

*Farmed Animals in Transport: an Analysis of the Twenty-Eight Hour Law and  
Recommendations for Greater Animal Welfare*

by  
Kate Brindle

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Each year, in the United States, more than 50 million cows, sheep, and pigs, and countless chickens and turkeys (of the 9 billion<sup>1</sup> who<sup>2</sup> are slaughtered for food annually) travel across state lines.<sup>3</sup> Before finally reaching the slaughterhouse, livestock may travel hundreds of miles throughout their lives.<sup>4</sup> On these journeys, these animals are forced to endure a host of painful and inhumane conditions where they suffer both mentally and physically.<sup>5</sup>

There are several reasons why animals are transported, with economics playing a large role in why they are moved; “[t]he economic costs of transporting animals (which tend to be lower than transporting feed) and geographical differences in feed and forage availability and prices, as well as the development and location of feedlots and slaughterhouses largely determine where animals will be transported and at what stage of production.”<sup>6</sup> The changing landscape of farming, with large-scale farms now being the main farming method (and replacing the family farm) in the United States, is also one of the reasons for increased transport.<sup>7</sup> Since American consumers have the highest rate of meat consumption per capita in the world, and frequently demand cheap meat, “the economic reality in the livestock industry is the geographic separation between livestock in one stage of production and the feed/forage resources or facilities needed for successive stages of production.”<sup>8</sup> For example, “pigs are frequently shipped from farrowing operations in North Carolina to nursery facilities or grower/finisher facilities in Iowa where they

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<sup>1</sup> *Poultry – Production and Value 2014 Summary*, USDA 4 (2015), <http://www.usda.gov/nass/PUBS/TODAYRPT/plva0415.pdf>; *Livestock Slaughter 2014 Summary*, USDA 6 (2015), <http://www.usda.gov/nass/PUBS/TODAYRPT/lsan0415.pdf>.

<sup>2</sup> I use “who” throughout the paper to reflect that animals are individual beings, and not simply things.

<sup>3</sup> Dennis A. Shields & Kenneth H. Mathews, Jr., *Interstate Livestock Movements*, USDA 2 (June 2003), [http://www.ers.usda.gov/media/312234/ldpm10801\\_1\\_.pdf](http://www.ers.usda.gov/media/312234/ldpm10801_1_.pdf).

<sup>4</sup> *Id.* at 4, 8.

<sup>5</sup> *See infra* pp. 7-10.

<sup>6</sup> Michael C. Appleby, *Science of Animal Welfare*, in *LONG DISTANCE TRANSPORT AND WELFARE OF FARM ANIMALS* 1, 1 (Michael C. Appleby et al. eds., 2008).

<sup>7</sup> Monica Engebretson, *North America*, in *LONG DISTANCE TRANSPORT AND WELFARE OF FARM ANIMALS* 218, 221-22 (Michael C. Appleby et al. eds., 2008).

<sup>8</sup> *Id.* at 221.

are fed to market weights, then moved again to California for slaughter.”<sup>9</sup> This type of shipping is common for cattle as well.<sup>10</sup>

Since most of the farmed animals who are transported in the United States will end up enduring the slaughter process anyway,<sup>11</sup> and the time they spend in transport represents a small portion of their lives, some might ask why focusing on transport and regulating it is even important. There are several reasons to push for animal welfare during transport, largely because transport is often one of the most stressful times of an animal’s life.<sup>12</sup> Reducing stress is not only better for animal welfare, but, evidence suggests an animal who experiences lower levels of stress before death might also produce meat products that are healthier for human consumption.<sup>13</sup> Secondly, while most people do not have access to see contemporary animal agriculture (since most farmed animals in the United States are raised indoors<sup>14</sup>), people have the opportunity to see farmed animals while the animals are in transport. Indeed, it is not uncommon for people to see truck trailers full of farmed animals going down the highway or stopped at rest stops. Seeing animals, and, in particular, seeing the animals’ suffering could perhaps give people an impetus to push for greater reform and stronger protections for farmed animals in transport.

There is the argument that transporting farmed animals is inherently cruel, given some of the practices associated with it (for example, loud noises and movement, to which animals are often sensitive, or the gathering of animals to load them onto a truck trailer, which can be a

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<sup>9</sup> *Id.*

<sup>10</sup> *Id.* (“On average, 58% of the calves born in the USA each year are shipped to another destination for feeding or breeding. Approximately 85% of those cattle move through at least one auction.”).

<sup>11</sup> Shields & Mathews, *supra* note 3, at 4.

<sup>12</sup> Engebretson, *supra* note 7, at 218. (“Transportation is one of the most stressful events in a farmed animal’s life. Because nearly all of the billions of farmed animals raised in North America are subjected to transportation at some point during their lives, transportation is also one of the most important welfare issues affecting farmed animals.”).

<sup>13</sup> Daisy Freund, *How Animal Welfare Leads to Better Meat: A Lesson From Spain*, THE ATLANTIC (Aug. 25, 2011), <http://www.theatlantic.com/health/archive/2011/08/how-animal-welfare-leads-to-better-meat-a-lesson-from-spain/244127/>.

<sup>14</sup> *Modern Livestock Facilities*, FOOD ANIMAL EDUCATION NETWORK PURDUE UNIVERSITY, <http://www.ansc.purdue.edu/faen/Modern%20Facilities.html> (last visited May 9, 2016).

particular stressor for animals who are unfamiliar with human contact<sup>15</sup>), and that the only true way to respect animal welfare is to cease transporting animals completely.<sup>16</sup> However, given that nearly 9 billion land animals are slaughtered per year in the United States for human consumption,<sup>17</sup> it seems unlikely that the meat and dairy industries (and thus, transportation practices within the industries) will cease in the near future.

So, this paper adopts a pragmatic approach and examines legal approaches to farmed animal welfare assuming that farmed animals will be transported. Given the physical and mental stresses on farmed animals that transport produces, a science-based, two-prong approach should be adopted that first seeks to reduce the number of hours farmed animals are in transit, and second, provides for more humane conditions on trucks while animals are traveling.

### **History of Transport Regulations for Farmed Animals**

Prior to the late 1800s, there were no federal laws governing the transport of farmed animals.<sup>18</sup> In the 1860s and 1870s, the United States public was made aware of the conditions that farmed animals in transport faced through a series of newspaper editorials, which detailed not only inhumane conditions the animals endured (such as forced three-six day starvation and abuse by the “prod pole,” which was a spiked rod instrument that humans wrapped around farmed animals’ tails and pulled on until the animals moved), but health risks to humans as well

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<sup>15</sup>Katriel Elrom, *Handling and Transportation of Broilers – Welfare, Stress, Fear and Meat Quality*, 55 ISRAELI J. OF VETERINARY MED., 1, 2 (2000). (discussing chickens in transport and remarking that “[t]wo of the commonest and most potentially frightening events for domestic fowl are sudden changes in their social or physical environment and exposure to people, and that is why gathering, crating and transportation of broilers are probably the most fearful events in their life.”).

<sup>16</sup> JOHN WEBSTER, *ANIMAL WELFARE: LIMPING TOWARDS EDEN*, 158 (2005). (“Since most farm animals are accustomed to an almost unchanging daily routine, any sudden departure from that routine is likely to constitute a threat. During transport and at the place of slaughter some degree of discomfort and fear is inevitable.”).

<sup>17</sup> USDA *supra* note 1.

<sup>18</sup> JORDAN CURNUTT, *ANIMALS AND THE LAW: A SOURCEBOOK* 193 (2001).

(since the animals were packed tightly into excrement-filled railcars).<sup>19</sup> In response to public outrage over these conditions, on March 3, 1873, Congress passed the Twenty-Eight Hour Law.<sup>20</sup>

Drawing its name from the number of hours farmed animals could be confined, the 1873 version of the Twenty-Eight Hour Law provided that:

No railroad company within the United States whose road forms any part of a line of road over which cattle, sheep, swine, or other animals . . . shall confine the same for a longer period than twenty-eight consecutive hours, without unloading . . . for a period of at least five consecutive hours, unless prevented from so unloading by storm or other accidental causes.<sup>21</sup>

Congress expressed a clear intent that the purpose of the law, which it amended in 1906,<sup>22</sup> was to prohibit cruelty to animals.<sup>23</sup> The 1906 version of the Twenty-Eight Hour Law applied to “cattle, sheep, swine, or other animals.”<sup>24</sup> However, chickens and turkeys were likely excluded from the law since, at the time of passage, selling poultry products outside of the family farm was uncommon.<sup>25</sup> The law notably applied exclusively to animals transported by rail.<sup>26</sup>

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<sup>19</sup> *Id.* at 193-94. *See also The Market Systems of the Country*, REPORT OF THE COMMISSIONER OF AGRICULTURE FOR THE YEAR 1870 250 (1871), available at <https://ia600505.us.archive.org/24/items/CAT30951786008/ros1870.pdf>. (“The abuses on these cattle trains have arrested the attention of public-spirited men and humanitarians, and much has been urged in journals and before the Society for the Prevention of Cruelty to Animals, but with so little effect that meat in the markets of the great eastern cities has not materially improved either in quality, wholesomeness, or cheapness. When a beef is driven up a chute and forced into a cattle car, his worry begins. He is jammed against other beeves, he is alarmed and irritated, sometimes his temper is soured, and he begins to gore right and left in the hope of fighting his way to freedom . . . he is in a jaded, sore, and feverish state when the butcher’s mallet puts an end to his long misery.”).

<sup>20</sup> CURNUTT, *supra* note 18, at 193.

<sup>21</sup> Rev. Stat. U.S. § 4386 (1873) (current version at 49 U.S.C. § 80502 (1994)).

<sup>22</sup> CURNUTT, *supra* note 18, at 193. The 1906 amendments dealt with loading and unloading, which the 1873 did not adequately address. *Id.* at 194.

<sup>23</sup> Several courts in the early 1900s reflected and reiterated Congress’s intent in their opinions. *See United States v. Sioux City Stock Yards Co.*, 162 F. 556, 562 (N.D. Iowa 1908) *aff’d*, 167 F. 126 (8th Cir. 1909) (“The primary purpose of the statute, as indicated by its title, is to prevent cruelty to animals while being transported by railroad or other means of conveyance.”); *United States v. Union Pac. R. Co.*, 169 F. 65, 68 (8th Cir. 1909) (“The real purpose of the legislation in our opinion was to alleviate the condition of dumb animals in transit.”); *United States v. S. Pac. Co.*, 157 F. 459, 461 (N.D. Cal. 1907) (“The object and purpose of the act . . . is to insure the humane treatment of animals in interstate transportation of animals upon cars.”).

<sup>24</sup> 34 U.S. Stat. § 607 (1906) (current version at 49 U.S.C. § 80502 (1994)).

<sup>25</sup> Edward Lotterman, *Why No One Mourns the Loss of the Family Chicken Farm*, FEDGAZETTE (Apr. 1, 1998), <https://www.minneapolisfed.org/publications/fedgazette/why-no-one-mourns-the-loss-of-the-family-chicken-farm>.

The Twenty-Eight Hour Law remained relatively untouched until 1994, when it was amended to include transportation by express carriers and common carriers.<sup>27</sup> The current version of the law is two pages in length, and states in relevant part: “a rail carrier, express carrier, or common carrier (except by air or water) . . . may not confine animals in a vehicle or vessel for more than 28 consecutive hours without unloading the animals for feeding, water, and rest.”<sup>28</sup>

The law provides that sheep “may be confined for an additional 8 consecutive hours without being unloaded when the 28-hour period of confinement ends at night.”<sup>29</sup> Also, animals can be confined for more than twenty-eight hours when the “animals cannot be unloaded because of accidental or unavoidable causes.”<sup>30</sup> Lastly, the law allows animals to be transported for up to thirty-six hours when the person with custody of the animals requests such in writing.<sup>31</sup> When animals are unloaded during transport, the Twenty-Eight Hour Law mandates that the animals “be unloaded in a humane way into pens equipped for feeding, water, and rest for at least 5 consecutive hours.” The Twenty-Eight Hour Law has a civil penalty provision which allows for a violator to be fined “at least \$100 but not more than \$500 for each violation.”<sup>32</sup>

In 1963, the United States Department of Agriculture (“USDA”) passed a regulation regarding the feeding, watering, and rest of livestock under the Twenty-Eight Hour Law.<sup>33</sup> The regulation provided a chart for the minimum amount of feed livestock are to be fed during

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(“As settlement and agriculture spread across Ninth District states in the last half of the 19th century, most farms had domesticated fowls. But few sold poultry products other than on an occasional basis.”).

<sup>26</sup> 34 U.S. Stat. § 607 (1906) (current version at 49 U.S.C. § 80502 (1994)).

<sup>27</sup> 49 U.S.C. § 80502 (1994).

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> *Id.*

<sup>33</sup> 9 C.F.R. § 89.1 (1963).

transit,<sup>34</sup> said that livestock should be “unloaded . . . for feeding, watering, and resting, unless there is ample room in the car for all of the animals to lie down at the same time,”<sup>35</sup> suggested the types of water livestock should be given, and directed that “[c]are should be taken to protect livestock unloaded en route at a point having marked difference in temperature from that at the point from which they were shipped.”<sup>36</sup>

While rail was the common method of transportation when the Twenty-Eight Hour Law was first drafted and passed, currently, the vast majority of farmed animals are now transported via truck.<sup>37</sup> The USDA agreed to regulate truck transportation of animals in 2006 when several animal protection organizations filed a petition for rulemaking, suggesting that trucks fall within common carriers and should therefore be regulated under the Twenty-Eight Hour Law.<sup>38</sup>

With regard to enforcement, in 2011, the USDA passed a Food Safety and Inspection Service directive that instructs inspection program personnel (“IPP”) to “ask establishment management whether the truck driver stopped within the preceding 28 hours to provide the animals rest, food, and water” if the livestock, upon entrance to a slaughterhouse on a transport vehicle, “appear exhausted or dehydrated.”<sup>39</sup> The directive also provides that:

If the truck driver or establishment is unwilling to provide information, or if IPP believe the condition of the animals could be the result of being deprived of rest, food, and water for over 28 hours, IPP are to contact the Animal and Plant Health Inspection Service (APHIS), Area Veterinarian-in-Charge, via their FSIS chain of command, so that APHIS can conduct an investigation.<sup>40</sup>

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<sup>34</sup> *Id.*

<sup>35</sup> 9 C.F.R. § 89.3(a) (1963).

<sup>36</sup> 9 C.F.R. § 89.5(b) (1963).

<sup>37</sup> CURNUTT, *supra* note 18, at 194.

<sup>38</sup> Joy Ann Mench, *Farm Animal Welfare in the U.S.A.: Farming Practices, Research, Education, Regulation, and Assurance Programmes*, 113 APPLIED ANIMAL BEHAV. SCI. 298, 300 (2008).

<sup>39</sup> USDA, FSIS DIRECTIVE HUMANE HANDLING AND SLAUGHTER OF LIVESTOCK (Aug. 15, 2011), *available at* <http://www.fsis.usda.gov/wps/wcm/connect/2375f4d5-0e24-4213-902d-d94ee4ed9394/6900.2.pdf?MOD=AJPERES>.

<sup>40</sup> *Id.*

However, this directive only mandates that inspectors must report suspected violations of the Twenty-Eight Hour Law when animals are sent to slaughter, whereas other farmed animals are shipped for breeding and feeding purposes.<sup>41</sup> Thus, the animals shipped for non-slaughtering purpose are ignored under this directive. Also, the directive only mandates asking the drivers *if* the animals “appear” dehydrated or exhausted.<sup>42</sup> So, a driver whose animals still look relatively healthy would not be asked (and subsequently investigated), even if he or she had been on the road for longer than twenty-eight hours. Additionally, at the point the inspectors are simply mandated to ask the drivers about how long they have been on the road with the animals, it seems there would be a likely incentive for drivers to lie about the number of hours they have been traveling as to avoid liability under the law.

### **Impacts of Transport on Farmed Animals**

The number of animals traveling great distances, particularly for slaughter (although animals are also shipped for breeding and feeding purposes), is in the millions.<sup>43</sup> This is due in large part to the “dramatic consolidation” that United States agriculture went through in the last thirty years, where “processing, marketing and distribution networks . . . disintegrated.”<sup>44</sup> As a result, the number of livestock who crossed state lines rose from 30 million in 1970 to 50 million in 2001.<sup>45</sup>

Further, the slaughter of animals is heavily concentrated in certain regions of the country, and in 2013, only “12 states produced about two-thirds of total slaughtered meat.”<sup>46</sup> Indeed, only

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<sup>41</sup> Shields & Mathews, *supra* note 3, at 10.

<sup>42</sup> USDA, *supra* note 39.

<sup>43</sup> Shields & Mathews, *supra* note 3, at 10.

<sup>44</sup> Lyndsey Layton, *As Demand Grows for Locally Raised Meat, Farmers Turn to Mobile Slaughterhouses*, THE WASH. POST (June 10, 2010), [http://www.washingtonpost.com/wp-dyn/content/article/2010/06/18/AR2010061803509\\_2.html](http://www.washingtonpost.com/wp-dyn/content/article/2010/06/18/AR2010061803509_2.html).

<sup>45</sup> Shields & Mathews, *supra* note 3, at 2.

<sup>46</sup> Thomas C. Frohlich, *States Killing the Most Animals for Food*, USA TODAY (Apr. 15, 2015, 12:06 PM), <http://www.usatoday.com/story/money/business/2015/04/15/247-wall-st-states-killing-animals/25807125/>.

“four corporations slaughter about 80 percent of the cattle in the United States.”<sup>47</sup> This means that animals often have to travel hundreds of miles to slaughter.<sup>48</sup> Further complicating the matter is the requirement that only meat from USDA-inspected slaughterhouses can be sold to grocery stores and restaurants (animals slaughtered in non-USDA inspected slaughterhouses must be sold to the consumer before butchering), making it so animals are forced to travel in order to be slaughtered at USDA-approved facilities.<sup>49</sup>

The long trips animals endure are also complicated by United States Department of Transportation trucking regulations, which require that truck drivers rest for 10 hours if they are driving 11 consecutive hours (thus, leaving farmed animals vulnerable to be kept on trucks for 10 additional hours while the driver gets in his or her mandated rest).<sup>50</sup>

This reality means immense cruelty inflicted upon animals. Farmed animals suffer both physically and mentally during transport:

Physical welfare problems caused by transport include injury, disease and stress – which may be detected from behaviour, from physical effects such as failure to grow or from physiological measurements. In the worst cases, animals die, and mortality is increased by high or low temperatures, by long journey times and by transporting very young animals. Evidence about mental aspects of welfare is mainly of two sorts: whether animals have what they want and whether they are suffering. Many preferences of animals may be frustrated by transport, both to avoid conditions such as vibration and noise, and to express normal behaviour. Forms of suffering caused by transport include hunger, thirst, discomfort, pain, frustration, fear and distress.<sup>51</sup>

It is worth noting how transport affects various farmed animals as they suffer uniquely and often experience the cruelty of long-distance transport in different ways. For example,

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<sup>47</sup> Beth Hoffman, *Small-Scale Slaughterhouses Aim to Put the “Local” Back in Local Meat*, NPR (June 4, 2012, 11:11 AM), <http://www.npr.org/sections/thesalt/2012/06/04/153511889/small-scale-slaughterhouses-aim-to-put-the-local-back-in-local-meat>.

<sup>48</sup> Shields & Mathews, *supra* note 3, at 4, 8.

<sup>49</sup> Hoffman, *supra* note 47.

<sup>50</sup> 49 C.F.R. § 395.3(a)(3) (2016).

<sup>51</sup> Appleby, *supra* note 6, at 1.

according to industry experts, 0.6% of pigs are lost during transport, either due to being dead on arrival to the slaughterhouse, or so sick, weak, or injured that they become non-ambulatory (and, thus, unable to be slaughtered for human consumption).<sup>52</sup> In practical terms, that amounts to “one pig [lost] per semi-trailer load of pigs.”<sup>53</sup> This is often due to the stress pigs face from overcrowding in the trucks.<sup>54</sup> Leaner pigs with larger muscles have an even harder time with overcrowding because their bones are weaker than regular pigs’ bones; so they have a difficult time handling weight when standing in trailers and are, thus, more susceptible to suffering broken legs during transport.<sup>55</sup> Pigs are also particularly sensitive to heat, and due to the design of the average truck transport trailer, temperatures within the trailer can vary greatly.<sup>56</sup> This is particularly true in the winter, when the variation between compartments can be “large, with the temperature in the rear compartments being close to freezing, while in the front compartments the temperatures [can be] above 50°F for most of the [average] journey.”<sup>57</sup>

Chickens, who are not currently regulated under the Twenty-Eight Hour Law, also face a number of stressors in transport since birds experience food and water deprivation, social disruption, vibration, motion, and loud noise during their time on truck trailers.<sup>58</sup> The way chickens are bred leads them to be particularly susceptible to long-distance transport stress.<sup>59</sup>

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<sup>52</sup> Joe Vansickle, *Preparing Pigs for Transport*, NAT’L HOG FARMER (Sept. 15, 2008), <http://nationalhogfarmer.com/behavior-welfare/0915-preparing-pigs-transport>.

<sup>53</sup> *Id.*

<sup>54</sup> Matt Ritter, et al., *Effect of Floor Space During Transport of Market-Weight Pigs on the Incidence of Transport Losses at the Packing Plant and Relationships Between Transport Conditions and Losses*, 84 J. OF ANIMAL SCI. 2856, 2856-57 (2006).

<sup>55</sup> Temple Grandin, *Perspectives on Transportation Issues: the Importance of Having Physically Fit Cattle and Pigs*, 79 J. OF ANIMAL SCI. E201, E205 (2001).

<sup>56</sup> A typical pig transport trailer is double-deck, made of aluminum, and contains punched sides, which allow air into the trailer. The trailers are normally divided into several compartments. Joe Vansickle, *Keep ‘em Moving*, NAT’L HOG FARMER (Aug. 15, 2009), <http://nationalhogfarmer.com/behavior-welfare/0815-research-reveals-shortcomings>.

<sup>57</sup> *Id.*

<sup>58</sup> *An HSUS Report: The Welfare of Animals in the Chicken Industry*, THE HUMANE SOCIETY OF THE UNITED STATES, 8 (Dec. 2013), [http://www.humanesociety.org/assets/pdfs/farm/welfare\\_broiler.pdf](http://www.humanesociety.org/assets/pdfs/farm/welfare_broiler.pdf).

<sup>59</sup> *Poultry Welfare During Transport*, THE POULTRY SITE (Sept. 3, 2015), <http://www.thepoultrysite.com/articles/3549/poultry-welfare-during-transport/>.

Chickens often die in transport due to overcrowding as when birds are packed too tightly, they often become territorial and fight or get overheated, leading to injury.<sup>60</sup> Despite poultry scientist recommendations against the use of transport crates that hold more than six chickens,<sup>61</sup> transport crates that allow ten to twelve chickens are regularly marketed and sold.<sup>62</sup> These crates (which, at 38” x 23” x 11” in size, do not allow chickens the ability to move around) are often stacked on top of each other.<sup>63</sup> Further, a recent report presented at the European Symposium on Poultry Welfare suggests that overheating is the biggest threat to chickens in transport.<sup>64</sup> This is especially true for broiler chickens, whose “rapid growth rate appears to be associated with a higher basal metabolic rate and a reduced heat stress resistance.”<sup>65</sup> Indeed, many chickens do not even survive the trip. Dead on arrival rates are estimated to be as high as 0.46%, meaning nearly 4 million broiler chickens die in transport every year.<sup>66</sup>

Cattle are also injured and die in transport.<sup>67</sup> Cows are often deprived of food and water, leading to dehydration.<sup>68</sup> Cows also often defecate and urinate on the transport trucks due to stress.<sup>69</sup> Evidence suggests that dairy cows in particular have a higher rate of death in cold weather and on longer journeys.<sup>70</sup> Calves are also particularly susceptible to heat and cool

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<sup>60</sup> Phillip J. Clauer, et al., *Transporting Poultry in a Humane Manner*, VIRGINIA COOPERATIVE EXTENSION (May 1 2009), <https://pubs.ext.vt.edu/2902/2902-1088/2902-1088.html>.

<sup>61</sup> *Id.*

<sup>62</sup> For an example, see STROMBERG’S CHICKENS, <http://www.strombergschickens.com/product/poultry-game-birdcoop/Transport-Chicken-Coops> (last visited May 9, 2016).

<sup>63</sup> *Id.*

<sup>64</sup> Malcolm Mitchell & P.J. Kettlewell, *Welfare of Poultry During Transport – A Review Main Lecture at the Poultry Welfare Symposium (May 18-22, 2009)*, available at [http://www.fao.org/fileadmin/user\\_upload/animalwelfare/76\\_welfare2009\\_mitchell.pdf](http://www.fao.org/fileadmin/user_upload/animalwelfare/76_welfare2009_mitchell.pdf).

<sup>65</sup> THE POULTRY SITE, *supra* note 59.

<sup>66</sup> THE HUMANE SOCIETY OF THE UNITED STATES, *supra* note 58, at 8; USDA, *supra* note 1. I arrived at this figure by taking the 8.54 billion chickens who were killed in 2014 and multiplying it by 0.46%.

<sup>67</sup> TEMPLE GRANDIN, *LIVESTOCK HANDLING AND TRANSPORT* 139-40 (3d ed. 2007).

<sup>68</sup> T.G. Knowles, *A Review of the Road Transport of Cattle*, 144 *VETERINARY REC.* 197, 197 (1999).

<sup>69</sup> CLIVE PHILLIPS, *CATTLE BEHAVIOUR AND WELFARE* 40 (2d ed. 2002).

<sup>70</sup> V. Vecerek, et al., *Mortality in Dairy Cows Transported to Slaughter as Affected by Travel Distance and Seasonality*, 79 *ACTA VETERINARY BRNO* 449, 449 (2006).

temperatures.<sup>71</sup> Dr. Lester Friedlander, a former USDA veterinary inspector, summarized a typical experience for cattle:

In the summertime, when it's 90, 95 degrees, they're transporting cattle from 1,200 to 1,500 miles away on a trailer, 40 to 45 head crammed in there . . . [In the wintertime], can you imagine if you were in the back of a trailer that's open and the windchill factor is minus 50 degrees, and that trailer is going 50 to 60 miles an hour? The animals are urinating and defecating right in the trailers, and after a while, it's going to freeze, and their hooves are right in it. If they go down—well, you can imagine lying in there for 10 hours on a trip.<sup>72</sup>

### **Current Transport Laws and Regulations and Limitations on Their Enforcement**

Even transport trucking guides (given to truckers on government websites) recommend confining animals in transport for longer than the legal federal limit.<sup>73</sup> For example, the National Institute for Animal Agriculture, which makes its report available to state government suggests, “[c]attle and sheep should have a rest stop if the trip will last more than 48 hours. On long hauls, feeder calves will be less stressed if the trip can be made within 34 hours.”<sup>74</sup>

Further complicating the issue of animal cruelty is enforcement (or lack thereof). With the Twenty-Eight Hour Law and subsequent regulation being fairly weak as it is (for example, other than making a recommendation about temperature, there is no mandate that animals must be kept in a certain temperature, and the law and regulation are also silent as to the types of protection from weather elements animals are to be given),<sup>75</sup> lack of enforcement further

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<sup>71</sup> Geni Wren, *Transportation and Health of Baby Calves*, DAIRY HERD MGMT. (Mar. 1, 2012, 4:16 PM), <http://www.dairyherd.com/dairy-herd/features/Transportation-and-health-of-baby-calves-141087943.html>.

<sup>72</sup> TRACYE LYNN MCQUIRTER, BY ANY GREENS NECESSARY 18 (2010).

<sup>73</sup> Temple Grandin, *Livestock Trucking Guide: Livestock Management Practices that Reduce Injuries to Livestock During Transport*, NAT'L INST. FOR ANIMAL AGRIC. (Sept. 2001), [https://www.michigan.gov/documents/mdard/Livestock\\_Trucking\\_Guide\\_454102\\_7.pdf](https://www.michigan.gov/documents/mdard/Livestock_Trucking_Guide_454102_7.pdf). This particular version was found on the Michigan.gov site.

<sup>74</sup> *Id.*

<sup>75</sup> 49 U.S.C. § 80502 (1994); 9 C.F.R. § 89.1 (1963).

complicates and entrenches the conditions farmed animals must endure.<sup>76</sup> The process of transport is hard on animals as it is, however, with few enforcement mechanisms in place, animals often endure way more than twenty-eight hours of transport without a break.<sup>77</sup>

In July 2005, investigators from animal protection organization, Compassion Over Killing, conducted several interviews with truck drivers across the United States to document the conditions which farmed animals face in transit.<sup>78</sup>

The transcripts confirm what the statistics above suggest, that cross-country trips, spanning hundreds of miles, are quite common for pigs and cattle.<sup>79</sup> The interviews also reveal not only a lack of understanding of the Twenty-Eight Hour Law (some of the drivers were mistaken as to the length of time farmed animals can remain in transit without taking a break), but also countless, blatant violations of the Twenty-Eight Hour Law with few consequences.<sup>80</sup> In one of the interviews, the driver admitting to “cheating” on his log book and explained that drivers transporting livestock often are some of the worst violators of misreporting how many hours they have been on the road with live animals.<sup>81</sup>

One of the drivers admitted to driving cattle from California to Mexico (“like 3400 miles”) without ever unloading the cows.<sup>82</sup> Another driver said that his cows stay on the truck for sixty hours, and that he does not offer them water during that entire time.<sup>83</sup> Several of the drivers

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<sup>76</sup> David Wolfson & Mariann Sullivan, *Foxes in the Hen House: Animals, Agribusiness, and the Law: A Modern American Fable*, in ANIMAL RIGHTS: CURRENT DEBATES AND NEW DIRECTIONS 205, 208 (Cass Sunstein & Martha Nussbaum eds., 2004).

<sup>77</sup> See *infra* pp. 13-14.

<sup>78</sup> *Farm Animal Transport Cruelty – Trucker Transcripts*, COMPASSION OVER KILLING, <http://cok.net/inv/farm-animal-transport/transcripts/> (last visited May 9, 2016).

<sup>79</sup> *Id.*

<sup>80</sup> *Id.*

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

admitted that it is quite commonplace for animals to die during these trips; indeed, one of the drivers even had dead pigs on his trailer at the time of the interview.<sup>84</sup>

### **Implications of Farmed Animal Transport on Human Health**

The impacts of transport on farmed animals are harsh, but the impacts on human health are also alarming. Transport (and the lack of sanitary transport) increases the risk of Salmonella. A recent study found that after cattle were loaded onto transport trucks and driven between thirty and forty minutes to packing plants, the levels of salmonella found in their feces increased from 18% to 46%.<sup>85</sup> Further, “the average prevalence levels of Salmonella . . . on hides (6%) . . . increased to 89% . . . upon arrival at the packing plant.”<sup>86</sup> Salmonella has also been known to be spread during the transport of pigs.<sup>87</sup>

Further, another recent study indicated that only 18.3% of chicken producers sanitize their trucks and trailers, which can lead to the spread of Salmonella.<sup>88</sup> In the study, 80% of the 10,317 chicken producers surveyed admitted to not sanitizing the chickens’ crates, also increasing the risks of spreading diseases.<sup>89</sup> While cleaning the cages and transport trailers seems an easy fix to reduce the health-related risks, it still seems that transport comes with a level or risk of Salmonella spreading through feces.<sup>90</sup>

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<sup>84</sup> *Id.*

<sup>85</sup> A.R. Barham, et al., *Effects of the Transportation of Beef Cattle from the Feedyard to the Packing Plant on Prevalence Levels of Escherichia Coli O157 and Salmonella Spp.*, 65 J. OF FOOD PROTECTION 280, 280 (2002).

<sup>86</sup> *Id.*

<sup>87</sup> M. Hernandez, et al., *Isolation of Salmonella Spp. in Pigs During Transport, Lairage, Slaughterline and Quartering*, SAFEPOK 2011, at 225.

<sup>88</sup> Tom Philpott, *80 Percent of Chicken Growers Never Sanitize Poop-Filled Crates*, MOTHER JONES (Jan 31, 2012, 8:13 PM), <http://www.motherjones.com/tom-philpott/2012/01/poultry-industrys-latest-dirty-secret>.

<sup>89</sup> *Id.*

<sup>90</sup> A.R. Barham, et al., *supra* note 85 at 280.

## **Defining Animal Welfare with Regard to Transport and Challenges to Attaining Animal Welfare Goals for Transportation**

When discussing animal welfare as policy, it is important to first define welfare, keeping in mind that definitions used can be quite subjective, with competing interests having their own viewpoints. There are those who argue that animal welfare is scientific and should be based upon the complexity of the animals' nervous systems (with animals with more complex nervous system deserving of greater legal consideration and protection).<sup>91</sup> Although, science contributes to human understanding of animal welfare, the concept of welfare is more holistic than what is embodied only in science.

‘Animal welfare’ is not a term that arose in science to express a scientific concept. Rather it arose in society to express ethical concerns regarding the treatment of animals. The ‘welfare’ of an animal refers to its quality of life, and this involves many different elements such as health, happiness, and longevity, to which different people attach different degrees of importance.<sup>92</sup>

Some stakeholders also look at welfare as the health of the animal, and how the animal adjusts to the conditions under which he or she lives.<sup>93</sup> There are even varying legal definitions of animal welfare (and, thus, differing degrees of treatment that is permitted under these concepts).<sup>94</sup>

In this paper, I define animal welfare by using the standards offered by the British Royal Society for the Prevention of Cruelty to Animals since these standards were developed where

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<sup>91</sup> Temple Grandin, *Animals Are Not Things: A View on Animal Welfare Based on Neurological Complexity*, Presentation at Harvard University (2002), available at [http://sites.uci.edu/transcripts/files/2014/10/2013\\_03\\_10.pdf](http://sites.uci.edu/transcripts/files/2014/10/2013_03_10.pdf).

<sup>92</sup> Appleby, *supra* note 6, at 4.

<sup>93</sup> *Animal Welfare: What Is It?*, AVMA, <https://www.avma.org/KB/Resources/Reference/AnimalWelfare/Pages/what-is-animal-welfare.aspx> (last visited May 9, 2016).

<sup>94</sup> For example, *see* the Animal Welfare Act, 7 U.S.C. § 2131 (1976), which seeks “to insure that animals intended for use in research facilities or for exhibition purposes or for use as pets are provided humane care and treatment,” but exempts certain animals based on humans’ use of those animals (such as animals killed for food). *Id.*

“farmed animals ha[ve] been on the public agenda for a number of decades,” and the standards were also created after “considerable discussion among a variety of groups.”<sup>95</sup> The standards are:

1. Freedom from hunger and thirst - by ready access to fresh water and a diet to maintain full health and vigour.
2. Freedom from discomfort - by providing an appropriate environment including shelter and a comfortable resting area.
3. Freedom from pain, injury or disease - by prevention or rapid diagnosis and treatment.
4. Freedom to express normal behaviour - by providing sufficient space, proper facilities and company of the animal’s own kind.
5. Freedom from fear and distress - by ensuring conditions and treatment that avoid mental suffering.<sup>96</sup>

However, good farmed animal welfare is often subjective. For instance, even American Humane Certified labeling programs (where labels are placed on animal products that declare the products “humane” and deem the products from farms that claim to be in compliance with these five freedoms) still allow for industry standard practices such as debeaking of chickens (a painful process where chickens’ beaks are cut off so they do not peck each other or become cannibalistic when they are in confinement) and the use of farrowing crates for pigs (cages so small that a pig cannot even turn around<sup>97</sup>).<sup>98</sup>

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<sup>95</sup> DAVID FAVRE, *ANIMAL LAW: WELFARE, INTERESTS, AND RIGHTS* 280 (2d ed. 2011). See also *RSPCA Welfare Standards*, RSPCA, <http://science.rspca.org.uk/sciencegroup/faranimals/standards> (last visited May 9, 2016) (“We work to continually develop and improve our welfare standards using a range of information, including the latest scientific research and practical farming experience. We regularly consult with other animal welfare and agricultural scientists, veterinary surgeons, and farming industry representatives. This helps to ensure that the RSPCA welfare standards continue to be at the forefront of farm animal care and welfare, and are also achievable on commercial farms.”).

<sup>96</sup> *The Five Freedoms Fact Sheet*, RSPCA, <https://www.rspca.org.uk/servlet/Satellite?blobcol=urlblob&blobheader=application/pdf&blobkey=id&blobtable=RSPCABlob&blobwhere=1210683196122> (last visited May 9, 2016).

<sup>97</sup> Tom Philpott, *You Won’t Believe What Pork Producers Do to Pregnant Pigs*, MOTHER JONES (Jul./Aug. 2013), <http://www.motherjones.com/environment/2013/06/pregnant-sows-gestation-crates-abuse>.

<sup>98</sup> *American Humane Certified Swine Animal Welfare Standards Checklist*, HUMANE HEARTLAND FARM ANIMAL PROGRAM, (Jan. 2016), [http://www.humaneheartland.org/index.php?option=com\\_content&view=article&id=3&Itemid=106&jsmallfib=1&dir=JSROOT/Animal+Welfare+Standards+Checklists&download\\_file=JSROOT/Animal+Welfare+Standards+Checklists/Swine-Animal+Welfare+Standards+Checklist\\_1\\_29\\_16.pdf](http://www.humaneheartland.org/index.php?option=com_content&view=article&id=3&Itemid=106&jsmallfib=1&dir=JSROOT/Animal+Welfare+Standards+Checklists&download_file=JSROOT/Animal+Welfare+Standards+Checklists/Swine-Animal+Welfare+Standards+Checklist_1_29_16.pdf); *American Humane Certified Animal Welfare Standards Checklist Laying Hens-Enriched Colony Housing*, AMERICAN HUMANE ASSOCIATION FARM ANIMAL PROGRAM, (Nov. 2015), [http://www.humaneheartland.org/index.php?option=com\\_content&view=article&id=3&Itemid=106&jsmallfib=1&dir=JSROOT/Animal+Welfare+Standards+Checklists&download\\_file=JSROOT/Animal+Welfare+Standards+Checklists/Hens-Enriched+Colony+Housing+Checklist\\_1\\_29\\_16.pdf](http://www.humaneheartland.org/index.php?option=com_content&view=article&id=3&Itemid=106&jsmallfib=1&dir=JSROOT/Animal+Welfare+Standards+Checklists&download_file=JSROOT/Animal+Welfare+Standards+Checklists/Hens-Enriched+Colony+Housing+Checklist_1_29_16.pdf).

Therefore, this paper argues for not simply the minimum standards that *may* be acceptable under these five aspirational goals, but for standards that seek to guard against pain, injury, and mental suffering in concrete ways.

When creating policy, there are several concerns that lawmakers must consider. First, there are the interests of animals themselves, who likely want to be free from the many stressors and physical pain endured on transport trucks.<sup>99</sup> While these animals may vary in intelligence, their ability to feel pain and stress is evidenced by high levels of stress hormones emitted during transport.<sup>100</sup> Yet, since the only true way to completely eliminate farmed animals' stress during transport is to end the transport process itself,<sup>101</sup> it becomes challenging for statutes and regulations to achieve the highest welfare goals of completely eliminating pain, injury, and mental suffering. However, given the amount of pain animals endure in transport, lawmakers should still strive to reduce it.

There are also the interests of consumers, who have overwhelmingly demonstrated that they care about farmed animals.<sup>102</sup> In multiple surveys, consumers even indicated they would pay extra for products from animals who were raised in a less cruel manner than industry standard practice.<sup>103</sup> Americans also understand that poor animal welfare translates to food safety

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<sup>99</sup> See *supra* pp. 7-11.

<sup>100</sup> Kevin J. Stafford & David J. Mellor, *Painful Husbandry Procedures in Livestock and Poultry*, IMPROVING ANIMAL WELFARE: A PRACTICAL APPROACH 96, 98 (Temple Grandin ed., 2d ed. 2015)

<sup>101</sup> Engebretson, *supra* note 7, at 218;

<sup>102</sup> In a 2014 study conducted by Humane Heartland, 95% percent of survey participants said they were “very concerned” about welfare of farmed animals. *2014 Humane Heartland Farm Animal Welfare Survey*, AMERICAN HUMANE ASSOCIATION 9 (2014), <http://www.americanhumane.org/humane-heartland/2014-humane-heartland-farm-survey.pdf>.

<sup>103</sup> *Id.* at 3 (where “75.7% [of respondents] stated that they were very willing to pay more for humanely raised meat, dairy and eggs.”). See also *Zogby Poll on American Attitudes Toward the Egg Industry*, ZOGBY INT’L (Sept. 2000), <http://isecruelty.com/poll.php> (indicating that 81% of consumers would be willing to pay more for eggs from chickens who were raised in a “humane manner.”).

risks.<sup>104</sup> Further, a recent survey conducted by the Center for Food Integrity found not only that consumers are willing to purchase products from animals who were treated with better welfare standards, but that consumers believe farmed animals should have legal protections as well.<sup>105</sup> 53% of survey participants *strongly agreed* with the statement “I would support a law in my state to ensure humane treatment of farm animals.”<sup>106</sup> Thus, it seems that the majority of people who purchase animal products would be willing to pay for better welfare and increased food safety, and they would also support greater legal protections for farmed animals.

Other stakeholders in farmed animal transport are the companies that make profits from animal production since these companies have interests in capital. Trucking, farming, animal-feed, and slaughterhouse industries stand to make money when animals are transported great distances (since transporting the animals themselves is often cheaper than transporting food for the animals).<sup>107</sup> While consumers appear to be willing to pay more for products where the animals were treated with higher levels of welfare, it is unclear if these profits would translate to the trucking companies and slaughterhouses that financially benefit from long-distance truck transport making more money under improved welfare standards.

Additionally, there is likely the agency interest of wanting a law that it can enforce (in a cost-effective way). As the USDA farmed animal transport directive indicates, inspectors only have to report on animals who are transported to slaughter.<sup>108</sup> So, the USDA does not currently have any staff members in the field inspecting animal transport trailers that are simply on the

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<sup>104</sup> Rebecca J. Vogt, et al., *Animal Welfare: Perceptions of Nonmetropolitan Nebraskans: 2011 Nebraska Rural Roll Results*, CARI: CENTER FOR APPLIED RURAL INNOVATION 4 (July 1, 2011), <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1088&context=caripubs> (finding that 77% of survey respondents “think food safety is strongly dependent on the care provided to food animals.”).

<sup>105</sup> *Cracking the Code on Food Issues: Insights from Moms, Millennials and Foodies*, THE CENTER FOR FOOD INTEGRITY 53 (2014) <http://s3.amazonaws.com/www.foodintegrity.org/wp-content/uploads/2015/08/CFI2014ResearchBook.pdf>.

<sup>106</sup> *Id.*

<sup>107</sup> Shields & Mathews, *supra* note 3, at 2.

<sup>108</sup> USDA, *supra* note 39.

road. An increase in inspection and enforcement would likely mean hiring more staff, which requires the allocation of more money. Also, the USDA would likely want some discretion as to how to enforce any statute (or regulation) that is passed. Further, the USDA inspectors currently only inspect trucks that end up at USDA-licensed slaughterhouses.<sup>109</sup> So, if a statute or regulation was passed mandating that all trucks be inspected (not just those en route to USDA-inspected slaughtered houses), the USDA would need to hire more staff to inspect those additional trucks.

Further, “[t]ransport always involves multiple players, such as farmers, traders, assembly centre operations, specialised transporters and slaughterhouse operators. The number of these players may increase with the distance of transport and thus increase risks to the welfare of the animals being transported.”<sup>110</sup> So, any law or regulation should take these stakeholders’ interests into account as well.

### **Potential Market Solutions to Promote Better Animal Welfare**

While this paper advocates for legal changes and focuses on information with which lawmakers must grapple, the legal system does not offer the only hope to combat the problems associated with farmed animal transport; there are also company and market based-solutions, which could be considered in tandem with legal solutions. Indeed, there is precedent for improving animal welfare both by means of public pressure and legal regulation (for example, when bullhooks, stick-like training devices used to strike performing elephants into compliance, were banned by the Los Angeles, California City Council, and a year later, Ringling Brothers

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<sup>109</sup> Hoffman, *supra* note 47.

<sup>110</sup> Andrea Gavinelli, et al., *Formulating Policies for the Welfare of Animals During Long Distance Transportation*, 44 VETERINARIA ITALIANA 71, 76 (2008).

caved to public pressure and agreed to retire its performing elephants from its circus shows<sup>111</sup>). Major companies also have the power to set policy with regard to how animals are treated. For example, “[l]arge meat buyers such as McDonalds and Tesco have brought about big animal welfare, environmental and labour improvements by using their tremendous purchasing power to enforce standards.”<sup>112</sup> So, just as some companies have set their internal policies to only purchase eggs from cage-free producers, these companies could refuse to purchase meat from animals who were transported over great distances in order to promote better welfare. The role of alliances between producers and meat companies also plays a part in improved treatment of farmed animals. In these alliances, “ranchers and farmers produce animals [who] must meet specific requirements for animal welfare . . . [p]roducers are often eager to join these programmes in order to get higher prices. Most of these programmes emphasize local production of the animals.”<sup>113</sup> Further, meat production companies could offer incentives for drivers who perform well and handle animals with good care.<sup>114</sup> At one slaughter facility, noted by animal scientist, Dr. Temple Grandin:

[D]eath losses were greatly reduced when truck drivers received rewards for low death losses. Financial incentives can be very effective to help prevent losses of pigs during transport and handling. Holding people accountable for losses is a great motivator to prevent losses. Bruises were greatly reduced when people were held financially accountable for them.<sup>115</sup>

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<sup>111</sup> See Deirdre Fulton, *Bowing to Public Pressure, Ringling Bros. to Phase Out ‘Horrible’ Exploitation of Elephants by 2018*, COMMON DREAMS (Mar. 5, 2015), <http://www.commondreams.org/news/2015/03/05/bowing-public-pressure-ringling-bros-phase-out-horrific-exploitation-elephants-2018>; Emily Alpert Reyes, *City Council Bans Use of Bullhooks on Circus Elephants in L.A.*, L.A. TIMES (Apr. 20, 2014, 11:42 AM), <http://www.latimes.com/local/lanow/la-me-ln-elephant-bullhooks-20140430-story.html>.

<sup>112</sup> Temple Grandin, *Foreword: Strategies to Improve Farm Animal Welfare and Reduce Long Distance Transport of Livestock Going to Slaughter*, in LONG DISTANCE TRANSPORT AND WELFARE OF FARM ANIMALS xi (Michael C. Appleby et al. eds., 2008).

<sup>113</sup> *Id.*

<sup>114</sup> Temple Grandin, *Welfare of Pigs During Transport*, GRANDIN.COM (Nov. 20, 2014), <http://www.grandin.com/welfare.pigs.during.transport.html>.

<sup>115</sup> *Id.*

Company-created farmed animal welfare transport policies also seem to be profitable for companies, meaning they would likely want to comply with higher welfare standards.<sup>116</sup>

**Legal Recommendations to Reach Animal Welfare Goals:  
A Two-Prong Approach to Better Farmed Animal Welfare**

Given the five standards for better animal welfare, lawmakers should first work to end the inherent physical and mental stress associated with transportation by seeking to reduce animal transport in general. Thus, the main goal should be to reduce the number of hours animals have to be transported since, despite safeguards and measures to produce better comfort for the animals, transport inevitably causes discomfort.<sup>117</sup> Given that transport of farmed animals is still likely to be a necessity (since the number of animals who are transported for human consumption is so high<sup>118</sup>), the second goal in creating policy should be to ensure that the conditions in which animals are transported are as humane as possible. Therefore, the two-prong approach I suggest takes into consideration the science of animal welfare and also reflects public policy goals of reducing animal suffering. An additional goal, which would reflect a minimally acceptable approach to improving animal welfare, would be to create better enforcement mechanisms for the current law.

A first step to reducing the number of animals in transport could be to encourage mobile slaughter and remove potential regulatory barriers to the viability of mobile slaughtering units.<sup>119</sup> Mobile slaughtering units are facilities that “travel[] from farm to farm . . . allow[ing] on-farm slaughter, which many people consider more humane than trucking animals to a slaughter

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<sup>116</sup> Grandin, *supra* note 112.

<sup>117</sup> Engebretson, *supra* note 7, at 218.

<sup>118</sup> USDA *supra* note 1.

<sup>119</sup> While these animals would still have to endure the slaughtering process, they at least would be spared the stress and pain of traveling long distances for several hours to stationary slaughter facilities.

facility.”<sup>120</sup> Currently, the largest slaughterhouses in the United States can kill roughly up to 29,000 animals per day,<sup>121</sup> while mobile slaughtering units can currently only kill around 500 animals per day,<sup>122</sup> making it cheaper to use the large slaughterhouses. However, multiple studies indicate that consumers are willing to pay extra for products that come from animals who were treated well (or, at least better than most animals are treated in modern, large-scale agricultural facilities).<sup>123</sup> Thus, to promote the construction, operation, and use of mobile slaughtering units, the USDA could develop a labeling system indicating to consumers whether the animals endured transport. Other labeling systems (such as “cage-free eggs”) have allowed farmers to increase their profits by selling these more humane animal products to consumers at higher prices.<sup>124</sup> Since consumers are willing to pay more for products from animals who were treated humanely,<sup>125</sup> this labeling may allow animal product producers the ability to recoup some of the costs associated with having their animals slaughtered at mobile units. However, either the USDA or a third-party certifier would need to develop clear standards for what the labels actually mean, as many food labels currently in use have no universal standards that have to be met in order to receive such a label.<sup>126</sup>

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<sup>120</sup> NICHE MEAT PROCESSOR ASSISTANCE NETWORK, <http://www.nichemeatprocessing.org/mobile-unit-overview> (last visited May 9, 2016).

<sup>121</sup> Emilene Ostlind, *The Big Four Meatpackers*, HIGH COUNTRY NEWS (Mar. 21, 2011), <https://www.hcn.org/issues/43.5/cattlemen-struggle-against-giant-meatpackers-and-economic-squeezes/the-big-four-meatpackers-1>.

<sup>122</sup> This figure is based on chickens; the figures for cows and pigs are lower. *Mobile Slaughter/Processing Units Currently in Operation*, EXTENSION (Mar. 20, 2016), <http://articles.extension.org/pages/19781/mobile-slaughterprocessing-units-currently-in-operation>.

<sup>123</sup> See *supra* notes 103, 105.

<sup>124</sup> See Justin Morgan, *Cage-Free Eggs May be Golden Goose for Retail Profits*, CHI.TRIB. (Mar. 25, 2016, 8:51 AM), <http://www.chicagotribune.com/business/ct-cage-free-eggs-retail-profits-20160325-story.html> (discussing how producing eggs, which are able to be labeled as “cage-free” has brought farmers profits; thus, farmers could also make profits from products labeled as “farm-killed”).

<sup>125</sup> See *supra* notes 98-99.

<sup>126</sup> *Decoding Meat + Dairy Products Labels*, ENVIRONMENTAL WORKING GROUP, <http://www.ewg.org/meateatersguide/decoding-meat-dairy-product-labels/#cagefree> (last visited May 9, 2016).

Mobile slaughtering units are not without their challenges though. First, there are not many of them; indeed, the first mobile slaughtering unit was built in 2002 in the United States, and there are fewer than twenty-five that operate throughout the country.<sup>127</sup> Thus, they cannot process nearly the number of animals that the largest slaughterhouses do. Second, USDA inspectors would have to travel with the units, so the USDA would likely have to incentivize these slaughter inspector positions in order to get more employees to work at the mobile units.

Either state or the federal government would also likely have to contribute to the construction costs of these facilities, and perhaps run the facilities or lease them to other farmers. There is some precedent for states contributing such funds because shielding farmed animals from stressful transport (and minimizing the health risks from such trips) is good for public policy both in the form of promoting animal welfare and human health. For example, in 2008, Vermont “pooled \$85,000 in legislative funding with private foundation money to purchase a custom-built, 36-foot trailer for a total cost of \$93,000. The plan was to create demand for the service and then entice an entrepreneur to take over — so the state put the unit up for auction in early 2012.”<sup>128</sup> This model could perhaps be replicated in other states to encourage the use of such units.

Also, Vermont is one of twenty-seven states that currently participates in a state inspection program that is equivalent to USDA slaughter inspection.<sup>129</sup> These state programs

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<sup>127</sup> EXTENSION, *supra* note 122; Vivian Giang, *Here’s What It’s Like to Butcher Farm Animals in a Mobile Slaughter Unit*, BUSINESS INSIDER (Apr. 8, 2012, 11:10 AM), <http://www.businessinsider.com/mobile-slaughter-unit-2012-4?op=1>.

<sup>128</sup> Kathryn Flagg, *A Writer Says Farewell to Her Beef Cows – at a New Mobile Slaughter Unit*, SEVEN DAYS (Mar. 5, 2014), <http://www.sevendaysvt.com/vermont/a-writer-says-farewell-to-her-beef-cows-at-a-new-mobile-slaughter-unit/Content?oid=2324916>.

<sup>129</sup> *States Operating Their Own MPI Programs*, USDA, <http://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/state-inspection-programs/state-inspection-and-cooperative-agreements/states-operating-their-own-mpi-programs> (last visited May 9, 2016); *State Inspection and Cooperative Agreements*, USDA, <http://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/state-inspection-programs/state-inspection-and-cooperative-agreements> (last visited May 9, 2016).

potentially have the ability to make it easier for states to operate their own slaughter facilities since the states which have these USDA-equivalent inspection programs do not need to rely on federal agency for approval.<sup>130</sup> So, state lawmakers in the remaining twenty-three states (that do not have state-run, USDA-equivalent inspection programs) could promote the switch to state-based USDA-equivalent inspection programs as a way to bypass USDA inspection, have their own inspectors, and, thus, make it easier to promote the usage of mobile slaughtering units.

Even if mobile slaughtering units were incentivized through state contribution and labeling systems, there will likely be some animals who are still transported for slaughter. Further, farmed animals are still likely to be transported for other causes, such as moving the animals from where they are born to feeding lots where they are made to gain weight. Thus, it is important to consider the welfare and comfort of the animals on these trips, and there are legal changes that can help better promote welfare.

### **Expanding the Farmed Animal Transport Statutory and Regulatory Scheme to Include Chickens and Other Birds**

When examining legal solutions to promote animal welfare, it is important to assess the current legal landscape. As noted, the Twenty-Eight Hour Law excludes chickens, turkeys, and other birds from it, yet these animals constitute roughly 95% of the land animals who are slaughtered every year for their flesh.<sup>131</sup> Since Congress' intent in passing the Twenty-Eight Hour Law was to prohibit animal cruelty and promote better animal welfare, because chickens are animals, it seems they should be offered legal protections under the law as well.<sup>132</sup>

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<sup>130</sup> *Id.* See also *Mobile Slaughtering and/or Processing*, CORNELL SMALL FARMS PROGRAM (last visited May 9, 2016), <http://smallfarms.cornell.edu/2012/07/08/mobile-slaughtering-andor-processing/>.

<sup>131</sup> USDA *supra* note 1.

<sup>132</sup> See *supra* note 23. Also, see *supra* note 25 (explaining that chickens were not transported great distances in the 1800s, and thus, lawmakers in the 1800s would not have likely given much thought to the protection of chickens during transport.).

If the Twenty-Eight Hour Law was to remain in place,<sup>133</sup> the first issue USDA should contemplate is whether chickens are included in a definition of “animals” under it. The USDA should, accordingly, promulgate a regulation to decide definitively since once chickens are protected under the Twenty-Eight Hour Law, the USDA would have to start enforcing the law when chickens are brought to slaughter per the USDA’s directive (which demands that its inspectors report suspected violations if the animals “appear exhausted or dehydrated”).<sup>134</sup>

There is quite a bit of evidence to suggest that chickens should be protected under the Twenty-Eight Hour Law. For instance, chickens are defined within the animal kingdom, both within common dictionary definitions of the term and within industry literature.<sup>135</sup> Given that Congress explicitly intended to protect animals when it originally passed the Twenty-Eight Hour Law, chickens are part of the group that Congress sought to shield.<sup>136</sup> The Supreme Court has ruled that examining legislative history is a legitimate and instructive way to ascertain a statute’s meaning and how it should be applied;<sup>137</sup> thus, the USDA should look to congressional intent to determine that chickens should be included in the group of farmed animals who are protected in transport. Moreover, the original version of the Twenty-Eight Hour Law singled out “cattle, sheep, swine, or other animals,” but the current version of the law applies to “animals,” lending support to the argument that chickens should be included in the definition under theories of statutory construction since chickens and turkeys are animals.<sup>138</sup> It could also be argued that by amending the original list of species in favor of simply using the term “animals,” Congress meant “animals” to be interpreted broadly (and thus, inclusive of chickens, turkeys, and other

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<sup>133</sup> See *infra* pp. 25-26, where I recommend that the amount of hours animals are in transport should be based on science and could, accordingly, be shorter than 28 hours (and thus, statutes and regulations should reflect such).

<sup>134</sup> USDA, *supra* note 39.

<sup>135</sup> See Afaf Al-Nassar et al., *Overview of Chicken Taxonomy and Domestication*, 63 WORLD’S POULTRY SCI. J. 285, 286-87 (2007); MERRIAM-WEBSTER DICTIONARY 124 (11<sup>th</sup> ed. 2003).

<sup>136</sup> See *supra* note 23.

<sup>137</sup> *Zuni Pub. Sch. Dist. No. 89 v. Dep’t of Educ.*, 550 U.S. 81, 105-06 (2007).

<sup>138</sup> Rev. Stat. U.S. § 4386 (1873); 49 U.S.C. § 80502 (1994).

birds).<sup>139</sup> While including chickens and other birds under the Twenty-Eight Hour Law would necessarily require more enforcement mechanisms (such as having more inspectors be able to carry out the USDA directive of looking over chickens who arrive to slaughter on transport trucks<sup>140</sup>), if the policy goal of legislating animal welfare is to reduce the suffering of animals, then chickens and other birds should be just as free from distress and suffering as other farmed animals in transport.

### **The Benefits of Species-Specific Statutory and Regulatory Provisions**

Known science about animals should inform and drive animal welfare policy. If chickens and other birds are to be included in farmed animal transport laws, their inclusion triggers the issue of whether there should be separate statutory and regulatory provisions for animals based on species. Scientific literature suggests that animals should be transported in groups of their own species to avoid stress and injury,<sup>141</sup> but whether the law should make distinctions based on species is a separate matter.

While all animals should have a minimum level of care, such as “proper ventilation and a floor surface that minimizes slipping,”<sup>142</sup> there is room to legislate (or at least promulgate regulations) different treatment for animals based on their species. Twenty-eight hours as a catch-all figure is antiquated and not science-based. Thus, any number of hours that animals can be kept in transport should be based on science and physical (and possibly mental) features of various species. Special attention in developing statutes and regulations should be paid to: travel time, temperature, and animal density. For example, the European Union and Canada both

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<sup>139</sup> 49 U.S.C. § 80502 (1994).

<sup>140</sup> USDA, *supra* note 39.

<sup>141</sup> FEDERATION OF ANIMAL SCIENCE SOCIETIES, GUIDE FOR THE CARE AND USE OF AGRICULTURAL ANIMALS IN RESEARCH AND TEACHING 54 (3d ed. 2010).

<sup>142</sup> *Id.*

recognize different hour requirements for farmed animals in transport based on species.<sup>143</sup>

Moreover, animal welfare science research also supports this conclusion, with scientists recognizing that some farmed animals are better suited to transport than others.<sup>144</sup>

Specifically, if chickens are to be protected under transport statutes and regulations, lawmakers should look to scientific needs of chickens to regulate their proper treatment. For chickens in particular, stress due to temperature is the largest threat during transport.<sup>145</sup> So, lawmakers should mandate (either via statute or USDA regulation) that trailers carrying chickens must only travel when the weather outside is a certain temperature, or that the trailers allow for heating and air-cooling along with proper ventilation. Although, it is important to involve scientists (particularly animal scientists from a variety of fields since “[a]nimal welfare is based on different areas of scientific research; health, behavior, physiology and ethology are examples of the various scientific fields that need to be taken into account in risk assessment on animal welfare”<sup>146</sup>) in this discussion as, for example, a lay lawmaker or citizen pushing for a petition for rulemaking might think the solution to over-heating is to mandate air-conditioning in the vehicles; however, air-conditioning can often cause more problems for chickens since the chickens may not be able to adjust to the outside temperature once unloaded.<sup>147</sup>

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<sup>143</sup> The European Union regulation on farmed animal transport provides that journey times for “domestic animals of bovine, ovine, caprine and porcine species” shall not exceed eight hours. However, when animals are given legally mandated bedding and feeds, pigs may be transported for twenty-four hours (with continuous access to water), while all other animals can only travel fourteen hours, with a one hour rest period before traveling a further fourteen hours. Council Regulation 1/2005/EC on the Protection of Animals During Transport and Related Operations, 2004 O.J. L 3/1. Canada recognizes that the “total time in transport and lairage during which the animals have not received feed and water, from the premises of origin to final destination, should not exceed 52 hours for cattle, sheep and goats, or 40 hours for pigs, horses and poultry.” *Recommended Code of Practice for the Care and Handling of Farm Animals – Transportation*, NATIONAL FARM ANIMAL CARE COUNCIL (2001), <http://www.nfacc.ca/codes-of-practice/transport/code#section8>.

<sup>144</sup> Gary C. Smith, et al., *Effect of Transport on Meat Quality and Animal Welfare of Cattle, Pigs, Sheep, Horses, Deer, and Poultry*, GRANDIN.COM (Dec. 2004), <http://grandin.com/behaviour/effect.of.transport.html>.

<sup>145</sup> THE POULTRY SITE, *supra* note 59.

<sup>146</sup> Gavinelli, et al., *supra* note 11010, at 74.

<sup>147</sup> Phillip J. Clauer, et al., *supra* note 60.

Overcrowding is another issue when it comes to transporting chickens, so Congress via statute or the USDA via regulation should provide how many chickens can be packed per cage.<sup>148</sup> Other chicken-specific recommendations with which lawmakers might have to grapple, include: avoiding wire-bottomed cages (as chickens' toes can get stuck in them, causing injury), using crates that keep the chickens' heads inside the crates (as chickens can break their necks if they stick their heads out of the crates and their crate hits another crate), and thoroughly disinfecting and cleaning all of the cages and trailers.<sup>149</sup> However, this latter recommendation might present a hard legal solution. After all, the USDA could mandate cleaning schedules and cleanliness standards, but it might be nearly impossible to enforce as an unclean cage might not be apparently obvious to an inspector.<sup>150</sup>

Like chickens, pigs also face problems with overheating during transport. The same way certain statutes mandate that companion animals have proper shelter when outside,<sup>151</sup> which usually includes proper bedding of some sort, it is possible for the USDA to establish a regulation that pigs be provided with certain bedding to reduce overheating in transport. Animal science recommendations provide that pigs should never be bedded "with straw during hot weather. . . . [And] [w]hen the temperature is below 60 degrees F (15 C), bed pigs with straw or deep, dry shavings to keep them warm."<sup>152</sup> Thus, the USDA should consider adding temperature regulations to its current transport regulation and make these regulations based on species.<sup>153</sup>

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<sup>148</sup> *Id.* ("Most hauling problems and deaths occur because of overcrowding. Allow enough space for the birds to sit comfortably during transport. Don't use crates which hold more than 4 to 6 adult birds. This will keep piling or fighting by birds to a minimum, improve air-circulation, and limit accumulation of body heat.")

<sup>149</sup> *Id.*

<sup>150</sup> *Id.*

<sup>151</sup> For example, *see* Minn. Stat. Ann. § 343.40 (West 2005), which provides bedding and shelter requirements for dogs kept outside.

<sup>152</sup> Temple Grandin, *Recommended Trucking Practices*, LIVESTOCK TRUCKING GUIDE (Nov. 2013), <http://www.grandin.com/behaviour/rec.truck.html>.

<sup>153</sup> 9 C.F.R. § 89.1 (1963).

Types of transport equipment could also be legally mandated, including the inclination of trailer ramp angle since pigs, in particular, can get stressed and overheat when forced to walk up angles of certain inclines.<sup>154</sup> Further, pigs should be able to lie down on the trucks, which also means that they might not necessarily need as many rest breaks as cattle since cattle have to stay standing upright.<sup>155</sup> There is also evidence to indicate that while breaks can be good for pigs, there are advantages to keeping the trucks moving as well (especially since heat collects in a stationary vehicle).<sup>156</sup> Thus, lawmakers should mandate specific times for how long pigs can remain on trucks and also set rules for the amount of square footage each pig should have while in transport.<sup>157</sup>

Cows also have special needs when it comes to transport. While pigs can lie down on transport trucks so the need to unload and reload pigs is not as pressing, the most stressful aspect of transport for cattle is “confinement on a moving vehicle.”<sup>158</sup> This is because cows are sensitive to noise and vibration.<sup>159</sup> However, confining cows on stationary vehicle at rest stops and “loading/unloading and repenning [cows] in a new environment are less stressful events”<sup>160</sup> than transporting cows on a moving truck. Therefore, any statute or regulation should mandate frequent rest stops for cows where they are unloaded from the truck trailers (or, at the very least given a break from moving vehicles’ noise and vibration by being allowed to rest in the trailers while the trucks are stationary). Unlike pigs, cows can be moved on hoof (i.e., cows can be

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<sup>154</sup> Grandin, *supra* note 114.

<sup>155</sup> *Id.*

<sup>156</sup> *Welfare of Pigs During Transport*, THE PIG SITE (Feb. 12, 2015), <http://www.thepigsite.com/articles/4956/welfare-of-pigs-during-transport/>. (“Heat builds up rapidly in a stationary vehicle. If a truck has to stand when the temperature is over 80°F (27°C), it should be parked by a fan bank. Another good alternative when a packing plant has a break-down is to provide ventilation by keeping the trucks moving. Death loss increases as temperatures increase. Truck drivers should drive carefully and avoid sudden stops and rapid acceleration.”).

<sup>157</sup> See Grandin, *supra* note 114 for a graph that details how much space pigs in transport should have.

<sup>158</sup> Gary C. Smith, et al., *supra* note 144.

<sup>159</sup> *Id.*

<sup>160</sup> *Id.*

transported while they are standing), so cows do not necessary require the same amount of space for transport trailers, but this also means that they likely need more breaks that allow them to live down.<sup>161</sup> The law could perhaps give thought to creating different mandates for the age of the cows as well since calves in particular are quite susceptible to changing and extreme temperatures during transport.<sup>162</sup>

Because science is a changing field, it would likely be best to allow the USDA regulatory authority to implement species-specific rules via agency regulations since regulations are often easier to pass and amend than statutes are. The notice-and-comment period during agency rulemaking would also allow animal scientists to voice their opinions about policies that would be best for animals. While an effective farmed animal transport protection statute should recognize that species have different welfare needs, the statute should give the USDA the authority to promulgate exact recommendations with regard to travel time, temperature, and animal density based on species.

### **The Role of Technology and the Law**

The legally mandated use of technology could also play a role in promoting better animal welfare on transport trailers. The Twenty-Eight Hour Law was passed in the 1800s, and while amended in 1994, the amendment was minor (to add language about the law applying to common carriers as well as rail carriers) and did not incorporate the use of technology.<sup>163</sup> While visual inspections of animals' health can often be inaccurate, innovative apps that gather “information about the health of . . . flock[s], as well as enabl[e] [farmers] to make comparisons

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<sup>161</sup> PHILIP G. CHAMBERS & TEMPLE GRANDIN, GUIDELINES FOR HUMANE HANDLING, TRANSPORT AND SLAUGHTER OF LIVESTOCK 40 (Gunter Heintz, et al. eds., 2001); Grandin, *supra* note 152.

<sup>162</sup> Gary C. Smith, et al., *supra* note 144. (discussing the differences between temperature requirements for cattle and explaining that “[u]pper critical temperature for adult cattle is 30°C but neonatal calves are most affected by low temperatures.”).

<sup>163</sup> Rev. Stat. U.S. § 4386 (1873); 49 U.S.C. § 80502 (1994).

with previous flocks and determine measures for health and welfare improvement” might be a start to accurately identifying how transport affects animals. For example, the iturkey and ichicken apps were recently developed with the hopes using technology to improve farmed animal welfare.<sup>164</sup> While these apps do not currently have features for transport, if transport features were developed for these or similar apps, they could perhaps take the “guess work” out of visual inspections.

Also, the European Union mandates that each truck trailer carrying farmed animals (specifically, pigs, cattle, horses, goats, or sheep) for over eight hours be outfitted with a satellite tracking device to track the truck’s movement and verify that each journey is declared to appropriate authorities and that the driver complies with animal transport laws.<sup>165</sup> This takes human error out of the equation. While drivers could lie on their log books (or unintentionally misreport time), barring a technological malfunction, these trackers reduce human error and promote an accountability that self-reporting does not. So, lawmakers in the United States should consider implementing a similar measure.

However, one of the most important aspects of having information-gathering technology is having a way to collect the information, and a mechanism in place to be able to use this information to enforce animal welfare laws and regulations. Yet, the European Union, despite its good intentions for improving farmed animal welfare with the satellite trackers, is lacking in this capacity. Although the European Union requires that its animal transport truck trailers be outfitted with satellite trackers, the European Union directive (that mandates the satellite trackers) does not create a central tracking agency (and, thus, a central way to gather satellite

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<sup>164</sup> *Turkey Tracker*, INT’L INNOVATION, Nov. 24, 2014 at 13; *New App for Turkey and Chicken Welfare*, THE POULTRY SITE (Jan. 8, 2015), <http://www.thepoultrysite.com/poultrynews/34059/new-app-for-turkey-and-chicken-welfare/>.

<sup>165</sup> Council Regulation 1/2005/EC, *supra* note 143.

information does not exist).<sup>166</sup> So, even though the data was being collected, it did not mean much with regard to violators being cited nor true welfare reform for animals.<sup>167</sup> Thus, if United States lawmakers implement a satellite tracking system, it is crucial that they also develop a central way to collect and report the information gathered from the tracking system.

Yet, because trucks are driven by humans, there is still the potential for human error. Thus, lawmakers should also consider whether truck driver education and/or certification should be required. Indeed, Dr. Temple Grandin advocates that everyone “handling animals should be trained in behavioral principles of animal handling.”<sup>168</sup> At the very least, it seems logical that drivers should be required to receive education on how their driving affects animals since farmed animals are not simply cargo the way a chair or desk is.<sup>169</sup>

### **Economics of Food Production, Statutory Phase-In Times, and Staff Resources**

While studies indicate that consumers are willing to pay more for food that comes from animals who were treated humanely,<sup>170</sup> it is possible that having more protective farmed animal transport statutes and regulations might make it so food is more expensive (since current animal transport practices are profitable<sup>171</sup>), to which Americans are not accustomed.<sup>172</sup> Thus, lawmakers should consider this when making policy. Another consideration is phase-in time periods since when the government mandates that businesses need to change their operational practices, business owners often need time to make such changes (and do not want to be hit with

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<sup>166</sup> Victoria Cussen, *Enforcement of Transport Regulations: the EU as Case Study*, in LONG DISTANCE TRANSPORT AND WELFARE OF FARM ANIMALS 113, 131 (Michael C. Appleby et al. eds., 2008).

<sup>167</sup> *Id.*

<sup>168</sup> Grandin, *supra* note 152.

<sup>169</sup> CHAMBERS & GRANDIN, *supra* note 161, at 48.

<sup>170</sup> *See supra* notes 103, 105.

<sup>171</sup> Shields & Mathews, *supra* note 3, at 2.

<sup>172</sup> Gustavo Maria, *Meat Quality*, in LONG DISTANCE TRANSPORT AND WELFARE OF FARM ANIMALS 77, 79 (Michael C. Appleby et al. eds., 2008) (“Cheaper food for humans sometimes involves greater pain and suffering for food animals ; and the proportion of income spent on food has been declining. The consumer has become used to the idea of cheap food, and has not generally been expected to pay a premium for animal produce reared in a more traditional manner.” (internal citations omitted)).

an immediate, heavy financial burden when the law goes into effect). For example, states that have banned certain farmed animal confinement methods, such as gestation crates, often provided several years for farmers to adjust to the new laws banning such.<sup>173</sup> Thus, statutes or regulations promoting the use of temperature-controlled trailers or trailers with specific incline-angles would likely need to have similar implementation timelines so companies involved in animal production would not suffer financially.

Lastly, the USDA needs to do a better job of enforcing farmed animal transport statutes and regulations. The USDA could start by better enforcing the Twenty-Eight Hour Law by not simply directing its staff to inspect truck trailers at slaughterhouses when animals “appear” dehydrated or exhausted.<sup>174</sup> Instead, the USDA could amend its directive and start to inspect all transport trailers carrying farmed animals (if it is not possible to inspect all trailers, perhaps a random, unannounced inspection program could be adopted). The USDA would also need to enforce any new, science-based regulations and statutes that are passed. While enforcement might be expensive, in order to create true change for animals, there needs to be a mechanism to carry out the laws since “[l]aws [only] have effects on animal welfare provided that they are enforced.”<sup>175</sup> While the penalty provision of the Twenty-Eight Hour Law (or new, science-based regulations and statutes) could be increased, without inspectors to enforce the law, it is unlikely that the penalty would change transport behavior.

To conclude, promoting greater animal welfare in transportation is not easy, and it will likely require a combination of market-based and legal strategies to be successful. Farmed animal transportation brings inherent stress to animals, and any statutes and regulations should

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<sup>173</sup> See Lindsay Patton, *9 States That Have Banned Cruel Gestation Crates for Pigs*, ONE GREEN PLANET (Jan. 27, 2015), <http://www.onegreenplanet.org/animalsandnature/states-that-have-banned-cruel-gestation-crates-for-pigs/>.

<sup>174</sup> USDA, *supra* note 39.

<sup>175</sup> Donald Broom, *The Welfare of Livestock During Road Transport*, in LONG DISTANCE TRANSPORT AND WELFARE OF FARM ANIMALS 157, 161 (Michael C. Appleby et al. eds., 2008).

first seek to reduce the amount of time animals are in transit to reflect the five aspirational standards of good animal welfare. As a secondary goal, Congress and the USDA should strive to pass science-based statutes and regulations that provide for more humane conditions on transport truck trailers. The world has changed significantly since the 1800s, when the first federal farmed animal transport law was passed; and our future policies should reflect positive change and advancement with regard to animal welfare.