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Congressional Research Service

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North American Free Trade Agreement (NAFTA) Implementation: The Future of Commercial Trucking Across the Mexican Border

Abstract
[Excerpt] NAFTA set forth a schedule for implementing its trucking provisions that would have opened the border states to cross-border trucking competition in 1995 and all of North America in 2000, but full implementation has been stalled because of concern with the safety of Mexican trucks. Congress first addressed these concerns in the FY2002 Department of Transportation Appropriations Act (P.L. 107-87) which set 22 safety-related preconditions for opening the border to long-haul Mexican trucks. In November 2002, the U.S. Department of Transportation announced that all the preconditions had been met and began processing Mexican applications for U.S. long-haul authority. However, a suit over environmental compliance delayed implementation further. After the suit was resolved, in February 2007, the U.S. and Mexican Secretaries of Transportation announced a demonstration project to implement the NAFTA trucking provisions. The purpose of the project was to demonstrate the ability of Mexico-based motor carriers to operate safely in the United States beyond the border commercial zones. Up to 100 Mexico-domiciled carriers would be allowed to operate throughout the United States for one year and Mexico would allow the same for up to 100 U.S.-based carriers. With passage of the U.S. Troop Readiness, Veteran's Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110-28), Congress mandated additional requirements before the project could begin. After failing to defund the demonstration project in the FY2008 Consolidated Appropriations Act (P.L. 110-161), Congress succeeded in terminating the demonstration project through a provision in the FY2009 Omnibus Appropriations Act (P.L. 111-8). Subsequently, Mexico announced it would retaliate by increasing import duties on 90 U.S. products. The Obama Administration has indicated it intends to propose a revamped program that will address the concerns of Congress. The FY2010 Consolidated Appropriations Act (P.L. 111-117) passed in December 2009 did not preclude funds from being spent on a long-haul Mexican truck pilot program, provided the terms and conditions stipulated in section 350 of P.L. 107-87 and section 6901 of P.L. 110-28 were satisfied.

One truck safety statistic, "out-of-service" rates, indicates that Mexican trucks operating in the United States are now safer than they were a decade ago. The data indicate that Mexican trucks and drivers have a comparable safety record to U.S. truckers. Another study indicates that the truck driver is usually the more critical factor in causing accidents than a safety defect with the truck itself. Service characteristics of long-haul trucking suggest that substandard carriers would likely not succeed in this market. As shipment distance increases, the relative cost of trucking compared to rail increases, and thus shippers utilizing long-haul trucking are willing to pay more because they require premium service, such as precise delivery windows or cargo refrigeration. These exacting service requirements would seem to disqualify truckers with unreliable equipment or incompetent drivers. In contrast, the short-haul "drayage" carriers that Mexican long-haul carriers would displace, typically use older equipment because of the many hours spent idling awaiting customs processing at the border. If Mexican carriers do eventually receive long-haul authority, the short term impact is expected to be gradual as Mexican firms deal with a number of stumbling blocks, including lack of prearranged back hauls and higher insurance and capital costs, in addition to the customs processing delays. In the long run, use of drayage companies is likely to decline as they lose part of their market share to Mexican long-haul carriers. The most common trips for these carriers will probably be from the Mexican interior to warehouse facilities on the U.S. side of the border or to nearby cities in the border states.

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Comments

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Congressional Research Service

North American Free Trade Agreement (NAFTA) Implementation: The Future of Commercial Trucking Across the Mexican Border

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February 1, 2010

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Prepared for Members and Committees of Congress

Summary

NAFTA set forth a schedule for implementing its trucking provisions that would have opened the border states to cross-border trucking competition in 1995 and all of North America in 2000, but full implementation has been stalled because of concern with the safety of Mexican trucks. Congress first addressed these concerns in the FY2002 Department of Transportation Appropriations Act (P.L. 107-87) which set 22 safety-related preconditions for opening the border to long-haul Mexican trucks. In November 2002, the U.S. Department of Transportation announced that all the preconditions had been met and began processing Mexican applications for U.S. long-haul authority. However, a suit over environmental compliance delayed implementation further. After the suit was resolved, in February 2007, the U.S. and Mexican Secretaries of Transportation announced a demonstration project to implement the NAFTA trucking provisions. The purpose of the project was to demonstrate the ability of Mexico-based motor carriers to operate safely in the United States beyond the border commercial zones. Up to 100 Mexico-domiciled carriers would be allowed to operate throughout the United States for one year and Mexico would allow the same for up to 100 U.S.-based carriers. With passage of the U.S. Troop Readiness, Veteran's Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110-28), Congress mandated additional requirements before the project could begin. After failing to defund the demonstration project in the FY2008 Consolidated Appropriations Act (P.L. 110-161), Congress succeeded in terminating the demonstration project through a provision in the FY2009 Omnibus Appropriations Act (P.L. 111-8). Subsequently, Mexico announced it would retaliate by increasing import duties on 90 U.S. products. The Obama Administration has indicated it intends to propose a revamped program that will address the concerns of Congress. The FY2010 Consolidated Appropriations Act (P.L. 111-117) passed in December 2009 did not preclude funds from being spent on a long-haul Mexican truck pilot program, provided the terms and conditions stipulated in section 350 of P.L. 107-87 and section 6901 of P.L. 110-28 were satisfied.

One truck safety statistic, "out-of-service" rates, indicates that Mexican trucks operating in the United States are now safer than they were a decade ago. The data indicate that Mexican trucks and drivers have a comparable safety record to U.S. truckers. Another study indicates that the truck driver is usually the more critical factor in causing accidents than a safety defect with the truck itself. Service characteristics of long-haul trucking suggest that substandard carriers would likely not succeed in this market. As shipment distance increases, the relative cost of trucking compared to rail increases, and thus shippers utilizing long-haul trucking are willing to pay more because they require premium service, such as precise delivery windows or cargo refrigeration. These exacting service requirements would seem to disqualify truckers with unreliable equipment or incompetent drivers. In contrast, the short-haul "drayage" carriers that Mexican long-haul carriers would displace, typically use older equipment because of the many hours spent idling awaiting customs processing at the border. If Mexican carriers do eventually receive long-haul authority, the short term impact is expected to be gradual as Mexican firms deal with a number of stumbling blocks, including lack of prearranged back hauls and higher insurance and capital costs, in addition to the customs processing delays. In the long run, use of drayage companies is likely to decline as they lose part of their market share to Mexican long-haul carriers. The most common trips for these carriers will probably be from the Mexican interior to warehouse facilities on the U.S. side of the border or to nearby cities in the border states.

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NAFTA's Commercial Trucking Provisions: Background and Implementation History

NAFTA set forth a schedule for implementation of its trucking provisions that would have opened the border states to cross-border trucking competition on December 17, 1995, and all of North America on January 1, 2000. However, because of known safety concerns with Mexican trucks, the provisions were never implemented. The U.S. Department of Transportation (U.S. DOT) decided that until safety concerns about Mexican trucks were resolved, the trucks would continue to be restricted to the commercial zones just along the border. (These commercial zones generally extend from about 3 miles to 20 miles into the United States at official ports of entry so that Mexican trucks, after clearing customs, can continue on to make local deliveries).[1] Mexican trucks, inspected from January 1996 to December 1996, were put out of service 45% of the time compared to a U.S. truck out-of-service rate of 28%.[2] At the time, Mexican drivers operated without hours-of-service limits and maintained no driver log books. In addition, Mexican trucks reportedly were not required to have front brakes and were allowed a gross vehicle weight 17,000 pounds heavier than allowed on U.S. roads. The wage differential between Mexican and U.S. long-haul drivers was also an issue of concern. Some labor unions and their supporters expressed concerns that the wage differential would lead to a loss of jobs for U.S. commercial truck drivers, especially in the border states and along the major highway trade corridors in the United States.

Despite ongoing bilateral consultations aimed at bringing the Mexican trucks and drivers up to U.S. safety requirements, no agreement was reached and in 1998 Mexico protested the postponement of NAFTA trucking provisions under NAFTA dispute settlement procedures. The final report of the arbitration panel concluded that the blanket refusal to process the applications of Mexican motor carriers was in breach of the NAFTA obligations of the United States and that alleged deficiencies in Mexico's regulation of commercial trucking did not relieve the United States of its treaty obligations. The panel did, however, state that the United States could subject Mexican carriers to different requirements than those that apply to U.S. and Canadian carriers.[3]

The Bush Administration originally set the end of 2001 as a goal for the U.S. Federal Motor Carrier Safety Administration (FMCSA) to begin processing Mexican applications seeking operating authority throughout the United States. Congress, however, included 22 preconditions for opening the border beyond the commercial zone to Mexican trucking in the FY2002 Department of Transportation Appropriations Act (P.L. 107-87). Among the 22 preconditions in the act were the following requirements:[4]

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[1] The commercial zone is defined at 49 CFR 372, subpart B. A map of the zones and further details are available at http://ai.fmcsa.dot.gov/International/border.asp?redirect=commzone.asp.

[2] Roadside inspectors target trucks that appear to have a deficiency, so out-of-service rates would be higher than if trucks were randomly chosen for a roadside inspection. U.S. General Accounting Office (now the U.S. Government Accountability Office). *Commercial Trucking: Safety Concerns About Mexican Trucking Remain.* GAO/RECD 97-68. Washington, GAO, 1997. p. 1-4. See also U.S. DOT, Office of the Inspector General, *Motor Carrier Safety at the U.S.-Mexico Border*, Report Number: MH-2001-096, Washington, 2001. The IG found that the Mexican out-of-service rate had improved to 37% for FY2000.

[3] North American Free Trade Agreement Arbitral Panel Established Pursuant to Chapter Twenty in the Matter of Cross-Border Trucking Services; Final Report of the Panel. Washington, NAFTA Secretariat, 2001. p. 81-82. Available at http://www.nafta-sec-alena.org/app/DocRepository/1/Dispute/english/NAFTA_Chapter_20/USA/ub98010e.pdf.

[4] U.S. Federal Motor Carrier Safety Administration final rules for implementation of the NAFTA trucking provisions (continued...)

- all Mexican motor carriers must undergo U.S. DOT safety examinations prior to being granted provisional operating authority, with at least 50% of such carrier examinations to be conducted on-site in Mexico;
- Mexican carriers applying to operate beyond the commercial zone must have a distinctive U.S. DOT number (that distinguishes them from Mexican trucks certified to operate within the zone only) and must undergo safety monitoring initially and during an 18-month provisional period;
- Mexican motor carriers must all pass a full safety compliance review prior to receiving permanent operating authority;
- federal and state inspectors must verify the validity of the license of every driver carrying hazardous materials or undergoing a Level I safety inspection, as well as the licenses of 50% of all other drivers;
- Mexican carriers, operating under provisional authority, and for three years after receiving permanent authority, must display a Commercial Vehicle Safety Alliance inspection decal (which are good for 90 days), verifying satisfactory completion of a safety inspection;
- weigh-in-motion scales must be installed at the ten highest volume crossings;
- Mexican trucks may only cross at border crossings where a certified motor carrier safety inspector is on duty; and
- a number of other safety reviews and studies must take place.

These requirements are in addition to requirements that predate the enactment of P.L. 107-87, including requirements that Mexican carriers meet all U.S. safety (hours of service and log book rules, alcohol and drug tests, etc.) and insurance requirements.[5]

On November 27, 2002, then Secretary of Transportation, Norman Y. Mineta, announced that all the preconditions mandated in the FY2002 Appropriations Act had been met and directed the FMCSA to act on the applications of Mexican motor carriers seeking authority to transport international cargo beyond the U.S. border commercial zones.[6] On January 16, 2003, however, the Ninth Circuit Court of Appeals, in *Public Citizen v. Department of Transportation*, delayed implementation pending completion of a National Environmental Policy Act (NEPA) environmental impact statement (EIS) and a Clean Air Act (CAA) conformity determination. FMCSA began the EIS process and has also filed a petition asking the Supreme Court to review the 9th Circuit Court decision in *Public Citizen v. DOT*.[7] On June 7, 2004, the Court reversed the 9th Circuit Court's decision.[8]

(...continued)

may be found at http://www.fmcsa.dot.gov/rulesregs/mexican/Part_365.pdf; http://www.fmcsa.dot.gov/rulesregs/fmcsr/final/Safety_certification.pdf; and http://www.fmcsa.dot.gov/rulesregs/mexican/Parts_368_and_387.pdf.

[5] Mexican carriers, planning only to operate in the commercial zone along the border, had to apply by October 20, 2003, for provisional Certificates of Registration. FMCSA made efforts to publicize this deadline to new and existing Mexican commercial zone certificated carriers. The provisional Certificate cannot be made permanent for at least 18 months, until the carrier has passed a safety audit.

[6] U.S. Department of Transportation. U.S. Transportation Department implements NAFTA Provisions for Mexican Trucks, Buses. Available at http://www.fmcsa.dot.gov/contactus/press/2002/112702.htm.

[7] See U.S. Federal Motor Carrier Safety Administration. *NAFTA Environmental Analysis.* Available at

(continued...)

In January 2005, the U.S. DOT Inspector General (DOT IG) issued a report that the FMCSA had sufficient staff, facilities, equipment, and procedures in place to substantially meet eight of the 22 requirements which Congress had requested the DOT IG to review as specified in section 350 of the DOT FY2002 Appropriations Act (P.L. 107-87).

In February 2007, the U.S. and Mexican Secretaries of Transportation announced a demonstration project to implement certain NAFTA trucking provisions. As stated in the Federal Register on May 1, 2007,[9] the project was to demonstrate the ability of Mexico-based motor carriers to operate safely in the United States beyond the commercial zones. This would be accomplished by the Mexican-based carriers adopting certain safety programs and by the monitoring and enforcement activities established by U.S. DOT. Up to 100 Mexico-domiciled carriers would be allowed to operate throughout the United States for one year and Mexico would allow the same for up to 100 U.S.-based carriers. The Mexican carriers and truck drivers were required to comply with all U.S. regulations applicable to trucking, including those related to safety, customs, immigration, vehicle registration and taxation, and fuel taxation. These trucks were to be carefully monitored by FMCSA and state law enforcement, a joint U.S.-Mexico monitoring group, and an independent U.S. evaluation panel. Data would be collected and evaluated at the end of the demonstration project before considering further implementation of NAFTA trucking provisions.

On April 30, 2007 the U.S. DOT announced that the demonstration project would not start until Mexico was ready with its reciprocal program to allow U.S.-trucks into Mexico.[10]

On May 24, 2007, with passage of the U.S. Troop Readiness, Veterans' Care, Katrina Recovery, and Iraq Accountability Appropriations Act, 2007 (P.L. 110-28, section 6901), Congress mandated additional requirements before the project could begin. Among them was the requirement that Mexico have its program to allow U.S. trucks to cross into Mexico ready to proceed, that the FMCSA first seek public comment on five aspects of the demonstration project, that the demonstration project meet the same requirements of a "pilot program" as defined at 49 U.S.C. 31315(c), and that the DOT IG review the U.S. DOT's program as to whether sufficient measures were in place to ensure the safety of Mexican trucks.[11] This act also prohibited Mexican carriers of hazardous materials and buses from participating in the demonstration project. On August 17, 2007, the FMCSA announced its intent to proceed with the project, once the DOT IG issued its review.[12] On September 6, 2007, the DOT IG issued his report and U.S. DOT issued a letter to Congress addressing the issues raised by the DOT IG. The demonstration project began the same day.

(...continued)

http://www.fmcsa.dot.gov/naftaeis/; U.S. Department of Justice. Office of the Solicitor General. *United States Department of Transportation, et al., Petitioners v. Public Citizen, et al., on Petition for a Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit*. Docket no. 03-358. Washington, the Department. 27 p. Available at http://www.usdoj.gov/osg/briefs/2003/2pet/7pet/2003-0358.pet.aa.pdf; See also DOJ Supreme Court Appeal in Mexico Truck Case Puzzles Activists. *INSIDE Cal/EPA*. Sept. 12, 2003. p. 14.

[8] The Supreme Court's decision reversing the 9th Circuit Court's decision is available at http://supct.law.cornell.edu/supct/pdf/03-358P.ZO.

[9] 72 FR 23883.

[10] U.S. DOT Press Release, DOT 43-07, April 30, 2007.

[11] See 72 FR 31877-31894, June 8, 2007 for the request for public comment.

[12] See 72 FR 46263-46289, August 17, 2007.

On September 27, 2007, U.S. DOT announced that it would outfit long-haul Mexican trucks operating in the United States with GPS devices (as well as U.S.-based long-haul carriers operating in Mexico) in order to enforce hours-of-service and cabotage[13] prohibitions, as well as to time and date stamp border and state crossings. The U.S. DOT entered into a contract with the DOD for $500,000 to install these devices and as of October 2008, almost all of the Mexican trucks participating in the demonstration project had been outfitted. The U.S. DOT did not pay for full GPS capability; the GPS units provide periodic (every 30 minutes or more) tracking "pings" instead of continuous tracking.

In December 2007, Congress passed the FY2008 Consolidated Appropriations Act (P.L. 110-161) which included a provision prohibiting any funding from being used "to establish" a cross-border trucking program. The Administration concluded that the demonstration project could continue because it had already been established. The Teamsters Union and environmental groups filed suit in the 9th Circuit Court of Appeals in San Francisco and in oral arguments in February 2008 argued that the demonstration project should end, but a decision is still pending.

On March 11, 2008, marking six months of the project, the U.S. DOT testified before the Senate Commerce Committee regarding the demonstration project and stated that FMCSA was "checking"[14] 100% of the long-haul Mexican carriers as they crossed the border to check that the vehicles have the proper safety decals (as a result of passing a pre-authority safety audit), the driver has a valid license, and that the driver is proficient in English.[15] (Statutorily, the FMCSA is only required to check 50% of the drivers at the border for a valid license). A Mexican driver's English proficiency is tested by asking a series of questions in English and requiring the driver to answer in English. The driver is also shown a set of U.S. road signs and the driver must explain their meaning in either English or Spanish. The U.S. DOT also stated that since 1995, the FMCSA had spent more than $500 million to improve border inspection stations and hired 125 federal safety inspectors, 149 auditors and investigators, and that the southern border states had hired an additional 349 inspectors. The DOT IG also issued a six month interim report.[16]

On August 4, 2008 the U.S. DOT announced a two year extension of the project because only 29 Mexican carriers had participated thus far.

In October 2008, an independent evaluation panel (IEP) appointed by the FMCSA released its report evaluating the demonstration project after one year.[17] The panel consisted of a former U.S. Representative, a former U.S. DOT Deputy Secretary, and a former DOT IG.

In March 2009, Congress passed the FY2009 Omnibus Appropriations Act (P.L. 111-8), which included a provision with unequivocal language terminating the demonstration project. In response to the abrupt end of the program, the Mexican government announced that it would

[13] Mexican-based carriers are not allowed to transport cargo from a U.S. origin to a U.S. destination, i.e. engage in U.S. domestic transport of cargo.

[14] The FMCSA used the word "checking" to describe this process because it is different than the process associated with an "inspection" which is defined in regulations.

[15] Written statement of Mary E. Peters, Secretary of Transportation, before the Senate Committee on Commerce, Science, and Transportation, March 11, 2008.

[16] DOT IG, Report # MH-2008-040.

[17] Independent Evaluation Panel (IEP) Report to the U.S. Secretary of Transportation, U.S.- Mexico Cross-Border Trucking Demonstration Project, October 31, 2008. The report is available at http://www.dot.gov/affairs/PanelReport.pdf.

retaliate by increasing duties on 90 U.S. products with an import value of $2.4 billion. The tariffs, effective as of March 19, 2009, range from 10% to 45% and cover a range of products that include fruit, vegetables, home appliances, consumer products, and paper.[18] The Obama Administration has stated it is working on a new program to satisfy the concerns of Congress and the country's NAFTA commitments.[19]

In December 2009, Congress passed the FY2010 Consolidated Appropriations Act (P.L. 111-117), which did not preclude funds from being spent on a long-haul Mexican truck pilot program, provided the terms and conditions stipulated in section 350 of P.L. 107-87 and section 6901 of P.L. 110-28 (see above) were satisfied.

Demonstration Project Results after One Year

At the close of the first year of the demonstration project (September 6, 2008), 29 Mexican carriers had received long-haul authority to operate in the United States and 118 Mexican trucks were pre-inspected on-site in Mexico as part of the pre-approval process. These 29 Mexican carriers indicated they intended to use about 110 different drivers for long-haul moves into the United States. Two of the Mexican carriers subsequently withdrew from the program and two carriers never sent any trucks to the border. During the year, the participating firms' trucks crossed the border 12,516 times to make U.S. deliveries. To put this number in perspective, in 2007, 4.8 million Mexican trucks crossed the border, about 20,000 crossings per weekday.

About 775 Mexican carriers submitted applications to participate in the project, of these:

- 340 applications were rejected because they were incomplete;
- 138 carriers were rejected after initial review because of alleged security issues, they intended to carry hazardous material or passengers, or because they had unpaid FMCSA penalties or other unresolved safety issues;
- 297 applications were put on hold because the carrier could not be reached at the contact information provided or because when contacted the applicant had decided not to further pursue long-haul authority; and
- of the 100 carriers that had undergone the Pre-Authorization Safety Audit (PASA), 32 failed the audit.

As of August 6, 2008, ten U.S. carriers were participating in Mexico's reciprocal project. These carriers were operating 55 trucks making 2,245 trips into Mexico.[20]

[18] For further information on the U.S.-Mexico trade relationship, see CRS Report RL32934, *U.S.-Mexico Economic Relations: Trends, Issues, and Implications*, by M. Angeles Villarreal.

[19] The White House, Office of the Press Secretary, Press Briefing by Press Secretary Robert Gibbs, March 16, 2009. See also, Lisa Caruso, "Jump Starting Mexico's Trucks," The National Journal, March 28, 2009; and "LaHood To Share Mexico Trucking Proposal With Congress Soon," Inside U.S. Trade, May 1, 2009.

[20] 73 FR 45797, August 6, 2008.

Truck Safety Linkage to Service Characteristics

The average value of the cargo in a truck from Mexico is about $50,000. The cost of transporting that cargo is a small fraction of the cargo's value. While price is important when choosing a trucker, the buyer or seller of the cargo (the Mexican exporter or U.S. importer) is equally concerned with the trucker's reliability and performance. To save a few dollars in trucking costs, a shipper is not likely to risk loss of the cargo or damage to it because the truck crashed, nor risk a missed delivery because the trucker was put out of service at a roadside safety inspection. Because long-haul truck cargo is typically higher value and time sensitive, reliability and performance is even more critical for long-haul truckers. While trucks carrying any type of cargo can be involved in an accident, the safety record of different categories of trucks indicate tendencies which are useful in evaluating the safety risk posed by Mexican trucks.

"Long-Haul" Trucking Defined

Although opening the border to Mexican long-haul trucks conjures up images of encounters with these trucks anywhere in the United States, the economics of long-haul trucking will limit most Mexican trucks to the border states. Results from the demonstration project bear this out. Of the 12,516 trips made by Mexican project participants, only about 11.5% of these trips (1,439 trips, about 6 per weekday) were actually for "long-haul" deliveries—that is, for destinations beyond the commercial zone. Moreover, the Independent Evaluation Panel's (IEP) review of FMCSA data indicate that only 4% of the 1,439 long-haul trips (80 trips) over the course of the year were to destinations beyond a border state.[21] Almost all (95%) of the "long-haul" trips were to destinations within Texas and California. Only a handful of long-haul trips were to destinations to the two other border states, New Mexico and Arizona. The IEP also reported that more than 30 states had not encountered a Mexican project participant at a roadside inspection.[22]

Because of the cost, relatively few trucks haul loads for long-distances. For example, in the United States, about one-half of all trucks typically travel within 50 miles of their home base and almost three-fourths stay within their home state.[23] Only 3% of the total tons that U.S. trucks carry as a single mode shipment are hauled 750 miles or greater (750 miles is about the distance between El Paso, TX and Wichita, KS).[24] Conversely, nearly 80% is hauled less than 100 miles (about the distance between Baltimore and Philadelphia). Railroads are often a cheaper alternative for shipments over 500-750 miles and in the United States they capture an increasing share of the truck/rail market as the distance and volume of freight increases in a particular corridor. Truckload carriers are among the largest customers of the railroads, putting their trailers on the railroad for the line-haul portion of a move. Kansas City Southern Railroad, which markets itself as the "NAFTA railroad," has a particularly large stake in Mexico-U.S. cross-border traffic. It and other U.S. railroads have been making infrastructure improvements on routes to Mexico to better compete with trucks for cross-border freight. Railroads carry about 15% of the cargo units

[21] IEP Report to the U.S. Secretary of Transportation, U.S.- Mexico Cross-Border Trucking Demonstration Project, October 31, 2008, p. 13.

[22] IEP report, p. xvii.

[23] U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, *Freight Facts and Figures 2007*, Table 3-6, p. 25.

[24] U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Census Bureau, *1997 Commodity Flow Survey* (Washington, DC, 1999), Table 3, pp. 11-13. Includes for hire trucks and private trucks.

and value of imports from Mexico by land modes (truck and rail) and 25% of the weight.[25] Thus, competition from railroads is one limiter of the market potential for long-haul trucking across the border.

The market characteristics of long-haul trucking suggest that carriers with substandard equipment or unreliable drivers would not compete successfully for this business. As shipment distance increases, the relative cost of shipping by truck rather than by rail increases. Consequently, truck freight that is hauled long-distances tends to be higher-value, requiring expedited delivery, and often requiring refrigeration. Trucks carry about 95% of refrigerated ("reefer") cargo, even over distances that otherwise would be rail competitive, because trucks have proven to be more reliable than railroads in keeping the cargo at the required temperature. Fruits, vegetables, beverages, confectionary and other products requiring either refrigeration or temperature protection account for over a quarter of the total weight of cargo imported in trucks from Mexico.[26] Auto parts are another major commodity group that is imported from Mexico in trucks. Auto manufacturers are credited with inventing the concept of "just-in-time" shipping schedules and have since advanced to the concept of "just-in-sequence" deliveries. This requires trucks to deliver some parts just as they are needed on the assembly line, requiring a delivery window that may be measured in minutes. Because of the more demanding service requirements associated with long-haul truck cargo, it seems plausible that shippers of such cargo would choose carriers with modern equipment, reliable drivers, and a track record of on-time performance.

Short-Haul Trucking over the Border

The short-haul truck market, "drayage" as it is called, exhibits characteristics that raise safety and security concerns. Drayage carriers pull the trailers through the customs processing lanes and can spend hours idling and inching forward as they wait for their turn in the customs booth.[27] This puts strain on truck engines and thus drayage carriers typically purchase older equipment. Drayage firms charge low rates and operate on very slim profit margins. Their drivers are generally the lowest paid in the industry. Once they have cleared U.S. customs,[28] the drayage carrier will continue on to make final delivery if the receiver is located within the border zone or will drop the trailer for a U.S. long-haul carrier if the receiver is located beyond the zone and the Mexican carrier does not have U.S. long-haul authority.

The extra trucking segment at the border, particularly at the location where the trailer is exchanged between the long-haul and drayage carrier, could create additional opportunity for infiltration by smugglers. The drayage carrier and driver are also additional entities that U.S. customs must screen for certification into the Customs Trade Partnership Against Terrorism (C-TPAT) program and the Free And Secure Trade (FAST) program.

[25] DOT, BTS North America TransBorder Freight Data. Vehicles account for 75% of the value of cargo imported by railroads.

[26] Based on 2008 data. DOT, BTS, North America TransBorder Freight Data.

[27] Drayage carriers are also found at U.S. seaports for the same reason; long wait times to be processed through the port's entry gate.

[28] In this report, "U.S. customs" refers to U.S. Customs and Border Protection.

Determinants of U.S. Truck Safety and Applicability to Mexican Carriers

To better target its safety enforcement activities toward those carriers that pose a greater safety risk, the FMCSA has studied the safety performance of different categories of trucking. These studies indicate that safety performance does vary depending on the type of cargo hauled, which can be useful for evaluating safety statistics of Mexican trucks cited below. As hypothesized earlier, one study found that refrigerated trucks do have a better *vehicle* safety record compared to several other segments of the trucking industry.[29] This study also found that U.S. drayage carriers have a relatively poor *vehicle* safety record, but this finding may not be applicable to Mexican drayage carriers because of an important difference in the trailer equipment used. U.S. drayage carriers predominantly haul international shipping containers at seaports or at inland rail terminals which use a separate piece of equipment—a chassis that is an I-beam frame with wheels, to pull the container over the road. The chassis are owned and maintained by the ocean carriers but their proper maintenance has been a widely recognized problem and is likely a contributing factor to the poor vehicle safety performance of U.S. drayage carriers. At the Mexican border, truck trailers (the wheels and "container" are inseparable) are predominantly the equipment being pulled.

Studies also indicate that *drivers* of refrigerated cargo are found with safety violations more often than drivers in several other categories of trucking.[30] This may be because refrigerated cargo is time sensitive and hauled longer distances so drivers may be more prone to falsify hours-of-service log books. One study found that while there was little difference between refrigerated and non-refrigerated trucking in terms of number of accidents and moving violations, drivers of refrigerated trucks had more logbook violations.[31] This study found that drivers that graduated from college or had some college were 27% more likely than high school graduates to violate their logbook. The study authors reasoned that as education level increased, drivers became more sophisticated in manipulating the logbook or felt more confident that they could do so without being caught.

While U.S. drayage carriers receive low scores for vehicle safety, their drivers generally receive higher safety scores than other segments of the trucking industry.[32] Hours-of-service violations and falsifying log books are the most common violations found among U.S. truck drivers but since drayage carriers predominantly make short-haul trips, it seems logical that this violation would be less common among these drivers. Since Mexican truckers in the United States are predominantly making short-haul trips one could expect that they too would have relatively good driver safety scores, which the data in **Table 1** do indicate.

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[29] Thomas M. Corsi, Marius Stefan, "Motor Carrier Safety Performance Profile," prepared for FMCSA, February 2004. Available at http://ai.fmcsa.dot.gov/CarrierResearchResults/PDFs/MCSafPerfProfile.pdf.

[30] Thomas M. Corsi, Marius Stefan, "Motor Carrier Safety Performance Profile," prepared for FMCSA, February 2004; and William C. Horrace, Thomas P. Keane, "Ranking and Selection of Motor Carrier Safety Performance by Segment," August 2003. Available at http://www.horrace.com/AAP%20Horrace%20Keane%20August%202003.pdf.

[31] Kristen Monaco, Emily Williams, "Assessing the Determinants of Safety in the Trucking Industry," Journal of Transportation and Statistics, April 2000.

[32] Thomas M. Corsi, Marius Stefan, "Motor Carrier Safety Performance Profile," prepared for FMCSA, February 2004; and William C. Horrace, Thomas P. Keane, "Ranking and Selection of Motor Carrier Safety Performance by Segment," August 2003. Available at http://www.horrace.com/AAP%20Horrace%20Keane%20August%202003.pdf.

A congressionally mandated study of the causation of accidents in the United States involving large trucks that resulted in at least one fatality or injury found that the driver is a more critical factor than the vehicle.[33] The study reports that in those incidents in which the truck was determined to be primarily responsible for the crash (as opposed to a passenger vehicle), in only about 10% of the cases was the critical factor related to a problem with the truck; in 87% of the incidents the driver was considered the critical factor in the crash.

Mexican Truck Out-of-Service Rates Comparable to U.S. Trucks

According to one indicator of safety performance, the safety of Mexican trucks has improved from a decade ago and is now comparable with U.S. trucks. "Out-of-service" violations are those that are serious enough to keep the truck from continuing its journey until the violation is resolved. Common *vehicle* out-of-service violations include defective brakes, inoperative turn signal or lamps, a flat tire or tire leak. Common *driver* out-of-service violations include an hours-of-service violation, failure to keep or falsifying a log book, operating without a license or the wrong license for the type of vehicle. In 1998, the Mexican vehicle out-of-service rate was found to be 59%.[34] This compares with U.S. truck vehicle out-of-service rates that are typically about 22%. Mexican carriers that participated in the demonstration project had vehicle out-of-service rates of about 12% and driver out-of-service rates of about 0.25% (versus 7% for U.S. drivers). However, one would suspect these rates to be low given that Mexican project participants were assured of being at least "checked" at the border while the typical U.S. trucker shipping domestically can expect only a chance of being inspected.

However, recent data provided by the FMCSA and summarized by the IEP and the DOT IG indicate that other Mexican trucks are as safe as U.S. trucks and that the drivers are generally safer than U.S. drivers. For instance, another group of Mexican trucks operating in the United States are those operating within the border commercial zone. There are 7,134 Mexican carriers with 28,533 trucks that have authority to operate within the border commercial zone.[35] Between FY2004 and FY2008, these Mexican trucks had vehicle out-of-service rates that were slightly less than U.S. trucks (about 21% versus 22%) and driver out-of-service rates that were significantly lower than U.S. drivers (1% versus about 7%).[36] For the one year period between September 2007 and September 2008, the IEP found very similar results.[37]

Perhaps more significant, Mexican carriers that have been legally operating beyond the border commercial zone, outside the demonstration project, also have comparable out-of-service rates to U.S. carriers. These Mexican trucks obtained their long-haul authority under U.S. provisions pre-dating NAFTA, between 1982 and 1994. Most of them have Certificates of Registration to carry certain exempt commodities between specific points (as indicated on the certificate). They are Mexican-domiciled trucking companies but majority U.S.-owned (more than 51%) and can be private carriers or for-hire carriers. In addition, a handful of Mexican-domiciled carriers are

[33] U.S. DOT, FMCSA, Report to Congress on the Large Truck Crash Causation Study, November 2005. Available at http://www.ai.volpe.dot.gov/ltccs/data/documents/reportcongress_11_05.pdf.

[34] Written statement of Mary E. Peters, Secretary of Transportation, before the Senate Committee on Commerce, Science, and Transportation, March 11, 2008, p. 5.

[35] IEP report, p. 52.

[36] DOT IG, Report # MH-2009-034, pp. 12-13.

[37] IEP report, p. xiii.

legally operating throughout the United States as a result of being grandfathered into the 1982 moratorium on Mexican and Canadian-domiciled carriers operating in the United States.[38] According to the Independent Evaluation Panel, in 2008, about 861 Mexican-domiciled carriers representing 1,749 trucks were legally operating in the United States under these authorities. The safety of these trucks is on par with the safety of U.S. trucks according to the FMCSA's database of roadside truck inspections occurring in the United States.[39] While operating in the United States from FY2004 to FY2007, these long-haul Mexican carriers had an out of service rate for the vehicle of roughly 20%, matching U.S. vehicle out of service rates during the same years. With respect to the drivers, Mexican drivers of certificated or grandfathered carriers had a much lower out-of-service rate than did U.S. drivers (about 1% versus 7%). Similar results were obtained by the Independent Evaluation Panel when they reviewed FMCSA data for a subsequent year (September 7, 2007 through September 6, 2008).[40]

Table 1 shows the out-of-service rates resulting from roadside inspections while operating in the United States for U.S., Mexican, and Canadian domiciled trucks over the last five years. As the figures indicate, Mexican trucks have lower driver out-of-service rates and slightly lower vehicle out-of-service rates than U.S. trucks.

Table 1. Roadside Inspections of Trucks Operating in the United States by Country of Domicile: 2004 to 2008

Out-Of-Service Rates (OOS)	Average # of Inspections per Year	2004	2005	2006	2007	2008
Driver OOS Rates:						
- U.S. Driver	2,838,534	6.9%	6.9%	7.4%	7.2%	6.7%
- Mex. Driver	176,286	1.7%	1.2%	1.3%	1.0%	1.3%
- Can. Driver	96,888	6.6%	6.1%	7.2%	6.3%	6.1%
Vehicle OOS Rates:						
- U.S. Truck	2,089,265	23.9%	23.7%	23.3%	22.6%	22.7%
- Mex. Truck	161,141	22.7%	22.6%	21.2%	21.8%	20.9%
- Can. Truck	56,111	14.2%	13.6%	13.6%	12.9%	14.1%

Source: FMCSA Motor Carrier Management Information System (MCMIS) December 19, 2008, snapshot.

Notes: 2008 data as of December 19, 2008. Driver OOS rate is based on inspection levels I, II, III, and VI. Vehicle OOS rate is based on inspection levels I, II, V, and VI.

[38] The moratorium was imposed by section 6 of The Bus Regulatory Reform Act of 1982. For a legislative history of these two long-haul authorities, see Appendix D of the IEP report, pp. 71-72.

[39] DOT, IG, Status Report on NAFTA Cross-border Trucking Demonstration Project, Report No. MH-2009-034, February 6, 2009, pp. 12-13.

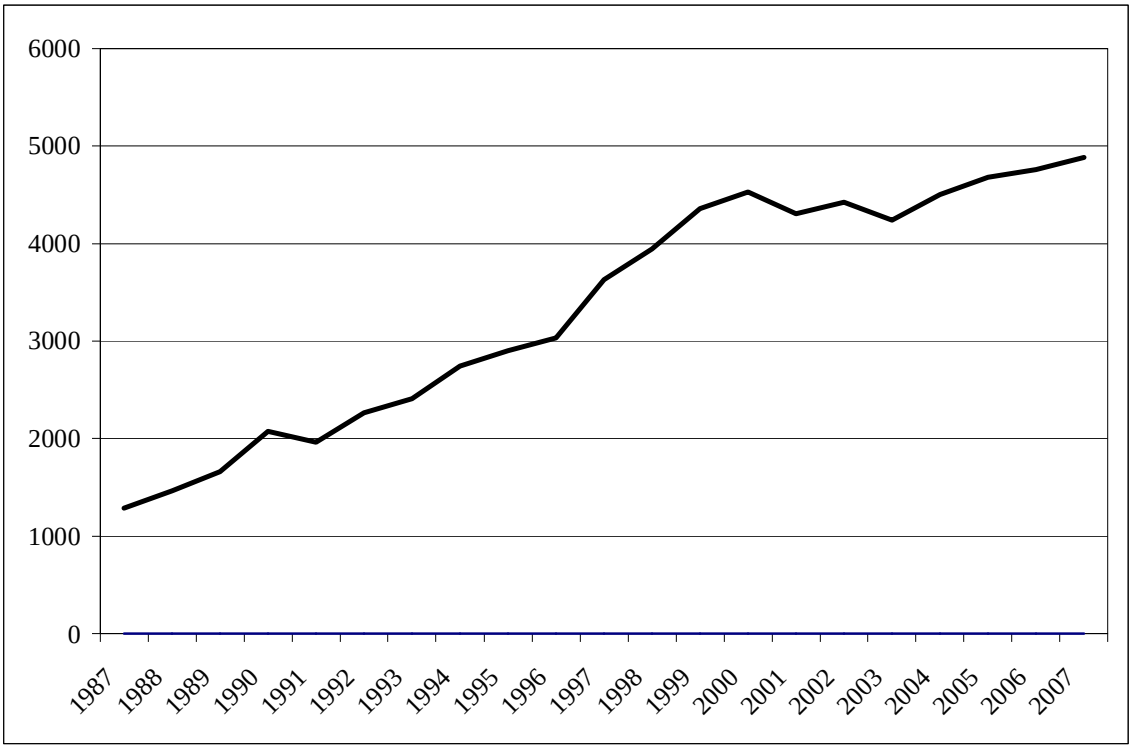
[40] Independent Evaluation Panel Report, U.S.-Mexico Cross-Border Trucking Demonstration Project, October 31, 2008, p. 19.

Cross-Border Trucking Operations: An Overview

The Scope of Cross-Border Truck Traffic

The chart in **Figure 1** shows the trend in incoming truck movements across the border with Mexico since 1985. Cross-border truck movements accelerated in the mid-1980s following Mexico's accession to the General Agreement on Tariffs and Trade and then again in the mid-1990s under NAFTA. Trucks carry roughly 80% of the cargo, by value, across the border and trends in cross-border truck movements track closely with trends in Mexico-U.S. trade. Under NAFTA the value of trade between the two nations crossing the border by truck increased from $74 billion in 1994, to $235 billion in 2008. In the year 2007, over 4.8 million truck crossings were made from Mexico into the United States.

Figure 1. Incoming Truck Movements from Mexico (thousands), 1987-2007



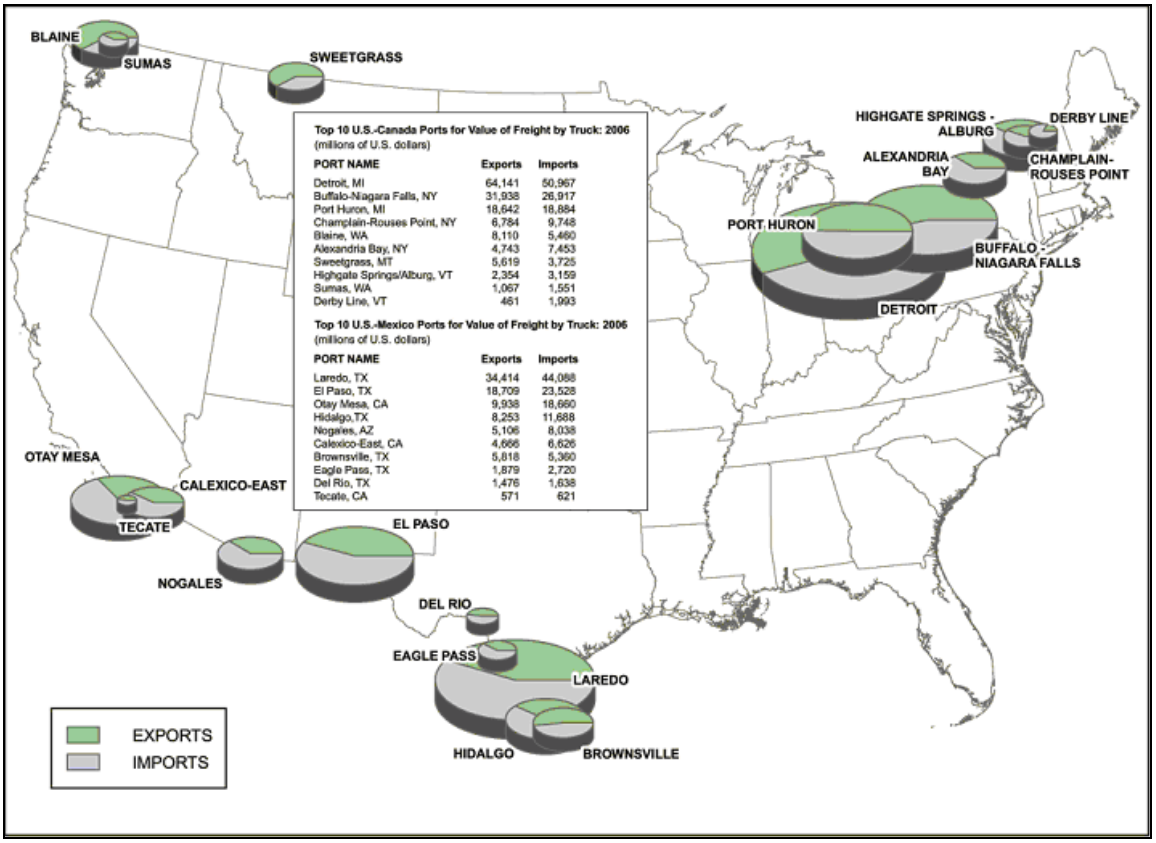
Source: U.S. Customs and Border Protection.

The link between economic growth and truck crossings is important because once the two countries' economies rebound, the growth in cross border shipping will increase the stress on the border's physical infrastructure, as well as the capacity of the U.S. federal agencies that staff the Ports of Entry (POE) (e.g. U.S. Customs and Border Protection, and the Federal Motor Carrier Safety Administration, among others).

The distribution of commercial traffic among the 25 POEs that handle commercial traffic is uneven. The map in **Figure 2** illustrates the relative volumes of imports and exports by truck across U.S. land borders. In 2007, the top ten POEs handled 97% of the value of truck freight

crossing into the United States from Mexico and the top four ports: Laredo, El Paso, and Hidalgo, Texas, and Otay Mesa, California, handled nearly 80%.[41] The busiest POEs are the ones expected to experience the most growth in traffic.

Figure 2. Top Ports for Transborder Merchandise Freight by Truck: 2006



Top 10 U.S.-Canada Ports for Value of Freight by Truck: 2006
(millions of U.S. dollars)

PORT NAME	Exports	Imports
Detroit, MI	64,141	50,967
Buffalo-Niagara Falls, NY	31,938	26,917
Port Huron, MI	18,642	18,884
Champlain-Rouses Point, NY	6,784	9,748
Blaine, WA	8,110	5,460
Alexandria Bay, NY	4,743	7,453
Sweetgrass, MT	5,619	3,725
Highgate Springs/Alburg, VT	2,354	3,159
Sumas, WA	1,067	1,551
Derby Line, VT	461	1,093

Top 10 U.S.-Mexico Ports for Value of Freight by Truck: 2006
(millions of U.S. dollars)

PORT NAME	Exports	Imports
Laredo, TX	34,414	44,088
El Paso, TX	18,709	23,528
Otay Mesa, CA	9,938	18,660
Hidalgo,TX	8,253	11,688
Nogales, AZ	5,106	8,038
Calexico-East, CA	4,666	6,626
Brownsville, TX	5,818	5,360
Eagle Pass, TX	1,879	2,720
Del Rio, TX	1,476	1,638
Tecate, CA	571	621

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, TransBorder Freight Data, as of March 2007. Prepared by BTS Geospatial Information Program.

In 2008, the top five commodities imported by value from Mexico in trucks were electrical machinery, equipment, and parts (38%); computers, industrial machinery, and parts (16%); motor vehicles and parts (8%); measuring and testing instruments (5%); and furniture and lamps (4%).[42] By weight, the top five commodities imported from Mexico in trucks were edible vegetables (12%); electrical machinery, equipment, and parts (11%); computers, industrial machinery, and parts (10%); edible fruit and nuts (7%); and motor vehicles and parts (7%).

Nearly all carriers of cross border freight by truck, as well as nearly all major Mexican long-haul carriers, are "truckload" (TL) carriers. TL carriers haul larger shipments, averaging over 20,000 pounds, that are moved most economically in one truck directly from the origin to the destination. "Less-than-truckload" (LTL) carriers specialize in smaller shipments (an average is 1,000 pounds) that can be hauled most economically by consolidating them with other shipments to the

[41] U.S. DOT, BTS, North American Transborder Freight Data.

[42] DOT, BTS, North American Transborder Freight Data.

same destination city and using warehouses to consolidate/deconsolidate shipments. Trucking firms in the United States are generally either TL or LTL carriers, and most of the members of the Teamsters Union are drivers for national LTL carriers while regional LTL and TL drivers are predominantly non- union. Some see LTL as a market niche that U.S. carriers could develop in Mexico.

Cross-Border Commercial Trucking: The Trade Flow Process

The speed and impact of NAFTA implementation will be greatly influenced by the institutional and procedural environment experienced and/or created by shippers and trucking firms involved in cross-border freight shipments. The roughly 10 million truck crossings (northbound and southbound crossings combined) occurring annually at POEs along the Mexico-U.S. border undergo documentation procedures and inspections which can vary greatly but typically include the steps outlined in the following four subsections.[43]

Mexico-U.S. Crossings

Traditional cross-border shipping by truck from the interior of Mexico to the interior of the United States can involve over 20 separate steps. These steps are described in some detail because one of the envisioned benefits of NAFTA implementation is that it will encourage the streamlining of cross border truck movements. In simplified form, the movement of truck cargo for import into the United States is as follows.

- The Mexican carrier picks up the shipment, prepares the bill of lading, and hauls the shipment to the border region.
- At POEs where allowed, U.S. customs brokers may maintain small offices, where they may prepare U.S. entry documents and file them electronically. The entry must be accompanied by evidence that sufficient bond is posted with U.S. customs to cover any potential duties, taxes, or penalties.
- A Mexican broker prepares Mexican export “pedimentos” (a paper form similar to U.S. export declarations) after inspecting the vehicle’s cargo.
- A Mexican “validator” files the pedimento electronically into the Mexican Customs Broker Association database and a validated pedimento is created to release the shipment to Mexican customs.
- Mexican export duties are paid.
- A drayage vehicle (a short-haul truck used to shuttle truck trailers back and forth across the border) picks up the load and hauls it to the Mexican customs facility.
- At the Mexican customs facility the export pedimentos are checked against the electronic forms and then about 2% of the trucks are pulled aside for closer inspection by Mexican customs agents.

[43] A detailed account of the steps of cross-border trade flows by truck can be found in the *Binational Border Transportation and Programming Study, Task 3.1: Description of Commercial Motor Vehicle Trade Flow Process—Final Report, May 8, 1996.* Washington, U.S. Department of Transportation and Secretaria de Comunicaciones y Transportes. 1998. [CD ROM]

- The truck crosses the border, paying bridge tolls if required, and enters the U.S. customs primary inspection station.
- At the primary inspection station the U.S. customs inspector determines citizenship of the driver and any passengers and then questions the driver for declarations of any agricultural goods, narcotics, merchandise or currency in excess of $10,000. Once the agent verifies the paperwork and computer information, the vehicle is either sent on to the final U.S. customs checkpoint or is selected for secondary inspection (all hazardous materials loads are inspected and most agricultural, food product, pharmaceutical and medical equipment shipments are sent to the agricultural inspection docks, where the Department of Agriculture inspectors and the Food and Drug Administration inspectors inspect the goods). It is at the primary inspection station or in the queue that K9 units patrol around the vehicles and if the dog reacts to a truck the vehicle will be sent to secondary inspection. Agents also send vehicles to secondary inspection if they see anything suspicious about the vehicle, driver, or paperwork.
- After completing primary or secondary inspection as required, the truck proceeds to the U.S. customs final check point where all the paperwork is submitted and the truck leaves the compound.
- Safety inspection at POEs that have permanent safety inspection facilities usually take place outside the final check point.
- A drayage company delivers the shipment to a U.S. broker, carrier or freight forwarder's facility.
- A U.S. driver picks up the load for delivery to the interior.

U.S.-Mexico Crossings

Traditional cross-border truck shipping from the interior of the United States to the interior of Mexico may also involve many separate processing steps, truck movements, and inspections. A simplified sequence of steps that are supposed to take place for the movement of cargo by truck for import into Mexico is as follows.

- The U.S. exporter prepares bill of lading and certificate of origin for load.
- The U.S. carrier picks up the shipment and hauls it to the carrier's terminal, broker or freight forwarder's facility. In some cases the forewarder is by-passed and the exporter deals directly with a Mexican customs broker.
- The U.S. freight forwarder/broker fills out the Shipper's Export Declaration and verifies the load. (The U.S. broker is liable for the accuracy of the form.)
- The Mexican customs broker fills out the Mexican Import Pedimentos, facilitates the payment of duties, and verifies the load. (The Mexican broker is legally responsible and liable for the contents of shipments across the border.) The broker makes sure that the required prepayment of Mexican duties, taxes or fees has been made at the banking module. The Pedimentos are submitted electronically to Mexican customs.

- Generally the Mexican broker then arranges for a Mexican "drayage" company to provide a truck or truck tractor to haul the shipment across the border. Maquiladoras, however, may use their own trucks.
- At U.S. customs, export loads requiring inspection (most often firearms, computers, specialized electronic equipment and hazardous materials) are inspected and registered with U.S. customs.
- Load is hauled across the border.
- At Mexican customs, paperwork is checked against the electronically filed version. For trucks whose paperwork is in order, 90% of trucks go to final checkpoint and 10% are subjected to random selection for inspection.
- At the final check point, all the paperwork is collected and the truck may leave the import compound.
- The shipment is taken to either the Mexican broker's facility or to a truck corral where the drayage tractor is disconnected and the trailer is stored until a long-haul carrier's tractor arrives to transport the shipment to the Mexican interior.

The Maquiladora Exception

A maquiladora or maquila is a manufacturing plant, located in Mexico (usually near the U.S. border) under foreign ownership, that typically has a sister plant on the U.S. side of the border supplying parts to be assembled at the Mexican plant, that are then shipped back to the U.S. Shipments to and from maquiladora facilities benefit from systems established by both U.S. and Mexican customs to speed the processing of maquiladora shipments. These changes eliminate both the U.S. and Mexican broker processing time. In effect, most maquiladora cargo is pre-cleared for crossing. Some maquiladora trucks, however, are selected for inspection. As mentioned earlier, maquiladoras may also use their own trucks and thereby eliminate any delays waiting for drayage operator pick up. Basically this means that unless they are selected for regulatory inspection or are caught in traffic congestion, most trucks operating in the maquiladora trade may cross the border with virtually no delay.[44]

Hazardous Materials and Agricultural Trade

The movement of hazardous materials (hazmat) is governed by stricter regulation and as per section 6901 of P.L. 110-28, Mexican truckers carrying hazmat are not permitted in the demonstration project. Advance notice is required by both U.S. and Mexican customs prior to moving hazardous material over the border. The authenticity of the licenses of all drivers whose trucks carry hazardous materials must be checked. Under NAFTA, any by-products from the use of hazardous materials must be returned to the country of origin for proper disposal. This rule has increased the movement of hazardous wastes across the border.

Agricultural trade has some characteristics of traditional trade, but may be pre-cleared as in the maquiladora trade.[45] It is also subject to special inspection requirements. For example, inspection

[44] Ibid., p. 4-6.

[45] Traditional trade is defined in the *Binational Study* as non-maquiladora, non-agricultural, or non-hazardous materials trade.

for pest infestation varies depending on whether the agricultural product is considered high or low risk. Low risk products are often precleared and only one load in twenty may be randomly inspected. High pest-risk loads may all be inspected and receive pest control treatment.

The Border's Distinctive Institutions: Drayage and Mexican Customs Brokers

The predominant use of drayage for cross border hauling of freight and the role of the Mexican customs broker are distinctive institutional characteristics of the Mexico-U.S. border.

Drayage: Deadheads and Bobtails

With the major exception of trucks serving the maquiladora trade, truck cargo crosses the Mexican border under a "drayage" system. Under this system truck cargo is delivered to the border where a drayage company provides a truck that picks up the load on one side of the border, crosses the border, and drops it off to be picked up by a long haul domestic carrier in the destination country. The predominance of this characteristic of the Mexico-U.S. border of commercial cross border traffic leads to an unusually large percentage of "deadhead and bobtail" crossings. A deadhead crossing is any truck crossing with an empty trailer and a bobtail crossing is a truck tractor crossing without a trailer. Over a third of the truck trailers that enter the United States from Mexico are empty compared to about 15% from Canada.[46] This peculiarity of the Mexican border traffic has two important results that are significant to any discussion of post-NAFTA implementation scenarios: first, drayage is a big business for the Mexican trucking firms in the border region; and second, deadheader and bobtail crossings are a major component of the traffic congestion that impedes the cross border flow of freight.

Despite the arguments that fully implementing NAFTA and thereby allowing Mexican and U.S. trucks to pick up and drop off international loads anywhere in each other's territory will lead to a major reduction in the use of drayage services across the Mexico-U.S. border, there are reasons to expect that the drayage system will not contract quickly or as much as some have argued. Although, on its face, drayage would seem to be inefficient and costly, given extensive processing, inspection, and traffic delays, drayage actually makes more economic sense to some motor carriers than having their equipment held up for a day or more awaiting crossing. Reportedly, drayage adds roughly $100 to each cross border shipment.[47] Although the overall aggregate cost that the drayage system adds to cross border trade is staggering, for many carriers $100 is much less than a carrier would lose if it has a truck and driver idle for a day or more awaiting clearance (even efficient traditional shippers can expect paperwork delays of 4 to 5 hours). Second, not only is drayage big business for Mexican carriers based in the border region, but it is also a major formative factor in the border region economy of warehouses, truck corrals, and related service industries. Local interests may support the status quo for fear that the demise of drayage would lead to job losses in the Mexican border towns and, in some U.S. border towns, from fear of being by-passed.[48] Third, drayage companies often have operating agreements with

[46] U.S. Customs data; some believe that these data undercount the number of Canadian border empty crossings. However, even using other sources, the Mexican rate is twice the Canadian rate.

[47] Giermanski, James R. A Fresh Look at NAFTA: What's Really Happened? *Logistics Management and Distribution Report*, vol. 9, Sept. 1, 2002, 43pp.

[48] Yardley, Jim. Truck-Choked Border City Fears Being Bypassed. *New York Times*, Mar. 15, 2001, pp. A1, A20.

Mexican customs brokers (who often have a financial interest). Some argue that this provides a strong incentive for the brokers to keep the processing times long enough to keep drayed freight competitive with single vehicle cross border trucking. Although, most observers expect NAFTA implementation would probably reduce the number of deadhead and bobtail crossings over time, few expect that they will fall to the level experienced on the Canadian border.

Descriptions of the drayage system are often oversimplified. A truck dedicated to drayage can cross the border roughly two to four times each day or up to 1,000 times a year. Trucks used for drayage may also be used for domestic carriage. Following NAFTA implementation, these trucks may continue to provide drayage services. It is also likely that more of these trucks will operate more deeply, either legally or illegally, in the border states. Some believe, however, that in the post-implementation environment, the risk of getting caught will be much higher than before.

Mexican Customs Brokers

The degree of control that the Mexican customs broker has on the cross border movement of cargo could have major implications for the scope and speed of impact of the implementation of NAFTA's trucking provisions. Customs brokers are businesses or individuals that assist in preparing the required documentation for the cross border movement of goods. Mexican customs brokers are active on both sides of the border, processing the paperwork and verifying the shipped goods for both U.S. exports to Mexico and Mexican exports to the United States. Whereas in the United States a broker or freight forwarder is only liable for the accuracy of the form, in Mexico the broker is liable for the accuracy of the paperwork and the content of the shipment. Because of this, Mexican brokers generally actually take a look at the cargo. This, along with the paperwork process, adds a significant amount of processing time to cross border shipments. The *Binational Border Planning and Programming Study* found that for frequent southbound shippers the preparation of paperwork by the Mexican broker took 4 to 5 hours and for infrequent shippers up to three days. Northbound into the United States, the Mexican broker processing time was 4 to 5 hours. If anything is wrong with the paperwork used to compile the Mexican pedimentos, it takes longer. The study found that the minimum total crossing time southbound was just over 8 hours and northbound was just over six hours.[49] Thus, under the best of conditions (i.e. minimum Mexican broker processing time, no traffic delays, no narcotics inspection or customs secondary inspections, etc.), the Mexican broker's role was responsible for nearly half the crossing time southbound and nearly two-thirds northbound. Mexican broker processing time could therefore be sufficient to deter some carriers from engaging in cross border carriage of cargo.

As mentioned earlier, Mexican brokers are often affiliated with drayage companies and most observers believe that they will resist changes that could reduce the attractiveness of cross border drayage. Some believe that the confluence of interest between these two institutions is so powerful that drayage will dominate the movement of cargo across the border for the next 15 to 20 years.[50] This is a powerful alliance for the status quo. Many feel that potential U.S. entrants into cross border trucking will not be able to bypass the customs brokers, which in effect will make them opt for an alternative to direct competition with Mexican carriers. Many of the brokerage firms are family-run firms that have been in the business for generations. Both the

[49] Binational Study. Task 3.1. p. 3-6.

[50] Whitten, Daniel L. "Mexican Freight Handlers Warily Eye U.S. Competition: Carriers, Brokers Seek to Protect Paperwork-Preparation fee, Long-Time Ties to Shippers," *Transport Topics*, June 3, 2002, p. 13.

brokers and the Mexican carriers have significant clout through their professional organizations and have heavily lobbied the Mexican government against opening up the border to U.S. trucks.

Traffic Congestion

Traffic congestion is not uncommon at commercial border crossings and can be caused by a wide variety of processing and inspection activities that occur in POEs as well as traditional causes of traffic congestion such as infrastructure limitations, excess traffic volume, and vehicle breakdowns. Different POEs have differing levels of congestion and differing reasons for its occurrence. Most POE congestion occurs during certain peak periods, usually mid afternoon. Post-September 11 security concerns, have at times increased delays for northbound traffic.[51] Once economic growth picks up and traffic volumes increase, the cost of traffic delays to long-haul trucking firms could make them less willing to commit their equipment to crossing the border and make it likely that drayage will retain a significant share of cross border haulage. A case can be made, however, that for some operators, the location of the next available load will have more influence on the use of drayage than border delays or avoiding the fee.

Mexican Trucks Illegally Operating Beyond the Border Zone

Some Mexican carriers are operating illegally beyond the commercial zone. The DOT Office of the Inspector General (IG) reported that, based on FMCSA safety inspection data, Mexican trucks in significant numbers were already operating beyond the border zone. The IG expressed that he was not concerned about

> the trucks, the long-haul trucks that tell the truth that they're going to be long-haul, and have a sticker displayed on their windshield. I'm more concerned about the trucks that come across, that are, by law, confined to the commercial zones, who just drive on. And I think it's important that the state police ... have the authority to say, 'you're stopping in your tracks' and that's going to cause economic pain and that will be a hindrance to that type of behavior.[52]

The IEP found that 20 zone carriers had been inspected in 12 non-zone states from September 2007 through September 2008.[53]

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[51] Karaim, Reed. "On Both Sides Now, the Costly Consequences of Vigilance," *Washington Post*, March 10, 2002, p. B3. See also GAO, *NAFTA: Coordinated Operational Plan Needed to Ensure Mexican Trucks' Compliance With U.S. Standards*. GAO-02-238, Dec. 2001. p. 8.

[52] U.S. Senate. Joint Hearing of the Surface Transportation and Merchant Marine Subcommittee of the Senate Commerce, Science, and Transportation Committee and the Transportation Subcommittee of the Senate Appropriations Committee. Hearing held June 27, 2002. As reported by the Federal News Service, Inc. The distance of the limit of the border zone varies depending on the size of the municipality involved and can extend substantially farther into the United States than the often quoted 3 to 20 miles. See 49 U.S.C. Sec. 372.241. This variability of border zone limits could be an enforcement issue after implementation.

[53] IEP report, p. 54.

The Outlook for Commercial Trucking Under NAFTA

Most observers agree that the full impact of NAFTA implementation will take time to manifest itself. There is considerable agreement on the probable short-term impact as well as a general expectation that the resulting changes in cross-border commercial trucking will be gradual. In the longer term, stake holders interested in the opening of the Mexican-U.S. border to long haul trucking are less willing to make predictions about the impact of implementation and are more tentative, many preferring to take a wait and see attitude before committing to a change in business practices.

The Short Term: Expectations and Limitations

Once it happens, nearly all observers expect that the opening of the Mexico-U.S. border will begin with a whimper rather than a bang.[54] Few expect a major surge of either Mexican long-haul trucking into the United States or U.S. long-haul trucks into Mexico during the first couple of years of implementation. Because of the safety concerns about Mexican trucks, most of the discussions have focused on the likelihood that Mexican trucks would begin operating deep into the United States. Much less has been written or said about the likelihood of U.S. domiciled trucking firms operating in Mexico, however.

The Short Term Prospects for Mexican Long-Haul Trucking in the United States

There are a number of reasons that few Mexican carriers are expected to operate beyond the commercial zone in the short term, if the border were to be reopened for long-haul deliveries. Mexican trucking firms will face a number of competitive disadvantages when carrying international cargo into the U.S. interior.[55] These disadvantages include:

- Beyond the commercial zone, few Mexican-domiciled carriers have developed business relationships that could provide them with the return loads needed to make operating deep in the United States profitable;
- Border delays push up costs and discourage Mexican long-haul carriers from committing their vehicles to international trade with the United States. Reportedly northbound delays at the border have increased significantly since the September 11 attacks;[56]

[54] Delgado, Claudia Patricia. Prozzi, Jolanda. Harrison, Robert. *Opening the Southern Border to Mexican Trucks Will Have a Negative Impact on the US Transportation System—Where Is the Evidence?* Austin, TX, University of Texas at Austin. 18 p. See also Whitten, *Mexican Freight Haulers Warily Eye U.S. Competition*, p. 13.

[55] For the best description of difficulties faced by Mexican carriers see, General Accounting Office. *North American Free Trade Agreement: Coordinated Operational Plan Needed to Ensure Mexican trucks' Compliance With U.S. Standards.* Report no. GAO-02-238, December 2001. pp. 2-3, 7-12.

[56] Ibid. GAO reported that "Mexican and private sector officials stated that delays in crossing the border have increased since the terrorist attacks of September 11, 2001."

- Initially, the cost of insurance for Mexican carriers operating to the U.S. interior will be set at the highest U.S. insurance risk level until the Mexican firms have a track record for operating safely beyond the commercial zone. As time passes the rates would likely be adjusted to reflect experience;
- The English language requirement will limit the number of federally licensed Mexican truck drivers that can operate legally in the United States;
- Mexican carriers have less access to financial resources and pay much higher interest rates than U.S.-based companies. In addition, new trucks cost more in Mexico than in the United States;[57]
- One unusual possibility is that some Mexican carriers are concerned that some of their drivers may be tempted to abandon their trucks deep inside the United States and seek work in the United States.
- The presence of a more active safety and regulatory enforcement effort in the post-implementation environment will discourage some long-haul Mexican motor carriers from entering the United States.

Mexican carriers, on the other hand, do have some advantages that could eventually give them a competitive edge in certain U.S. markets. These advantages include:

- Lower labor costs—although there is disagreement on the size of the wage advantage, it is probable that federally licensed Mexican drivers' wages are less than half that of U.S. drivers and may be as low as one-third of U.S. drivers' wages;[58]
- Mexican carriers, and in particular Mexican drivers, currently dominate cross border trade within the border zone. Some trucking companies in Mexico that provide drayage service also handle domestic carriage. These firms could test the market by hauling cargo to border cities close enough to the border for a day trip;
- Mexican carriers, in press reports, have complained that in Mexico excess trucking capacity has forced down rates for domestic carriage, this could make haulage beyond the commercial zone attractive to some Mexican firms. A decline in drayage could, for example, have the effect of freeing up even more Mexican capacity.
- Mexican drivers know the border region well and some have knowledge of the U.S. road system beyond the commercial zones;[59]

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[57] Whitten, p. 13

[58] See U.S. Bureau of Labor Statistics. *2007 National Occupational Employment and Wage Estimates: 53-3032 Truck Drivers, Heavy and Tractor-Trailer*. At http://www.bls.gov/oes/2007/may/oes533032.htm. The median wage is estimated at $17.41 per hour for a tractor trailer driver in the U.S. Benton, James C. "Transportation Bill Set to Clear as Bush Wins Key Provision Opening U.S. to Mexican Trucks," *CQ Weekly*, Dec. 1, 2001, p. 2846. Quotes Michael Belzer of Wayne State University's estimate that Mexican drivers earn two thirds less than U.S. drivers. An Associated Press Article, "New Policy Troubles U.S., Mexican Truckers, Nov. 29, 2002, estimates that U.S. truckers on average earn 32 cents per mile and their Mexican counterparts earn about half that amount. Delgado, Perozzi, Harrison's survey of Mexican trucking firms found that long-haul drivers incomes varied greatly—from $800 to $1,600 per month.

[59] U.S. Department of Transportation. Office of the Inspector General. *Audit Report: Mexico-Domiciled Motor Carriers*. Report no. TR-2000-013. Washington, DOT, 1999. 25 p.

- Some of the disadvantages faced by Mexican trucking firms (i.e., insurance, state registration fees, lack of back-hauls) will become less constraining as these firms establish an operating history or possibly lease their services to U.S. firms and/or establish interline partnerships.

The Short Term Prospects for U.S. Long-Haul Trucking in Mexico

The likelihood of significant numbers of U.S. trucking firms directly providing long-haul international trucking services deep into Mexico is very low. As of this writing, the Mexican government has not begun accepting applications from U.S. trucking companies for operating authority in Mexico. Once the Mexican government accepts and processes applications for operating authority, some U.S. firms will apply, but the number is expected to be small. The 10 U.S. trucking firms contacted by CRS all stated that they had no plans to use their U.S.-based trucks or U.S.-based drivers to haul international cargo into the Mexican interior soon. U.S. firms have, however, been investing in Mexican trucking firms that specialize in international cargo and many observers expect U.S. firms to expand their business in the Mexican market through Mexican subsidiaries or partners.

U.S. firms cite a variety of reasons for not being interested in using their own drivers and equipment to provide long-haul trucking services to the Mexican interior. Once a U.S. truck and driver cross the border they are at a labor cost disadvantage relative to Mexican firms. U.S. equipment is built for U.S. road conditions and could probably only operate on the best Mexican roads (many of which have significant tolls) without risking damage. Most U.S. drivers, especially those not based beyond the border region, do not speak Spanish. U.S. firms do not want to risk having their equipment and drivers delayed by paperwork and inspection activities or by the congestion that occurs as part of the cross border flow of goods. U.S. carriers also believe that Mexico is a dangerous place to operate and hesitate to place their drivers, equipment, and cargo at risk.[60] In addition, even if the Mexican government begins accepting applications from U.S. carriers for operating authority in Mexico, there is a great deal of uncertainty as to how soon NAFTA implementation will take place in a meaningful way on the Mexican side of the border.

The Short Term Outlook

Gradualism will probably be the predominant characteristic for at least the first couple of years of NAFTA implementation. It could be 2005 before Mexico agrees to terms for the on-site inspections of Mexican carriers required under U.S. law. Once this occurs, Mexican firms that are certified to operate beyond the commercial zone will likely begin testing the waters for deliveries to destinations close enough to the border that allow them to have at least a prospect of breaking even without having a prearranged back-haul. Where back-hauls can be arranged, Mexican carriers will operate farther into the United States, but most observers expect the vast majority of truck loads will be to destinations in the border states. As long as there are significant delays at

[60] Cargo theft and especially fear of hijacking and the related endangerment of their drivers and potential loss of equipment were mentioned by U.S. trucking firms as a major reason for not operating in Mexico. A 1999 U.S. Department of State report, *Trucking Services:[Mexico]*, by Javier Flores at http://www.tradeport.org/ts/countries/mexico/isa/isar0029.html, stated that the "lack of security on Mexican highways is, by far, the largest problem affecting this industry. The soaring cost of insurance is the result ... as a result, transportation companies and their customers lose business opportunities." The report also discusses other difficulties faced by U.S. trucking service providers who are interested in operating in Mexico.

the border, however, the majority of truck freight crossing the border into the United States will continue to be brought in by drayage operators. Despite this short term gradualism, the limited activity is important because it will be a time of testing of different business patterns or models. One feature of this period may be the evolution of cooperative agreements between Mexican and U.S. haulers, which could have a major impact in the long-term outlook for international trucking in the United States and Mexico.[61]

The Long Term: Business Structure and Competition

In the long run, the outlook for international trucking across the border is less a function of regulation than of business practices and the economics of international trucking. Within this context there are a number of factors that will influence the shape and scope of NAFTA implementation. Most discussions of the likelihood or extent of Mexican or U.S. trucks entering the long-haul trucking market within each other's borders focus on the difficulties that would be faced by a Mexican trucking firm going it alone in the U.S. market or a U.S. firm going it alone in the Mexican market. Only a few companies on either side of the border are expected to provide direct trucking services deep into the other country, but many are expected to operate cross-border through a subsidiary or parent corporation or in cooperation with an affiliate business on the other side of the border. Virtually all observers agree that Mexican drivers will continue to dominate the cross-border carriage of cargo by truck for some time.[62] The one area, however, where Mexican trucking companies fear direct competition with U.S.-based companies is for the trucking serving the maquiladora trade concentrated near the border. There continues to be disagreement on how common it will be for Mexican drivers to operate deep within the United States in the long term. It is important to remember that the main factor in the growth of truck crossings has been the growth in trade, which determines the amount of freight that must be moved across the border.[63] Consequently, it is doubtful that eventual implementation of the trucking provisions of NAFTA, by itself, will lead to a major increase of the amount of freight shipped. It will, however, have an impact on how and by whom the freight is moved across the border.

The Cross-Border Business Paradigm

Despite having been banned for many years from delivering cargo in each other's countries beyond the border zones, U.S. and Mexican trucking firms have offered "seamless delivery" throughout each other's territory to their customers through working arrangements with counterparts across the border.[64] These arrangements are commonly referred to as partnerships, but are generally interlining or interchange agreements. Interline agreements provide for joint line transborder shipments by transloading freight at the border between U.S. and Mexican trucking

[61] See Delgado, et al.

[62] Some U.S. firms, headquartered in the border region, with their lower than the U.S. average driver wages and Spanish speaking workforce, may try to send their drivers and trucks into Mexico, but are not expected to gain much of a market share. It is likely that, once the Mexican government begins accepting applications, some U.S. firms will apply for operating authority simply for the flexibility of being able to send some of their drivers and trucks into Mexico if required.

[63] See Appendix I in, General Accounting Office. *U.S.-Mexico Border: Better Planning, Coordination Needed to Handle Growing Commercial Traffic*. Report no. GAO/NSIAD. Washington, GAO, 2000, pp. 42-43.

[64] Office of International Affairs, American Trucking Association. *South of the Border: U.S. Trucking in Mexico.* Washington, 1992. pp. 17-19.

firms. Interchange agreement generally has the U.S. firm also providing the loaded trailer for delivery to the final destination.

Prior to NAFTA, U.S. firms could not invest in Mexican trucking firms and Mexican firms were not allowed to hold a controlling interest in U.S. trucking firms. NAFTA phased in the allowable ownership for U.S. investors in Mexican trucking companies: 49% ownership after December 17, 1995, 51% ownership on January 1, 2001, and 100% ownership on January 1, 2004.[65] Major U.S. trucking firms doing business in Mexico began investing in Mexican trucking firms beginning in the mid-1990s, often in effect creating subsidiary firms in Mexico. The investment link is significant in that the profits of the U.S. parent firm are affected by the profits of its Mexican subsidiary. U.S. investment in Mexican motor carriers is limited to firms that carry international loads only. This significantly limits the number of existing Mexican carriers that are subject to controlling interest investment by U.S. investors. With 100% ownership now allowed it should be even easier for U.S. firms to set up new Mexican subsidiaries dedicated to cross-border trucking. Mexican investors were to be allowed to invest up to 100% in U.S. trucking firms providing international freight services beginning December 18, 1995; however, it wasn't until June 2001 that U.S.-domiciled Mexican-owned firms were allowed to obtain operating authority to provide truck services for the transport of international cargo between points in the United States.[66]

Within the context of NAFTA implementation, cross-border investment is expected to alter the cross-border trucking business paradigm for some companies and allow U.S. firms to take advantage of their Mexican subsidiary or affiliate partner's labor cost advantage and knowledge of the Mexican market. At the same time the new paradigm will help their Mexican subsidiaries or partners navigate the complexity of operating beyond the border zones in the United States. In short, the strengthened business paradigm will reduce some of the non-labor disadvantages faced by Mexican firms operating in the United States. Mexican firms that are subsidiaries of large U.S. trucking firms may be able to benefit from their parent firm's ability to assist them with navigating U.S. state registration fee requirements, acquiring insurance at reasonable rates, getting loans at reasonable rates, and arranging for back-haul loads for return trips. The U.S. firm benefits from the potential cost savings that the subsidiary provides for its international trucking business. Over time, however, the wages of Mexican drivers would be expected to rise relative to U.S. truck drivers.

Celadon Group, Inc., which claims to be the leading truckload carrier to and from Mexico, has briefly outlined its post-implementation plans, in its September 2002 10K filing:

> The opening of the border... will for the first time, permit Mexican drivers to move loads without restrictions between Mexico and points in the United States. We have extensive experience with the management of drivers in Mexico, through our ownership of Jaguar, our Mexico City-based subsidiary. We expect to take advantage of the border opening by utilizing lower cost drivers on shipments to and from Mexico.[67]

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[65] North American Free Trade Agreement. Annex I, Schedule of Mexico. In U.S. Congress. *North American Free Trade Agreement, Texts of Agreement, Implementing Bill, Statement of Administrative Action, and Required Supporting Statements*. U.S. House of Representatives Document 103-159, vol. 1, p. 1590.

[66] Bush, George W. *Memorandum for the Secretary of Transportation: Determination Under the Interstate Commerce Commission Termination Act of 1995.* Washington, White House. June 2001.

[67] Celadon Group, Inc. *Form 10-K, Annual Report Pursuant to Section 13 or 15 (d) of Securities Exchange Act of 1934*. Washington, U.S. Security and Exchange Commission. (September 2002) p. 3.

If and when the NAFTA trucking provisions take effect, Celadon's business model may succeed in giving it a cost advantage and its competitors will have to adjust. Such an adjustment, however, might put a downward pressure on the wages of U.S. drivers vis-à-vis their Mexican counterparts.

As mentioned earlier, an area where Mexican companies have expressed concern over possible direct competition with U.S. carriers is in the provision of trucking services to the maquiladoras. The location of their factories near the border and the expedited processing of maquiladora freight at the border might attract U.S. competition, especially from companies headquartered near the border.

An alternate business plan, reportedly raised by some Mexican carriers as a possibility, would be to lease their equipment and drivers to U.S. firms, who it is hoped could then deal with insurance and regulatory requirements, and provide knowledge of the market on the U.S. side of the border. Another business plan being considered by some Mexican firms that would require less dependence on a U.S. partner would focus on long haul delivery direct to the warehouse districts in or near the border zones on the U.S. side and to direct long-haul delivery back into Mexico, thus eliminating the drayage hauler. Over time, these carriers might gradually expand service to border state inland ports such as San Antonio, Texas.

The Low Cost Producer: Time and Distance Is Money

Two of the basic precepts of making money in trucking are minimizing the time that trucks and drivers are idle and reducing the miles that empty trailers are hauled or tractors are driven without a load. For an independent Mexican carrier operating in the United States, its significant cost advantage is limited to its lower driver costs. Its main disadvantages are the aforementioned probable lack of a back-haul, higher insurance rates, increased inspection costs, higher state registration fees, and more expensive financing of its equipment. Over the long run, the effect of these disadvantages will probably be reduced but will not go away entirely. Mexican firms that are closely affiliated with, or are subsidiaries of, major U.S. firms will probably get help from their U.S. partner or parent firm to assist them in reducing their non-labor costs. In either case, the key to profitability may be that the labor cost differential is enough to overcome the cost of being delayed at the border and/or returning without a back-haul.

The Wage Differential

Estimates of the wage differential vary substantially for a federally licensed Mexican truck driver engaged in international carriage of cargo to the United States versus the cost of a U.S. driver, but they generally range from one third to one half the cost of the U.S. driver.[68] Using the 2007 Bureau of Labor Statistics figure for the median hourly truck driver wage of $17.41, roughly three times the U.S. minimum wage, and the estimates that Mexican drivers would cost one third

[68] See U.S. Bureau of Labor Statistics. *2007 National Occupational Employment and Wage Estimates: 53-3032 Truck Drivers, Heavy and Tractor-Trailer*. Internet address http://www.bls.gov/oes/2007/may/oes533032.htm. Schulz, John. *A Race to the Bottom*. Traffic World, Mar. 4, 2002, p. 22. Quotes Owner-Operator Independent Drivers Association (OOIDA) estimates that Mexican drivers earn 13 cents per mile versus U.S. truckload drivers earning 31 cents to 40 cents. Benton, James C. *Transportation Bill Set to Clear as Bush Wins Key Provision Opening U.S. to Mexican Trucks*. CQ Weekly, Dec. 1, 2001, p. 2846. Quotes Michael Belzer of Wayne State University estimate that Mexican drivers earn two thirds less than U.S. drivers. An Associated Press Article, *New Policy Troubles U.S., Mexican Truckers*, Nov. 29, 2002, estimates that U.S. truckers on average earn 32cents per mile and their Mexican counterparts earn about half that amount.

to one half of a U.S. driver, the cost savings for using a Mexican driver for long-haul carriage into the U.S. would range from $7.63 to $10.17 per hour.[69] Estimates of the differential on an earnings-per-mile basis pegged Mexican driver earnings in one case at 13 cents per mile versus 31 to 40 cents for a U.S. driver and in another case 16 cents per mile versus 32 cents per mile. With overall truck operating expenses reportedly ranging from $1.10 to $1.70 per mile, the majority of the labor cost advantage is quickly lost on any job without a revenue earning back-haul.[70] The labor cost benefit would probably be lost within the first third of a return run to the border without a back-haul load.[71] Most observers believe that the border states will be the main zone of competition, with only the Mexican companies with connections for back-haul loads operating beyond the border states with any regularity.

Cabotage: Legal and Illegal

One way Mexican trucking firms could avoid hauling an empty trailer all the way back to Mexico would be to use the tractor to pick up and make a domestic U.S. delivery on the way back to Mexico. In the language of the trucking industry, such domestic movements are referred to as cabotage. NAFTA does not allow Mexican trucks to engage in domestic trucking in the United States or vice versa. U.S. customs has made an exception for Canadian vehicles, which may also be allowed for Mexican carriers.[72] The exception is for a domestic movement of merchandise that is "incidental" (defined as in the "general direction of an export move or as part of the return movement [of trucks] to their base country").

Cabotage is a contentious side issue in NAFTA implementation regarding Mexico. Opponents of implementation see the "incidental" exception as an enormous loophole on the prohibition against foreign carriers competing against U.S. truckers in the domestic market. The "incidental" exception is part of a much larger concern. Trucking unions and truck owner-operators are concerned that once Mexican trucks are commonly operating deep within the United States, Mexican carriers will be tempted to routinely engage in illegal cabotage in general and, in doing so, will take jobs away from U.S. drivers and businesses.[73] The installment of GPS devices on demonstration project participants was, in part, meant to address this concern. Another concern is that Mexican trucking firms will lease their trucks and drivers to U.S. partners or parent companies who might arrange for a work visa for the leased driver and then provide both international trucking services as well as cabotage within the United States.[74]

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[69] Some believe Mexican trucking firms would be under pressure to pay their drivers well for fear that some of their drivers might abandon their equipment deep in the United States and seek better paying work in the United States.

[70] Case, Brendan M. "Mexican Rigs Get Go-Ahead; Bush Gives OK to Open Up U.S. Roads." *Dallas Morning News*, Nov. 28, 2002, p. 1D.

[71] Getting information on costs can be difficult due to the proprietary nature of business information. However, using the cost-per-mile estimate of $1.10 to $1.70, and the estimate that federally licenced Mexican drivers earn one third to one half what U.S. truckload drivers earn can provide a rough estimate that the labor cost savings are lost in the first third of a deadhead return. Near the border this does not mean a great deal, but the farther into the United States a Mexican truck travels, the more important a back-haul or cabotage load becomes to the profitability of the operation.

[72] See 19 CFR 123.14.

[73] The Department of Transportation Inspector General reported in 1999 that some Mexican trucks were operating beyond the border zones and to a lesser extent beyond the border states, see *Mexico-Domiciled Motor Carriers* [Operating Beyond the Border Zone] Washington, Office of the Inspector General. Nov. 4, 1999. Report no. TR2000-013.

[74] The Motor Carrier Safety Improvement Act of 1999 (P.L. 106-159) prohibited the use of leases as a means of having Mexican trucks operate beyond the border zones, until implementation of NAFTA's land transportation provisions.

The Distinctive Institutions

As mentioned earlier, there is a common view that the Mexican customs brokers and drayage companies will do what they can to maintain the status quo. There are reasons to believe, however, that resistance is overstated. To begin with, it is not only the drayage operators that have developed working relationships with the Mexican customs brokers over the years but also the long-haul companies that will be providing single-truck service to the U.S. side of the border. A second reason is that in the long run, Mexican brokers' profits are determined by the amount of freight they process. This will eventually provide them with an incentive to work with the long-haul carriers and also to streamline and automate their procedures. Although it is likely that the share of cargo hauled by the drayage operators will decline over the next ten years, it is unlikely that drayage will decline to the 15% share drayed across the Canadian border. The quality of trucks used for drayage reportedly is improving, in part, because of the increased safety and environmental scrutiny they will face at the border.[75] As the drayage share declines, some of these operators may change their business strategy and seek more business in local haulage in Mexico and some will also probably try operating beyond the border zones in the United States.

This is not to say that these institutions will not resist change but just that estimates that nothing will change for ten to fifteen years can probably be viewed as overly conservative. Should the two countries' economies grow more rapidly, the resulting increase in trade will probably provide plenty of business for both long haul and for drayage operators. The irony for the drayage companies is that the threat to their dominance of cross-border trucking is going to come from Mexican long-haul carriers, not from U.S. trucks.[76] Also, regular shippers have a model for expedited cross border trucking in the processing of the trucks used in the maquiladora trade. Mexican trucking companies that begin to regularly serve the warehouse districts and nearby cities in the border states will be especially attracted to the maquiladora model.

Caveat

Cross-border carriage of goods is a complicated activity with many elements that could change the outlook discussed above. Anything that significantly adds time to the paperwork process on either side of the border or to the duration and frequency of inspection of cargo could significantly delay the impact of NAFTA implementation. Heightened concerns about security, drug smuggling, safety, pollution, illegal immigration and terrorism, could lead to more intensive inspection of goods and driver documentation. This could increase border crossing delays and perhaps reduce the Mexican labor cost advantage and limit the impact of implementation.

[75] U.S. Department of Transportation. Office of the Inspector General. *Interim Report on Status of Implementing the North American Free Trade Agreement's Cross-Border Trucking Provisions*. Report no. MH-2001-059. Found that out-of-service rates for Mexican trucks has been declining and that the condition of Mexican trucks correlate with the level of inspection at the border.

[76] The point where these companies interline or interchange with their Mexican partners may move deeper into the U.S. border states.

Congressional Issues

The Obama Administration has stated that it intends to introduce a revamped demonstration program and thus an issue for Congress will be reviewing that new plan. The DOT IG and the IEP noted some areas where modifications could be made to the Bush Administration's demonstration project.

As noted above, during the first year of the demonstration project (September 6, 2007 through September 5, 2008) only 29 Mexican carriers were admitted into the program while the original intent was to have 100 carriers participate. Both the IEP and DOT IG have suggested that more Mexican firms would participate if the FMCSA could be more selective in checking at the border and pre-inspecting on-site in Mexico only those trucks that intend to haul beyond the commercial zone, rather than checking and inspecting every truck from a participant carrier, including those intended only for commercial zone use. One Mexican carrier withdrew from the program because it found the checking process was creating too much delay. This carrier did not obtain any business that required it to operate beyond the commercial zone during the time it participated in the demonstration project. Nevertheless, its drivers were being checked at every crossing even though they would be making deliveries within the commercial zone because the carrier was flagged as a demonstration project participant.[77] The company's trucks were inspected much less frequently before it entered the program. Since many of the Mexican carriers seeking long-haul authority also have much business within the commercial zone, a more targeted inspection program by the FMCSA could ease Mexican carriers' concerns about jeopardizing their commercial zone business. The IEP also reported that several Mexican carriers did not join the project because their older rigs used only for commercial zone drayage would also need to be inspected along with their newer rigs used for long-haul movements.[78]

The rationale of eliminating the truck drayage segment at the border, and of NAFTA in general, is to reduce the cost of trade between the two countries, thus raising each nation's economic welfare. However, the cost to federal taxpayers of ensuring Mexican truck safety, estimated by the U.S. DOT to be over $500 million as of March 2008, appears to be disproportionate to the amount of dollars saved thus far by U.S. importers or exporters that have been able to utilize long-haul trucking authority. Beyond the hindrances to greater utilization of long-haul operations associated with the demonstration project, delays associated with customs processing are significant and a long-term obstacle to efficient trucking across the border. Any accumulated savings in trucking costs enjoyed by shippers therefore should be weighed against the public cost of funding the safety inspection regime for Mexican long-haul carriers.

If the role of Mexican customs brokers and drayage operators becomes an impediment to the efficient flow of freight across the border, it would raise the issue of whether these particular institutions have a role in preventing U.S. firms from operating directly in Mexico. If after implementation, these institutions continue to have a degree of control over cross border trucking that is deemed detrimental to U.S. trucking firms, some may view them as a non-tariff trade barrier to U.S. trucking services.[79]

[77] DOT IG Report # MH-2009-034, p. 22-23.

[78] IEP report, p. 11.

[79] Whitten, p. 13.

Another issue is the number of trucks that have operating authority restricted to the border zones and that operate illegally beyond those zones. This includes concerns about the fate of Mexican drayage trucks after implementation. If implementation reduces the demand for drayage services, some operators may try to use their drayage equipment to haul loads to destinations beyond the border zone. The drayage trucks would not simply disappear and some would undoubtedly risk going beyond the commercial zones. The case can be made, however, that the combination of increased enforcement (the FMCSA alone has 252 personnel assigned to the Mexican border and state police and safety inspectors will also be on the look-out for Mexican trucks operating beyond their authority) and penalties (placing a Mexican truck, far from the border, out of service is a very expensive proposition for a Mexican carrier; in addition, fines can be imposed) should reduce this kind of cheating.[80] However, it will be worth watching the numbers of Mexican-domiciled trucks that are caught operating beyond their authority.

The leasing of Mexican trucks and drivers by U.S. firms may become a major implementation issue. The ban on using leases to circumvent the prohibition on Mexican trucks from operating beyond the border zones ends with NAFTA implementation. Leasing may become an important element in the post-implementation business environment. If a U.S. firm also arranges for work visas for leased Mexican drivers, it could make them available for more cabotage loads and could have Mexican drivers competing more often against U.S. drivers in the United States. Should this happen, Congress may want to revisit the leasing issue.

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