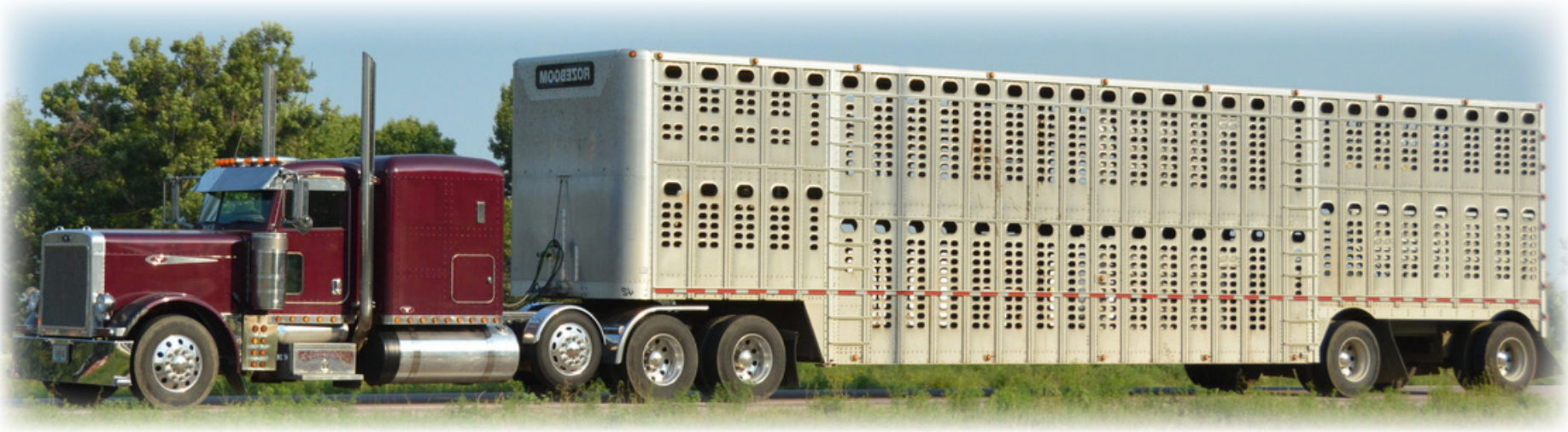
greater effect on the . . . five-axle combinations . . . than the six-axle combinations . . . because more brakes remain intact in the combinations with more axles." The same study also indicated a lower percentage of fatalities and injuries involving a six-axle truck and trailer combination. It is also important to note that fatalities and injuries in accidents involving trucks have been declining steadily for several decades. Furthermore, allowing heavier trucks to operate could reduce traffic congestion as the number of trucks on the road could decrease. Less trucks are on the road could also correlate to less accidents. The bottom line is that the vehicle allowed under this special permit is a safer vehicle than those currently on the roads. To suggest otherwise would simply be ignoring reality.

The current bill does a number of things that could also have secondary benefits. This is a special permit, therefore, the Secretary of Transportation could deny a permit application if the operator consistently ignores weight restrictions. Further, an operator is less likely to drive overweight because of an investment in an expensive trailer is subject to the annual permitting requirement. A $200 annual permit fee is required, added directly to the highway fund and avoids apportionment to other states. No single trip permits are allowed under this bill therefore any out-of-state drivers would have to pay the full $200 annual fee. This bill also insures that the vehicles using the permit must be in compliance with the federal bridge formula to mitigate some bridge infrastructure issues.

There is an abundance of evidence that shows HB 2095 is a modest and reasonable request that would increase gross vehicle weights in a responsible manner via special permit. KLA urges the committee to support HB 2095.

Spread Axle Tractor Trailer Combination

85,500 lbs.



13 ft. or more

12,000 lbs. 34,500 lbs.

10 ft. or more

19,750 lbs. 19,750 lbs.

48 ft. or more

60 ft. or more

Triple Axle Tractor Trailer Combination

90,000 lbs.

13′ 7″ ft. or more

12,000 lbs. 34,000 lbs.

10′ 7″ ft. or more

14,600 lbs. 14,600 lbs. 14,600 lbs.
(44,000 lbs.)

48 ft. or more

60 ft. or more

A summary PowerPoint presentation of the directory's key findings is available at http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-07(303)_Presentation.ppt.

Minnesota Truck Size and Weight Project, Minnesota DOT, 2006.
http://www.dot.state.mn.us/information/truckstudy/
This project's objective was to evaluate proposed changes to Minnesota's TSW laws that would benefit the Minnesota economy while protecting roadway infrastructure and safety. The study recommended a package of weight limit increases that included several vehicle configurations under special permit, as well as various changes to spring load restrictions. In 2009, the Legislature followed through on another of the study's recommendations, raising weight limits on all paved state roads to 80,000 pounds GVW (20,000 pounds per axle).

Table 5 of the report (see page 21), reproduced below, provides a summary of the costs and benefits of allowing each proposed configuration. The study identified the following impacts of the proposed vehicle configurations:

- **Industry costs:** Increased payloads and fewer truck trips will lower transport costs significantly.
- **Pavements:** Additional axles and fewer truck trips will result in less pavement wear.
- **Bridges:** There will be a modest increase in bridge postings and future design costs.
- **Safety:**
  - Proposed trucks have slightly higher crash rates but, given fewer overall truck miles (due to increased payloads) than would be experienced otherwise under existing weight limits, safety would improve slightly.
  - The proposed vehicle configurations for operations above 80,000 pounds GVW meet internationally accepted heavy vehicle safety performance standards.
  - The surplus brake capacity available for all of the proposed vehicle configurations is greater than the surplus brake capacity of a standard five-axle tractor semitrailer and therefore the stopping distance for all of these vehicles should be better than the existing 80,000-pound tractor semitrailer.

Truck Size and Weight Proposal Benefits
(Benefits in millions of dollars per year; negative values represent increased costs)

Truck Size and Weight Package Elements	Transport Savings	Pavements	Bridge Inspection, Rating and Posting	Bridge Fatigue and Decks	Increased Bridge Design Loads	Safety	Congestion	Total Net Benefits
Proposed Vehicle Configurations								
6-Axle 90,000 lb. Semi	$3.68	$1.27	$-0.05	$0.15	$-0.96	$0.15	$0.18	$4.43
7-Axle 97,000 lb. Semi	4.00	2.24	-0.01	0.22	-0.64	0.23	0.23	6.27
8-Axle Twin 108,000 lb.	2.01	1.25	-0.01	0.14	-0.72	0.05	0.08	2.79
Single Unit up to 80,000 lbs.	6.27	0.55	0.00	0.10	-0.13	0.06	0.05	6.90
Subtotal	*$15.96*	*$5.31*	*$-0.07*	*$0.61*	*$-2.45*	*$0.49*	*$0.54*	*$20.39*
Spring Load Restrictions and Other Legislative Policy Issues								
Change SLR	$8.82	$-2.34	$0.00	$0.04	$0.00	$0.44	$0.17	$7.12
80,000 lb. GVW on 9-Ton System	24.82	-8.49	0.00	-0.83	0.00	1.65	0.72	17.87
Subtotal	*$33.64*	*$-10.83*	*$0.00*	*$-0.79*	*$0.00*	*$2.09*	*$0.89*	*$24.99*
Total Package	$49.60	$-5.52	$-0.07	$-0.18	$-2.45	$2.57	$1.43	$45.38

Source: Minnesota Truck Size and Weight Project, Minnesota DOT, 2006; Table 5, page 21.

- The DOT's "Comprehensive Truck Size and Weight Study" found that bridge impacts are mixed depending on the gross weights allowed but vehicles heavier than the commonly used 5-axle 80,000 pound trucks would require substantial bridge improvements.
    - The study concluded that the impact of trucks on bridges varies primarily by the weight on each group of axles on a truck and the distances between axle groups.
    - The number of axles in each group was found to be less important than the distance between adjacent groups. Generally, except for some continuous bridges with long spans, the longer the spacing between the two axle groups, the less the impact.

- The DOT study based its analysis on using different truck configurations and weight loads on the Federal Bridge Formula rather than developing an alternative formula. The results showed that all the heavier vehicles increased stress on bridges as shown in Table 14. Only the three-axle truck, four-axle truck, five-axle semi-tractor trailer and the six-axle 90,000 pound semi-tractor trailer had no increased stress on bridges if loaded to their maximum weight. All other trucks, including the heavier six-axle 97,000 pound semi-tractor trailer would increase stress on bridges if loaded to their maximum weights.

Table 14: Truck Configuration Parameters for Analysis of Bridge Impacts

Configuration	Scenarios	Gross Vehicle Weight (Pounds)	Trailer Lengths (Feet)	Outside Axle Spread (Feet)	Highways Assumed Available	Maximum Weight No Impact (Pounds)
Three-Axle Truck	Uniformity	54,000	**C**	24.0	All	54,000
Four Axle Truck	North American Trade	64,000	**C**	24.5	All	63,500
		71,000	**C**		All	63,500
Five-Axle Semitrailer	Uniformity	80,000	40	54.3	All	80,000
Six-Axle Semitrailer	North American Trade	90,000	40	54.8	All	90,300
		97,000	40	54.8	All	90,300
Five-Axle STAA double	Uniformity	80,000	28, 28	64.3	All	92,000
Seven-Axle Rocky Mt. Double	LCV's Nationwide	120,000	53, 28	94.3	42,500-mile System	115,300
Eight-Axle B-Train Double	North American Trade and LCV's Nationwide	124,000	33, 33	79.3	All	111,600
		131,000	33, 33	79.3	All	111,600
Nine-Axle Turnpike Double	LCV's Nationwide	148,000	40, 40	119.3	42,500-mile System	122,200
Seven-Axle C-Train Triple	LCV's Nationwide and Triples	132,000	28, 28, 28	97.2	65,000-mile System	116,100

Source: DOT's "Comprehensive Truck Size and Weight Study," 2000

- The study analyzed the use of tridem axles for the six-axle semi-tractor trailers based on spacing of nine feet between the outer two axles of the tridem group[16] (Table 13) and found that at the 44,000 pound limit (six-axle 90,000 pound semi-tractor trailer) there would be no increase in bridge stress but at the 51,000 pound limit (97,000 pound semi-tractor trailer) there would be a considerable increase in bridge stress and that vehicle did not meet the bridge formula based on its axle weights.

[16] Adding nine feet, places the distance in feet between the extremes of any group of 2 or more consecutive axles at 60 feet, with a weight of 90,000 lbs. on a six-axle vehicle.