TRADE BARRIERS IN NORTH AMERICA

An analysis of non-tariff legal and regulatory trade barriers for the North American Strategy for Competitiveness

A Report on the Harmonization of Trucking Regulations

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The trucking industry is a significant player in the United States economy. Almost 75 percent of all domestic commercial tonnage is moved by truck, or 9.2 billion tons of freight (Frittelli, 2016). This significant quantity of freight is moved by nearly three million trucks logging an estimated 397 million miles in 2010. Trucking represents around 80 percent of the country’s freight revenues at an estimated $603.9 billion. At the borders, trucking transported 56.5 percent of the value of trade between the United States and Canada in 2010 and 66.2 percent of the value of trade between the United States and Mexico in 2010 (American Trucking Association, 2016).

Since freight trucking is responsible for such a large portion of commerce and trade, even a slight delay or rise in cost can result in significant losses to the United States’ economy. While there are necessary stops that truckers must take for safety precautions, non-tariff trade barriers can impede the free flow of goods among states and among North American Free Trade Agreement (NAFTA) countries. By identifying these non-tariff trade barriers and providing recommendations for their removal, this report will provide a roadmap for stakeholders in the trucking and freight industry to reduce impediments for the efficient movement of goods across the United States and North America.

In order to identify non-tariff trade barriers, the research team interviewed a number of stakeholders within the freight industry, including those involved in the decision-making process at the state and federal level, private trucking carriers and logistics companies, among others. The team also reviewed relevant literature on key issues facing the trucking and freight industry to supplement the qualitative interviews and to identify potential solutions.

As a result of these interviews and literature studies, a number of non-tariff trade barriers among U.S. states were identified:

- A growing driver shortage that threatens to slow commerce and increase prices for both trucking companies and consumers.
- Arbitrary or inconsistent oversize/overweight permit restrictions that require additional time for truckers in order to comply with varying regulations across states.
- Hours of service restrictions that can create uncertainty and increased compliance costs.
- Speed limit variations that can lead to increased time spent on the road and an increase in accidents.
- Obscure regulations that lead to unnecessary burdens on trucking companies and increased compliance costs.

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In light of these barriers, this report also outlines recommendations for state governments seeking to reduce the negative effects. These recommendations include:

- Federal mandates superseding minor, arbitrary regulations relating to the movement of oversize/overweight vehicles.
- Streamlining all state-level regulations and requirements through one centralized office for freight in each state.
- Enhancing communication among transportation stakeholders, especially in the planning phases of new initiatives.

At the U.S.-Mexico border, a number of non-tariff trade barriers, which add time and expense include:

- Mexican-operated trucks being prohibited from operating within the United States due to permitting, immigration, and other restrictions.
- Congestion at the border due to redundant security checks.
- Congestion at the border due to lack of border infrastructure.
- Stringent agricultural regulations for Mexican farmers. In the context of the United States market, compliance costs are higher for Mexican farmers than for American farmers.
- Restrictions on United States trucks operating in Mexico.

At the U.S.-Canada border, the following non-tariff trade barriers add time and costs to transporters:

- Congestion at the border due to security checks.
- Congestion at the border due to lack of border infrastructure, such as an inadequate number of lanes necessary for primary and secondary inspection.

Recommendations for improving the movement of trucks at international borders include:

- A more streamlined process at international borders that does not require multiple, overly redundant inspections for cargo.
- Increasing the number of low-risk importers by increasing the number of participants in the Fixing America’s Surface Transportation Act (FAST) program.
- Increasing freight data collection at the border to further analyze movement of goods and identify efficient practices.
INTRODUCTION

The trucking industry is a significant player in the United States economy. Almost 75 percent of all domestic commercial tonnage is moved by truck, or 9.2 billion tons of freight (Fritelli, 2016). This significant quantity of freight is moved by nearly three million trucks logging an estimated 397 million miles in 2010. Trucking represents around 80 percent of the country’s freight revenues at an estimated $603.9 billion. At the borders, trucking transported 56.5 percent of the value of trade between the United States and Canada in 2010 and 66.2 percent of the value of trade between the United States and Mexico in 2010 (American Trucking Associations, 2016).

Since freight trucking is responsible for such a large portion of commerce and trade, both within the United States and across its borders, even a slight delay or rise in cost can result in significant losses to the United States’ economy. While there are necessary rest stops truckers must take for safety precautions, non-tariff trade barriers can impede the free flow of goods among states and among NAFTA countries. By identifying these non-tariff trade barriers and providing recommendations for their removal, this report will provide a roadmap for stakeholders in the trucking and freight industry to diminish impediments to the efficient movement of goods across the country and North America.

This report will identify non-tariff trade barriers existing both among U.S. States and at the United States border crossings with Canada and Mexico. For example, different states often have varying provisions for the movement of trucks and freight on their highways, requiring companies to comply with a number of disparate regulations. Additionally, infrastructure impediments and unenforced provisions fail to satisfy the vision of the North American Free Trade Agreement (NAFTA). Our research will analyze the extent to which these barriers burden companies and deter business along the I-35 corridor, hindering trade and economic growth. The report focuses on Interstate-35 as a case study with generalizable implications for highway networks across the country. This highway stretches across six states and provides a picture of how states differ in their transportation policies, and how those differences inhibit trade.

As a federal system, composed of numerous sovereign states, the United States often experiences states acting in their best interests rather than the best interest of the country (Rodgers, 1973). Protectionist trade barriers lead to less competition and therefore, higher prices to consumers. The most common forms of trade barriers are administrative in nature including licensing, regulatory fees, or costly performance criteria (e.g. a state requiring truckers to install a specific type of equipment on their trucks not found in any other state, leading to increased compliance costs) (Craig & Sailors, 1987).
INTERSTATE NON-TARIFF TRADE BARRIERS

I. THE PROBLEM

According to recent Congressional Research Service reports, trucking accounts for nearly three-quarters of all freight movement within the United States (Fritelli, 2016). Delays caused by regulatory impediments disrupt “just-in-time” logistics (Dalton, 2013). Just-in-time logistics is a system widely adopted by United States’ manufacturing to cut costs and facilitate speedy delivery (Dalton, 2013). In terms of transporting goods, the just-in-time methodology reduces the amount of time the good is in inventory; therefore, it is made available to the end consumer faster (Murray, 2016).

The movement of freight across highways is of critical importance for states along the I-35 corridor. With the exception of Texas and Minnesota, the I-35 corridor states are landlocked. Although there are railroads and major airports in those states, freight movement by trucks is the most used mode to transport goods. As can be seen in Table 1, which illustrates the value and amount of goods that were shipped in 2013 from the I-35 corridor states via commercial vehicles (Federal Highway Administration, 2012), the I-35 corridor states move millions of tons of goods annually, accounting for billions of dollars in interstate commerce.

<table>
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<tr>
<td>I-35 Corridor State</td>
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<td>Iowa</td>
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In 2013, the trucking industry averaged only seven percent profit margins, which was up from four percent the prior year (Biery, 2014). The margins are subjected to pressures from labor, maintenance, and fuel cost. When regulations cause delays and subject freight companies to fines, the overall cost to ship goods increases further. These costs cut into an already low profit margin, and the trucking industry is negatively impacted.

The fundamental challenge to the reduction of regulatory impediments is balancing the burden on freight companies with the safety of people and the demands on the infrastructure. According to the Insurance Institute for Highway Safety Highway Loss Data Institute, a total of 3,660 people died in large truck crashes in 2014, (Highway Safety Highway Loss Data Institute, 2016). From an infrastructure perspective, $168 billion was spent on highways in 2014 (Congressional Budget Office, 2015). Achieving the balance is difficult because there are high stakes on both sides of the equation.
Through the U.S. Department of Transportation (USDOT), the federal government tries to strike this countervailing of the Federal Highway Administration (FHWA) and the Federal Motor Carrier Safety Administration (FMCSA). The FHWA “provides stewardship over the construction, maintenance and preservation of the Nation’s highways, bridges and tunnels; FHWA also conducts research and provides technical assistance to state and local agencies in an effort to improve safety, mobility, and livability, and to encourage innovation” (USDOT: Federal Highway Administration, 2016). The FMCSA’s mission is to “reduce crashes, injuries and fatalities involving large trucks and buses” (Federal Motor Carrier Safety Administration, 2016).

In addition to the federal government, state-level agencies have the ability to create freight movement regulations within their borders, often building on federal regulations. The states have the right to enact such regulations at a state level based on its police power to regulate safety, health, and welfare (U.S. Const. amend. X).

Federal and state agencies implement regulations based on perceived risks to safety and infrastructure. However, the difference between perceived risk and actual risk may lead to costly, unnecessary regulatory barriers without proper justification. For instance in 2015, Congress rejected a measure to increase the length of double trailer rigs from 28’ to 33’ based on safety concerns. The studies by the trucking industry suggest that longer trucks would lead to fewer trucks on the road, which would make the roads safer and result in less damage to the infrastructure (Laing, 2015).

Furthermore, the regulatory barriers may have other unintended consequences by artificially creating “winners” and “losers”, as there may be stakeholders who benefit from the system to the detriment to others. The stakeholders who benefit from the regulatory barriers influence legislation in order to keep the barriers in place. The biggest labor union in country, Teamsters Union, which has invested over $3 million to the election cycle in the year of 2014, has a significant influence in freight regulation. Hence, it has taken the government into multiple legal battles protesting federal regulations on freight movement (The Center for Responsive Politics, 2015).

The challenges in balancing the trucking industry priorities with public safety and infrastructure do not foreclose the opportunity to harmonize trucking regulations. This study focused on the non-tariff trade barriers among the states in the I-35 corridor. It first identified six primary non-tariff barriers (1) the growing shortage of truck drivers, (2) vehicle weight and dimensions regulations, (3) height and clearance restrictions, (4) speed limits, (5) hours of service, and (6) obscure state regulations. The second step was to analyze prior attempts to harmonize, and determine what obstacles have prevented the harmonization of trucking regulations. Finally, we propose a feasible and realistic approach to accomplish harmonization among the states.

**II. A BRIEF HISTORY OF REGULATION**

In order to understand disparities in state trucking regulations, it is first necessary to understand their historical development and the division of power between the federal and state governments. The first federal truck size and weight limit restrictions were enacted in 1956 by the Federal-Aid Highway Act of 1956 (Federal-Aid Highway Act, 1956), which established federal limits for the interstate highway system—a system of 209,000 roads, including connected main highways, primary, and secondary feeder routes specifically designated in federal regulations (U.S. Department of Transportation, 2000; U.S. House of Representatives, Committee on Transportation and Infrastructure, Subcommittee on Highways and Transit, 2008). Prior to 1956, these types of restrictions were controlled by individual states, which enacted their own regulations according to the needs of each state (U.S. Department of Transportation, 2000). When the Federal-Aid Highway Act of 1956 took effect, it included provisions for states whose size and weight limit restrictions were higher than those of the newly
enacted restrictions to be exempted through a “grandfather clause.” The clause allowed for the continued operation of trucks above the federal limits within grandfathered states (U.S. Department of Transportation, 2000).

A new series of changes came about in 1974 with amendments to the FHA of 1956. Most notably, these amendments established a “bridge formula,” which created rules for axle spacing and maximum weights allowed on any groups of axles based on the weight and distance between the axles (U.S. House of Representatives, Committee on Transportation and Infrastructure, Subcommittee on Highways and Transit, 2008). See Figure 1 below.

The 1974 amendments expanded the rights of grandfathered states by allowing trucks in those states to exceed the bridge formula. The grandfathered states still have regulations that vary from what is established with the “bridge formula” resulting in an absence of uniformity among the states.

States continued to control truck size and weight limits on both state and interstate highways for the first 20 years following the FHA of 1956. However, as federal investments in the interstate highway system increased, so did the need for more federal regulations (U.S. Department of Transportation, 2000). The Surface Transportation Assistance Act (Surface Transportation Assistance Act, 1982) (STAA) was pivotal legislation in the context of the history of the interstate highway system regulation. This legislation affected the entire “national network” and substantially expanded federal regulations pertaining to truck size and weight. New size limits included both trailer size and vehicle width. The STAA of 1982 established minimums and maximums for vehicle weight, width, and length. Additionally, the STAA also designated roads to be included in the Federal-Aid Primary System (FAP), highways that connect to the Interstate System, so as to exclude those access routes from state restrictions (U.S. Department of Transportation, 2000). The intent of the STAA of 1982 was to improve carrier productivity and to create a uniform national minimum standard. The STAA also addressed issues with states’ permitting and grandfather provisions. Since the 1956 Act lacked specificity about absolute limits, many states did not have records of allowable weights. This dispute was resolved by allowing states to permit vehicles “which the state determines could be lawfully permitted” as of 1956 or 1975.
The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) enacted significant changes to federal highway regulation determining size and weight. Most notably, the ISTEA froze the weights of what it termed as “Longer Combination Vehicles” (LCVs), (Intermodal Surface Transportation Efficiency Act, 1991) and limited their routes to specific highways, also limiting states’ ability to remove restrictions on these vehicles. The ISTEA also identified a number of “high priority” corridors to become a part of the interstate. ISTEA was succeeded in 1998 by the Transportation Equity Act for the 21st Century (TEA-21), which significantly increased federal contributions to federal highway projects and reworked some of the policies of ISTEA (Transportation Equity Act for the 21st Century, 1998). In 2012, Congress enacted the Moving Ahead for Progress in the 21st Century Act (MAP-21), which required the USDOT to conduct a Comprehensive Truck Size and Weight Limits Study to, among other purposes, address “the effect on levels of enforcement between trucks operating at or within federal truck size and weight (TSW) limits and trucks legally operating in excess of federal limits . . . estimat[e] the effects of freight diversion due to alternative configurations” (MAP-21, 2012). The Fixing America’s Surface Transportation Act (FAST Act) is the most recent transportation bill, enacted in December of 2015 (FAST Act, 2015). The FAST Act does not make any significant changes to the existing general federal size and weight limits, but it does change weight provisions with respect to a number of specific vehicles (e.g., emergency, automobile transport, logging, and vehicles carrying milk products) (FAST Act, 2015).

At present, regulation of trucks and freight movement, especially with regard to truck size and weight limits, is divided between states and the federal government. Federal truck weight laws apply only to the Interstate System, but federal vehicle size law applies to the entire National Network (including the Interstate System and FAP connecting highways) (U.S. Department of Transportation, 2000). Thus, federal law regulates trucks by specifying basic truck size and weight standards, while making exceptions to recognize grandfathered rights of 16 states and special permits. Otherwise, the authority to set size and weight limits, as well as other requirements, on non-Interstate System roads rests with the states.

The resulting variance in state regulations has led to economic inefficiency and time loss because, “the equipment acceptable in one state cannot always be used in neighboring states” (Craig & Sailors, 1987). Some truckers choose to comply only with the most stringent standards in order to more easily travel across state lines without making too many changes but this also puts them at a disadvantage when it comes to increased costs.

Transportation regulations and restrictions are only as effective as their level of enforcement and resulting compliance. Commercial vehicle compliance enforcement is managed at the state level. The enforcement of restrictions ensure that non-compliant commercial vehicles pay a premium or a penalty (noncompliance without permit), and these funds help maintain the infrastructure that could be damaged by overweight and oversized vehicles.

Studies of commercial vehicle compliance typically focus on weight limits rather than size limits (Carson, 2011). The lack of reliable estimates regarding weight/size limit noncompliance presents a challenge to accurately assess the direct relationship between enforcement activities and noncompliance of commercial vehicle weight and size limits. However, there is sufficient information to illustrate trends of enforcement and outcomes.

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1 “A ‘longer combination vehicle’ means a vehicle consisting of a truck tractor and more than one trailer or semitrailer that operates on the Dwight D. Eisenhower System of Interstate and Defense Highways with a gross vehicle weight of more than 80,000 pounds.”
The level of enforcement of weight/size regulations differs by state. The National Cooperative Highway Research Program’s NCHRP 20-07, Task 303, categorizes the patterns of weight/size limit enforcement using two dimensions: (1) level of enforcement and (2) level of penalties (Carson, 2011). NCHRP evaluated case studies performed in several states and found the following:

According to a study conducted by the National Cooperative Highway Research Program, higher levels of enforcement are generally associated with higher truck size and weight compliance (Carson, 2011). Additionally, based on prior studies, estimated violation rates for fixed Interstate weigh stations approximate less than one percent when enforcement is present and 15 percent when enforcement is not present (Carson, 2011).

### III. THE FEDERAL V. STATE POWER STRUGGLE

**The Commerce Clause**

The Commerce Clause of the United States Constitution designates Congress the power “to regulate commerce with foreign nations, and among the several states, and with the Indian tribes” (U.S. Const. art. I, § 8, cl. 3). Implied within the Commerce Clause is the “dormant Commerce Clause,” which prohibits individual states from passing legislation that discriminates against or overly burdens interstate commerce (Legal Information Institute, 2016). The dormant commerce clause acts, in effect, as a check on states’ reserved Tenth Amendment powers (those not enumerated to the federal government) (U.S. Const. amend. X). Though the dormant Commerce Clause is not specifically mentioned in the Constitution, the framers envisioned this concern and, believing protectionist tariffs would severely cripple the economies of individual states and the country at large, enacted a constitutional ban on burdensome tariffs (Economic Report of the President, 1985).

Attempts by the Supreme Court to define “commerce” have also led to confusion, with some contending “commerce refers to trade or exchange,” while others have interpreted the word more broadly as encompassing commercial or social business between individuals from different states (Legal Information Institute, 2016). The Court’s most recent decisions in cases like Morrison (U.S. v. Morrison, 2000) and Lopez (United States v. Lopez, 1995) have clarified a more determinative test defining “commerce” as (1) the channels of interstate commerce, (2) the instrumentalities of interstate commerce, and (3) activities (affecting more than one state) that have a substantial relation to interstate commerce. Although the Commerce Clause prohibits state laws that discriminate against or excessively burden interstate commerce, significant administrative barriers to interstate trade still exist and challenges are rarely successful.

If the Supreme Court is the final interpreter of the Commerce Clause, it appears it has been ineffective and allowed almost any administrative barrier as long as it is not explicitly aimed at an out-of-state producer. The...
Court has also declined to set new legal precedents to broaden restrictions on trade barriers. Some have argued that the Court, while trying to protect the general welfare of state citizens by allowing these administrative trade barriers, has actually failed to protect them from narrow interest groups engaging in rent seeking behavior at the expense of the public (Craig & Sailors, 1987).

Preemption

In viewing the scope of the federal state power struggle, even early Supreme Court cases clarified that when there is a part of the Commerce Clause lying “dormant”, the power goes to the states (Cooley v. Board of Wardens, 1852). The caveat, however, is that Congress can always take that power back, especially if an issue requires national uniformity. If states cannot reach an agreement that aligns disparate regulations, the federal government could potentially, in the interest of interstate commerce, adopt farther-reaching regulations that created uniformity among all the states. The effect of this type of federal regulation would be to “preempt” the states from enacting legislation or adopting regulations interfering with the federal scheme. Preemption comes into play when there exists a conflict between federal and state laws. Under the Supremacy Clause of the Constitution, the federal law displaces the conflicting state law (U.S. Const. art. VI., § 2).

IV. BARRIERS IDENTIFIED

According to Truitt (1941) an interstate trade barrier has been defined as “a statute, regulation or practice which operate or tends to operate to the disadvantage of persons, products, or services coming from sister states to the advantage of local residents, products, or enterprises” (p. 209). These barriers disadvantage the practical and economical operation of the private market. Currently, there is a lack of economic consideration of some regulations, and policy makers accept the status quo because the system still functions, irrespective of the inefficiency. In the next section, we break down the barriers for the I-35 corridor, as a case study for interstate highways in the United States. This interstate corridor spans seven states and serves two international borders, which provide ample examples of different or conflicting policies. While the types of regulations to harmonize from I-35 states may differ from those in other states, the principle of harmonization allows this system can be appropriately generalized to apply to other examples.

Barrier One: Growing Shortage of Drivers

Multiple stakeholders, both within the private sector and state government, mentioned a developing shortage of truck drivers as a growing area of concern for the freight and trucking industry. A driver shortage was also identified as one of the top three critical issues facing the trucking industry by the American Transportation Institute (2015). In order to keep pace with a growing economy, the trucking industry will need to hire an estimated 890,000 new drivers over the next decade (Costello & Saurez, 2015). According to the American Trucking Associations, the truck driver shortage was approximately 48,000 in 2015 and is projected to increase to 175,000 by 2024 (Costello & Saurez, 2015). This shortage is caused in part by an aging workforce with far fewer young adults entering the industry than in previous years. The median age for truck drivers in the United States is 49, compared to a median age of 42 for all American workers (Costello & Saurez, 2015). Also contributing to the shortage is high driver turnover rates due to difficult working conditions, such as long hours on the road.

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2 Definition used for the trade barrier in Hearings before the Temporary National Economic Committee, 76th Cong., 2nd Sess. (1940) No.10, at 265, (T.N.E.C.Hearings)
The American Trucking Associations (ATA) cites federal regulations as also contributing to the driver shortage. The ATA points specifically to the regulation that 18-year-olds can operate commercial vehicles within state borders but are not allowed to drive freight trucks across state borders until they reach 21 years of age. The ATA further claims that this regulation prevents the industry from recruiting younger individuals right out of high school (Meyers, 2015).

The economic impact of the driver shortage thus far has been largely felt by the trucking industry, but with the shortage expected to worsen, it is likely consumers will begin to feel the effects of the driver shortage (Meyers, 2015). Over the last two years, driver wages have increased 8-12 percent, which also increases overall costs for transportation companies, given that 34 percent of per mile operating cost in the trucking industry is for driver pay (Costello & Saurez, 2015). The inability to hire qualified drivers has led some carriers to turn down business, despite a high demand and having the resources otherwise to complete shipments, solely because of a scarcity of drivers (Costello & Saurez, 2015).

### Barrier Two: Vehicle Weight and Dimensions

In 1956, President Dwight D. Eisenhower signed into law the Federal Highways Act (Public Law 84-627), creating the current federal-aid highway program. Several state statutes already enacted were grandfathered into the federal-aid highway program and states still have jurisdiction over state roads not covered by federal law.

The following is a list of restrictions under federal law (NCFRP, 2011):

- Maximum gross weight of vehicles on Interstate highways: 80,000 lbs
- Maximum axle weight on Interstate highways: 20,000 lbs on a single axle; 34,000 lbs on a tandem axle
- States may not impose lower limits than the federal limits on Interstate highways
- Width of vehicles: states must allow 8 feet 5 inches on the National Network (Interstates, plus 160,000 miles of other main roads)
- Trailer length and numbers: states must allow single trailers at least 48 feet in length and tractors pulling two 28-ft trailers on the National Network.

As long as trucks remain on the federal highway network, they must only comply with the uniform vehicle size and weight dimensions set forth by federal standards. As many stakeholders within the United States' trucking industry have noted, however, delays on federal highways, construction, and other logistical concerns might compel truckers to travel on state highways where they must then comply with varying size and weight restrictions.

Table 3 below is a sampling of trucking vehicle weight and dimensions for states along the I-35 corridor. While it appears most states in the sample have adopted the Federal Highway standards for maximum weight and width, the variation in length requirements among this small sampling of states denotes a possible barrier for trucks.
Unlike commercial vehicles’ weight and length, the height of commercial vehicles is not subject to federal practices of many states. Member states who all were able to weigh in on how differing travel permits affected interstate commerce. The study forecasted that vehicle miles traveled (VMT) would decrease among conventional tractor semitrailers.

In order to understand disparities in state trucking regulations, it is first necessary to understand their historical operations at a state level based on its police power to regulate safety, health, and welfare (U.S. Const. amend. X). Restrictions were controlled by individual states, which enacted their own regulations according to the needs of any groups of axles based on the weight and distance between the axles (U.S. House of Representatives, Committee on Transportation and Infrastructure, 2016). The regulation of speed limits imposes a threshold for all vehicles on federal and state roads. In 1974, the Federal Highway Administration (FHWA) and the U.S. Department of Transportation (DOT) adopted maximum speed limits of 55 miles per hour. Despite the effort to police and enforce the speed limit, states have the autonomy to set and enforce their own speed limits (U.S. Department of Transportation, 2011).

The Federal Motor Carrier Safety Administration (FMCSA) recognized the high fatality rate for large trucks and buses in its 2016 report “Truck and Bus Safety Trends” (Federal Motor Carrier Safety Administration, 2016). The margins are subjected to pressures from labor, maintenance, and fuel cost. When seen in Table 1, which illustrates the value and amount of goods that were shipped in 2013 from the I-35 corridor, it is evident that the results are skewed in favor of Texas and Minnesota. Although there are railroads and just-in-time methodology reduces the amount of time the good is in inventory; therefore, it is made available to freight movement within the United States (Frittelli, 2016). Delays caused by regulatory impediments disrupt the flow of goods, as evidence by the shortage expected to worsen, it is likely consumers will begin to feel the effects of the driver shortage (Meyers, 2014). In the next section, we break down the barriers for the I-35 corridor, as a case study for interstate highways in economic growth. The report focuses on Interstate-35 as a case study with generalizable implications for the AASHTO recommendations regarding harmonization of oversize and overweight truck travel permits.

Table 3: Vehicle Weight and Dimensions for States along I-35

<table>
<thead>
<tr>
<th>I-35 Corridor</th>
<th>Miles of Highway</th>
<th>Highest Max Weight</th>
<th>Lowest Max Length</th>
<th>Lowest Max Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>589.16</td>
<td>80,000 lbs (gross weight)</td>
<td>59' trailer length (semi-trailer)</td>
<td>8' 6&quot;</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>235.96</td>
<td>90,000 lbs (gross weight for 6 axle)</td>
<td>53' (Special regulation regarding trailers up to 59' 6&quot;)</td>
<td>8' 6&quot;</td>
</tr>
<tr>
<td>Kansas</td>
<td>234</td>
<td>80,000 lbs.</td>
<td>45' (single motor vehicle)</td>
<td>8' 5&quot;</td>
</tr>
<tr>
<td>Missouri</td>
<td>114.74</td>
<td>92,000 lbs.</td>
<td>65' (Truck-Trailer Combinations)</td>
<td>8' 5&quot;</td>
</tr>
<tr>
<td>Iowa</td>
<td>219.23</td>
<td>80,000 lbs (gross weight)</td>
<td>53' trailer length (semi-trailer)</td>
<td>8' 6&quot;</td>
</tr>
<tr>
<td>Minnesota</td>
<td>301.58</td>
<td>80,000 lbs.</td>
<td>45'</td>
<td>8'6&quot; *</td>
</tr>
</tbody>
</table>

In the presence of disharmonized trucking regulations, most truckers choose to comply with the most stringent standards in order to more easily travel across state lines without making too many changes but this also puts them at a disadvantage when it comes to increased costs (Transportation Research Board, 2002).

In addition to variance in regular weight and dimensions regulations, states enact their own oversize/overweight (OS/OW) limits and charge a fee to truckers who have received a permit to transport OS/OW cargo within the state. Transporting OS/OW cargo introduces its own set of hurdles as each state has their own unique set of rules that vary widely on minor details such as the color of text on signs and the proper signage for escort vehicles. States vary widely on a number of regulations related to OS/OW including the length of escort vehicles; width of escort vehicles; days and hours of operation; signage for transport and escort vehicles; warning flag color, location, and size; and warning light requirements.

Figure 2 below (AASHTO: Subcommittee on Highway Transport, 2012) demonstrates the variance in state regulations toward OS/OW transport vehicles compared to the AASHTO recommendation of having a flashing or strobe amber light visible for 500 feet. Attempts to harmonize the OS/OW standards will be discussed later in the report.

3 (Texas Department of Motor Vehicles, 2016)
4 (Oklahoma Department of Public Safety, 2016)
5 (Kansas Trucking Connection, 2007).
6 (Coalition for Transportation Productivity, 2016)
7 (Iowa Department of Transportation, 2016)
8 (Minnesota Department of Transportation, 2016)
As a result of the subcommittee’s research, the following recommendations were made (AASHTO: Subcommittee on Oversize and Escort Requirements for Oversize/Overweight Vehicles).

The study evaluated the impact of expanding the restrictions across western states to limit LCVs only by federal axle weight and stated that the removal of limits will lead to a decrease in highway safety, and more wear and tear on roads which requires more maintenance.

The National Sleep Foundation’s 2012 Sleep in America Poll showed that only 27 percent worked the same number of hours each day. Over half of the truck drivers reported only eight hours of driving time and 15 percent reported only 6 or less hours. Drivers who have been on duty for 70 hours in seven consecutive days, a driving window limit of not more than 16 hours, are at a great risk for fatigued driving. In the National Sleep Foundation’s 2012 Sleep in America Poll, it was also found that over half of the American public do not believe that commercial truck drivers are at risk for fatigued driving. In the light of this, the recent reversal of the mandatory break for drivers during 1 am to 5 am, by Congress, may have potentially significant effects in terms of increased risk of fatigue-related accidents. Numbers of lives lost as well as costs related to these incidents have the potential of increasing.

Years of routine efforts by Congress to harmonize, and determine what obstacles have prevented the harmonization of trucking regulations. Finally, we propose a feasible and realistic approach to accomplish harmonization among the states.

The Interstate Commerce Commission is responsible for rule-making and for enforcement of the federal trucking regulations. The ICC’s authority and jurisdiction are derived from the Interstate Commerce Act of 1920, which was amended by the Motor Carrier Act of 1935 and the Motor Carrier Revenue Act of 1950. The ICC’s jurisdiction has been transferred to the Federal Motor Carrier Safety Administration (FMCSA) under the Federal Highway Administration (FHWA) of the U.S. Department of Transportation (U.S. DOT).

The Commerce Clause of the United States Constitution designates Congress the power “to regulate commerce with foreign Nations, and among the several States, and with the Indian Tribes.” This power is augmented by the text of the Constitution itself to provide the power “to set up a uniform rule of law throughout the United States.”

Prior to the 1940s, states could establish whatever regulations they desired for commercial motor vehicle operations. When Congress passed the Motor Carrier Act of 1935, it authorized the Interstate Commerce Commission (ICC) to promulgate federal regulations that could apply to any state that elected to adopt them. The ICC promulgated federal regulations under this authority. The first set of federal regulations was promulgated in 1956 under the authority of the Motor Carrier Act of 1961.

Federal Regulations permit vehicles “which the state determines could be lawfully permitted” as of 1956 or 1975. The grandfathered states still have regulations that vary from what is established with the bridge formula. The grandfathered states are Maine, New Hampshire, Vermont, New York, Pennsylvania, and Ohio. The Surface Transportation Board (STB) has stated that the federal government set a nationwide speed limit of 55 mph, which states were encouraged (but not required) to implement. The Federal Highway Administration (FHWA) has also stated that to evaluate the effect of freight diversion due to alternative configurations is estimable. The ISTEA also identified a number of “high priority” corridors to become a part of the interstate. ISTEA was signed into law in 1991.

In viewing the scope of the federal state power struggle, even early Supreme Court cases clarified that when Congress exercises its power under the Commerce Clause, it exercises its power in its entirety. The FHWA has identified what it considers to be the key non-tariff barriers to the free flow of goods among states and among NAFTA countries. By identifying the key non-tariff barriers, the FHWA is able to set up a road map for stakeholders in the trucking and freight industry to diminish impediments to the efficient movement of goods and services.

Figure 2 presents a map of the United States colored by degrees of compliance with AASHTO’s recommendations for the use of an oversize warning light requirement. The map is intended to illustrate the states that have implemented the requirement, those that have not implemented the requirement, and states that have their own requirements. The map is a useful tool for stakeholders to understand the current state of the implementation of the requirement. The map is a useful tool for stakeholders to understand the current state of the implementation of the requirement.
Barrier Three: Height and Clearance

Unlike commercial vehicles’ weight and length, the height of commercial vehicles is not subject to federal limits. Minimum height and clearance limits are codified in state statutes. Most minimum limits range from 13’6” to 14’; however, there are exceptions. The ranges along the I-35 corridor are illustrated graphically below in Figure 3 (U.S. Department of Transportation, 2004).

Figure 3  Minimum Overpass Clearance for I-35 States

Despite the difference in minimum height clearance among the I-35 corridor states, the actual impacts to the movement of freight is minimal. The standard height of an eighteen wheeler vehicle is 13 feet 6 inches (Barra-das, 2013).

Commercial vehicles that do not adhere to the height and clearance limits have safety implications. Although situations may be rare, the lack of awareness of minimum height and clearance limits could cause commercial vehicles to get stuck under overpasses and other structures. According to Texas state law, damage to overpasses caused by commercial vehicles must be paid by the operator/owner (Tex. Transp. Code 621, 47 O.S., Chapter 14, K.S.A. § 8-1904, § 304.170 R.S.Mo., Iowa Code 321.463,Minn. Stat. § 169.81, Minn. Stat. § 169.88).

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9 States may allow loads taller than the statutory height clearance limits with a statue issued permit. In these cases, alternate routes must be taken to accommodate the taller loads.
Anecdotal evidence for overpass incidents may be found in news stories throughout the United States. One tragic event in Texas led to a loss of life when a commercial truck damaged an overpass on I-35 (Ciara O'Rourke & Ben, 2015). The Texas Department of Transportation (TxDOT) said the overpass had a physical clearance height of 14 feet, and one half inch, but the signage around the bridge set the height clearance at 13 feet, 6 inches (Ciara O'Rourke & Ben, 2015). However, a reporter at the scene saw a sign that indicated a height clearance of 14 feet, 3 inches (Ciara O'Rourke & Ben, 2015).

Texas statute limits vehicle heights of 14 feet on the highways. Commercial vehicles that exceed the height may obtain a permit through The Texas Department of Motor Vehicles (TxDMV). These commercial vehicles are also provided with an alternate route to avoid lower clearance heights. In this case, the commercial vehicle operator had a permit, yet the incident still occurred. In addition to the loss of life, traffic and commerce were impacted because the structure had to be rebuilt.
Enforcement Penalties

If a commercial vehicle violates the state’s weight limits, the vehicle is subject to penalties. The type and amounts of penalties vary by state.\(^{10}\) Operators of noncompliant commercial vehicles need to be aware of the penalty variation so that they may plan accordingly.

The rationale for overweight permits and penalties for violation is that heavy vehicles wear down the road surface at a significantly greater rate than regular traffic (on average, one 18-wheeler is equivalent to 9600 cars) (U.S. Government Accountability Office, 1979). The permits function like a tax for road repair and maintenance.

Barrier Four: Speed Limits

The regulation of speed limits imposes a threshold for all vehicles on federal and state roads. In 1974, the federal government set a nation-wide speed limit of 55 mph, which states were encouraged (but not required) to adopt through federal funding incentives.

In the 1995 National Highway System Designation Act, Congress removed speed limits entirely from federal jurisdiction, leaving states free to regulate highway speeds within their borders. Each state has the ability to set its own maximum speed, with some states topping out at 85 mph. Some states have higher speed limits, which allows commercial vehicles to cross the state in less time and therefore at lower cost. Other states have lower speed limits for all vehicles, and separate still lower speed limits specifically for commercial vehicles. Lower speed limits targeting commercial vehicles, though done in the name of safety, contribute to increased transportation time and cost. Lower speed limits may also contribute to saving on fuel costs, which plays into the calculus of commercial transportation (Copulos, 1986; Transportation Research Board, 1998).

Various studies have examined variation in speed limits for commercial and passenger vehicles (Yuan & Garber, 2002; Herkey & Mera, 1994). When all vehicles move at a slower rate, the likelihood of a collision or accident is decreased (SWOV Institute for Road Safety Research, 2012). Because commercial vehicles travel alongside passenger traffic and monitoring speed on all highways is not feasible, maintaining consistent low speeds is unrealistic, leading some states to devise a plan to restrict only large trucks and commercial vehicles to a lower (and therefore safer according to the logic) speed. Holding commercial vehicles to speeds of 15 miles per hour lower than regular traffic can potentially add considerable cost or time to transportation, and as more trucks are on the road, congestion can increase. Particularly on rural two-lane highways or on roads with elevation shifts, truck compliance with a low speed limit can slow both commercial and passenger traffic. Truck drivers have many restrictions, including number of hours they can be on the road, leading some to break the commercial speed limit or pass other commercial vehicles in order to meet deadlines. Some studies indicate that changing the speed limit has no effect on actual vehicle speeds, meaning trucks might disregard the lower limit (U.S. Department of Transportation, 1992).

The literature on disparate speed limits between these two classes of vehicles is conflicted on whether there is an optimal policy, but generally finds that uniform and differential speed limit policies can have negative implications (Gaber & Gadiraju, 1992). While in many cases, different truck sizes have differing speed limits, the safety implication for these rules lacks consensus. One interesting element of the speed limit differentials pertains to roadway collisions between passenger vehicles and commercial trucks (Ghods, Saccomanno, & Guido, 2012; Neeley & Richardson, 2009). According to a 2004 study by the Federal Highway Administration,

\(^{10}\) Table 9, Appendix A
the differential speed limit between freight trucks and non-commercial drivers leads to two different types of accidents, but empirically each lead to statistically similar numbers of accidents (Federal Highway Administration, 2004). When trucks travel slower than cars, data suggest more accidents involving passenger cars colliding with trucks, whereas when moving at similar speeds, trucks more frequently cause the impact with cars. Companies must factor insurance into their transportation costs. The insurance can account for damage to the truck, other vehicle, and the goods on board, and can add to the cost of trade, but insurance is required either way and speed limits do not impact the type of coverage needed.

**Barrier Five: Hours of Service**

*Federal Regulations*

The hours-of-service regulations are found in Part 395 of the Federal Motor Carrier Safety Regulations (Federal Motor Carrier Safety Administration, 2015). These regulations are developed and enforced by the Federal Motor Carrier Safety Administration, which is part of the United States Department of Transportation.

Most drivers must follow the Hours of Service (HOS) regulations if they drive a commercial motor vehicle (CMV). In general, a CMV is a vehicle that is utilized for business purposes and is involved in interstate commerce and fits any of these descriptions:

- Weighs 10,001 pounds or more
- Has a gross vehicle weight rating or gross combination weight rating of 10,001 pounds or more
- Is designed or used to transport 16 or more passengers (including the driver) not for compensation
- Is designed or used to transport 9 or more passengers (including the driver) for compensation
- Is transporting hazardous materials in a quantity requiring placards

The HOS regulations focus on when and how long drivers are allowed to drive by placing specific limits on the amount of time a truck is driven and how many total hours a driver can work before they are no longer permitted to drive a commercial motor vehicle. CMV operators must follow three maximum duty limits at all times. Regulation standards include: 14-hour “driving window” limit, 11-hour driving limit, and 60/70 - 70/80 hour duty limits (Federal Motor Carrier Safety Administration, 2015; See Appendix A).

*State Regulations*

Most of the states along the I-35 corridor follow the federal regulation guidelines for HOS. Under certain circumstances, deviation from the federal HOS regulation is permitted. States are allowed to define intrastate hours of service regulations, provided that the following limits are followed: a 12-hour driving limit with a driving window limit of not more than 16 hours. Drivers who have been on duty for 70 hours in seven consecutive days or 80 hours in eight consecutive days are not permitted to drive. The state-specific intrastate hours of service are listed in Table 4 below (Dong et. al, 2014).
Table 4: State Specific Hours of Service Regulations

<table>
<thead>
<tr>
<th>State</th>
<th>State Specific HOS Regulations</th>
</tr>
</thead>
</table>
| Iowa    | • A driver operating intrastate for a farm operation as defined in Iowa Code section 352.2, or for an agricultural interest when the commercial vehicle is operated between the farm as defined in Iowa Code section 352.2 and another farm, between the farm and a market for farm products, or between the farm and an agribusiness location.  
  • A driver or a driver-salesperson for a private carrier, who is not for hire and who is engaged exclusively in intrastate commerce, may drive 12 hours, be on duty 16 hours in a 24-hour period, and be on duty 70 hours in 7 consecutive days or 80 hours in 8 consecutive days.  
  • For-hire drivers who are engaged exclusively in intrastate commerce and who operate trucks and truck tractors exclusively for the movement of construction materials and equipment to and from construction projects may also drive 12 hours, be on duty 16 hours in a 24-hour period, and be on duty 70 hours in 7 consecutive days or 80 hours in 8 consecutive days. |
| Kansas  | • The maximum driving and on-duty times do not apply to intrastate drivers of agricultural commodities or farm supplies, as long as the transportation is limited to an area within a 100 air-mile radius from the source of the commodities or distribution point for the supplies. |
| Minnesota | • Agricultural commodities or farm supplies for agricultural purposes in Minnesota during the planting and harvesting seasons from March 15 to December 15 of each year.  
  • Sugar beets during the harvesting season from September 1 to May 15 of each year.  
  • The transportation of agricultural commodities or farm supplies, if the transportation is limited to an area within a 150 air-mile radius from the source of the commodities or from the retail or wholesale distribution point of the farm supplies. |
| Missouri | • 49 CFR Part 395 does not apply to farm trucks or vehicles operated in intrastate construction  
  • The maximum driving and on-duty times do not apply to intrastate drivers of agricultural commodities or farm supplies for agricultural purposes, as long as the transportation is limited to an area within a 100 air-mile radius when transporting happens during planting and harvesting seasons |
The first phase of the harmonization effort was completed in March of 2014 and reviewed the current regulation restrictions. LCVs are defined as “any combination of a truck tractor with two or more trailers, or semitrailers restricted in weight …” 

In 1956, President Dwight D. Eisenhower signed into law the Federal Highways Act (Public Law 84-627), which allowed almost any administrative barrier as long as it is not explicitly aimed at an out-of-state producer. The intent of the STAA of 1982 was to allow states to determine their own size and weight restrictions, on non-Interstate System roads rests with the states. 

States continued to control truck size and weight limits on both state and interstate highways for the first 20 years since the passage of the Federal Highways Act of 1956. The federal government, recognizing the need for uniformity in the trucking industry, took the initiative to establish uniform regulations through the Federal Motor Carrier Safety Administration (FMCSA) and the American Association of State Highway and Transportation Officials (AASHTO) Subcommittees. These efforts were aimed at harmonization, and determining what obstacles have prevented the harmonization of trucking regulations. Finally, we address some of the non-tariff barriers that impede the competitive flow of commerce and fits any of these descriptions:

| Oklahoma | • Oklahoma has adopted the federal HOS regulations with some modifications  
|          | • All drivers of vehicles over 26,000 pounds are subject to federal guidelines, but intrastate drivers are allowed a maximum of 12 hours of driving time and may not drive after 15 hours on-duty  
|          | • Drivers must have 8 consecutive hours off-duty between shifts |
| Texas   | • GENERAL RULE - Passenger Carriers - Interstate (395.5) The following regulations only apply to passenger carriers and drivers operating in interstate commerce  
|         | • 10 Hour Rule: Drivers are allowed to drive for 10 hours following 8 consecutive hours off duty  
|         | • 15 Hour Rule: A motor carrier cannot permit or require a driver to drive after 15 hours are spent on duty following 8 consecutive hours off-duty  
|         | • 60 and 70 Hour Rules: A motor carrier must not permit or require a driver to drive after having been on duty 60 total duty hours in seven days 70 total duty hours in eight days GENERAL RULE - All Carriers - Intrastate In Texas (37 TAC 4.12) 12 Hour Rule (37 TAC 4.12(a)(2)) Drivers are allowed to drive for 12 hours following 8 consecutive hours off-duty. 15 Hour Rule (37 TAC 4.12(a)(2)) A motor carrier cannot permit or require a driver to drive after 15 hours are spent on duty following 8 consecutive hours off-duty. NOTE: Drivers in intrastate commerce violating the 12 or 15 hour limits shall be placed out-of-service for eight consecutive hours. A motor carrier must not permit or require a driver to drive after having been on duty 70 total duty hours in seven days A driver may restart a 7 consecutive day period after taking 34 or more consecutive hours off-duty  
|         | • HOS Documentation: Driver’s Record of Duty Status (395.8) Every driver shall prepare a record of duty status (Driver’s daily log) in his/her own handwriting for each 24-hour period, unless operating under the 150 air-mile radius exemption. Failure to complete or retain the log, or knowingly falsifying logs or other reports, makes the driver and/or carrier liable to prosecution.  
|         | • Submitting/Retaining Duty Status Log (395.8(i)) The driver must submit the original log sheet to the employing carrier within 13 days after completion. When a motor carrier uses a driver initially or intermittently, that carrier must obtain from him/her a signed statement giving the total time on duty for the preceding 7 days and the time at which he/she was last relieved of duty. Records of duty status must be maintained for a minimum of 6 months at the carrier’s principal place of business, with all supporting documents.
The first phase of the harmonization effort was completed in March of 2014 and reviewed the current regulation of trucks. The increased use of LCVs might actually lead to a four percent decrease in total pavement costs due to the National Network as a result of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). The 2004 restrictions. LCVs are defined as “any combination of a truck tractor with two or more trailers, or semitrailers.” Restrictions enacted in 1956, were grandfathered in allowing states to determine their own size and weight restrictions at a state level based on its police power to regulate safety, health, and welfare (U.S. Const. amend. X).

Western United States (Washington, Oregon, Idaho, Montana, North Dakota, South Dakota, Wyoming, Nevada, Utah). More and more investment. A 2002 Transportation Research Board study suggested an increase in truck fees could cover this cost without increasing fuel taxes, and in 2011, the lawmakers authorized a new round of trucking fee increases. According to recent Congressional Research Service reports, trucking accounts for nearly three-quarters of all motor carrier movement of freight (Collins, 2015). According to a 2015 report by the American Trucking Associations, trucking accounts for nearly three-quarters of all motor carrier movement of freight (Collins, 2015).

Implications of HOS Regulations

The federal regulations enacted in 2013 were heavily amended from their previous form to enhance the safety measures for drivers by attempting to diminish driver fatiguided. Annual estimations concluded that these amendments to the regulations would end up saving 19 lives and prevent up to 1,400 crashes. The result would be a savings of nearly $280 million (Brose, 2016).

Recently, however, a provision passed by Congress in December 2014, temporarily deferred the 2013 rules. The weekly limit was increased back to 82 hours a week. Additionally, the condition of taking breaks between the hours of 1 a.m. to 5 a.m. on successive nights was also eliminated (Brose, 2016).

Deaths from commercial trucking accidents were a record high of 4,000 in 2012 and each year they continue to increase. Yet, in a rush to finalize a $1.1 trillion spending bill to keep the United States government funded into 2015, Congress approved a provision that rolled back the HOS requirements intended to improve truck driver and motorist safety. Regrettably, this may end up putting more fatigued truck drivers on the road (Brose, 2016).

Background on FMCSA Efforts to Battle Fatigue-Related Accidents

The first set of federal HOS regulations were introduced in the 1930’s by the Interstate Commerce Commission (ICC). These regulations limit the amount of time a driver can be on the job as well as spend driving in a 24-hour time frame. The truck drivers are required to keep a record of the time they spend on duty, driving and not driving, in each 24-hour window. The HOS regulations were largely unchanged for more than 60 years from 1940 to 2003 when the Federal Motor Carrier Safety Administration (FMCSA) authorized the first set of amendments. According to these changes, a driver could not function a property-carrying motor vehicle if they had not taken the last successive 10 hours off. After this, the driver could be on duty for 14 hours with 11 hours of consecutive driving time. Weekly activities of the drivers were also limited to a minimum of 70 and a maximum of 80 hours a week, depending on the State they are driving in. Additionally, the drivers were bound to take an uninterrupted 34-hour break before starting their next work week (Brose, 2016).

Sleep Deprivation and Circadian Rhythm and their Effects on Drivers’ Alertness

Losing as little as one or two hours of sleep a night can have severe damaging effects, especially as sleep deprivation effects are cumulative. It should be thought of as each person having a sleep bank and each hour lost is a reduction from that bank. The only way this loss can be covered is sleeping for an extra hour. Sleep deprivation is caused not only by fewer sleeping hours but also by disrupted or fragmented sleeping patterns. Drivers who average fewer than five hours of sleep per night are nearly five times more at risk to be involved in a fatigue-related crash (Brose, 2016).

It has been documented that accidents related to fatigue are more common in the early hours of 2 am to 6 am. The circadian clock or the internal clock of the body controls the timing of sleep and wakefulness of a person’s body through the day. A person’s body feels sleepy during nighttime as it is synchronized to the external cycles of light and dark. The circadian pattern of the body assists people to feel more attentive at certain times of the day. The lowest points of alertness usually occur from the time of 3 am to 5 am, whereas performance is reduced from 12 am to 6 am (Brose, 2016).

In the light of this, the recent reversal of the mandatory break for drivers during 1 am to 5 am, by Congress, may have potentially significant effects in term of increased risk of fatigue related accidents. Numbers of lives lost as well as costs related to these incidents have the potential of increasing.
Restorative Sleep and the Fatigued Driver

Commercial truck drivers are at a great risk for fatigued driving. In the National Sleep Foundation’s 2012 Sleep in America Poll, truck drivers were reported to work an average ten hour shift, with the largest portion working shifts from nine to less than 12 hours. Only 51 percent of truck drivers worked the same schedule each day, and only 27 percent worked the same number of hours each day. Over half of the truck drivers reported only eight to 12 hours off between shifts. On average, truck drivers reported 51 hours spent working each week. Almost 40 percent of truck drivers reported that they rarely had a good night’s sleep (Brose, 2016).

Yet, 31 percent of the truck drivers responding reported they only needed six to seven hours of sleep per night to function at their best. Further, 60 percent of truck drivers reported they did not drive while drowsy and 22 percent admitted they had driven drowsy at least once per month. Almost 70 percent of drivers reported that sleepiness had never impacted their job performance and 15 percent admitted it impacted their job performance at least once a week. Sixteen percent of truck drivers reported experiencing any work incident because of sleepiness, with two percent reporting an accident and 14 percent reporting a “near miss” (Brose, 2016).

These statistics validate a seemingly obvious detachment between the objective data known about fatigue (e.g., accident data, medical literature, driving hours) and the common subjective conviction of truck drivers that fatigue is not affecting their capability to safely do their jobs. This puts all citizens who share our roadways with commercial trucks at risk, particularly when hours-of-service regulations are insufficient to ensure that truck operators are getting the sleep that they need. Given the financial motivations that incentivize drivers to haul as much as possible unchecked by breaking for sleep, a truck driver is not likely to admit that fatigue played any instrumental role in an accident, even though it’s proven that the two are connected (Brose, 2016).

Barrier Six: Obscure State Regulations

One well-informed stakeholder mentioned the presence of additional inspection requirements in Texas for tanker trucks transporting natural gas as a potential barrier. Despite federal regulations and inspection requirements for tanker trucks that transport liquid petroleum, compressed natural gas, and liquid natural gas, states are able to enact their own inspection requirements on trucking companies transporting natural gas, which adds to the compliance costs of these companies. Even if an out-of-state tanker truck carrying natural gas has passed federal requirements and inspections, they must still pass the Texas state inspection by a Texas Railroad Commission official before they are able to operate in the state (16 Tex. Admin. Code § 9.202 (2016). This means they must travel with an empty tank when entering the state until they pass the inspection, adding to the significant time and expense necessary for tanker trucks to comply with this requirement. It was the stakeholder’s belief that these additional measures are designed to favor in-state trucking companies while disincentivizing out-of-state businesses, mostly due to the heavy compliance costs associated with getting additional inspections for each truck in the fleet.

Another example of an obscure state regulation that created a non-tariff trade barrier is an Illinois law that mandated trucks to use a type of curved mudguard that was different from the straight ones required by 45 other states. Each time a truck entered Illinois, the driver had to install the different mudguards costing both time and money. This law made it prohibitively expensive for certain trucks to operate in all states. The law was eventually declared unconstitutional in 1959 by the United States Supreme Court, however the court has allowed different states to limit the maximum allowable width for trucks even though this width varies among states. (Bibb v. Navajo Freight Lines, Inc, 1959).
V. ATTEMPTS TO HARMONIZE AND FUTURE RECOMMENDATIONS

There have been multiple attempts to liberalize size and weight limits over the years such as Federal-Aid Highway Act (1956), MAP-21 (2012), the Surface Transportation Assistance Act (1982), and the Intermodal Surface Transportation Efficiency Act (1991), among others. There have been stakeholders on both sides of the spectrum in these harmonization attempts. Supporters of loosened size and weight restrictions argue lessened limits will lead to reduced fuel consumption and shipping costs. Opponents of liberalized size and weight limits argue removal of limits will lead to a decrease in highway safety, and more wear and tear on roads which requires more investment. A 2002 Transportation Research Board study suggested an increase in truck fees could cover the infrastructure costs associated with liberalizing size and weight limits (Transportation Research Board, 2002). A 2000 US Department of Transportation Study suggested there might be productivity gains associated with liberalized size and weight limits but was inconclusive regarding net gains or benefits regarding safety and infrastructure costs (US Department of Transportation, 2004).

Prior Attempts at Harmonization

Uniformity Scenario Analysis on the Western United States

In 2004, the U.S. Department of Transportation (USDOT) performed a uniformity scenario analysis on the western United States (Washington, Oregon, Idaho, Montana, North Dakota, South Dakota, Wyoming, Nevada, Utah, Colorado, Nebraska, Kansas, and Oklahoma) as requested by the Western Governors’ Association (WGA). State restrictions on size and weight limits for Longer Combination Vehicles (LCV), like many federal restrictions enacted in 1956, were grandfathered in allowing states to determine their own size and weight restrictions. LCVs are defined as “any combination of a truck tractor with two or more trailers, or semitrailers which operates on the Interstate System at a gross vehicle weight greater than 80,000 lbs” (1991 Intermodal Surface Transportation Efficiency Act). States were not allowed to increase these limits on the Interstate or the National Network as a result of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA). The 2004 study evaluated the impact of expanding the restrictions across western states to limit LCVs only by federal axle load limits with a maximum weight of 129,000 lbs (U.S. Department of Transportation, 2004).

The study forecasted that vehicle miles traveled (VMT) would decrease among conventional tractor semitrailers and would increase among LCVs (by nearly 2,000 percent) with a net reduction of 25 percent for all heavy trucks. The increased use of LCVs might actually lead to a four percent decrease in total pavement costs due to a reduction in total vehicle miles travelled, in addition to a shift in more traffic using the interstate highway system with stronger pavements (U.S. Department of Transportation, 2004).

Harmonizing Minimum Standards for Oversize/Overweight Permits

In 2012, the American Association of State Highway and Trucking Officials (AASHTO) Subcommittee on Highway Transport began work on an effort to research and determine common, minimum standards across the nation on oversize and overweight truck travel permits. This effort included members from the 52 AASHTO member states who all were able to weigh in on how differing travel permits affected interstate commerce. The goals of this effort were to “consider data driven proposals that may assist State DOT’s in assessing legislative, regulatory, or policy changes that could remove certain barriers to interstate commerce that exist today” (AASHTO: Subcommittee on Highway Transport, 2012). The resulting proposals reflect the consensus view and best practices of many states.
The first phase of the harmonization effort was completed in March of 2014 and reviewed the current regulation and harmonization opportunities for warning flags, warning signs, warning lights, days and hours of operation, and escort requirements for oversize/overweight vehicles.

As a result of the subcommittee’s research, the following recommendations were made (AASHTO: Subcommittee on Highway Transport, 2012):

Table 5 AASHTO Recommendations regarding Harmonization of Oversize and Overweight Truck Travel Permits
The above recommendations represent only the first phase of the effort. The second phase, currently underway, focuses on number of valid days allowed on single trip permits, permit amendments, holiday restrictions, type and size of escort vehicles, and escort requirements for over-height loads and over-height loads with other dimensions.

These resulting recommendations are merely proposals, rather than mandates as to how states might harmonize.

Roadblocks to Harmonization

According to one stakeholder, there are numerous obstacles to harmonizing the more minor freight regulations (e.g. signage rules for oversize/overweight trucks, the distance of an escort truck in front of or behind an oversize/overweight truck, etc.). If states were able to agree on a uniform standard for these minor regulations, some requirements to change the regulation might require a lengthy process, a high level of buy-in from elected officials, a complex legislative process, or a combination of the three. Even if a uniform standard were agreed upon, the regulation would have to be changed in one of the following ways:

Policy Change

If the regulation was simply a policy and not an administrative rule or statute, the process is comparatively easier to change, only requiring a change at the agency level without having to go through the legislature or public comment. For more consequential regulations, such as weight limits, this is rarely the case.

Administrative Rule Change

For a regulation that is an administrative rule change, the process follows the standard practice for government agencies, requiring a period of public comment that can last between 30 and 180 days. While easier than changing the regulation through statutory change, the public comment process can open up the proceedings to outside interests, which can complicate the process (Justia, 2016).

Statutory Change

The most complicated and lengthy process occurs when a regulation must be changed by actually changing a statute, requiring that the change proceed through the legislative body of the state. Depending on how often the legislature meets in a given state, this process may take as long as 18 months. According to an official within a state department of transportation, there is rarely enough political will to file a bill and invest political capital in order to make a change to a minor regulation related to something unlikely to grab headlines such as oversize/overweight signage (Justia, 2016).

The previous discussion outlined some of the major roadblocks for change to occur within one state. Harmonizing even minor regulations across several state lines would be a massive undertaking due to the complex process required to get each state to change their regulations to the same uniform standard (U.S. Department of Transportation, 2004).

As will be discussed in greater depth later in the report, one recommendation made by a stakeholder, who admitted to being resistant to federal government regulation in most circumstances, is for the federal government to mandate superseding regulations when it comes to minor freight and trucking regulations such as oversize/overweight signage.
Proposal for Harmonization

On the whole, research on attempts at harmonization of state policies conclude that it is not politically feasible. This is due, in part, to the cyclical nature of the process whereby states encourage a uniform increase in truck size and weight limits, thereby increasing wear and tear to already deteriorating infrastructure requiring increased federal funding. Federal legislation like the FAST Act and its predecessor, MAP-21, work to remedy this process by providing additional federal funding to crucial infrastructure. However, it is unclear how this will help to harmonize state policies.

Creating federal mandates for harmonization of arbitrary changes (signage on escort trucks, etc.) is one way to supersede state disparities. Another means of harmonization at the state level is to streamline the process for getting permits within states, i.e. minimizing the number of agencies that trucking companies have to work with in the process. Harmonization might be feasible with streamlining of the regulatory bodies within individual states since these states would be able to keep their own standards and restrictions but would reduce the amount of agency or bureaucratic red tape that a truck company or truck driver would have to work with when getting their permits, inspections, registrations, and licensing.

Communication among various stakeholders needs to take place, whether in a roundtable discussion or ensuring they are included in the decision-making process. This communication would enable federal, state, and private entities in knowing who is affected by each regulation and aid in clarifying the needs of the industry for future planning and decision-making. Inviting more people to the table will likely foster discussion and understanding of standards and deter negative rhetoric from being employed.
BARRIERS AT INTERNATIONAL BORDERS

I. A HISTORY OF INTERNATIONAL REGULATION

The concept of commercial vehicles crossing the United States border without much interference is hardly a novel idea. In 1980, Congress deregulated the trucking industry through the Motor Carrier Act. The Motor Carrier Act of 1980 partially eliminated regulatory barriers to entry into the U.S. market for both Mexican and Canadian motor carriers. The Act did not make a distinction between motor carriers from the United States, Canada, or Mexico when granting operating authority by the Interstate Commerce Commission (United States-Mexico Chamber of Commerce, 2011; Dempsey, 2011). However, this period was short-lived, when Mexico initiated protectionist measures in 1982 by restricting the ability of U.S. trucks to travel into Mexico (United States-Mexico Chamber of Commerce, 2011). The United States responded in kind by placing a two-year moratorium on granting operating authority to any foreign motor carriers. The moratorium was lifted on Canadian motor carriers immediately after Canada confirmed that United States motor carriers still had access to Canadian roads. The moratorium on Mexico was continued every two years through 1995.

When NAFTA was signed in 1993 between United States, Canada, and Mexico, trucks were to have full access to roads in the trading bloc by the end of 1995. The United States decided not to adhere to the agreement and refused to allow Mexican motor carriers to have full access according to the terms. The United States cited safety concerns, and this continued through 2001. In 2001, Mexico presented its case before a NAFTA arbitration panel, and the panel determined that the United States violated its obligations under NAFTA and allowed Mexico to take retaliatory measures against U.S. goods.

President George W. Bush’s administration made attempts to comply with the NAFTA provisions by taking steps to remove cross border barriers. In 2002, President Bush signed the Transportation and Related Agencies Appropriation Act, which addressed safety and monitoring of Mexican trucks crossing the border. According to the Act, “the [Department of Transportation] was to provide educational and technical assistance to Mexican carriers prior to fully lifting operation restrictions, as well as to equip all U.S.-Mexico border crossings with scales suitable for enforcement action” (United States-Mexico Chamber of Commerce, 2011). The United States and Mexico negotiated a deal and ensured safety requirements were adhered to.

Before the deal was implemented, a legal challenge was introduced by unions and environmentalists in the United States to prevent Mexican trucks from crossing the border, citing an environmental impact study in accordance to FMCSA and the Environmental Protection Agency (EPA). The challenge was supported by the Ninth Circuit Court of Appeals. However in 2004, the United States Supreme Court decided in Department of Transportation v. Public Citizen that FMCSA had no discretion over cross-border operations, and the Department of Transportation’s rules were consistent with federal laws and standards, meaning that an environmental study was not required (DOT v. Public Citizen, 2004). The window was open for Mexican trucks to cross the U.S. border.

The removal of the barrier at the border did not facilitate cross border freight movement by trucks. This time, the removal of barriers at the border was against the interests of Mexico. Mexico delayed the progress. How-

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11 The Interstate Commerce Commission began in 1887 as an independent regulatory agency for the railroads and eventually trucking. In 1995, the Interstate Commerce Commission was terminated and its functions were transferred to the Surface Transportation Board (STB) and the Department of Transportation (Dempsey, 2011).
12 The larger Mexican freight companies found a way to be profitable despite the barriers. The removal of the barriers would eliminate the companies’ competitive advantage.
ever, by 2007, many of the barriers were removed and a cross border transportation pilot program was initiated. Unfortunately, the pilot program suffered from low participation (United States-Mexico Chamber of Commerce, 2011). Only about a quarter of the expected trucking companies participated. The reasons given for the low participation were (1) Mexico’s uncertainty the pilot program would be extended considering U.S. opposition and (2) the higher cost of insurance (United States-Mexico Chamber of Commerce, 2011).

The history of cross border regulations is critical to understanding the genesis of the current regulatory environment. History informs the stakeholders of why the current barriers exist, the previous attempts at harmonizing cross border freight movement, and the potential pitfalls to avoid in future attempts at harmonization.

II. PROBLEM

The Canadian trucking industry spends an average of $179 million to $406 million on compliance with U.S. security measures in the year of 2005 (Villa, 2007). Truck delays, driver compliance, Customs-Trade Partnership Against Terrorism (C-TPAT) compliance, computer systems, and administration are the major sources for the incurred costs by our Northern partners. The Government Accountability Office (GAO) further estimates there is an average of $10 billion spent per year on roadway congestion (Transportation Research Board, 2012).

In addition to monetary costs to businesses and the economy, trade friction can also lead to societal costs. Added pollution, congestion, increased transportation costs, lost person hours, and missed trade opportunities are examples of emergent negative externalities. Moreover, a survey done by the American Transportation Research Institute (ATRI) identified congestion/infrastructure/funding in the top 10 concerns for the industry during the past 10 years (American Transportation Research Institute, 2015). With such factors in mind, border delays are a major problem at both borders and research has shown that non-compliance with NAFTA’s transportation agreements (United States Trade Representative, 2016), border infrastructure problems (United States Government Accountability Office, 2013; United States Government Accountability Office, 2010), inefficient inspection process (Pastor, 2012), low participation in trusted traveler programs, lack of training and qualifications of drivers (Transportation Research Board: NCFRP, 2013) all contribute to the aggravation of this problem. Therefore, a proposal for harmonization is discussed below.

III. BACKGROUND

NAFTA

The North American Free Trade Act (NAFTA) came into effect on January 1, 1994, and outlined new trade agreements between the United States, Mexico, and Canada in order to eliminate trade barriers and enhance investment among the three countries. The nearly 2,000-page document outlines several measures intended to enhance trade including the elimination of all tariffs within the first 10-15 years, the elimination of quotas, and enhanced protection of intellectual property rights (Floudas & Rojas, 2000).

In addition to the elimination of tariffs, NAFTA also outlined measures to eliminate non-tariff trade barriers such as import licenses and local content requirements (United States Trade Representative, 2016). Krueger has argued that, while many protectionist tariffs and nontariff trade barriers were eliminated or phased out under NAFTA, new administrative rules and regulations have acted as renewed protectionist trade barriers--only with less transparency. Given the enormous complexity of NAFTA, the few that are able to navigate the complicated administrative rules and regulations are able to exert influence over U.S. trade policy, especially those repre-
senting special interests. Because the provisions are understood by few outside the affected industries, the public has often voiced little opposition due to a lack of awareness over the obscure provisions which can have enormous impacts on trade (Krueger, 1995).

While not all barriers identified are related to obscure provisions benefiting certain groups at the expense of enhanced free trade, some barriers, as will be discussed below, appear to be the result of administrative rules and regulations which operate as protectionist measures. In order to better understand these barriers, current border crossing general regulations will be discussed below.

**Current Border Crossing General Regulations**

The Department of Homeland Security (DHS)—a stand-alone, Cabinet department created in response to the terrorist attacks of 9/11—is the federal entity vested with the enforcement power to protect the United States and its borders. United States Customs and Border Protection (CBP), an agency within DHS, is responsible for enforcing U.S. laws at its borders. Consequently, CBP sets the rules and regulations for anyone who crosses the U.S. border; any company interested in transporting cargo into the United States must abide by CBP regulations. A list of the documents required to be allowed to transport cargo by trucks into the United States appears

<table>
<thead>
<tr>
<th>CBP’s required documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Fill CBP forms (i.e. CBP 3299 or CBP 7512 etc.,)</td>
</tr>
<tr>
<td>2) Proof of Bond (CBP 301)</td>
</tr>
<tr>
<td>3) Bill of Sale or Commercial Invoice (if applicable)</td>
</tr>
<tr>
<td>4) Decal (if participating)</td>
</tr>
<tr>
<td>5) Fast Card (if participating)</td>
</tr>
<tr>
<td>6) Permits issued by Federal Government (if required)</td>
</tr>
<tr>
<td>7) Importer/Immigrants Legal Documents (if moving to the U.S.)</td>
</tr>
<tr>
<td>8) Required Personal Documents and Identification.</td>
</tr>
<tr>
<td>9) Broker pre-arrangements</td>
</tr>
<tr>
<td>10) Obtain a SCAC code from the National Motor Freight Traffic Association. After you receive a letter and SCAC code from the NMFTA, you should fax the letter to the Office of Information and Technology for input into the Automated Commercial System.</td>
</tr>
</tbody>
</table>

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13 Currently the interchanges approved by CBP to submit cargo information electronically are the Pre-Arrival Processing System (PAPS), Customs Automated Forms Entry System (CAFES), Automated Broker Interface (ABI) or Border Release Advance Screening and Selectivity (BRASS)- Information commercial carriers (i.e. truckers) should know before transporting cargo from Canada or Mexico into the United States.
CBP’s required documentation for crossing the border is just the beginning of the process. Motor carriers and their respective companies also need to comply with the Department of Transportation regulations and the Federal Motor Carrier Safety Administration (FMCSA) documents and procedures. Below is a list of the major requirements necessary to stay in compliance with them.

**Registration Requirements**

NAFTA carriers that want to operate in the United States must register with the FMCSA. There are two different registration forms- one for carriers that want to operate only in commercial zones (Form OP-2) and a separate form for carriers that want to operate beyond the commercial zones (Form OP-1) (U.S. - Mexican Border Compliance Assistance, 2016).

**Vehicle Safety Regulations and Other Rules**

NAFTA motor carriers are required to undergo a safety audit done by FMCSA, display a valid Commercial Vehicle Safety Alliance (CVSA) inspection decal, and carry U.S. insurance to operate beyond the border zones in the United States. Compliance reviews are mandatory after 18 months of operation (U.S. - Mexican Border Compliance Assistance, 2016).

**Driver requirements**

International commercial drivers must have a driver’s license that is the equivalent of a U.S. commercial driver’s license. They must also follow all of FMCSA’s rules regarding medical criteria, drug and alcohol requirements, and hours of service rules (U.S. - Mexican Border Compliance Assistance, 2016).

Aside from all the registration and driver requirements, motor vehicles undergo safety inspections performed by the U.S. Department of Transportation (DOT) and state Commercial Motor vehicle (CMV) enforcement agency at the border. These screenings generally include document verification, radiation portal monitoring, and/or x-ray inspections of certain cargo (U.S. - Mexican Border Compliance Assistance, 2016).

Additionally, drivers must meet the documentary requirements under the Western Hemisphere Travel Initiative and cannot transport hazardous materials (hazmat), including explosives, within the United States unless they have undergone a background check similar to that required for U.S. operators with a hazmat endorsement (HME).

**Immigration Requirements and Cabotage Restrictions**


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14 Sections of both the Immigration Reform and Control Act and the Immigration and Nationality Act demonstrate congressional intent to protect United States Workers
Mexican motor carriers who want to operate in the United States must first meet the general entry requirements as a temporary (nonimmigrant) B-1 visitor for business, a process that is neither simple nor expeditious. In order to fulfill the requirements for a B-1 visa, an applicant must have a “nonimmigrant intent” (residence in a foreign country which he has no intention of abandoning), an intent to depart the United States at the end of his visit, and funds to support himself while in the United States (Immigration and Nationality Act (INA), §§ 101(a)(15)(B), 101(a)(15)(H)(ii), 8 U.S.C. § 1101(a)(15)(B), 2015). Of course, in order to gain admission to the United States, the applicant must be admissible, meaning that he should not be excluded for any criminal convictions, previous immigration violations, national security or health concerns (Immigration and Nationality Act (INA), §§ 101(a)(15)(B), 101(a)(15)(H)(ii), 8 U.S.C. § 1101(a)(15)(B), 2015). Additionally (and perhaps most importantly, for motor carriers), B-1 business visitors may not engage in skilled or unskilled labor while they are in the United States, but may only engage in business (22 CFR § 41.31(b)(1), 2015).15 How, then, can one distinguish between labor (impermissible) and business (permissible)? The key distinction is whether one enters the U.S. to engage in “intercourse of commercial character” and whether the resulting work is a “necessary incident” of that commerce (e.g., loading and unloading international cargo), in which case there would be no violation (International Union of Bricklayers & Allied Craftsmen v. Meese, 1985).

In contrast, Canadian motor carriers are subject to far more lenient immigration requirements. Though Canadian drivers are also considered “business visitors”, they are not required to obtain a B-1 visa. Rather, Canadian drivers need only satisfy the inspecting officer by producing a valid passport, an enhanced driver’s license, or an enrollment card from the DHS trusted traveler program upon entry.

However, as briefly discussed above, neither Canadian nor Mexican drivers may engage in the practice of “cabotage,” referring to the point-to-point transportation of property or persons within one country by transporters from another country (Department of Homeland Security, 2012). Accordingly, foreign national drivers may only transport cargo that is entering or leaving the United States “traveling in the stream of international commerce.” DHS emphasizes that the intent of the Transportation Operator Provision is “to allow the free movement of goods across the border, an activity that is international in scope, but not to facilitate access to the domestic labor market” (Department of Homeland Security, 2012). Foreign national drivers may not pick up a shipment from one U.S. location and deliver it to another U.S. location (Department of Homeland Security, 2012). Thus, from an immigration perspective, engaging in cabotage is effectively engaging in impermissible labor that necessitates an H-2B visa, the requirements for which are far more cumbersome than B-1 visas (INA § 101(A)(15)(H)(ii)(a); 8 CFR § 214.2(h)).16 Moreover, Mexican drivers present in the U.S. on B-1 visas who engage in cabotage violate the terms of their nonimmigrant visas and are subject to harsh immigration penalties, including future inadmissibility to the U.S. This type of violation can also lead to harsh penalties for employers who sponsor B-1 visas for their employees (Huddleston & Chatterton, 2013).

**Cultural Similarities and Differences among NAFTA Countries**

Multiple stakeholders on both sides of the U.S.-Mexico border acknowledge that cultural barriers remain a hurdle to doing business, but these cultural barriers continue to diminish as the two economies become more integrated. Beyond the presence of language barriers between the two countries, there are also differences in business practices given the learning curve of entrepreneurs and business owners in Mexico.

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15 Stating that “business” does not include local employment or labor for hire
16 In order to obtain an H-2B visa, a petitioner must demonstrate that the need of the employer is seasonal or intermittent. Additionally, the employer must first recruit in the local labor market and show that no U.S. worker is available to fill the position, and that employing a foreign national will not adversely affect U.S. worker wages. The employer must also obtain a temporary labor certification for the foreign national from the Department of Labor. Obviously, these cumbersome requirements dissuade U.S. employers from obtaining non-U.S. laborers.
Stakeholders within the transportation industry in Texas have noted that, while NAFTA changed the regulatory structure of trade at the border, it did not necessarily change business practices. As was noted by a number of stakeholders on both sides of the border, there remains a deep lack of trust on both sides of the border. Stakeholders on the Mexican side of the border noted that many Mexican companies harbor a lack of trust toward the U.S. government viewing many administrative regulations as protectionist measures against Mexican business owners. On the other side of the border, many U.S. companies, some stakeholders have noted, are distrustful of Mexican companies and are wary of doing business across the border.

Comparatively, cultural barriers are not as prevalent between the United States and Canada due to less variance between the two countries’ cultures. Since the majority of Canadians speak English, and as many as 85 percent have a working knowledge of English (Government of Canada, 2011), the language barrier is not as significant. Business practices between the two countries are also less divergent compared to the variance between the U.S. and Mexico.

**Initiatives for Expedited Border Processing**

*Customs Trade Partnership Against Terrorism*

Customs Trade Partnership Against Terrorism (C-TPAT) is a “voluntary government-private sector partnership” and part of CBP’s cargo enforcement strategy that aims to strengthen trade by providing certifications for applicants who certify the reliability of their supply chain. Members receive on-site visits to “validate their supply chain security measures” and give them the certification that these members are in compliance with the country’s security regulation. The benefits of participation in the program are fewer screenings and expedited processing at the border. CBP reports that over 10,000 companies are participating in the program and that about 54 percent of U.S. imports have been C-TPAT certified (U.S. Customs and Border Protection: C-TPAT).

*Free and Secure Trade Program (FAST)*

CBP oversees the Protection Free and Secure Trade (FAST) program, which is a commercial clearance program that facilitates low-risk shipments entering the United States from Canada and Mexico. FAST vehicle lanes were created to process cargo at borders to facilitate the commercial transportation of goods. One of the main requirements for a motor vehicle company to participate in this initiative is to have every link in the supply chain, from manufacturer to carrier to driver to importer, to be certified under the Customs-Trade Partnership Against Terrorism (C-TPAT) program. The benefits of participating in the program are the access to dedicated lanes for its participants as well as all the benefits that C-TPAT participants also incur. The FAST program especially facilitates the trade process with the Canadian border (U.S. Customs and Border Protection, FAST).

*FMCSA U.S.-Mexico Pilot Program*

The Department of Transportation conducted a three-year pilot program that intended to simplify the process of cross border trade with Mexico. The program allowed registered Mexican companies to make deliveries beyond the commercialized zone in the South border. The main regulations imposed by DOT were that all Mexican truck drivers must hold a valid U.S. or Mexican commercial driver’s license, comply with all U.S. hours-of-service rules, and be able to understand directions in English. Companies that complied with the rules were allowed to make international pickup and deliveries. The only main restrictions were that they were not be able to move goods from one U.S. location to another, haul hazardous material, or transport passengers (Federal Motor Carrier Safety Administration, 2011).
With this background on the regulations and procedures that enable or affect trade at the borders, we turn now to the barriers that trucking companies face when trying to cross the borders.

IV. BARRIERS IDENTIFIED

Barriers at the U.S.- Mexico Border

Based on interviews with a number of stakeholders from the United States and Mexico,17 in-person, online, and over the phone, a number of barriers to trade were identified. Many, though not all, of these barriers were supposed to be eliminated with the passage of NAFTA. Many of the barriers have been identified as such in the literature and in the American press and are widely recognized. The present report has sought to combine individual and organizational perspectives on potential barriers with scholarly research wherever possible.

Barrier One: Mexican-Operated Trucks Unable to Operate in the United States.

Multiple stakeholders within the agriculture and business industries cited the issue of Mexican-operated trucks not being able to operate within the United States as a barrier to trade. Current regulations require Mexican-operated trucks to stop at the U.S. border where the container is then transported from the tractor (the front portion of the vehicle) operated by a Mexican firm to the tractor of a U.S. firm who then transports the goods to their end destination.

The actual transfer process, however, is quite complicated. Those wishing to ship goods across the border must file data with both the U.S. and Mexican governments. The shipper then coordinates with both U.S. and Mexican customs brokers before the transfer can occur. The Mexican operated truck then stops on the Mexican side of the border where an approved tractor picks up the trailer and proceeds to the international port where the shipment must undergo inspections at the Mexican export lot. From there, the shipment crosses the border to the U.S. federal compound unless it is selected for a random physical audit of its contents before crossing the border. At the United States federal compound, the shipment presents the proper documentation and, if cleared, proceeds to the state inspection facility. Before clearing the shipment, the inspection officer may choose to refer the truck to a more thorough secondary inspection. Once the truck passes the federal compound, it enters the state inspection facility where it undergoes a visual inspection to check for possible violations, and the drivers are interviewed by state police to ensure they are in compliance with U.S. security and safety regulations. Once the driver and truck passes inspection, the shipment then typically travels a third location where it awaits to be transferred to another truck that will deliver it to its final destination. The entire process involves a large number of private and public actors (Villa, 2007) and with agricultural growers, the process can involve as many as seven separate trucks in order to transfer goods across the border (Pastor, 2012).

This process is substantially more involved than the process for trucks entering the U.S. from Canada since 1) Canadian-operated trucks are not required to transfer their cargo since they are allowed to operate in the United States, 2) Canadian and U.S. customs brokers do not require physical inspection of cargo, and 3) truck safety inspection is not required at a separate location with additional waiting time (Villa, 2007). The estimated additional cost of this complicated drayage process was about 15 percent of the volume of trade in 2008 (Pastor, 2012).

17 For a complete list of stakeholders interviewed, refer to acknowledgements page
While Mexican stakeholders have lamented that Mexican-operated trucks are not allowed to operate in the United State, they also raised the issue that restrictions on Mexican trucks were supposed to have been phased out within 15 years but still remain in effect more than 20 years after the passage of NAFTA. The phasing out process was postponed by U.S. Congress in 1995, citing safety concerns, and has been postponed on multiple occasions since. In 2004, the U.S. Supreme Court held that the USDOT lacked the authority to ban Mexican trucks and to override President George W. Bush’s decision to lift the ban (Villa, 2007). Despite these rulings, bans on Mexican trucks operating in the U.S. continued to persist for many years thereafter. In response to the ongoing bans, the Mexican government has threatened to reinstate more than $2 billion in retaliatory tariffs (Dibble, 2015).

As recently as January 2015, the Federal Motor Carrier Safety Administration announced they would be lifting the ban and would be allowing Mexican trucking companies to apply for permits allowing them to operate in the United States (Dibble, 2015). Despite these movements to allow Mexican truckers to move more freely across the border, stakeholders in Mexico remain skeptical. Other reports note that congestion at the border remains a barrier to many Mexican truckers who may be unwilling to have their trucks spend large amount of time undergoing the process described above (Dibble, 2015). In addition, stakeholders interviewed for this research and stakeholders in other reports mention the issue of cabotage (Mexican trucking companies being unable to transport goods on return trips to Mexico from within the United States) (Dibble, 2015).

Some Mexican stakeholders believe the main reason for the long delay in implementing the NAFTA provision to allow Mexican trucks to more freely cross the border can be traced back to the influence of unions. Stakeholders believe unions have aggressively pushed for the continuing ban because allowing Mexican truckers (who are often paid much lower wages compared to American truckers) to operate in the United States would pose a significant threat to U.S. trucking companies. In order to keep the ban in place, Mexican stakeholders believe unions have relied on exaggerating the level of safety issues and security threats in order to keep the ban in place.

**Barrier Two: Congestion at the Border Due to Redundant Security Checks**

In addition to the lengthy process described above to transport goods across the border, there are also a number of redundancies that may add to the congestion and time spent at the border. Since both the federal government and state governments perform safety inspections, there are duplicated efforts to inspect safety on trucks moving into the United States. (Villa, 2007).

There are also added layers of complexity and duplication due to the requirement, on the Mexican side, for all shipments in and out of Mexico to be coordinated by a Mexican customs broker. This individual, who operates as a third-party vendor, is legally responsible for any errors in the application and certification process. Because of this, the customs broker also must inspect the shipment in order to ensure it complies with regulations, adding an additional security check to the process (Villa, 2007).

**Barrier Three: Congestion at the Border Due to Lack of Border Infrastructure**

Another barrier is the infrastructure at the border. Industry stakeholders argue that participants in the FAST program do not benefit from shorter waiting times and were unaware of the advantages that CBP claimed to occur for participants of this “facilitation” program. GAO released a report that assessed CBP’s policies and procedures to address wait times at the Mexican border. It found that better data collection is needed to estimate
waiting times at the border as well as to better evaluate the effectiveness and benefits of the FAST program (Government Accountability Office, 2013).

GAO analyzed the reliability of wait time reporting, determined the quality of current border infrastructure, assessed the optimal number of staff representatives, and looked into performance measures on trade facilitation (Government Accountability Office, 2013).

GAO visited six high traffic volume border crossings. Most of them presented inadequacy in the number of lanes necessary for primary and secondary inspection. The GAO found, for example, that Bridge of Americas located in El Paso, TX, still faces challenges to meet traffic demands, even though it recently built new exit booths to increase its inspection capacity. The bridge also has configuration problems that contribute to slower inspection procedures and increased congestion (Government Accountability Office, 2013).

The aforementioned problems led to GAO’s recommendation for the implementation of a more consistent and automated data collection methodology, documentation of staff procedures, and the establishment of tangible performance measures (Government Accountability Office, 2013).

Barrier Four: Stringent and Redundant Agricultural Regulations

A stakeholder within the agricultural industry stated that enforcement of agricultural regulations were more stringent on Mexican growers compared to growers in the United States. Although the veracity of this proposition is difficult to verify, this stakeholder claimed that complying with these regulations is incredibly costly and places an unfair burden on Mexican growers, even those who have a strong record of high quality standards.

Complying with strict agricultural standards is also affected by the redundancy of safety checks at the U.S.-Mexico border. According to Pastor (2012) large Mexican farms are inspected on-site by U.S. government officials. After harvesting, several types of produce are transported via freight to warehouses just before the border where they must be unloaded and inspected a second time by U.S. government officials. Produce that passes inspection by U.S. officials is then transported to a second site where it is inspected by Mexican officials. Trucks carrying boxes are then passed through an X-ray machine observed by U.S. government officials looking for drugs or undocumented workers. After that inspection, they travel to yet another location where they are unloaded and then reloaded onto another truck whose driver is allowed to operate in the United States. The entire process can involve anywhere between three and seven different trucks with multiple inspections, increasing not only the time for these perishable items to cross the border but increasing the cost as well--as much as 15 percent of the volume of trade or $616 million in 2008.
Barriers at the United States-Canada Border

A 2003 cost impact study done at the U.S.-Canadian border estimated that costs related to transit time and uncertainty at the border range from $2.52 billion to $5.27 billion (Taylor et al., 2003). Delayed trucking border crossing time greatly affects carriers’ economic status, manufacturer's productivity, and adds societal costs to both countries. This next section identifies major barriers that truckers face when trying to cross the Canadian-United States border.

Barrier One: Congestion at the Border Due to Transit Time and Uncertainty

Logistic companies estimate that the crossing time at the border ranges from up to four to six hours (Taylor et al., 2003). This uncertainty on transit time leads to a series of economic problems. Because of such uncertainty, transportation companies are implementing buffer times for their deliveries, since an average of an hour and twenty minutes are generally “wasted” at the border (Goodchild et al., 2007). The problem is that accounting for such delays adds operational costs to trucking firms. Since in competitive markets, trucking companies do not have the ability to raise their rates, the companies in this sector lose.

Exporting companies also have a difficult time planning for the excess time that will be lost when trying to cross the border. As a consequence, late deliveries occur, exchanges might not exist, truckers may not finish their routes because of driving hour restrictions, carriers will spend a great amount of time preparing documentation for the border crossing, and face “primary transit time costs” and “secondary yard processing time costs” (Taylor et al., 2003). Additional money will be spent by companies that need additional equipment and drivers to stay in compliance with all regulations.

Societal related costs emerge on top of all the aforementioned economic costs. The amount of congestion in the cities surrounding the border increases. Additional pollution occurs as a consequence of the extra time that idling trucks spend waiting for inspections. More wear and tear occur on infrastructure where these procedures are being done and in the surroundings. Increased border management costs emerge because more staff are needed to minimize congestion and many others.

Barrier Two: Congestion at the Border Due to Lack of Border Infrastructure

The DOT and CBP recognize that there are advantages of having automated inspections at the border. For example, the benefits of increased data accuracy can lead to a significant reduction of waiting time. Congestion complaints have lead to GAO conducting a study in the northern border security. GAO found that CBP does not have necessary data to prove that the FAST program is actually beneficial to those who participate on it (Government Accountability Office, 2010). Across the years, CBP has added staff and invested in infrastructure at the border to minimize such problems, but it does not collect sufficient data to prove that such investments did in fact have a significant impact.

GAO analyzed data on wait times at the border, procedures in place being used to reduce such times, and the proportion that participants of the CBP and FAST benefit from such programs. GAO found that there still are staffing and infrastructure investments that need to be made as well as training deficiencies that need to be fulfilled. With that in mind, GAO recommended that CBP needs to enhance its database to better capture information on the FAST program and afterwards conduct a study to measure the program effectiveness. These actions should minimize border waiting time and being able to respond to its FAST participants that the extra money that they are paying to participate in the program is actually worth the amount of time that they save (Government Accountability Office, 2010).
V. ATTEMPTS TO HARMONIZE AND FUTURE RECOMMENDATIONS

Harmonization of Weight and Dimensions in NAFTA

Disparate NAFTA regulations spur the discussion of potential harmonization. Experts agree there are many similarities in engineering and construction design of highways and bridges among the three countries. These experts also recognize there are some significant differences in the assessment of bridge capacity. Some engineers calculate the effects of truck weight wear and tear on infrastructure and the fail-safe-ratio along bridges differently. For that matter, “bridge capacity assessment probably constitute the single biggest obstacle to the pursuit of more compatible weight limit regulations within the NAFTA partnership” (NAFTA Land Transportation Standards Subcommittee, 1997, p. 25) since there is not an international standard for such calculations.

The Land and Transportation Standards Subcommittee (LTSS) conducted a study on the potential harmonization of vehicle weight and dimension regulations within NAFTA and found that the likelihood of harmonization of these regulations is remote. LTSS suggests that it is politically unfeasible to standardize the weight dimensions among three countries. Hence, each country has very distinct governing bodies responsible for the estimation of such regulations and they all consciously set regulations seeking welfare distributions within their region (Land Transportation Standards Subcommittee, 1997). Another barrier for harmonization on weight and size dimensions of the trucking industry is the lack of a thorough economic analysis of the benefits of such harmonization. A study on the impact of uniformization of these regulations needs to be done in order to assess if the benefits from such harmonization surpass the negative effects on shippers and carriers (Land Transportation Standards Subcommittee, 1997).

Harmonization of NAFTA Border Procedures Along the South Border

FMCSA’s U.S.-Mexico Pilot program was an attempt to harmonize border procedures and allow for Mexican-operated trucks beyond commercial zones in the south border. This proven successful program has shown that Mexican companies can be compliant with all United States trucking regulations and provide safe transportation of goods beyond the commercial zone at the south border. The DOT Office of the Inspector General (OIG) audited the pilot program and confirmed such findings (U.S. Department of Transportation, 2014). Furthermore, the Motor Carrier Safety Advisory Committee (MCSAC) the body responsible for providing monitoring the program also concluded that “Mexico-domiciled motor carriers operate at safety levels consistent with the operations of United States and Canadian-domiciled motor carriers” (Federal Motor Carrier Safety Administration, 2015).

As a result of the Pilot program, some trucking companies received permanent or provisional certificates that allow them to conduct their business beyond commercial zones. Despite FMCSA’s successful implementation of the Pilot program, OIG’s analysis of its effectiveness was non-conclusive because there was not enough sample size to provide substantial data. Therefore, no further action has been taken to either reinstate the program or instigate further discussion on NAFTA’s ruling in regards to border-crossings of Mexican trucks into the United States (U.S. Department of Transportation, 2014).

10 Table 9, Appendix A
Harmonization Stakeholder Analysis

After identifying current harmonization attempts, it is important to also ascertain the political feasibility of such harmonization attempts. Table 7 pinpoints the main stakeholders’ position towards harmonization as well as their general motivation and resources available to them.

Table 7: Harmonization Stakeholder Analysis

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Harmonization Position</th>
<th>Motivation</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>Mixed interests. The DOT pushes for a more uniform set of regulations, but it does not want to compromise efficiency for safety</td>
<td>Ensure a fast, safe, efficient, accessible and convenient transportation system</td>
<td>Main authority in transportation regulation</td>
</tr>
<tr>
<td>FMCSA</td>
<td>Mixed interests. FMCSA pushes for a more uniform set of regulations, but it does not want to compromise efficiency for safety</td>
<td>Prevent motor-vehicle fatalities</td>
<td>Agency overseeing transportation regulation</td>
</tr>
<tr>
<td>Teamsters</td>
<td>Mixed interests. Teamsters seems to be in favor of cost-effective and safety harmonization attempts that will not harm their workforce</td>
<td>Push for trucking policies and regulations at the Federal level</td>
<td>Union money</td>
</tr>
<tr>
<td>Logistic Companies</td>
<td>In favor of harmonization. They prefer uniform border procedures and clear weight and size regulations</td>
<td>Push for harmonization policies at the Federal level</td>
<td>Industry money</td>
</tr>
<tr>
<td>Appointed Politicians</td>
<td>Mixed interests. Appointed politicians are in favor of any harmonization attempt that will not harm their electability</td>
<td>Push for harmonization policies in favor of voters and/or lobbying groups preferences</td>
<td>Legislative power</td>
</tr>
<tr>
<td>Public</td>
<td>Mixed interests. The public wants uniform border procedures, but want to maintain a closed South border</td>
<td>Push for cost-efficient regulations, but maintain a closed South border</td>
<td>Advocacy; Protests; Voting rights</td>
</tr>
<tr>
<td>Trucking companies</td>
<td>Mixed interests. Trucking companies are in favor of uniform border procedures, clearer weight and size regulations and safe transportation process, but as long as it does hurt their productivity levels</td>
<td>Push for harmonization regulations that lead to more cost-efficient goods being transported across the borders</td>
<td>Union participation; Industry money</td>
</tr>
<tr>
<td>Exporters</td>
<td>In favor of harmonization. They benefit from cost-efficient border procedures</td>
<td>Push for harmonization regulations that lead to more cost-efficient goods being transported across the borders</td>
<td>Foreign Direct Investment, outsourcing, export money</td>
</tr>
<tr>
<td>Brokers</td>
<td>Mixed Interests. Harmonized procedures would facilitate their job, but also potentially put them out of the job market</td>
<td>Pushing against harmonization policies that leads to opening the south border</td>
<td>Industry Expertise</td>
</tr>
</tbody>
</table>
The stakeholder analysis above depicts the picture of the likelihood of success of certain harmonization attempts. For example, harmonization attempts in weight and size are highly unlikely due to the current state of affairs in the regulations among the three countries. Harmonization of NAFTA border procedures along the south border is also unlikely to occur because it is loaded with stakeholder disagreement. Therefore, the most viable harmonization attempt seems to be the harmonization of border procedures. Considering the GAO has made significant studies and recommendations towards the subject matter.

Based in the analysis above, a few recommendations are drawn trying to address these major harmonization attempts.

VI. HARMONIZATION RECOMMENDATIONS

After careful consideration of stakeholder input, secondary data, and various other sources we provide the following set of recommendations based on each one of the barriers identified:

1. Reduce or eliminate redundancies with border inspections.
   According to Pastor the entire check process at the border can involve anywhere between three and seven different trucks, with multiple inspections. This convoluted inspection process could be trimmed after more accurate data are collected and shared among agencies at the border (Pastor, 2011).

   This recommendation would be hard to implement because each border has their own procedures and financial limitations. Therefore, some capital investment is necessary along with management coordination.

2. Increase the number of low-risk importers by increasing the number of FAST participants.
   GAO’s suggestion to collect better data about the FAST program so its stakeholders can see the advantages that they receive from it plays an important role in this recommendation. CBP claims that the FAST program speeds the process at the border. Therefore, it seems plausible that pushing for more companies to join the program by improving its efficiency is a sound idea.

   This recommendation would be moderately difficult to implement. These numbers would depend on demand. Many companies do not see significant benefits of participation. This lack of marketability of the program might hinder additional members from participating.

3. Improve data collection at the border.
   Similar to the recommendation above, improving data collection at the border could speed up the inspection process and diminish congestion at the border.

   This recommendation would be moderately difficult to implement. A certain level of infrastructure is necessary as well as coordination among agencies in order for this recommendation to reach full implementation.

4. Train producers, drivers, and logistic companies about border procedures.
   This simple recommendation can have a positive effect in solving all the previously identified barriers. It is the
least costly option. Nonprofit organizations, state entities, logistic and trucking companies could provide basic simple training to their employees about the process of crossing the border. Especially the drivers should be aware of all the steps necessary to cross the border in order to better prepare them for unexpected situations.

This recommendation would be comparatively easy to implement. Hence, the majority of stakeholders are in favor of this relatively cheap alternative

5. Develop one website with compiled information on all the paperwork and steps necessary to become a cargo exporter/importer among the three countries.
This relatively cheap solution can have a substantial impact on all of the barriers previously identified. Accessing reliable information about each country’s regulations and inspections processes can save time and headaches at the borders.

This recommendation would be comparatively easy to implement. A small investment in a database would be highly beneficial to clarify major misunderstandings. This is also a popular recommendation among stakeholders.

6. Conduct inspections on production sites and away from the borders.
The United States has been more efficient about its inspection process and has been trying to do inspections on site. USDA and FDA already do agricultural inspection at the farms. Increasing the number of products and/or industries that get to receive on-site inspection could contribute to less congestion at the border.

This recommendation would be moderately difficult to implement. Inspections away from the borders are becoming a more popular practice among the agricultural exportation sector. In order to better implement this recommendation, additional personnel and capital would be necessary.

7. Re-instate the U.S.-Mexico Pilot program.
FMCSA’s Pilot program has proved that Mexican-operated trucks can safely operate in the United States. An expansion of the program might provide a pathway so that all the NAFTA agreements can be fully implemented.

This recommendation would likely be among the most difficult to implement. There are a few controversial points about this recommendation. Even though the program was highly successful, there was not enough demand by Mexican companies. One can speculate that there were so many obstacles imposed by the American government in this program that the benefits did not outweigh the costs of participating in the program.

On the other hand, FMCSA reported that many participants of the program did not actually go much farther from the borders than they had previously done, even though they now could do so. This perhaps suggests that other options, most notably the railroad system, are a more cost-effective option for long distance trips. Lastly, unions such as Teamsters and trucking associations such as the Owner-Operator Independent Drivers Association, Inc., undoubtedly play an important role against the opening up the border to Mexican carriers (Owner-Operator Independent Drivers Association, Inc., Intervenor vs. USDOT, 2015).

As previously mentioned, after the Supreme court imposed that the NAFTA clause of opening the borders were to be enforced, Mexican officials met with American officials to discuss the logistics to reinforce the agreement. Surprisingly, according to one knowledgeable United States source, the Mexican representatives did not want to open the borders because many Mexican companies established businesses on the other side of the border and opening the borders would dramatically affect their economic activity. Therefore, to this present time, there has been mixed signals from both countries of the viability of a fully open South border.
Table 8 below compares the recommendations to the different impediments.

<table>
<thead>
<tr>
<th>Harmonization Recommendations</th>
<th>United States-Mexico Barriers</th>
<th>United States-Canada Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducing or eliminating redundancies with border inspections</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Increasing the number of low-risk importers by increasing the number of FAST participants</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Improving data collection at the border</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Training about border procedures</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Creating a website with all cargo exporter/importer for the three countries</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Re-instating the Pilot Program</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Increased Inspections on production sites and away from the borders</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 8: Harmonization Recommendations vs. Barriers
VII. CONCLUSION FOR INTERNATIONAL BORDER CROSSING

The extent that consumers will enjoy fresher, diversified and abundant products at the supermarkets is highly dependent upon how quickly trucking carriers can cross the border. Supporters of trade agree that opening the borders can lead to a positive economic impact, especially if such procedures are efficient enough. However, many stakeholders are concerned that opening the borders could lead to potential wage shrinkage, unsafe trucks circulating in the United States, more air pollution, and unhealthy market competition.

It is important to account for public opinion when legislating in favor or against these regulations. Although the harmonization process of non-trade tariff barriers among the NAFTA nations seems to be heavily politically charged, an economic assessment should be done in order to paint a more comprehensive picture of costs and benefits of such considerations.

We hope this project stimulates discussion among the various stakeholders involved in the planning and decision-making process of freight regulations. This research effort has revealed the critical importance of effective communication and sharing of information among the persons involved in the field as means to enable more harmonizing policies for international border crossing by truckers.
REFERENCES


22 CFR § 41.31(b)(1) (2015)


REFERENCES

42
REFERENCES


INA § 101(A)(15)(H)(ii)(a); 8 CFR § 214.2(h).


International Union of Bricklayers & Allied Craftsmen v. Meese, 761 F.2d 798 (District Court 1985).


REFERENCES


REFERENCES


## APPENDIX A

### Table A.1

<table>
<thead>
<tr>
<th>State</th>
<th>Weight Compliance Violation</th>
<th>Penalty for Violation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX</td>
<td>Axle Weight Violation</td>
<td><strong>Axle Weight Violation (can consolidate)</strong></td>
</tr>
</tbody>
</table>
|       | Gross Weight Violation      | • $100 to $500 for up to 2,500 pounds over;  
|       |                             | • $500 to $1,000 for 2,501 to 5,000 pounds overweight; and  
|       |                             | • $1,000 to $2,500 for 5,001 pounds too heavy and heavier.  
|       |                             | **Gross Weight Violation** |
|       |                             | • $100 to $500 for 1 to 2,500 pounds overweight;  
|       |                             | • $500 to $1,000 for 2,501 to 5,000 pounds;  
|       |                             | • $1,000 to $2,500 for 5,001 to 10,000 pounds overweight;  
|       |                             | • $2,500 to $5,000 for 10,001 to 20,000 pounds overweight;  
|       |                             | • $5,000 to $7,000 for 20,001 to 40,000 pounds overweight; and  
|       |                             | • $7,000 to $10,000 for more than 40,000 pounds overweight.  
|       |                             | • Fines double for third and subsequent offenses within a year for all of the above violations.  
| OK    | Transporting any Overweight Load without Permit or Over Permit Weight | • 1st violation: $500.00  
|       |                             | • 2nd violation: $1,000.00  
|       |                             | • 3rd and subsequent violation: $1,000.00 - 5,000.00  
|       |                             | • If 5,000 lbs or more overweight: additional $500.00 fine for contempt plus court fees  
| KS    | Axle Weight Violation       | • up to 1000 $25.00  
|       | Gross Weight Violation      | • 1001 to 2000 0.03 per pound  
|       |                             | • 2001 to 5000 0.05 per pound  
|       |                             | • 5001 to 7500 0.07 per pound  
|       |                             | • 7501 and over 0.10 per pound  
|       |                             | • Second and subsequent convictions result in progressively stiffer penalties.  
| MO    | Weight Violation            | **Excess Weight** | **Fine** |
|       |                             | 1 - 500 | $0.02/lb |
|       |                             | 501 - 1,000 | 0.05/lb |
Violation of load limit is a misdemeanor and is punishable by a fine or confinement in a county jail for not more than 12 months.

<table>
<thead>
<tr>
<th>Excess Weight</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤1,000</td>
<td>$12.00</td>
</tr>
<tr>
<td>1,001 - 2,000</td>
<td>22.00</td>
</tr>
<tr>
<td>2,001 - 3,000</td>
<td>155.00</td>
</tr>
<tr>
<td>3,001 - 4,000</td>
<td>240.00</td>
</tr>
<tr>
<td>4,001 - 5,000</td>
<td>375.00</td>
</tr>
<tr>
<td>5,001 - 6,000</td>
<td>585.00</td>
</tr>
<tr>
<td>6,001 - 7,000</td>
<td>850.00</td>
</tr>
<tr>
<td>7,001 - 8,000</td>
<td>950.00</td>
</tr>
<tr>
<td>8,001 - 9,000</td>
<td>1,050.00</td>
</tr>
<tr>
<td>9,001 - 10,000</td>
<td>1,150.00</td>
</tr>
<tr>
<td>10,001 - 11,000</td>
<td>1,300.00</td>
</tr>
<tr>
<td>11,001 - 12,000</td>
<td>1,400.00</td>
</tr>
<tr>
<td>12,001 - 13,000</td>
<td>1,500.00</td>
</tr>
<tr>
<td>13,001 - 14,000</td>
<td>1,600.00</td>
</tr>
<tr>
<td>14,001 - 15,000</td>
<td>1,700.00</td>
</tr>
<tr>
<td>15,001 - 16,000</td>
<td>1,800.00</td>
</tr>
<tr>
<td>16,001 - 17,000</td>
<td>1,900.00</td>
</tr>
<tr>
<td>17,001 -</td>
<td>2,000.00</td>
</tr>
</tbody>
</table>
## MN Weight Violations

<table>
<thead>
<tr>
<th>Excess Weight</th>
<th>Fine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 1,000</td>
<td>$0.01/lb of excess weight</td>
</tr>
<tr>
<td>1,001 - 3,000</td>
<td>$10.00 + $0.05 for each lb over 1,000</td>
</tr>
<tr>
<td>3,001 - 5,000</td>
<td>$110.00 + $0.10 for each lb over 3,000</td>
</tr>
<tr>
<td>5,001 - 7,000</td>
<td>$310.00 + $0.15 for each lb over 5,000</td>
</tr>
<tr>
<td>7,000 &lt;</td>
<td>$610.00 + $0.20 for each lb over 7,000</td>
</tr>
</tbody>
</table>

Fine is doubled if weighing was knowingly evaded.

**Excess Permitted Weight**

$0.05/lb in excess of weight allowed by special permit or $100, whichever is greater.

The above fine rate schedule.

Fines for gross weight violations for vehicles or combinations of vehicles are assessed at one-half of the above fine rate schedule.
APPENDIX B

Hours of Service - Federal Regulations

1. 14-Hour Driving Window

This window is usually thought of as a “daily” limit even though it is not based on a 24-hour period. Drivers are allowed a period of 14 consecutive hours in which to drive up to 11 hours after being off duty for 10 or more consecutive hours. The 14-consecutive-hour driving window begins when they start any kind of work. Once they have reached the end of this 14-consecutive-hour period, they cannot drive again until they have been off duty for another 10 consecutive hours off duty. Their driving is limited to the 14-consecutive-hour period even if they take some off-duty time, such as a lunch break or a nap, during those 14 hours.

2. 11 Hour Driving Limit

During the 14-consecutive-hour period explained above, drivers are only allowed to drive their truck for up to 11 total hours. A driver may drive a total of 11 hours during the 14-hour period; however, driving is not permitted if more than 8 hours have passed since the end of the driver’s last off-duty or sleeper-berth period of at least 30 minutes. Once they have driven a total of 11 hours, they have reached the driving limit and must be off duty for another 10 consecutive hours (or equivalent) before driving the truck again.

3. Thirty Minute Rest Break

The hours-of-service regulations require that if more than 8 consecutive hours have passed since the last off-duty (or sleeper-berth) period of at least half an hour, a driver must take an off-duty break of at least 30 minutes before driving. Because of this short break provision, drivers are able to work 13.5 hours in the 14-hour period (if they are driving after the 8th hour on duty). The driver must be off duty for at least a half hour. Meal breaks or any other off-duty time of at least 30 minutes qualifies as a break. This time does count against the 14-hour driving window. In addition, FMCSA has also added an exception for drivers of commercial motor vehicles carrying Division 1.1, 1.2, or 1.3 explosives to allow them to count on-duty time spent attending the commercial motor vehicle, but doing no other on-duty work, towards the break.

FMCSA does not enforce the 30-minute rest break provision against any driver that qualifies for either of the “short haul operations”. The following drivers are not subject to the 30-minute break requirement:

All drivers that operate within 100 air miles of their normal work reporting location and satisfy the time limitations and recordkeeping requirements of 395.1(e)(1).

This exception (395.1(e)(1)) applies for any day in which a driver:
Drivers are allowed a period of 14 consecutive hours in which to drive up to 11 hours after being off duty for 10 or more consecutive hours. The 14-consecutive-hour driving window begins when they start driving after the 8th hour on duty. The driver must be off duty for at least 30 minutes before driving. Because of this short break provision, drivers are able to work 13.5 hours in the 14-hour period (if they are driving after the 8th hour on duty). The driver must be off duty for at least 30 minutes before driving. Any other hours they work, whether they are for a motor carrier or someone else, must be added to the total.

If the company does operate vehicles every day of the week, the employer may assign drivers to the 70-hour/8-day schedule. This means that they are not allowed to drive a commercial motor vehicle after they have been on duty 70 hours during any 8 consecutive days. Once they reach the 70-hour limit, they will not be able to drive a commercial motor vehicle again until they have dropped below 70 hours for a 7-consecutive-day period. They may do other work, but cannot do any more driving until are off duty enough days to get below the limit. Any other hours they work, whether they are for a motor carrier or someone else, must be added to the total.

If the company does not operate vehicles every day of the week, drivers are not allowed to drive a commercial motor vehicle after they have been on duty 60 hours during any 7 consecutive days. Once they reach the 60-hour limit, they will not be able to drive again until have dropped below 60 hours for an 8-consecutive-day period. They may do other work, but cannot do any more driving until are off duty enough days to get below the limit. Any other hours they work, whether they are for a motor carrier or someone else, must be added to the total.

One of these two limits must be followed:

4. 60/70-Hour Duty Limit

An addition to the limits that are explained above is the 60/70-hour limit. This limit is based on a 7 or 8-day period, starting at the time specified by the motor carrier for the start of a 24-hour period. This limit is sometimes thought of as a “weekly” limit. However, this limit is not based on a “set” week, such as Sunday through Saturday. The limit is based on a “rolling” or “floating” 7-day or 8-day period. The oldest day’s hours drop off at the end of each day when drivers calculate the total on-duty time for the past 7 or 8 days.

Non-CDL drivers that operate within a 150 air-mile radius of the location where the driver reports for duty and satisfy the time limitations and recordkeeping requirements of 395.1(e)(2) are also exempt from the 30-minute rest break.

5. 34 Hour Restart

The hours-of-service regulations allow drivers to “restart” their 60- or 70-hour clock calculation by taking 34 or more consecutive hours off duty (or in the sleeper berth) or some combination of both. After they have taken a least 34 consecutive hours off duty, they have the full 60 or 70 hours available again. The use of a “valid” 34-hour restart resets a driver’s “weekly” hour’s back to zero. In addition, an
individual may perform other on-duty tasks, such as loading or unloading and paperwork, after reaching the 60/70 or 70/80 hour limits. They simply may not legally drive a commercial motor vehicle (CMV) on a public road when the limit has been reached. The 34-hour restart is an optional, not a mandatory regulatory provision.

6. On-Duty Time

The 60-hour/7-day limit and 70-hour/8-day limit are based on how many hours drivers work over a period of days. It includes all time they are working or are required to be ready to work, for any employer. It includes the following activities:

- All time at a plant, terminal, facility, or other property of a motor carrier or shipper, or on any public property, waiting to be dispatched, unless they have been relieved from duty by the motor carrier;
- All time inspecting, servicing, or conditioning any truck, including fueling it and washing it at any time;
- All driving time, as defined in the term driving time;
- All other time in or on a commercial motor vehicle other than: (i) Time spent resting in or on a parked vehicle, except as otherwise provided in Section 397.5 of the Federal Motor Carrier Safety Regulations; (ii) Time spent resting in a sleeper berth; (iii) Up to 2 hours riding in the passenger seat of a property-carrying vehicle moving on the highway immediately before or after a period of at least 8 consecutive hours in the sleeper berth;
- All time loading, unloading, supervising, or attending to the truck; or handling paperwork for shipments;
- All time taking care of the truck when it is broken down;
- All time spent providing a breath, saliva, or urine sample for drug/ alcohol testing, including travel to and from the collection site;
- All time spent doing any other work for a motor carrier, including giving or receiving training and driving a company car; and
- All time spent doing paid work for anyone who is not a motor carrier, such as a part-time job at a local restaurant.

Travel time that is taken at the direction of a driver’s motor carrier is considered on-duty time.

Off-duty time is time in which a driver has been relieved of all duty and is free to leave the place that the vehicle is parked. A driver must also not be doing any paid or unpaid work for a motor carrier or doing any paid work for anyone else.