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FMCSA-98-3299 -264
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FMCSA-01-11060

FMCSA

FINDING OF NO SIGNIFICANT IMPACT

FOR

Revision of Regulations and Application Form for Mexico-Domiciled Motor Carriers To Operate in United States Municipalities and Commercial Zones on the United States-Mexico Border

Application by Certain Mexico-Domiciled Motor Carriers To Operate Beyond United States Municipalities and Commercial Zones on the United States-Mexico Border

Safety Monitoring System and Compliance Initiative for Mexico-Domiciled Motor Carriers Operating in the United States

Parts and Accessories Necessary for Safe Operation; Certification of Compliance with Federal Motor Vehicle Safety Standards (FMVSSs)

These proposed actions have been thoroughly reviewed by the Federal Motor Carrier Safety Administration (FMCSA) and it has been determined, by the undersigned, that these proposed actions would have no significant effect on the human environment.

This finding of no significant impact (FONSI) is based on the attached FMCSA prepared Environmental Assessment (EA) which has been determined to adequately and accurately discuss the environmental issues, impacts, and alternatives of the proposed actions, and provides sufficient evidence and analysis for determining that an environmental impact statement is not required. The EA is attached to this document and is hereby incorporated by reference in this FONSI.

1-16-02 Dale M. Hemilton, for
Date Charles Rombro, Environmental Project Manager, FMCSA

I have considered the information contained in the EA (and any other appropriate environmental documentation), which is the basis for this FONSI. Based on the information in the EA and this FONSI document, I agree that the proposed actions as described above, and in the EA, will have no significant impact on the environment.

1/16/02 Joseph M. Clapp
Date Joseph M. Clapp, Administrator

FMCSA ENVIRONMENTAL ASSESSMENT
FOR

Revision of Regulations and Application Form for Mexico-Domiciled Motor Carriers To Operate in United States Municipalities and Commercial Zones on the United States-Mexico Border

Application by Certain Mexico-Domiciled Motor Carriers To Operate Beyond United States Municipalities and Commercial Zones on the United States-Mexico Border

Safety Monitoring System and Compliance Initiative for Mexico-Domiciled Motor Carriers Operating in the United States

Parts and Accessories Necessary for Safe Operation; Certification of Compliance with Federal Motor Vehicle Safety Standards (FMVSSs)

This Federal Motor Carrier Safety Administration's (FMCSA) environmental assessment (EA) was prepared in compliance with the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321-4347, hereinafter "NEPA") and the regulations for implementing NEPA issued by the Council of Environmental Quality Regulations, November 29, 1978 (49 C.F.R. parts 150-1508), and in accordance with the Department of Transportation's (DOT) Order 5610.1C, Procedures for Considering Environmental Impacts, September 18, 1979, as amended July 3, 1982, and July 30, 1985.

This environmental assessment serves as a concise public document to briefly provide sufficient evidence and analysis for determining the need to prepare a finding of no significant impact or to assist the FMCSA in determining whether there is a need to prepare an environmental impact statement.

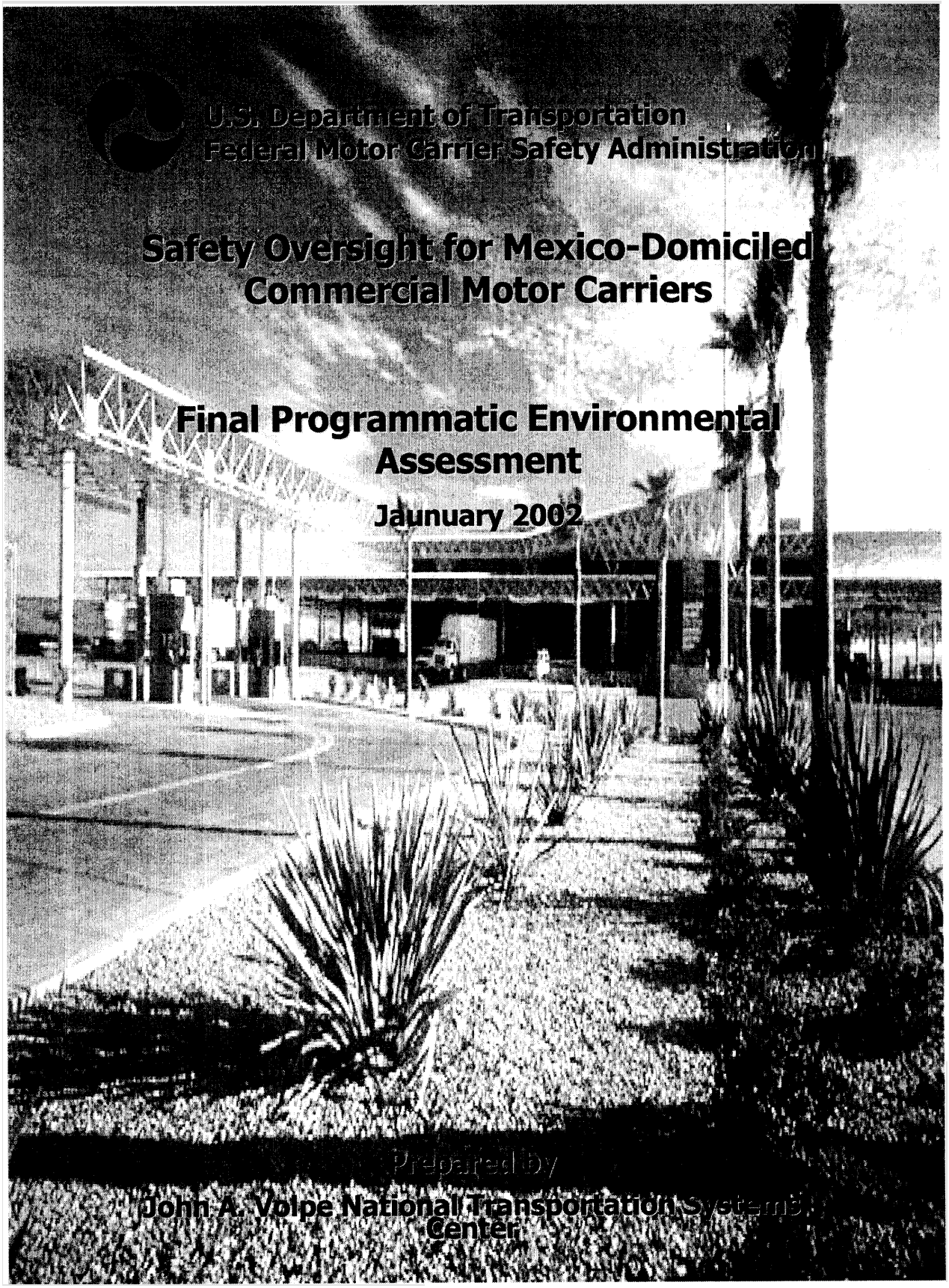
This environmental assessment concisely describes the proposed actions, the need for the proposal, identifies the alternatives, and determines which aspects of the proposed actions and alternatives have potential for social, economic, or environmental impact. This EA also contains a comparative analysis of the actions and alternatives, a statement of the environmental significance of the preferred alternative, and a list of the agencies and persons consulted during EA preparation.

1-16-02 — Dale M. Heinatz, for
Date — Charles Rombro, Environmental Project Manager, FMCSA

1-16-02 — Brian M. McLaughlin for
Date — Julie Anna Cirillo, Chief Safety Officer, FMCSA

In reaching my decision/recommendation on the FMCSA's proposed action, I have considered the information contained in this EA on the potential for environmental impacts.

1/16/02 — Joseph M. Clapp
Date — Joseph M. Clapp, Administrator, FMCSA



U.S. Department of Transportation
Federal Motor Carrier Safety Administration

Safety Oversight for Mexico-Domiciled Commercial Motor Carriers

Final Programmatic Environmental Assessment

Jaunuary 2002

Prepared by

John A. Volpe National Transportation Systems Center

U.S. Department of Transportation
Federal Motor Carrier Safety Administration

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Final Programmatic Environmental Assessment

January 2002

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13. ABSTRACT (Maximum 200 words)
The FMCSA is proposing to revise its regulatory oversight of Mexico-domiciled Commercial Motor Carriers (CMC) through a series of four rulemakings. The purpose of the four proposed rules is to protect the health and safety of the general public, by ensuring that Mexico-domiciled CMC are willing and able to comply with United States requirements and by monitoring their compliance once they commence United States operations. The rules would be promulgated by FMCSA as part of a larger effort to assess and monitor the safety performance of Mexico-domiciled CMC operating in the United States. To satisfy the requirements of the National Environmental Policy Act (NEPA), FMCSA, with the assistance of the Volpe National Transportation Systems Center, prepared a Programmatic Environmental Assessment (PEA) to assess the impacts of the proposed rules. The PEA follows the procedures established by the Department of Transportation (DOT) to implement NEPA, pursuant to the Council on Environmental Quality (CEQ) regulations. The PEA is intended to be a decision tool that will be used by FMSCA to make informed decisions and to fully understand the environmental ramifications of those decisions. The PEA addresses the consequences of the four proposed rules on human and natural environments, suggests potential mitigation of adverse impacts, and analyzes the no-action alternatives to the proposed actions.

14. SUBJECT TERMS
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LIST OF ACRONYMS

CAA – Clean Air Act
CEQ – Council on Environmental Quality
CFR – Code of Federal Regulations
CMC – commercial motor carrier
CMV – commercial motor vehicle
CO – carbon monoxide
CVSA – Commercial Vehicle Safety Alliance
dB – decibels
DOT – Department of Transportation
EO – Executive order
EPA – Environmental Protection Agency
ESA – Endangered Species Act
FHWA – Federal Highway Administration
FMCSA – Federal Motor Carrier Safety Administration
FMVSS – Federal Motor Vehicle Safety Standards
GAO – General Accounting Office
GHG – greenhouse gases
ICC – Interstate Commerce Commission
NAAQS – National Ambient Air Quality Standards
NAFTA – North American Free Trade Agreement
NEPA – National Environmental Policy Act
NHPA – National Historic Preservation Act
NHTSA – National Highway Safety Administration
NO_2 – nitrogen dioxide
NOx – nitrogen oxides
OIG – Office of Inspector General
OMCS – Office of Motor Carrier Safety
Pb – lead
PEA – Programmatic Environmental Assessment
PM – particulate matter
TNRCC – Texas Natural Resource Conservation Commission
USAF – United States Air Force
USC – United States Code
USFWS- Unites State Fish and Wildlife Service
VOC – volatile organic compounds
VMT – vehicle-miles of travel

1. PURPOSE AND NEED FOR ACTION

1.1. INTRODUCTION

The National Environmental Policy Act of 1969 (NEPA)[1] and the Council on Environmental Quality's (CEQ) implementing regulations[2] establish policies and procedures that ensure environmental information is available to decision makers, regulatory agencies, and the public before Federal actions are implemented. The Federal Motor Carrier Safety Administration (FMCSA) with the cooperation of the John A. Volpe National Transportation Systems Center prepared this Programmatic Environmental Assessment (PEA) for the purpose of analyzing the potential environmental impacts associated with four proposed rulemakings. This PEA follows the procedures established by the United States Department of Transportation (DOT)[3] to implement NEPA, pursuant to the CEQ regulations.

The focus of this PEA concerns four proposed rulemakings that relate to the safety of Mexico-domiciled commercial motor carrier (CMC) operations in the United States. CMC include operators of trucks and buses. The first two of these rules would revise the application process for Mexico-domiciled CMC to improve FMCSA's ability to identify high-risk CMC and track CMC performance. The third rule would establish a safety monitoring system for Mexico-domiciled CMC that includes mandatory safety audits of CMC records and targeted roadside inspections of CMC commercial motor vehicles (CMV). (Refer to Appendix A for the definition of CMV.) The fourth rule would empower FMCSA to enforce the current National Highway Traffic Safety Administration (NHTSA) requirement that every CMV operated within the United States display a label certifying that it complies with all applicable Federal Motor Vehicle Safety Standards (FMVSS) in effect on the date of manufacture of the vehicle. These rules together form the Proposed Action of this PEA.

This PEA will focus only on the potential environmental impact and safety of operation implications of the proposed actions and alternatives based on: (1) the change in the number of Mexico-domiciled CMC receiving certificates of operating authority pursuant to the revised application forms (i.e., OP-2 and OP-1(MX) Forms), and the associated change in the number of Mexican CMV operating in the United States; and (2) the change in the number, method, and frequency of inspections conducted on Mexican CMV operating in the United States. The purpose of this PEA is to assist FMCSA and the public in understanding the potential environmental consequences, if any, of the Proposed Action and alternatives. The PEA will be used by FMCSA to determine whether the proposed changes to the application process for Mexico-domiciled CMC and inspections system for Mexican CMV will result in significant environmental impacts. The PEA addresses the purpose and need for the Proposed Action, describes the Proposed

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[1] 42 U.S.C. § 4321 et seq.
[2] 40 C.F.R. § 1500 et seq.
[3] DOT Order 5610.1C, Procedures for Considering Environmental Impacts, 9/18/79, as amended 7/13/82, 7/30/85.

Action and alternatives to the action, analyzes the potential environmental consequences of the proposed action and alternatives, and describes mitigation strategies and best management practices. This PEA is not intended to be a scientific document. Where appropriate, more detailed information and analysis is provided in one of the appendices to the PEA.

1.2. BACKGROUND

Prior to 1982, Mexico-domiciled CMC could apply for authority to operate within the United States by making an application for such authority to the former Interstate Commerce Commission (ICC). Under the Bus Regulatory Reform Act of 1982,[4] Congress imposed a two-year moratorium on the issuance of new certificates of United States operating authority to CMC domiciled in a contiguous foreign country, or owned or controlled by persons of a contiguous foreign country. The Act authorized the President to remove or modify the moratorium if the President determined that such action was in the national interest. The Act was developed in response to complaints that neither Mexico nor Canada were permitting United States CMC the same access to their markets as Mexican and Canadian CMC had to United States markets. Through the ICC Termination Act of 1995 (ICCTA), Congress, among other things, amended the President's authority under the 1982 Act by authorizing the President to remove or modify the moratorium upon the President's determination that such action is consistent with United States obligations under a trade agreement or with United States transportation policy.

While the trade issues with Canada were resolved quickly, resulting in the moratorium being modified for Canada-domiciled CMC, the trade issues with Mexico were not addressed until the North American Free Trade Agreement (NAFTA) was negotiated in the early 1990s. Legislative and executive extensions have maintained the moratorium for most Mexico-domiciled CMC since 1982. However, the President has twice exercised his statutory authority and has modified the moratorium pursuant to the NAFTA. First, in 1994, the President modified the moratorium to allow certificates of authority for the operation in foreign commerce of Mexico-domiciled charter and tour buses throughout the United States. Second, in 2001, the President modified the moratorium to allow new certificates of authority for the operation of Mexican-owned or controlled, United States-domiciled CMC engaged in the transportation of passengers and of international cargo.

A number of Mexico-domiciled CMC have been permitted to operate in the United States because they are not covered by the moratorium. The moratorium only applies to certificates of new operating authority for operations beyond municipalities and commercial zones adjacent to Mexico in Texas, New Mexico, Arizona, and California (herein called the "border zone"). Thus, Mexico-domiciled carriers that intend to operate only within the border zone are not barred from receiving operating authority for

[4] Section 6 of Public Law No. 97-261, 96 Stat. 1102 (September 20, 1982), formerly codified at 49 U.S.C. § 10922(l), is now codified at 49 U.S.C. § 13902.

operations in those areas, and Mexico-domiciled CMC that had obtained unrestricted operating authority before the moratorium was enacted may continue to operate throughout the United States. Additionally, the moratorium does not affect United States-owned, Mexico-domiciled private carriers, whose services are not for-hire, Mexico-domiciled CMC of certain commodities and Mexico-domiciled carriers that only traverse the United States to deliver or pick up cargo or passengers in Canada. Such carriers have never been restricted to the border zone.

The ICCTA also dissolved the ICC and transferred the authority to issue new certificates of United States operating authority for CMC and some other regulatory functions to the Office of Motor Carriers (OMC) of the Federal Highway Administration (FHWA). The Secretary of Transportation (the "Secretary") subsequently re-delegated the authority to carry out the duties and powers related to CMC safety outside of the FHWA to the Director, Office of Motor Carrier Safety (OMCS).[5] On December 9, 1999, the President signed the Motor Carrier Safety Improvement Act of 1999.[6] The new statute established the FMCSA within the Department of Transportation. Effective January 1, 2000, the Secretary rescinded the authority previously delegated to the former OMCS, and delegated this authority to FMCSA.[7]

The primary mission of the FMCSA is to reduce fatalities and injuries caused by CMV and to enforce hazardous materials regulations as they relate to CMC. The FMCSA works to ensure safety in CMC operations by developing and enforcing safety regulations, targeting high-risk carriers and CMV drivers, improving safety information systems and CMV technologies, strengthening CMV equipment and operating standards, and increasing safety awareness. To accomplish these activities, the FMCSA works with Federal, State, and local enforcement agencies, the CMC industry, organized labor, safety interest groups, and others.

The criteria that the FMCSA must apply when evaluating an application for operating authority in the United States is statutory, and the FMCSA has no authority to deviate from, or add to, this criteria. Specifically, the statute requires the FMCSA to issue a certificate of operating authority to any person whom is deemed willing and able to comply with designated economic, safety, and financial responsibility requirements.[8] These specific requirements are either set forth in the statute or in regulations specifically authorized by the statute. Currently, the FMCSA must issue a certificate of operating authority to any United States or Canadian carrier submitting an application that indicates the carrier's willingness and ability to meet the above stated criteria. But for the moratorium, this would also be true as to Mexican applicants. The Secretary may not even consider complaints challenging a registration application unless the complaint concerns the applicant's willingness and ability to comply with the above three DOT regulatory requirements.[9] In the absence of such complaints, or other evidence regarding

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[5] 64 Fed. Reg. 58356, October 29, 1999.
[6] Public Law No. 106-159, 113 Stat. 1748 (December 9, 1999).
[7] 65 Fed. Reg. 220, January 4, 2000 (effective, January 1, 2000).
[8] 49 U.S.C. § 13902(a)(1).
[9] 49 U.S.C. § 13902(a)(4).

noncompliance with these requirements, the Secretary must grant the application. Consequently, the FMCSA is statutorily precluded from considering environmental issues in deciding whether to grant applications to provide CMC transportation in interstate or foreign commerce. Please refer to Appendix B for a list of selected government agencies with environmental and public health oversight and regulatory authority.

1.3. NEED FOR ACTION

Under the terms of the NAFTA, the United States, Mexico, and Canada agreed to remove certain existing barriers to the cross border operations of CMC (for more information on the environmental review of NAFTA, see references in Appendix F). The President and Congress committed the United States in the NAFTA to a timetable for modifying the moratorium that was to allow Mexico-domiciled CMC engaged in the transportation of international cargo to operate within the four Border States beginning in December 1995 and throughout the United States on January 1, 2000. Due to safety concerns, in December 1995, President Clinton indefinitely delayed the modification of the moratorium for Mexico-domiciled CMC. In February 2001, a NAFTA arbitral panel ruled that this action was contrary to the NAFTA. Under the NAFTA, this ruling meant that Mexico could impose trade sanctions against the United States unless the United States fulfilled its NAFTA obligations. Shortly after the panel issued its ruling, President Bush announced his intent to comply with the terms of the NAFTA in a manner consistent with safety by modifying the moratorium, pursuant to his statutory authority, once FMCSA was ready to issue its new regulations governing Mexico-domiciled CMC seeking United States operating authority. Once the moratorium is modified, the FMCSA must process Mexico-domiciled CMC applications for authority to operate throughout the United States.

If the moratorium is modified and the Proposed Action of issuing the four rules is not taken, the FMCSA would process applications currently on file from Mexican carriers seeking authority to operate beyond the border zone applying the same criteria stated in the previous section above. These applications were submitted on an application form created by the ICC in a 1995 rulemaking. Until that form is substituted with a different form upon completion of these rulemakings, it remains the form that Mexico-domiciled CMC must use to request operating authority beyond the border zone.

In anticipation of the modification of the moratorium, the FMCSA is concerned that Mexico-domiciled CMC may have difficulty transitioning their operations to meet United States safety standards. To address this concern, FMCSA proposed to revise the application process and safety monitoring program currently in place for Mexico-domiciled CMC. These revisions would help FMCSA ensure that Mexico-domiciled CMC are willing and able to comply with all United States safety laws and regulations, prior to receiving a certificate of operating authority. In addition, the revisions will improve FMCSA's ability to monitor Mexico-domiciled CMC operations in the United

States. Specifically, the FMCSA proposes to modify the existing regulatory framework in two general areas:

- Applications by Mexico-domiciled CMC for authority to operate within the United States (both within and beyond the border zone), the first two rules; and

- FMCSA safety monitoring of Mexico-domiciled CMC (including new applicants) to ensure compliance with safety regulations, the third and fourth rules.

Both of these areas are currently governed by a regulatory scheme that is administered by the FMCSA. Under this current regulatory scheme, Mexico-domiciled CMC seeking authority to operate within the border zone may apply for such authority using existing Form OP-2. Similarly, Mexico-domiciled CMC seeking authority to operate beyond the border zone may apply for such authority using the existing Form OP-1(MX) that was created by the ICC in 1995. Finally, all Mexico-domiciled CMC operating in any part of the United States are subject to the same inspection and review regime currently in place for United States and Canadian CMC (FMCSA 2001b).

1.4. SCOPE OF ANALYSIS

This PEA will analyze the potential environmental impacts associated with the current regulatory framework, and the four proposed rules that would modify this framework. Initially, this PEA will focus on the effect these alternatives will have on the number of Mexican CMV operating in the United States and the number of inspections that will be performed on these vehicles. Next, the PEA will describe the environment that may be impacted by changes in the total number of vehicles and inspections. Finally, the PEA will describe the potential environmental impacts associated with these changes on the following primary areas of potential concern: Transportation, Public Safety, Air Quality, Noise, and Socioeconomics.

1.5. GOVERNMENT-WIDE COORDINATION

Regulatory agency involvement is critical in the analysis of the proposed rulemakings, particularly with regard to NEPA. The FMCSA has coordinated the development and completion of this PEA to ensure participation and feedback from the Environmental Protection Agency and the Council on Environmental Quality.

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2. PROPOSED ACTION AND ALTERNATIVES

2.1. OVERVIEW OF ALTERNATIVES

The purpose of this PEA is to assist FMCSA in understanding the potential environmental consequences of the Proposed Action and alternatives in order to determine whether they will result in significant environmental impacts. The analysis involves comparing each alternative to current environmental conditions to identify the resulting change. In most environmental reviews, the No Action Alternative provides a good description of the baseline, since it describes the current environmental conditions and the environmental consequences of maintaining the status quo. However, in the current situation, the anticipated Presidential order to modify the moratorium constitutes an intervening event that will modify the baseline conditions. Recognizing the influence of this intervening event, FMCSA has identified three probable scenarios that this PEA must consider. The Baseline Scenario consists of the continued use of existing FMCSA regulations with the Moratorium remaining unmodified. The second scenario is the No Action Alternative, whereby the use of the existing FMCSA regulations continues and the Presidential order to modify the Moratorium is implemented. The third scenario consists of the Proposed Action Alternative, whereby the four rules proposed by FMCSA are promulgated and the Presidential order to modify the Moratorium is implemented. Table 2-1 shows the requisite conditions that apply for the three scenarios considered in this PEA.

Table 2-1: Requisite Conditions for each Alternative

	Moratorium Unmodified	Moratorium Modified by Presidential order
No Change to Current FMCSA Regulations	Baseline	No Action
FMCSA Regulations Revised by Proposed Rules	N/A	Proposed Action

FMCSA also recognizes that there is a fourth scenario whereby the proposed rules are promulgated with the moratorium remaining in effect; however, this scenario has been dismissed from further analysis for several reasons. First, as stated in Section 1.3 describing the Need for Action, the President has announced his intent to comply with the terms of NAFTA. Second, although the President could modify the moratorium after the FMCSA completes this rulemaking, the period of time between the issuance of the final rules and the moratorium modification would be very short, and the rules relating to Mexican carrier operations beyond the border zone would, in any event, have no practical impact until the moratorium is modified. Third, the analysis of the other three scenarios will capture the moratorium's effect on the proposed rules, and any additional analysis of this scenario would thus be redundant.

Immediately prior to the completion of this PEA, the Congress passed the DOT Appropriations Act for FY 2002. The Act sets forth several conditions that must by met by the DOT before FMCSA may expend any FY 2002 appropriated funds to process Form OP-1(MX) applications. Among the conditions set forth in the Act are the requirements that FMCSA promulgate rules that implement the regulatory safety requirements contained in rules 2, 3 and 4 of the Proposed Action. This section of the Appropriations Act withholds funds for the processing of Form OP-1(MX) until the satisfaction by DOT of the conditions set forth in the Act or upon the expiration of the appropriations period on September 30, 2002, whichever event occurs first. While the appropriations hold is in effect, any Presidential order to modify the statutory moratorium will have no practical effect, since FMCSA would still be prohibited from processing OP-1(MX) applications.

As a result, while the appropriations hold is in effect, the No Action Alternative against which the environmental impacts from the Proposed Action should be measured is identical to the Baseline scenario described in this document. Accordingly, to account for this additional scenario, our analysis of environmental impacts in Chapter 4 will compare the environmental impacts of the Proposed Action to the impacts associated with both the Baseline and No Action alternative. This dual analysis will allow the FMCSA to determine whether the Proposed Action will result in a significant impact to the environment as compared to a No Action Alternative with or without the appropriations hold in place.

To facilitate the environmental impact discussion in Chapter 4, this chapter describes each alternative and focuses on the operating conditions that will result from each alternative. The Proposed Action Alternative consists of four rules and is divided into two corresponding subsections to facilitate a separate review of each regulatory area addressed under the Proposed Action and described in Section 1.3 (see Table 2-2).

The first subsection addresses the application process for operating authority (rules 1 and 2, including a new pre-authority safety audit for those CMC operating pursuant to OP-1(MX) authority). The second subsection addresses the safety monitoring program for Mexico-domiciled CMC operations (rules 3 and 4, including maintaining a current Commercial Vehicle Safety Alliance (CVSA) decal). Within each of these subsections, the PEA begins by describing the Baseline Scenario, followed by the No Action Alternative, and then the Proposed Action Alternative. Finally, since the Proposed Action is comprised of the implementation of the four rules, each resource analyzed in Chapter 4 concludes with a discussion of the total potential impact of the two regulatory sections together in a summary section.

Table 2-2: Proposed Action Alternative Contents

PROPOSED ACTION ALTERNATIVE	
Applications for Operating Authority	Rule 1 – Form OP-2 Revised
	Rule 2 – Form OP-1(MX) Revised, including a new pre-authority safety audit
Safety Monitoring Program for Mexico-Domiciled CMC*	Rule 3 – Proposed Safety Monitoring System Requirements
	Rule 4 – Proposed Certification Label Requirements (FMVSS)

*Also includes maintaining current CVSA decal

For the purposes of this analysis it was assumed that the implementation of the Proposed Action would not affect the trade volume between the United States, Mexico, and Canada, nor would it alter existing regulations relating to the cargo or payloads carried by Mexico-domiciled CMC. Even though actual resulting trade conditions are at best difficult to quantify, it is expected that the Presidential order to modify the moratorium could result in changes in trade volume and operations between the United States and Mexico. As a result, there could be an increase in the number of Mexican CMV trips in the United States. The resulting increase would be determined by the difference between the new Mexican CMV trips and the offset resulting from the reduction in the number of United States CMV trips that would be replaced by their Mexican counterparts. However, this and any other associated effects in trade characteristics would be the result of the modification of the moratorium and not the implementation of the Proposed Action.

As a result, this PEA will focus only on the potential environmental impact and safety implications of the proposed actions and alternatives based on: (1) the change in the number of Mexico-domiciled CMC receiving certificates of operating authority pursuant to the revised application forms (i.e., OP-2 and OP-1(MX) Forms), and the associated change in the number of Mexican CMV operating in the United States; and (2) the change in the number, method, and frequency of inspections conducted on Mexican CMV operating in the United States.

2.2. APPLICATIONS FOR OPERATING AUTHORITY

This section describes the operating conditions of Mexico-domiciled CMC within the United States, as the application process affects those conditions. This section begins by describing current operating conditions under the Baseline scenario, followed by a description of how those conditions would change under the No Action and Proposed Action Alternatives.

2.2.1 Baseline Scenario – Moratorium Retained with Current Application Forms

Under current Baseline operating conditions, Mexico-domiciled CMC may apply for two different types of operating authority. The first is authority to operate within the commercial zone along the United States-Mexico border, known as the "border zone." Economic Commercial Zones are established geographical areas, as outlined or set forth in FMCSA regulations where interstate commerce is partially exempt from economic regulation.[10] The commercial zones exist throughout the United States and vary in size according to the population of the base municipality. Although commercial zone CMC are partially exempt from economic regulation they are still required to meet the same State safety standards that apply to other motor carriers. Most of the commercial zones are 20 miles wide or less, but the Rio Grande Valley zone, including four Texas counties, and the San Diego zones extend 70 miles wide. Mexican CMV operating within the United States commercial zone must obtain a certificate of registration from the FMCSA. In addition, approved Mexico-domiciled charter and tour bus companies can operate throughout the United States, but regular route operations are not allowed. Mexico-domiciled CMC may request border zone operating authority by submitting the application Form OP-2.

The second type of authority is required to operate throughout the United States, beyond the border zone. Mexico-domiciled CMC request this broader operating authority by submitting the application Form OP-1(MX). Under current Baseline conditions, with the moratorium in place, FMCSA is prevented from processing applications submitted on Form OP-1(MX), in effect preventing Mexico-domiciled CMC from receiving authority to operate beyond the border zone.

Mexico-domiciled CMC may request an application form for operating authority from either an FMCSA division office or a border inspection station (Muñoz 2001). When a Form OP-2 application is submitted to FMCSA, the agency reviews the completed form and conducts a background check to determine whether the applicant carrier is willing and able to comply with all applicable DOT regulatory requirements. If the FMCSA finds that a carrier is willing and able to comply with the applicable laws and regulations, the carrier will receive a Certificate of Registration authorizing it to operate within the border zone. When a Form OP-1(MX) application is received by FMCSA, the form is placed in a file to be processed when the moratorium is modified. There are approximately 200 Form OP-1(MX) applications currently on file.

The FMCSA estimates that in 2001, there were 9,500 Mexico-domiciled CMC and 593,000 United States- and Canada-domiciled CMC with United States operating authority. These CMC operated approximately 4.5 million CMV in the United States, including approximately 63,000 Mexican CMV (FMCSA 2001d). The number of Mexico-domiciled CMC seeking operating authority in the United States border zone continues to increase every year, as shown in Table 2-3 (FMCSA 2001a). FMCSA has received approximately 1,300 new OP-2 applications per year over the past four years.

[10] 49 C.F.R., Part 372, Subpart B.

Table 2-3: New OP-2 Applications for Border Zone Operating Authority from Mexico-Domiciled CMC

Year	Number of Applications Received
1996	611
1997	1,223
1998	1,447
1999	1,377
2000	1,182

Source: FMCSA 2001a

Under a continuation of Baseline Scenario operating conditions, FMCSA expects to continue receiving and approving approximately 1,300 applications per year from Mexico-domiciled CMC seeking operating authority in the United States, resulting in 10,800 Mexico-domiciled CMC with operating authority in FY 2002. These carriers could operate approximately 71,500 CMV inside the United States, but would be largely confined to the border zone.

2.2.2 No Action – Moratorium Modified with Current Application Forms

Under the No Action Alternative, FMCSA would retain its current regulations after the Presidential order to modify the moratorium is issued. Under this alternative, Mexico-domiciled CMC would continue to apply for operating authority using either Form OP-2 or OP-1(MX), and FMCSA would be under the obligation to process both application forms. The FMCSA would grant operating authority to a Mexico-domiciled CMC – to operate within or beyond the border zone – based upon a finding that the applicant carrier is willing and able to comply with applicable CMC safety regulations. Carriers operating under current certificates of authority would not be required to submit a new application. In addition, once the Presidential order to modify the moratorium is implemented, NAFTA bus provisions would be in place, and Mexican bus companies would be able to apply for authority to carry passengers between Mexico and the United States over regular routes in scheduled operations. Also, Mexican bus companies may apply for authority to establish an enterprise in the United States to provide point-to-point passenger services (FMCSA 2001c). FMCSA expects that the economic opportunities created by the modification of the moratorium would result in a 9% annual increase in the number of new applications it would receive from Mexico-domiciled CMC, relative to the Baseline scenario.

Under the No Action Alternative, FMCSA expects half of the 9,500 Mexico-domiciled CMC currently operating within the border zone could apply for OP-1(MX) authority. In addition, FMCSA expects 1,500 new applications for operating authority could be received and approved by FMCSA in 2002, with approximately 75% of these carriers applying for OP-2 authority and the remaining 25% applying for OP-1(MX) authority. Thus, the total number of Mexico-domiciled CMC operating pursuant to either type of

authority in 2002 could be 11,000. These carriers could operate approximately 73,000 CMV, with 39,000 CMV operated pursuant to OP-2 authority and 34,000 CMV operated pursuant to OP-1(MX) authority.

2.2.3 Proposed Action – Moratorium Modified with Revised Application Forms

Under the Proposed Action, the FMCSA would promulgate two new rules. The first rule would amend 49 CFR parts 368 and 387 and revise Form OP-2, while the second rule would amend 49 CFR part 365 and revise Form OP-1(MX) (see Appendix H for a copy of the revised OP-2 and OP-1(MX) application forms). Under the amended regulations, all Mexico-domiciled CMC seeking authority to operate within the border zone would be required to submit the revised Form OP-2. CMC who already have a certificate of registration would have 18 months to submit a new OP-2 application form. Likewise, Mexico-domiciled CMC seeking authority to operate beyond the border zone, including carriers that previously filed pending Form OP-1(MX) applications as well as carriers falling under one of the exceptions described in Chapter 1, would be required to submit the revised Form OP-1(MX). All certificates of authority issued under either application form would be provisional for at least 18 months and until the Mexico-domiciled CMC completed a successful safety audit or compliance review, as outlined in Rule 3 (see the next Section, below). In addition, Mexico-domiciled CMC would be required to file a Motor Carrier Identification Report on a biannual basis, allowing the FMCSA to maintain current records concerning Mexico-domiciled CMC operations.

Under the second rule, all Mexico-domiciled CMC applying for authority to operate beyond the border zone using Form OP-1(MX) would be subject to a safety audit prior to receiving authority to operate in the United States. The safety audits required by this action would involve a review of the carrier's initial application for operating authority and a review of the carrier's records. An FMCSA safety auditor would evaluate the carrier's prior history of compliance with applicable CMC safety laws, as well as its ability to comply with these laws in the future. The safety audit would be conducted either at the carrier's place of business or at an alternative location in the United States designated by the FMCSA. A satisfactory audit would be required before the carrier could receive authority to operate beyond the border zone.

Under both revised Forms OP-2 and OP-1(MX), the FMCSA would collect more detailed information on an applicant CMC's size, operations, and history than can be collected using the current forms. The revised forms would require an applicant to affirm its basic knowledge of FMCSA regulations and indicate how it would comply with those regulations. The applicant would be required to certify that it has a system in place to ensure compliance with FMCSA safety requirements, identify contact names and provide additional information concerning driver qualifications, hours of service, drug and alcohol testing, vehicle conditions, accident monitoring, and hazardous material transportation. In addition, both forms would request information about the CMC's insurance coverage. The carrier would be required to notify the FMCSA in writing of certain key changes in the information on either form within 45 days of the change. A

failure to update the form could result in a suspension or revocation of the CMC's operating authority. The additional information required by both forms would allow the FMCSA to better determine the willingness and ability of Mexico-domiciled CMC to comply with Federal motor carrier safety regulations.

FMCSA expects that the economic opportunities created by the modification of the Moratorium would result in a 5% annual increase in the number of new applications it would receive from Mexico-domiciled CMC, relative to the Baseline scenario. Under the Proposed Action Alternative, the increase in new applications would be less than under the No Action Alternative because the revised application form would deter applicants that would be unable to adequately demonstrate their willingness and ability to comply with the safety regulations.

Under the Proposed Action Alternative, half of the 9,500 Mexico-domiciled CMC currently operating within the Border Zone would apply for OP-1(MX) authority. In addition, approximately 1,400 new applications for operating authority would be received and approved in 2002, with approximately 75% of these carriers applying for OP-2 authority and the remaining 25% applying for OP-1(MX) authority. Thus, the total number of Mexico-domiciled CMC authorized to operate under either type of authority in 2002 would be approximately 10,900. These carriers would be authorized to operate approximately 72,000 CMV, with 38,000 CMV authorized pursuant to Form OP-2 and 34,000 CMV authorized pursuant to Form OP-1(MX).

FMCSA also expects that the pre-authority safety audits under Rule 2 would not affect the total number of Mexican CMV operating in the United States or the total amount of goods transported between Mexico and the United States. The FMCSA anticipates that some carriers would fail to pass the pre-authority safety audit and therefore be prevented from operating in the United States. However, since the Proposed Action would not affect total trade between the United States and Mexico, FMCSA expects that other carriers that succeed in passing the audit would replace any carriers that fail to pass the pre-authority safety audit.

2.3. SAFETY MONITORING FOR MEXICO-DOMICILED MOTOR CARRIERS

This section describes the operating conditions of Mexico-domiciled CMC within the United States, as those conditions are affected by the safety monitoring of Mexican CMC, CMV, and drivers. This section begins by describing the operating conditions as they are affected by the current baseline scenario, followed by a description of how those conditions would change under the No Action and Proposed Action Alternatives.

2.3.1 Baseline Scenario – Moratorium Retained with Current Safety Monitoring Program

Under current baseline operating conditions, the existing safety monitoring system for Mexican CMV is largely limited to monitoring border zone operations because, with the few exceptions listed in Chapter 1, Mexico-domiciled CMC are limited to conducting operations within the border zone. Currently, FMCSA conducts inspections on Mexico-domiciled CMC and CMV following the same guidelines applied for inspections of United States and Canadian CMV. In the United States inspections can take place at the border at designated roadside inspection stations, at a carrier's place of business, or at any point along the roadway. These inspections may occur at any time. (For more information on the inspection process, refer to Appendix A). All CMV operating in the United States are subject to inspections by Federal, State, or local authorities.

All CMV crossing the border from Mexico into the United States are required to pass through a United States Customs Service checkpoint, where some are selected for customs inspection. In Arizona, New Mexico, and Texas, CMV may then be selected for a safety inspection by a Federal CMC safety inspector, who also works in the customs compound. Arizona, New Mexico, and Texas State inspectors may additionally inspect these trucks after they leave the compound. In California, the CMV leave the United States Customs compound and drive on a private road directly to the office of the California Highway Patrol where they are weighed by Weigh in Motion (WIM) scales. Certain vehicles passing over the WIM scales are then selected for a safety inspection, based in part on the inspecting official's determination that something on the vehicle raises a safety concern (Cisneros 2001a).

Currently, manufacturers of motor vehicles built for sale or use in the United States, as well as manufacturers of vehicles imported for use in the United States, must comply with the Federal Motor Vehicle Safety Standards (FMVSS) established by the National Highway Traffic Safety Administration (NHTSA) that were in effect at the time of their manufacture, and apply a FMVSS label to their vehicles attesting to their compliance.[11] In 1975, NHTSA issued an interpretive letter prohibiting the importation of vehicles without a certification label, including CMV used to transport passengers or cargo.[12] NHTSA subsequently included the FMVSS label requirements in its regulations, and all Mexico-domiciled CMC are required to comply with the NHTSA regulation by ensuring that their CMV bear the label while conducting operations in the United States.[13] Currently, FMCSA's own safety regulations do not include the FMVSS label requirement and accordingly, FMCSA inspectors do not have authority to take enforcement action against Mexico-domiciled CMC found to be in violation of NHTSA's FMVSS label requirement (FMCSA 2001h).

In calendar year 2000, Federal and State authorities conducted 2.45 million CMV inspections, including 47,000 Mexican CMV inspections. This figure includes

[11] 49 U.S.C., Section 30112.
[12] NHTSA interpretive letter to the Canadian Trucking Association, dated May 9, 1975.
[13] 49 C.F.R., Part 567.

inspections that were conducted both within and outside the border zone. Previously, Federal and State authorities had conducted 2.36 million inspections in calendar year 1999 and 2.23 million inspections in calendar year 1998, reflecting an average annual increase of 110,000 inspections. During this same period, there were 27,000 inspections of Mexican CMV in 1998 and 42,000 inspections in 1999. This reflects an average annual increase of 10,000 Mexican CMV inspections.

FMCSA has received funding to hire and train more than 200 additional inspectors to work along the United States-Mexico border. These inspectors will be deployed regardless of whether the moratorium is modified or the proposed rules are implemented. These additional inspectors will perform approximately 100,000 inspections of Mexican CMV. Thus, under the Baseline scenario, FMCSA would expect approximately 2.77 million total CMV inspections in 2002 and 2.88 million inspections in 2003. Within this total, approximately 170,000 of the 2002 inspections and 180,000 of the 2003 inspections would be conducted on Mexican CMV.

2.3.2 No Action - Moratorium Modified with Current Safety Monitoring Program

Under the No Action Alternative, the FMCSA would retain its current inspection and review authority after the Presidential order to modify the moratorium is implemented. FMCSA expects that once the moratorium is modified, some Mexico-domiciled CMC would apply for and receive authority to operate beyond the border zone. As a result, some Mexican CMV would begin to transport goods to intermediate or final destinations throughout the United States, replacing the drayage operators and the United States CMV that previously transported these goods.

FMCSA would continue to conduct inspections on Mexico-domiciled CMC and CMV following the same guidelines applied for inspections of United States and Canadian CMV, whereby all CMV operating in the United States are subject to inspections by Federal, State, or local authorities at the border, at designated roadside inspection stations, at a carrier's place of business, and at any point along the roadway. These inspections may occur at any time. Since the modification of the moratorium could affect the total amount of freight transported between Mexico and the United States, the total number of CMV transporting those goods and the proportion of Mexican CMV operating in the United States may both increase slightly. As the total number of Mexican CMV subject to inspection increases, the number of those vehicles inspected may rise as well. In addition, FMCSA will continue to deploy additional inspectors at the border, as described under the Baseline scenario.

Under the No Action Alternative, FMCSA would expect the number of Mexican CMV inspections to increase above normal trends by approximately 10%, resulting in approximately 180,000 Mexican inspections in 2002 and 190,000 inspections in 2003. It was conservatively assumed that there would be no replacement of inspections on United States and Canadian CMV as a result of the additional inspections of Mexican CMV. Thus, the total number of CMV inspections identified under the Baseline scenario would

increase to approximately 2.78 million inspections in 2002 and 2.89 million inspections in 2003.

2.3.3 Proposed Action - Moratorium Modified with Revised Safety Monitoring System for Mexico-Domiciled CMC

Under the Proposed Action, FMCSA would promulgate two new rules. The first rule would amend 49 CFR, part 385 to establish a new Safety Monitoring Program for all Mexico-domiciled CMC operating within and beyond the border zone. The program would combine targeted roadside inspections with a system of safety audits to help ensure that Mexico-domiciled CMC are operated in compliance with all applicable safety regulations and conduct safe operations within the United States (FMCSA 2001e). The second rule would allow FMCSA to enforce the NHTSA requirement that all CMV operated in the United States display a certification label that acknowledges that the CMV complies with all FMVSS in effect on the date of manufacture.

Under the new Safety Monitoring Program, a Mexico-domiciled CMC that adequately demonstrates its willingness and ability to comply with applicable CMC safety regulations would be granted provisional operating authority for a minimum of 18-months, rather than the permanent authority granted under the Baseline and No Action Alternatives. The Mexico-domiciled CMC would operate under provisional authority during this 18-month period while in the new safety monitoring system. While in the program, the carrier would remain subject to selective compliance reviews, as are United States-domiciled CMC. In addition, FMCSA will continue to deploy additional inspectors at the border, as described under the Baseline scenario.

The safety audits and compliance reviews conducted under the new Safety Monitoring Program would be similar to the pre-authority safety audits under Rule 2 described above, the revision of OP-1(MX). However, the safety audits and compliance reviews conducted under Rule 3 would occur after the FMCSA grants operating status pursuant to either OP-2 or OP-1(MX) authority and after Mexico-domiciled CMC commence operations in the United States. These audits would involve a review of the carrier's initial application and a review of the carrier's records. The safety auditor would evaluate the carrier's prior history of compliance with all applicable CMC safety provisions. The safety audit would be conducted either at the carrier's place of business or at an existing office building in the United States designated by the FMCSA. A satisfactory safety audit or compliance review would be required before a carrier could be released from the safety monitoring system at the end of the 18-month oversight period.

While operating under the safety monitoring system, a Mexico-domiciled CMC would also be subject to expedited action by the FMCSA if found to pose a potentially serious threat to the safety of the general public. If such a finding were made, FMCSA could either schedule an expedited safety audit or compliance review of the CMC or take other appropriate action. Failure to respond appropriately or undergo the audit or review could

result in the suspension of the carrier's registration. Examples of CMC activities that would lead to expedited action include, but are not limited to, the following activities:

- Using drivers that do not have or are operating without a valid Government of Mexico Commercial Driver's License (Licencia Federal de Conductor).
- Operating out-of-service vehicles without first making the required repairs.
- Being involved in, due to CMC act or omission, hazardous materials incidents within the United States.
- Using a driver who tests positive for drugs or alcohol or who refuses to submit to required drug or alcohol tests.
- Operating within the United States a vehicle that is not insured.
- Having a driver or vehicle out-of-service rate of 50 percent or more based upon at least three inspections occurring within a consecutive 90-day period (FMCSA 2001f).

Under the Proposed Action Alternative, FMCSA would begin enforcing the NHTSA requirement that all CMV operating in the United States, including Mexican vehicles, bear a label certifying their compliance with the FMVSS on their date of manufacture. Mexican vehicle manufacturers have stated that Mexican CMV have been built to meet FMVSS standards since 1994 (FMCSA 2001k); however, applying a label to signify this is not required for sale in Mexico and has been voluntary thus far. It is estimated that about 130,000 of the 400,000 trucks and buses that are operating on Mexican Federal roads were built after 1994 (FMCSA 2001h). FMCSA inspectors would check for the FMVSS label during their normal inspection process and would enforce violations of the requirement through a notice of violation and a fine. FMCSA expects that the enforcement of this existing NHTSA requirement would not affect total inspection numbers or substantially change inspection procedures. The only measurable change would be to increase the duration of inspections by approximately 5 seconds while inspectors verified the authenticity of a FMVSS label (FMCSA e-mail 2001).

FMCSA anticipates that manufacturers will retrofit labels for existing vehicles that are in compliance with the FMVSS regulations that existed at the time of manufacture. FMCSA expects many Mexican vehicles to already be in compliance with the FMVSS; however, a small portion of carriers may not be able to bring their vehicles into compliance. As a result, FMCSA expects that only a small number of Mexico-domiciled CMC will be compelled to reduce operations due to the implementation of this alternative. It is assumed that there will be no measurable effect from FMVSS labeling on the total number of Mexican CMV operating in the United States since those vehicles not bearing an FMVSS label will be replaced by vehicles that do bear an FMVSS label (FMCSA 2001h).

Under the Proposed Action Alternative, the trends in the total number of inspections that were identified under the No Action Alternative would continue. As a result, FMCSA expects there would be 180,000 Mexican inspections in 2002 and 190,000 inspections in 2003. The increase in Mexican vehicle inspections compared to the Baseline Scenario

would increase the total number of CMV inspections to approximately 2.78 million inspections in 2002 and 2.89 million inspections in 2003.

Commercial Vehicle Safety Alliance Decal – Proposed Requirement:
Under this requirement, all Mexico-domiciled CMC granted provisional operating authority pursuant to a Form OP-1(MX) application would be required to maintain a current Commercial Vehicle Safety Alliance (CVSA) decal on any of its CMV operated within the United States. In addition, CMC granted permanent OP-1(MX) authority would be required to have a current CVSA decal on their CMV for three years after receiving permanent OP-1(MX) authority. This requirement would supplement the new safety monitoring program requirements discussed in the Proposed Action above. Under this alternative, a CVSA decal would be affixed to each CMV that passed a Level I inspection. (Refer to Appendix A for more information on the criteria used to determine whether a vehicle has passed an inspection). Consistent with CVSA guidelines, a CVSA certified government employee who had successfully completed a CVSA approved training program would be authorized to conduct the inspection and affix the CVSA decal. The CVSA decal is valid for three consecutive months.

The FMCSA has determined that this alternative would require each Mexico-domiciled CMC conducting United States operations beyond the border zone to submit each of its CMV to a Level I inspection four times per year. In contrast, Mexican CMV would be inspected approximately 2 to 3 times per year under the Baseline, No Action and Proposed Action Alternatives. These additional inspections would occur at existing inspection stations or other facilities where inspections currently take place. For the purposes of this PEA, we will assume that all of the inspections, and thus all of the impacts, will occur within the United States.

FMCSA estimates that the total number of Mexican CMV inspections would be 230,000 in 2002. The additional 50,000 inspections on Mexican CMV are necessary to meet the CVSA requirement of four yearly inspections for Mexican CMV operating pursuant to OP-1(MX) authority. (For more information, refer to Appendix A.) The calculation of the number of Mexican CMV inspections under the CVSA requirement was performed under the assumption that the average number of inspections per Mexican CMV operating pursuant to OP-2 authority would remain the same as those under the Baseline, No Action and Proposed Action Alternatives. Thus, the total number of CMV inspections would be approximately 2.83 million in 2002 and 2.99 million in 2003.

FMCSA expects that this requirement would not affect the total number of Mexican CMV operating in the United States or the total amount of goods transported between Mexico and the United States. The FMCSA anticipates that some Mexican vehicles would fail to meet the requirements for receiving a CVSA decal, requiring those vehicles to be placed out of service or denied entry into the United States. Vehicles places out of service in the United States must be repaired before continuing or returning to Mexico. However, since this alternative would not affect total trade between the United States and Mexico, FMCSA expects that other vehicles that successfully obtain a CVSA decal would replace the Mexican CMV that fail to receive one.

3. AFFECTED ENVIRONMENT

The Alternatives considered in this document relate to the operation of Mexican CMV throughout the United States, including specific operations occurring within the United States-Mexico border zone. To assist the FMCSA in understanding the potential environmental impacts of these alternatives, this chapter describes the environmental resources of the United States particular to the Proposed Action, as well as the environmental resources that are specific to the border zone. The resources that may be affected by the alternatives are described as they exist today with the moratorium in place. A description of the regulatory framework is provided where relevant. In general, the transportation sector affects a range of environmental resources through the initial construction of roads, the improvement of these roads, and the operation of vehicles upon the roadways. No new roadways or facilities are being constructed for the Proposed Action so there will be no construction impacts from this action. Specifically, CMV can have impacts on these resources as the result of normal operations, inspections and crashes. In order to understand the scope of relevant resources that may be affected by the specific alternatives described in this PEA, descriptions of the United States highway transportation system and the resources of the United States and border zone are detailed.

3.1. DESCRIPTION OF UNITED STATES HIGHWAY TRANSPORTATION SYSTEM

This section describes the current state of the United States Highway Transportation System, including its layout, some programs that are in place to protect United States resources, and traffic volumes of CMV. In this section only, CMV are defined as a single-unit, 2-axle, 6-tire or more truck, or a combination truck with either a single trailer or multiple trailers. CMV use the highways in the United States as a means to transport products throughout the country. The general highway corridors travel predominantly east-west or north-south and are broken down by rural and urban areas and then by the number of lanes for each roadway. In both rural and urban areas across the United States, more than half of all miles driven are on 2-lane roadways with the next largest number of miles traveled on four-lane highways. Most of these lanes are 12 feet wide.

On rural interstates, principal arterials, and minor arterials, CMV traffic comprises from 0.4 to 42 percent of all traffic volume, with an average volume of 14.9 percent. The majority of miles traveled in these rural areas are on roads with an average traffic volume of under 5,000 vehicles per day. Within three of the four border States, CMV traffic comprises more than the national average. Specifically, CMV traffic accounts for approximately 17 percent of all rural traffic in Arizona, New Mexico, and Texas, and approximately 14 percent of all rural traffic in California (OHPI 1996). On urban interstates, freeways and expressways, principal arterials, and minor arterials, CMV traffic comprises from 0.2 to 20.6 percent of all traffic volume with an average volume of 7.8 percent. The majority of miles traveled in these urban areas are on roads with an average traffic volume between 10,000 and 20,000 vehicles per day. Only one of the four

border States experiences CMV traffic volume above the national average for urban areas. Specifically, CMV traffic accounts for approximately 12 percent of all urban traffic in Arizona, 7 percent in California and Texas, and 6 percent in New Mexico (OHPI 1996).

Highway corridors traverse through some protected resources areas such as national and state parks, wetlands and waterways, and nature preserves. Guadalupe Mountains National Park in Texas has route 62/180 running through it, while routes 118 and 385 travel through Big Bend National Park in Texas. White Sands National Monument in New Mexico has route 70 running through it, while route 85 travels through Organ Pipe Cactus National Monument in Arizona. Amistad National Recreation Area on the Texas/Mexico border has route 90 passing directly through it. Wetlands such as those in South Carolina, and agricultural resources such as those in Nebraska also have highways passing through them. The FHWA runs the Federal Lands Highway Program roads that serves both tourism and recreational travel, protects and enhances the natural resources in these lands, provides sustained economic development in rural areas, and provides Native Americans with needed transportation access (FHWA 2001).

The FHWA administers a coordinated Federal lands program consisting of forest highways, public land highways, park roads and parkways, refuge roads, and Indian reservation roads. This program funds more than 90,000 miles of federally-owned and public authority-owned roads, which serve Federal lands. They work with many different agencies such as the Bureau of Indian Affairs, Bureau of Land Management, Bureau of Reclamation, Department of Defense, Federal Aviation Administration, Federal Railroad Administration, Federal Transit Administration, Military Traffic Management Command, National Park Service, State and Local Governments, United States Army Corps of Engineers, United States Fish and Wildlife Service, and United States Forest Service, to help with the preservation of the land and its resources while at the same time, providing roadways for both personal travel and the transportation of goods across the United States (FHWA 2001).

3.2. DESCRIPTION OF UNITED STATES AND BORDER ZONE RESOURCES

While the proposed actions have national scope, many of the potential impacts could be focused in the border zone. Thus, it is important to look at both the resources of the entire United States as well as the border zone resources in this Chapter. The Southwest region encompassing the border zone is the primary area potentially impacted by the Proposed Action. The border region, defined as a 100-kilometer band on both sides of the border, encompasses four United States States and six Mexico States, with approximately 6.2 million people in the United States and 4.3 million people in Mexico. Both general and border zone resources that could be affected by the proposed actions are described below. Primary resources that have the potential to be directly impacted are transportation, public health and safety, air quality, noise, and socioeconomics. The alternatives examined in this environmental assessment relate directly to the

aforementioned resources and will be assessed in detail in Chapter 4. It is recognized that impacts to these primary resources may result in secondary impacts to other resources, such as, hazardous materials, solid waste, topography and geology, biological resources, invasive species, endangered species, water resources, cultural, 4(f) and farmland resources, and visual resources. Therefore, these resources are discussed in this Chapter.

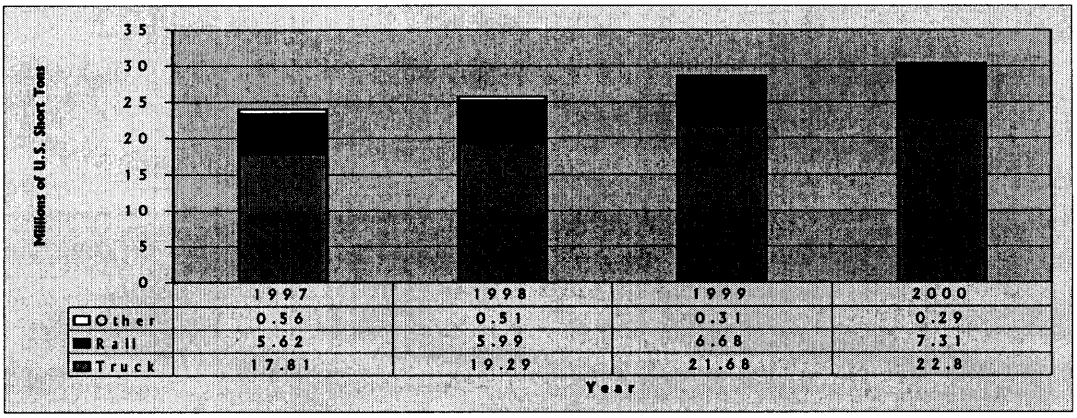
3.2.1 Transportation

United States Resources

The United States transportation system carries over 4 trillion passenger miles and 3.7 trillion ton-miles of freight every year, generated by more than 260 million people and 6 million businesses. Medium- and heavy-duty vehicles play a large role in moving consumer and commercial goods throughout the United States, using the highway infrastructure. Details of the highway system have been discussed Section 3.1.

The United States economy encompasses several regional economies with major links to international markets. CMC transport freight both within the United States and throughout North America. Between 1997 and 2000, annual imports from Mexico, by weight, increased from 23.99 million to 30.40 million United States Short Tons. This represents an average annual growth rate of approximately 9 percent. Over the past 4 years, CMV have carried approximately 75 percent of all imports from Mexico, as measured by weight (see Figure 3-1). The efficient transport of freight is essential to the economic prosperity of the nation, since the national economy is highly evolved and no one region is independent of the goods and services provided by other regions and external trade. The transportation of these goods is highly dependent on CMC and other freight transporters. As a result, between 1975 and 1998, annual vehicle miles traveled (VMT) by CMV in the United States more than doubled – from 81 billion VMT to 196 billion VMT (DOT 2001).

Figure 3-1: Mexico Imports into the United States between 1997 and 2000, as Measured by Weight (United States Short Tons)

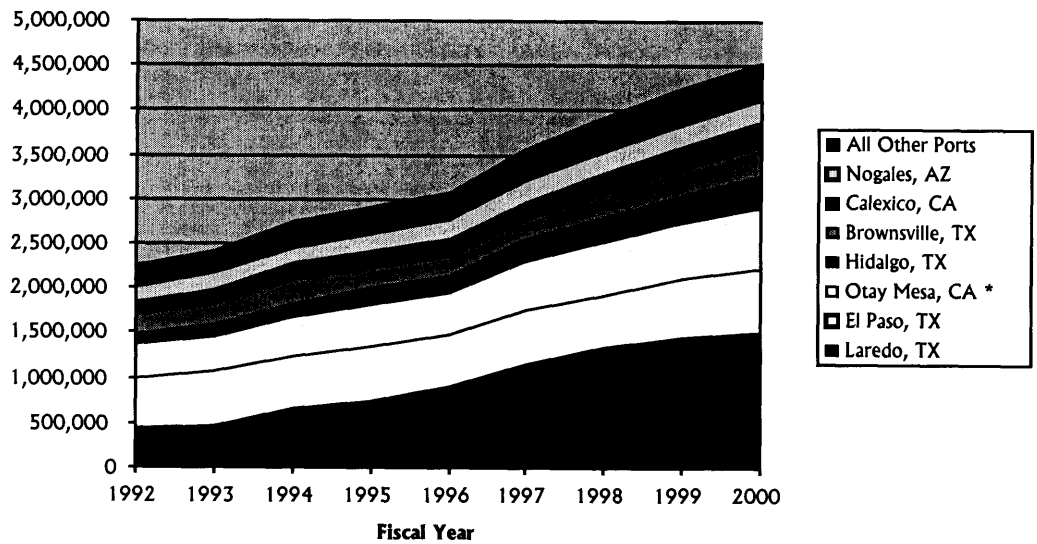


Source: United States Customs Service

Border Zone Resources

Increases in trade between the United States and Mexico have generated a significant increase in cross border traffic in recent years (see Figure 3-2). This additional traffic has placed a strain on the local and regional transportation infrastructure and created congestion at border crossings. The dramatic growth in population along the border spurred by a significant increase in industrialization in the region has also contributed to the increased traffic. Another reason for delays and congestion is the inadequacy and poor condition of roads connecting the ports of entry (DOT 2001). This congestion can create a public safety hazard for local traffic and pedestrians, as well as increase pollution in border towns and cities. Additionally, delays due to congestion to and from ports of entry can have a potential impact on firms that rely on supplies and finished goods being shipped and processed quickly across the border.

Figure 3-2: Trend in the Total Number of Northbound Truck Crossings into the United States from Mexico between FY 1992 and 2000.

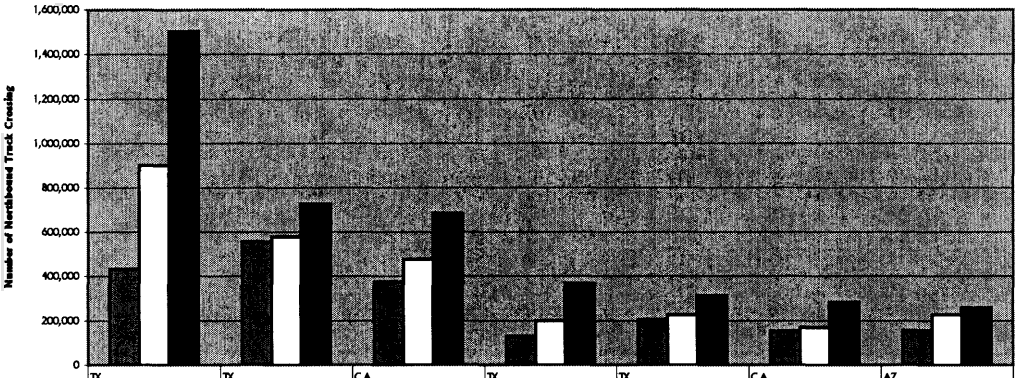


Source: United States Customs Service

The growth in cross border trade between the United States and Mexico has been led by the maquiladora, or export assembly industry. Products from maquiladoras as well as fresh produce arrive at the border through five major Mexico highways. While some ports of entry process a high volume of commercial traffic, others are underutilized. According to United States Customs, approximately 91 percent of the all CMV crossing into the United States from Mexico between fiscal years 1992 and 2000 took place at seven of the 23 ports of entry that handle commercial traffic. During this period, the average annual growth rate in the number of northbound crossings was approximately 9 percent. The top seven ports of entry based on traffic volume are Laredo, Otay Mesa, El Paso, Brownsville, Hidalgo, Nogales, and Calexico (several of these ports have more than

one bridge or crossing) (see Figure 3-3). At some ports of entry, such as the Juarez-Lincoln Bridge in Laredo, Texas and Otay Mesa, California, there were as many as 2,500 commercial vehicle crossings during one day in 1998 (GAO 2000). Two-thirds of the total northbound CMV traffic crosses through three communities: Laredo and El Paso, Texas, and San Diego, California (See Table G-2) (GAO 2000).

Figure 3-3: Change in Northbound Truck Crossings at the Seven Busiest Ports of Entry for FY 1992, 1996 and 2000.



	TX Laredo	TX El Paso	CA San Diego/Otay Mesa	TX Hidalgo	TX Brownsville	CA Calexico	AZ Nogales
FY 1992	432,061	554,104	374,229	129,354	203,116	152,317	154,845
FY 1996	899,754	577,152	475,427	198,260	224,537	169,403	225,274
FY 2000	1,502,978	725,064	683,703	367,217	311,808	281,032	258,201

Source: United States Customs Service

There are several issues affecting United States-Mexico border crossing inspections that result in increased congestion (GAO 2000). Increased CMV traffic and associated congestion at some border crossings that were built in downtown areas, such as, Laredo and El Paso, Texas, have taxed border community infrastructure. Lines of trucks, many of which are empty, waiting to enter the United States from Mexico can run up to several miles during peak time-periods in the early to late afternoon. These idling trucks contribute to air pollution and safety concerns in some major border zone cities. At the same time, crossings in remote and less accessible areas along the border zone, such as, Sasabe, Arizona or Roma, Texas, are underutilized and less congested. According to United States Customs records, nearly 47 percent of the 3.6 million trailers that crossed the border in fiscal year 1998 from Mexico were empty. United States Customs officials at the ports of entry must still process all trucks, empty or not, to ensure compliance with United States laws and regulations (GAO 2000).

Commercial traffic congestion at the United States-Mexico border is primarily caused by the high volume of vehicles at ports of entry that must be processed through facilities that have physical and technological limitations and comprehensive Federal and State

processes. The specific factors that contribute to border congestion include: difficulties resulting from multiple checks at the border by various Federal and State agencies; inspection agency staffing shortages at some border crossings; limited use of automated management information systems for processing commercial traffic; poor port of entry planning among United States inspection agencies and limited coordination between United States and Mexico governments; and the number of inspections that a single CMV can be subject to (e.g., some CMV undergo up to six separate secondary inspections after inspection by United States Customs) (GAO 2000). There are approximately two hundred sites where certified inspection stations exist throughout the Border States.

3.2.2 Public Health and Safety

United States Resources

The primary mission of the FMCSA is to save lives and reduce injuries by preventing truck and bus crashes. The FMCSA establishes standards for CMC operations, vehicles, and drivers to ensure the safety of the public on the United States roadways. The agency enforces both safety and hazardous material standards and monitors CMC operations that may affect the safety of workers. FMCSA programs ensure safety in CMC operations by targeting high-risk carriers and CMV drivers, improving safety information systems and CMV technologies, strengthening CMV equipment and operating standards, and increasing safety awareness.

The FMCSA works closely with Federal, State, and local enforcement agencies, the CMC industry, labor safety interest groups, and others to accomplish their safety goals. Crashes involving CMV are the largest safety concern in the CMC industry. In the United States in 1999, there were approximately 100,000 fatal and injury crashes involving heavy trucks – including 4,560 fatal crashes and 95,000 injury crashes. Approximately 800, or 18 percent of these fatal crashes occurred in Arizona, California, New Mexico, and Texas (US DOT 2001).

Between 1975 and 1998, annual VMT for large trucks in the United States more than doubled – from 81 billion VMT to 196 billion VMT. Despite this increase in large truck VMT, both the fatality rate and total crash incident rate per 100 million VMT have decreased. In 1998, there were 2.3 large truck crash fatalities for every 100 million VMT, down from 3.5 fatalities in 1988. The total number of fatalities, however, increased over the same period. In 1999, there were 5,380 fatalities in crashes involving large trucks, compared to 4,483 in 1975. On average, more than 80 percent of those killed in large truck crashes were non-motorists or occupants of other vehicles involved in the crash (US DOT 2001).

Enhanced alertness and work readiness are important requirements for CMV drivers. FMCSA's Motor Carrier Research and Technology Program aims to improve CMC safety and economic performance through research in the following areas: Driver Safety Performance, Commercial Safety Performance, Carrier Compliance and Safety, Safety Systems and Technologies, and Cross-Cutting Safety Initiatives. Specific project levels

include such areas as crash causation and profiling, regulatory evaluation and reform, compliance and enforcement, hazardous materials safety and cargo tank integrity, commercial driver training and performance management, driver alertness and fatigue, driver physical qualification, and car-truck proximity (United States DOT 2001).

The Intelligent Vehicle Initiative portion of the Intelligent Transportation Systems Program aims to accelerate the development and commercialization of in-vehicle safety systems, such as, collision avoidance and driver condition monitoring. These complement other elements of the ITS Program, such as electronic clearance, onboard safety monitoring systems, automated administrative processes, and hazardous materials incident response. While the ITS Program addresses all highway vehicles, the safety implications for CMV are important since significant losses can result from crashes involving these vehicles (United States DOT 2001).

Although highway crash fatality rates have declined, new strategies are continually being developed to provide further reductions. The centerpiece of the FMCSA's Commercial Motor Vehicle Safety Action Plan is to reduce fatalities involving trucks and buses by half by 2010. While crashes involving CMV are frequently found not to be the fault of the operator of the truck, advanced technological systems installed in CMV, together with carefully targeted investments, will continue to reduce CMV-related fatalities. One of the major challenges likely to be faced in the near term will not be technology advances - such as crash avoidance systems, early hazard detection, countermeasures for driver fatigue, and roadside brake examination on moving CMV - but adoption and implementation of these new technologies in the CMV industry to improve safety. Among the longer range solutions are crashworthiness requirements to reduce fatalities in truck/car collisions (United States DOT 2001).

United States DOT's technical goal for CMV is to reduce both the likelihood and severity of crashes involving CMV. Particular goals related to CMV crash avoidance include safer retreaded tires, better traction control and stopping capabilities, capabilities such as detecting and responding to driver fatigue, avoiding collisions involving "blind spots" and other situations involving car/ CMV proximity and possibly supplementing brakes during emergency deceleration events. Goals related to severity of crashes involving CMV include better tank integrity, particularly for hazardous materials, as well as greater crash compatibility with light vehicles. United States DOT plans to refine technical goals for CMV on an on-going basis through the investigation of crashes nationwide, particularly those that may be related to emerging trends or technologies (United States DOT 2001).

One method of measuring the safety of trucking operations in the United States is by analyzing the frequency with which carriers' vehicles are placed out-of-service by safety inspectors due to the discovery of a serious safety defect. Reports by the United States Department of Transportation's Office of the Inspector General (OIG 1999) have indicated that the rate at which Mexican CMV have been placed out of service has fallen over the past few years from 44 percent in FY 1997 to 37 percent in FY 2000. The OIG also noted that the out-of-service rate for United States CMV inspected nationwide in FY

2000 was 24 percent. This data indicates that while the overall level of safety of all Mexican CMV may be improving, the safety of United States CMV may still be better when compared an average of both drayage and long-haul Mexican CMV. However, as will be discussed in the Border Zone Resources section below, the out-of-service rate for the Mexican long-haul fleet is 19 percent, making it comparable to that of the United States long-haul fleet.

Border Zone Resources

Public safety issues are also a concern in the border zone since all Mexican CMV either operate in, or pass through, the border zone while operating in the United States. Increased traffic concerns in the border zone relate to the need for appropriate measures to safeguard public health and safety. Two of the Border States – Arizona and New Mexico – report a larger percentage of CMV crashes involving fatalities than the United States as a whole, whereas California and Texas remained below the United States national average.

Ports of entry are expected to be the places most affected by an increase in trade. Some resulting traffic safety concerns include the high congestion in the area and the lack of emergency lanes. According to a 1993 report by the University of Texas at El Paso, crash rates and fatality rates in the Texas border counties were noticeably higher than those rates compiled for the entire State of Texas. This implies traffic and safety problems are more abundant at the border than throughout the rest of the State (Pezo, R. and Cook, G. 1993).

In May 2001, the OIG published a Interim Report on the Status of Implementing the North America Free Trade Agreement's Cross Border Trucking Provisions detailing its recent audit of DOT's oversight of Mexico-domiciled CMC. As a part of this audit, the OIG analyzed Federal and State inspection data maintained by the DOT for FY 1998. This data revealed that some Mexico-domiciled CMC had been subjected to a safety inspection beyond the border zone, in many cases while operating beyond the scope of their Form OP-2 authority. The OIG looked specifically at the number of Mexican CMV inspected in each of three areas: within the border zone, within the Border States but beyond the border zone, and beyond the Border States. In addition, the OIG reported the number of times that vehicles were placed out-of-service after an inspector identified a serious safety violation. This OIG report indicated that, the out-of-service rate for Mexican CMV inspected within the border zone was 41%, within the border states but beyond the border zone was 32% and beyond the border states was 19%.

3.2.3 Air Quality

United States Resources

Air quality is technically defined as the concentration of air pollutants present within the air mass of a region and is measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). Air pollutants are a significant cause for concern for both public health and welfare. Public health refers to the physiological effect on a human being while public welfare refers to such concerns as property damage and aesthetic effects. In response to both of these concerns, Federal regulations have been developed for six criteria pollutants identified by EPA. These pollutants are considered harmful to public health and the environment. The six criteria pollutants that EPA established under the National Ambient Air Quality Standards (NAAQS) are carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), and particulate matter (PM). Nitrogen dioxide reacts in the atmosphere over the course of several hours and is often referred to simply as nitrogen oxides or NO_X.

In measuring air quality, the ambient concentration of pollutants is compared with the EPA's NAAQS. Table C-1 in Appendix C shows the primary and secondary standards used to regulate air pollution in the United States. If the concentration of any of these pollutants is less than or equal to their NAAQS standard, the air quality is considered in attainment of the standards. However, if the concentrations are greater than the NAAQS standard, the air quality for a region is considered to be in non-attainment of the NAAQS. Non-attainment areas are regions where the air pollution levels persistently exceed national air quality standards established by the Clean Air Act of 1967.[14] The EPA is continuously monitoring ambient air quality within counties and air basins in the United States. A detailed description of the criteria pollutants and their sources, current status and potential health effects is presented in Appendix C and Table C-2.

As shown in Table C-3 in Appendix C, mobile sources in the United States produce the highest or the second highest levels of emissions for several pollutants. The transportation sector continues to be a significant source of air pollutants at the national level. The table shows that motorized vehicles are responsible for most of the total CO (77.1 percent) and NO_X (55.5 percent) emissions in the United States. Close to half (47.0 percent) of the total VOCs (volatile organic compounds) and a quarter of total PM emissions are also due to motor vehicles. The contributions of Pb and SO_x from vehicles are relatively less, partly due to their reduced presence in transportation fuels (Pb has essentially been eliminated from gasoline). This table clearly indicates that the transportation sector is a significant source of pollutant emissions in the United States. Table C-4 shows the actual emissions from on-road vehicles separated into categories. The values reveal that although light-duty gasoline vehicles are generally the most significant source of pollution, heavy-duty gasoline and diesel vehicles are also significant. Indeed, for NO_X emissions, diesel vehicles are the most significant category. Heavy-duty diesel vehicles as a whole produce far more NO_X and PM emissions than light-duty vehicles. This is due to greater mass emissions from heavy-duty diesel vehicles that have only been regulated in the last decade (EPA 2001).

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[14] 42 U.S.C. § 112.

Total United States Emissions and Concentration Trends

Since 1970, the transportation sector as a whole has made tremendous progress in reducing emissions of criteria and hazardous air pollutants. Transportation related emissions of some pollutants, such as carbon monoxide (CO) and unburned hydrocarbons (HC), have been reduced by more than half since the 1970s (DOT 2001). However, heavy-duty surface vehicles, including CMV, have not made as rapid overall progress as cars and light trucks. PM emissions from diesel engines are still great despite recent attempts to regulate the engines. Greenhouse gas (GHG) emissions from the transportation sector have continued to grow rapidly, with the transportation sector currently accounting for about a quarter of United States GHG emissions (DOT 2001). Consistent with recent economic growth, GHG emissions from CMC have been growing very quickly. Medium- and heavy-duty trucks contribute significantly to urban air pollution.

For the 1989-1998 period, most of the criteria pollutants experienced significant decreases in both emissions and atmospheric concentrations in the United States. Table C-5 shows that with the exception of NO_X, emissions and atmospheric concentrations for all of the criteria pollutants decreased during the study period. It should be noted that CO emissions decreased even though total VMT increased by 57 percent during this period. The decrease in Pb levels is the result of the effects of legislation that eliminated Pb from gasoline and limited its usage in industrial applications. Almost no change occurred for NO_2 emissions while concentration levels decreased. VOC emissions decreased while O_3 concentrations decreased slightly. O_3 levels (concentrations) for urban and suburban areas decreased more than those in rural areas. Likewise, decreases in PM_{10} concentrations are also supplemented with the findings that urban and suburban areas experienced higher concentration levels. With most of the emissions occurring near power plants, including coal-burning plants, the emissions and concentration levels for SO_2 both decreased during the study period. These decreases are generally attributed to SO_2 controls that EPA implemented as part of their Acid Rain Program in 1995 (EPA 2001).

Mobile Sources

Mobile sources are generally classified under two broad categories: on-road and off-road. As their names imply, on-road vehicles are primarily used on paved roads while off-road vehicles include those used for construction, farming, lawn and garden, and airport services. The on-road engines can be further categorized into light-duty vehicles and heavy-duty vehicles with the weight difference changing at approximately 8,500 lbs gross vehicle weight (GVW) (National Research Council 2000). The light-duty category includes both passenger vehicles and light-duty trucks. Heavy-duty vehicles include both trucks and buses and are further categorized into gasoline and diesel-powered vehicles (light-duty vehicles are primarily fueled by gasoline). Table C-6 shows estimated pollutant emissions due to these different fuel types. The emission estimates were calculated using EPA's MOBILE5 and PART5 models. In general, using gasoline appears to produce more emissions of CO, NO_X, and VOCs while burning diesel appears to produce more NO_X and PM emissions. The contributions from diesel emissions of

NO_X and SO_2 are significant compared to those for light-duty gasoline vehicles. Unlike light-duty vehicles, heavy-duty vehicles cover a much broader GVW range. Heavy-duty vehicle engines are certified on a special dynamometer since truck and bus engines can be placed in many different types of chassis and weight classes. Urban buses have their own emission certification standards. Until recently emissions standards for heavy-duty vehicles were less stringent than those for light-duty vehicles.

CMV are not presently required to participate in an Emissions Inspection and Maintenance Program, similar to that which is required for cars under 8,500 lbs. GVW. This is because there has been little research into Emissions Testing of CMV due to the high cost of chassis dynamometers. The University of West Virginia has conducted some chassis emissions testing of urban buses in New York City powered by diesel, natural gas, and hybrid electric, but more research is required. Some states have random roadside inspections to check for the opacity or smoke levels of CMV. Opacity/smoke testing is also in its initial stages and requires more work.

The factors that affect emissions from vehicles include: engine design and operating features; driver operating and maintenance practices; fuel composition; add-on pollution control technology; and environmental conditions (Cooper 1994). Engine design and operating features include air-to-fuel ratio or stoichiometry, compression ratio, and timing of the spark relative to the stroke of the piston. Driver operations are also important factors since no matter how well an engine is designed, it must be operated properly: the vehicle should not be overloaded, proper fuels should be used, and the vehicle must be maintained. Fuel composition is important because impurities in the fuel will be emitted into the environment. Sulfur is commonly used as an example of an impurity that directly forms SO_2. Add-on pollution control technology affects emissions after the pollutants have been formed. The technology emission controls such as the catalytic converter, refueling vapor canisters, positive crankcase ventilation and exhaust gas recirculation among others.

In many areas, transportation planning is subjected to the conformity process. States that fail to meet EPA standards for criteria pollutants must develop State Implementation Plans (SIPs) detailing how they will reach these standards. Transportation emissions must remain within levels projected by State Implementation Plans that, when implemented will lead to attainment of air quality standards. Transportation plans and programs, therefore, must conform to air quality goals. Neither the transportation conformity nor general conformity rules apply to the Proposed Action. Transportation plans, programs and projects in non-attainment and maintenance areas that are funded or approved by the FHWA and the Federal Transit Administration must meet the requirements of EPA's transportation conformity provisions.[15] Since these FMCSA actions do not involve such approvals or funds, they are not subject to the provisions of the transportation conformity rule[16].

[15] Titles 23 and 49, U.S.C.
[16] 40 C.F.R., parts 51 and 93.

Border Zone Resources
In considering air pollution from CMV, NO_X and PM-10 are the pollutants of main concern, because of the significant contribution of CMV to national emissions for these two pollutants, compared to the contribution of CMV to national emissions for the other criteria pollutants described above and in Appendix C. NO_X is predominantly created by high-compression internal combustion engines, and is a precursor to ozone (the main component of smog). On the other hand, PM-10 is produced in the fine soot particles that are emitted by diesel engines (ICF, 2001). Therefore, these are the primary pollutants of concern that are dispelled from heavy-duty trucks and buses.

Among the seven counties containing the busiest border crossings with Mexico, Santa Cruz County in Arizona, and Cameron, Hidalgo, and Webb Counties in Texas, are considered "in attainment" for both PM-10 and ozone (see Table 3-1). EPA classified El Paso, Texas as a Moderate PM-10 non-attainment area and a serious ozone non-attainment area. San Diego, California is in attainment of the NAAQS for PM-10 but is classified by EPA as serious non-attainment for ground level ozone. Imperial County, California is a Moderate PM-10 non-attainment area and is no longer classified as a non-attainment area for ozone, but it is in a Maintenance status for the ozone standard.

Table 3-1: NAAQS Attainment Status for United States – Mexico Border Counties

COUNTY	PM-10	OZONE
San Diego, CA	In Attainment	Serious Non-Attainment
Imperial, CA	Moderate Non-Attainment	In Attainment*
Santa, Cruz, AZ	In Attainment	In Attainment
Cameron, TX	In Attainment	In Attainment
Hidalgo, TX	In Attainment	In Attainment
Webb, TX	In Attainment	In Attainment
El Paso, TX	Moderate Non-Attainment	Serious Non-Attainment

* Currently in a Maintenance status under Section 185A of the Clean Air Act.

Source: EPA 2001

In the highway corridor from San Antonio, Texas to Monterrey, Mexico, 84% of NO_X and 90% of the other pollutants are caused by trucking freight. This corridor contains the Laredo border crossing, and is in Webb County, Texas. Also in this same region, it was discovered that 6.3% of trade-related CO emissions is due to truck idling. Another corridor where comparable air quality measurements were conducted is the highway that spans Tucson, AZ to Hermosillo, Mexico (ICF 2001). This corridor passes through the border city of Nogales, AZ in Santa Cruz County. While Santa Cruz County, AZ is in attainment for PM-10 and ozone, at the city level, Nogales, is in non-attainment status for PM-10 under the United States EPA standards (ICF, 2001).

3.2.4 Noise

Sound, an element of all human and natural environments, becomes noise when it is unwanted, unnecessary, or does not convey useful information. Noise is further defined as sound that disrupts normal activities or that diminishes the quality of the surrounding environment.

Generally, sound is measured in decibels (dB), which is a logarithmic scale that condenses the large range of sounds that make up the range of human hearing. Using this scale, an increase of 3 dB represents a doubling of sound energy, but this difference is barely detectable by the human ear. An increase in sound energy by 10 dB is approximately equivalent to a doubling in perceived loudness (USAF 1978). An "A-weighted" scale, termed dBA, places more emphasis on some frequencies while de-emphasizing others because the human hearing range is more sensitive to certain frequencies.

Acceptable noise levels for residential areas, as stated by the United States Department of Housing and Urban Development guidelines, are 65 dBA during the day and 55 dBA at night. For perspective, 55 dBA is the approximate sound level of a quiet conversation at a distance of about 10 feet. Sixty-five dBA is typical of what might be heard in a large, fairly busy store, from a vacuum cleaner at 10 feet, or from heavy truck-dominated highway traffic at about 250 feet. Ambient noise levels in specific communities or locations will vary depending on certain variables, including the amount of development in an area and the population density of an area. For example, rural settings are typically about 40-48 dBA, while downtown urban settings are typically about 72-80 dBA. Sensitive receptors, such as residential areas, schools, hospitals, churches or any facility requiring mostly quiet conditions, can be affected by noise. Similarly, noise levels also affect workers in workplaces where noise can affect performance or cause hearing damage, and noise-sensitive wildlife species.

An important characteristic of sound is that its energy levels decrease as distance from the sound source increase. Typically, doubling the distance between a sound source and sound receiver results in four times less sound energy at the receiver than at the source. The noise attenuation of a line-source of noise, such as a highway, is less than that of a point source, such as a piece of machinery. This attenuation occurs because (1) a sound wave spreads out as it leaves its origin, which results in a more diffuse wave at the receiver and (2) the atmosphere absorbs some of the sound energy as the wave passes through it. Other factors can also influence this attenuation, including wind, temperature, humidity, terrain, and infrastructure (USAF 1978).

The transportation sector continues to generate considerable noise pollution. Achieving DOT's environmental goals will entail reducing the number of people exposed to significant transportation-related noise, including that from CMV. Although changes in design and operation of transportation facilities is a primary strategy, reduced noise emissions from vehicles such as trucks and buses will contribute significantly toward this objective (United States DOT 2001).

3.2.5 Socioeconomics

United States Resources

Socioeconomics includes the social and economic portion of the human environment and includes information on the demographics (population and employment), income and housing of the major geographic regions throughout the United States. External events, such as changes in public policy, have the potential to directly or indirectly affect these different areas of the human environment. Social consequences, such as adverse health effects from poor air quality conditions, have an effect on the quality of life enjoyed by residents in a community. Economic consequences, such as increases in health care costs, have an effect on business activities, market structure, and circulation of goods within and between communities. Size, distribution, and composition of a community's population will be affected by demographic consequences, such as out-migration of firms and labor due to increased business costs.

A community is defined partly by behavior patterns, which individuals or groups of individuals have in common. Daily social interactions, use of local facilities, participation in local organizations, and involvement in activities that satisfy the population's economic and social needs are ways of expressing these "community" behavior patterns (FHWA 1996). In order to measure how well a community supports its demands, the response to changing environmental, social, economic, and demographic conditions must be examined. The Bureau of the Census provides information on demographics, income, public finances and local housing availability.

Border Zone Resources

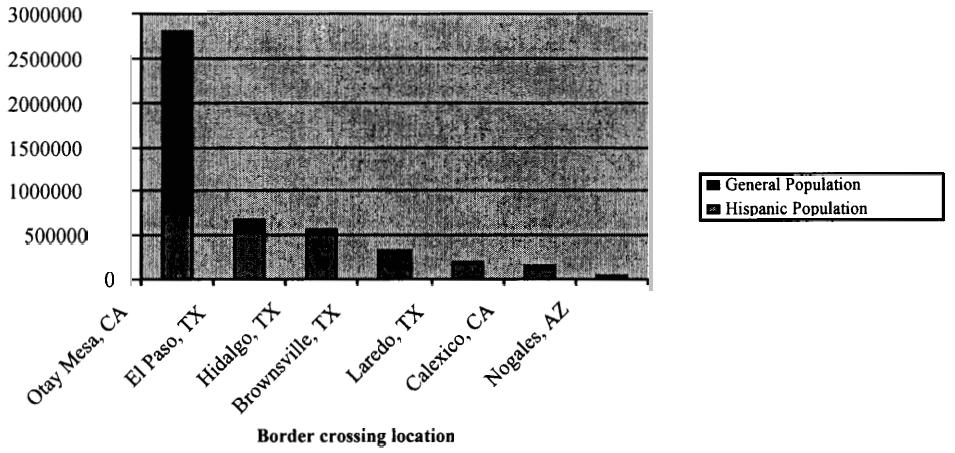
On February 11, 1994, the President issued Executive Order (EO) 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Presidential Transmittal Memorandum that accompanies EO 12898 states that, "Each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA." [17] In order to identify any potential impacts on environmental justice and thereby comply with this Presidential order, this PEA identifies socioeconomic characteristics within the border zone.

According to 2000 census data, 4.8 million people live in the seven counties adjacent to the busiest border crossings, with over half of those people living in San Diego County adjacent to the Otay Mesa crossing. Of the people living adjacent to these seven crossings, 50% identified themselves as being of Hispanic or Latino origin (83% if San Diego County is excluded) (see Figure 3-4). San Diego County had a median household income of $39,427 and the remaining counties had median household incomes that ranged from $20,034 to $26,515 (see Figure 3-5). During the same period, the total United States population was 281.4 million with 12.5% identifying themselves as being of Hispanic or Latino origin. The median household income throughout the United States

[17] 42 U.S.C. Section 43321, et seq.

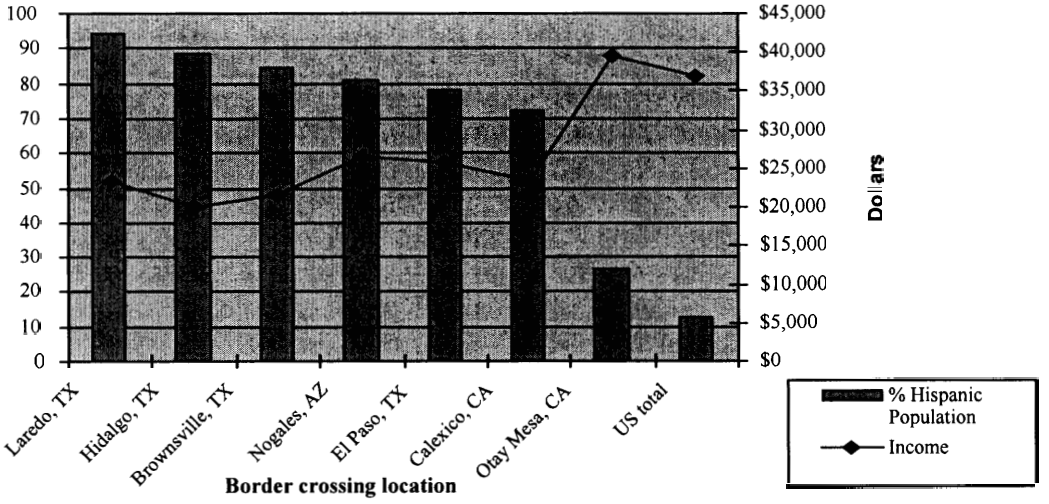
was $37,005. Six of the border counties have a median household income under 72% of the national average. In addition, one county has a Hispanic/Latino population that is twice the proportion of the national average, while the remaining six counties have Hispanic/Latino populations that are 5.5 to 7.5 times the national average (United States Census Bureau 2001).

Figure 3-4. General population versus Hispanic Population in border crossing cities.



Source: United States Census 2001

Figure 3-5. Percent Hispanic Population compared to average income for border crossing cities and the United States total.



Source: United States Census 2001

In addition to Hispanic and Latino communities within the border region, there are also many Native American groups that live within the Border States. Among these are Piman, Yuman, Dene, Shoshonean, and Pueblo peoples.

3.2.6 Other resources

The remaining potential areas of concern: Topography and Geology, Biological Resources, Hazardous Materials, Solid Wastes, Water Resources, Cultural, 4(f), and Farmland Resources, Visual Resources, Endangered Species, and Invasive Species are dismissed from further analysis. These areas of potential concern were dismissed after considering any potential impacts and – depending on the specific resource – based on a resource consumption analysis developed that provided basis for findings of minimal potential impacts. These calculations are found in Appendix D. In addition to the minimal resource consumption, the determination to drop these resources was based on the fact that the administrative, audit, and roadside inspections will occur at existing facilities thus causing no new construction, and FMCSA does not expect an increase in the total number of CMV operating in the United States. Based on these assumptions, FMCSA has concluded that there will be no more than insignificant impacts and minimum increases in resource consumption and waste disposal. All of the areas of potential concern were analyzed individually and the reasons for dropping these resources from further environmental analysis are explained briefly below and in Appendix D.

Hazardous Materials

Hazardous substances and wastes are solid, liquid or gaseous materials that because of their quantity, concentration or physical, chemical or infectious characteristics may:

- Cause or significantly contribute to an increase in mortality or an increase in irreversible illness, and
- Pose a substantial present or potential hazard to human health, or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.[18]

Hazardous materials are designated by the Secretary of the Department of Transportation as posing an unreasonable risk to health, safety, property and environment. Hazardous materials include hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, and materials identified by the DOT in the Code of Federal Regulations.[19] Those hazardous materials that are specifically regulated by the DOT are Class 1 Explosives, Class 2 Gases, Class 3 Flammable Liquids, Class 4 Flammable Solids, Class 5 Oxidizing Substances; Organic Peroxides, Class 6 Poisonous (Toxic) and

[18] Resource Conservation and Recovery Act of 1976 (RCRA) codified at 42 U.S.C. §§ 6901 *et seq.*

[19] 49 CFR § 172.101, and 49 CFR, Part 173.

Infectious Substances, Class 7 Radioactive Material, Class 8 Corrosives, and Class 9 Miscellaneous Dangerous Goods.

Carriers must register with the DOT to transport hazardous materials. Under existing regulations, hazardous materials must be properly classed, described, packaged, marked, labeled, placarded and in condition for shipment as required or authorized. Transporters of hazardous waste must meet strict guidelines, must obtain an EPA identification number, and are not allowed to accept shipments without complete manifests. Waste cannot be stored for more than 10 days without becoming subject to storage facility regulations and only facilities with RCRA permits must be used. Transporters of hazardous waste must follow the EPA and DOT regulations concerning spilling and reporting of spills, and must retain records for a minimum of two years (FMCSA 2001d).

The gas, oil, and other fluids in the engine that are required for vehicles to operate properly are not regulated by the FMCSA. If and when crashes occur that cause the release of these substances, the proper authorities are notified and these authorities will perform any necessary clean-up activities.

The Proposed Action will not alter the existing regulatory framework governing the transportation or storage of hazardous materials. The main impacts on hazardous materials would be related to public health and safety, since crashes may involve CMV transporting hazardous materials. As will be discussed in Chapter 4, the Proposed Action may result in a beneficial impact to public safety. As a result, there should be negligible impacts with regard to hazardous materials. For more information on hazardous materials, see Appendix D.

Solid Waste

The generation of solid waste is not exclusive to any industry. However, the transportation sector will not be generating any significant additional solid waste as a result of FMCSA's implementation of the rules set forth in this document.

The transportation sector generates a good deal of solid waste that is either recycled or ends up in landfills. Discarded vehicles and vehicle parts and abandoned infrastructure, such as pavement from highways or rail line materials, are the major elements of transportation solid wastes. Much of the material generated by scrapping automobiles and trucks is currently recycled. Further changes in CMV, such as even greater use of recycled and recyclable materials would complement these efforts.

The Proposed Action does not entail new construction or an increase in the overall total number of CMC operating in the United States. In addition, FMCSA has concluded that there will be no more than a minimal increase in resource consumption and waste disposal. Since the Proposed Action does not significantly affect the generation of solid wastes, this resource will not be further analyzed in Chapter 4.

Topography and Geology
Topographic and geologic structures have the potential to be impacted with the construction of highways, roads, and associated facilities, including inspections stations. Construction has the potential to change the face of the land as blasting occurs with the creation of buildings and roads. However, all CMV operations conducted pursuant to the Proposed Action will occur using existing highways and roadway systems. In addition, all currently planned roadside inspections would be carried out at existing facilities. Therefore, no construction activities directly related to the proposed rulemakings are expected.

Since the proposed actions do not involve activities with the potential to significantly affect topographical or geological resources, these resources will not be further analyzed in Chapter 4.

Biological Resources
The biological resources of the United States consist of all terrestrial and aquatic flora and fauna and the habitats in which they occur. They may be divided into the following seven major terrestrial climatic regions: tundra, taiga, temperate deciduous forest, grassland, desert, scrub forest, and tropical forest. The United States Fish and Wildlife Service (United States FWS) has jurisdiction over terrestrial and freshwater ecosystems and the National Marine Fisheries Service (NMFS) has jurisdiction over marine ecosystems. Protected biological resources include sensitive habitats and species under consideration for listing (candidates species) or listed as threatened or endangered by the United States FWS or by individual States. Sensitive habitats include areas protected by legislation or are habitats of concern to regulating agencies. Endangered species are presented in a separate subsection.

Some of the habitats that characterize the border zone are desert, aquatic, riparian, and mountainous regions. As previously mentioned, the border zone contains sections of both the Chihuahuan and Sonoran Deserts. Rainfall in the desert is less than 10 inches per year and grasses cannot survive. This arid region is subject to the most extreme weather fluctuations in the country. During the day, intense sunlight raises air and soil temperatures very high and at night the heat is lost rapidly. Most desert animals are active primarily at night or during the brief periods in early morning and late afternoon when the heat is not so intense. The major scrub forests of the United States are the chaparral and coastal sage scrub communities in western California. The region is dominated by shrubs and multi-stemmed trees that are typically less than 16 feet in height. Both types of communities are subject to periodic fires.

Aquatic ecosystems in the border zone consist of freshwater and coastal ecosystems, and wetlands ecosystems. These resources support a variety of wildlife. The Rio Grande (spanning Texas, New Mexico, and Colorado) and the Colorado River (running through California and Arizona) are the major rivers within the border zone. Additionally, to the east, the Texas border zone touches the Gulf of Mexico. Wetlands areas are located in transitional areas of freshwater and saltwater. Riparian ecosystems encompass all

terrestrial areas of relatively high soil moisture that occur adjacent to rivers and streams. These areas would exist adjacent to the Rio Grande, Colorado River, and the many tributaries to those rivers. Riparian zones provide habitat for a wide variety of species. In arid to semi-arid regions, riparian zones often support the only significant forest habitats and harbor a large number of wildlife species in comparison to surrounding uplands. The biological resources of riparian areas are extremely sensitive to changes in water level, neighboring vegetation, and sedimentation.

Construction activities have the potential to result in habitat destruction. However, all CMV operations conducted pursuant to the Proposed Action will occur using existing highway and roadway systems. In addition, all currently planned roadside inspections would be carried out at existing facilities. Therefore, no construction activities directly related to the proposed rulemakings are expected.

Air quality and noise impacts may also effect biological resources, some of which are very sensitive to the quality of air and the amount of noise in their habitats. However, as will be discussed in Chapter 4, air quality and noise impacts associated with the proposed actions are minor.

Since the Proposed Action does not involve activities with the potential to significantly effect biological resources, these resources will be further analyzed in Chapter 4.

Invasive Species

In 1999 Former President Clinton issued Executive Order 13112 on invasive species. This EO directs Federal agencies to identify agency actions that affect the status of invasive species. An invasive species is an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. This introduction does not have to be intentional and most introductions are unintentional. The transportation sector has contributed to such unintentional introductions. For example, the Asian Longhorn Beetle was first discovered in the United States in 1996. This species is believed to have arrived in the United States via cargo ships from Asia. The Asian Longhorn Beetle is a threat because it eats the insides of a living tree until it weakens and dies. Since its 1996 discovery in the Northeastern United States, thousands of trees have been infested. There are many other examples, including the introduction of the brown tree snake in Guam by military aircraft during World War II. This species of snake, originally from New Guinea, has eliminated 9 of 11 species of native birds and has caused major power outages by climbing on power lines and into electronic equipment. Introduced plants are not any less of a problem. The introduction of kudzu in the southeastern states and purple loosestrife in the north, have choked out native plant species impacting the wildlife and fish of those regions. Executive Order 13112 has reinforced and expanded DOT agency efforts to address this issue.

DOT agencies are working with other Federal and State agencies, as well as the international community in developing strategies to reduce the risk of invasive species introduction. The importation of goods from Mexico by CMV can potentially introduce

species into the United States within the transported cargo or on the CMV themselves. However, as noted in Chapters 1 and 2, the promulgation of the four proposed rules will not affect the cargo imported from Mexico or the use of trailers from Mexico to haul this cargo.

Since the proposed actions do not include activities with the potential to affect the status of invasive species, this issue will not be further analyzed in Chapter 4.

Endangered Species

The Endangered Species Act of 1973 (ESA)[20] declares the intention of Congress to protect all federally listed threatened and endangered species. This includes both flora and fauna, and their designated critical habitat. Section 7 of the ESA outlines requirements for Federal agencies' actions, whether authorized, funded or carried out. Federal agencies may not jeopardize endangered or threatened species or adversely affect critical habitat. Critical habitat, as defined in the ESA is the specific location within the geographic area occupied by the species essential to the conservation of the species, which may require special management consideration or protection[21]. Critical habitat does not include the entire geographic area that can be occupied by the threatened or endangered species.[22]

The United States Fish and Wildlife Service (USFWS) is the primary regulatory agency responsible for compliance of the ESA. The USFWS maintains additional flora and fauna categories that are not legally protected, but should be considered during the planning process for any Federal project. These additional categories are Proposed Threatened, Proposed Endangered, and Candidate Species. Listed and candidate species – at the Federal and State levels – occur throughout the United States, although within a relatively small proportion of the total surface area of the nation.

Since there would be no construction activities associated with the Proposed Action, any impact to endangered species would only occur as a secondary impact due to decreased traffic safety, decreased quality of air, or increased noise disturbance. Some of the resources that could be secondarily impacted are the several areas of protected habitat in the border zone region. Most notable is Big Bend National Park as well as Guadalupe Mountains National Park. Additionally, there are several State parks and wildlife refuges within the United States-Mexican border zone. The USFWS lists one hundred and fifty four endangered and threatened species as ranging in the four States (Arizona, California, New Mexico, Texas) along the United States-Mexican border zone. Many of these are specific to those States (USFWS 2001).

As will be discussed in Chapter 4, public safety, air quality and noise impacts associated with the proposed actions would be beneficial and/or minor, resulting in no significant

[20] 16 U.S.C. §§1531-1543)
[21] 16 U.S.C § 1532(5)(A)
[22] 16 U.S.C. § 1532(5)(C)

impacts to endangered species. Therefore there will be no further analysis of endangered species in Chapter 4.

Water Resources

The water resources of the United States include groundwater and surface water. Groundwater is found beneath the surface of the earth. Sources of groundwater include rainfall and surface waters, such as lakes, rivers and wetlands. These waters penetrate and move through the soil to the water table.

Much of the nation's drinking water is supplied from groundwater aquifers. Groundwater is an important source of water supply for municipalities, agriculture, and industry. Western and Midwestern areas of the United States are generally much more dependent on groundwater than other areas of the country. Many of these States depend on groundwater for over 50 percent of their drinking water needs. Surface waters include rivers, streams, wetlands, and lakes.

Surface and groundwater resources are both used in the border region to maintain economic development. The availability of water is a critical issue in the region. Annual rainfall in the region varies from approximately 7 to 25 inches.

Surface water resources include several rivers, streams, and tributaries as well as two international reservoirs. The chief surface water resource in the border zone is the Rio Grande River. The Rio Conchos, Rio San Juan, and Rio Salado are all main tributaries to the Rio Grande, the main international river in the border region. The Rio Grande not only traverses two countries, but also three United States states, 19 tribal and pueblo lands and five Mexican states. The Rio Conchos also feeds the region's two international reservoirs. Combined, the reservoirs' storage capacity totals 6.05 million acre-feet of water. These international water resources are governed by two treaties between the United States and Mexico, established in 1906 and 1944 through the International Boundary and Water Commission. In addition to the two international reservoirs (Amistad and Falcon) in the border region, the region contains the United States' Elephant Butte Reservoir, a water resource for New Mexico and parts of Texas.

Groundwater, also used widely in the border region, is provided through use of aquifers. One notable aquifer is the Edwards Aquifer in south-central Texas. It is the chief water supply to more than 2 million people. Much of the border zone's groundwater sources come from shared Mexican/United States aquifers. There is no international agreement detailing sharing or protection of these aquifers (TNRCC 2001).

One method by which the transportation sector may adversely impact water sources is through the generation of air pollution. The generation of NO_X emissions that mix in the atmosphere with SO_X is the biggest potential impact CMV have on water quality. An increase in emissions of these pollutants would decrease air quality and in turn, adversely impact water resources through the creation of acid rain. Acid rain is not a significant problem in the border crossing region or the Southwest. There are no sensitive bodies of

water in the Southwest due to natural filtration of NO_X and SOx emissions by the land. Acid rain is a problem in the Northeast because the soils are naturally more acidic and not buffered by lime or other natural elements. New CMV emission standards in the United States are expected to be implemented between 2004 and 2007, lowering NO_X and PM emissions by almost 90 percent. Low-sulfur diesel fuel will allow after-treatment with three-way catalytic converters that will reduce NO_X, VOC, CO, PM, and SOx.

Another method by which the transportation sector adversely impacts water quality is through incidents such as oil and fuel leaks and spills, particularly from tankers, motor vehicles, and fuel storage tanks. Runoff from roads, infrastructure construction, and deterioration of discarded vehicles have an impact on wetlands, surface and groundwater quality as well (United States DOT/RSPA 2001).

As will be discussed in Chapter 4, air quality impacts associated with the Proposed Action would be minor, and public safety impacts would be beneficial. Therefore, water resource impacts would be minimal. As a result, there will be no further analysis of water resources in Chapter 4.

Cultural, 4(f) and Farmland Resources

Cultural resources consist of prehistoric and historic sites that are important to a culture. There are four different categories of cultural resources- prehistoric archaeological resources, paleontological resources, historic/architectural resources, and Native American resources.

Federal agencies are legally required to consider the effects of a proposed project on cultural resources. The primary law protecting cultural resources is the National Historic Preservation Act of 1966 (NHPA).[23] It addresses the identification and preservation of historic properties, as well as coordination among Federal agencies. The region of influence for cultural resources encompasses any area potentially affected by the implementation of the Proposed Action as defined under Section 106 of the NHPA.

Some forms of recreational opportunities and parklands are protected from impacts due to federal projects. Impacts to coastal, water-dependent recreation are considered under the Coastal Zone Management Act, whereby potential impacts may be reviewed and regulated by the administering state. Impacts to significant publicly owned parks and recreation areas, wildlife/waterfowl refuges, as well as certain historic sites, are regulated under Section 4(f) of the Department of Transportation Act.[24] These resources are found throughout the United States and adjacent to roadways and inspection areas.

Farmland is a valuable resource that is often lost to development projects. The purpose of the Farmland Protection Act is to minimize the extent to which federal programs convert farmland to non-agricultural uses.[25] Soils classified by the United States

[23] 16 U.S.C. Sec 470 et seq.
[24] 49 U.S.C. Sec 303 (c)
[25] Pub.Law. 97-98, Sec 1530-1549, codified at 7 USC 4201, et seq

Department of Agriculture, Natural Resource Conservation Service as prime or unique are collectively protected by this Act. In addition to this federal regulation, several states have enacted their own regulations to aid in protection of farmland.

Cultural, 4(f) and farmland resources could be indirectly affected through decreased air quality and increased acid rain as a result of increased emissions from CMV or through changes to topographical or geological resources. Considering the history and culture of the region, it is reasonable to foresee that substantial resources from several cultures, including Native American, Tejano, Mexican, and Latino, are located in this border region. Realizing the distinct history and heritage that the southwest holds, it follows that there are many sites of cultural, 4(f) and farmland resources protected in the Border States.

As will be discussed in Chapter 4, air quality impacts associated with the proposed actions would be minor. As a result, impacts on cultural, 4(f) and farmland resources would be minimal. Therefore there will be no further analysis of cultural, 4(f) and farmland resources in Chapter 4.

Visual Resources

Visual resources can be defined as the physical features of a landscape that affect the viewer's perception of the vista. Mountains, rivers, plains, buildings, power lines and roads are natural and human-made landscape features that contribute to the impression the landscape makes on its viewers. Within the United States, there are four general landscape types, natural, rural, urban, and transitional settings.

Each type is identified by the relative dominance of natural and artificial features present. All of these types of visual resources are subject to be affected by the proposed actions. These effects would most likely occur through secondary impacts of increased CMV emissions that may deteriorate air quality. Deterioration in air quality can lead to significant obstructions of views and vistas through the formation of haze and smog. These issues are covered in the air quality section.

Natural landscapes are classified as those areas dominated by physiographic landforms and pristine natural scenes and where there is an absence of all human influence. Rural landscapes are classified as areas that include small towns and villages, sparsely distributed homes, agricultural fields, silos, barns, and ranging livestock. Urban landscapes are classified as areas dominated by human activity and infrastructure. Transitional landscapes occur within the classifications of any of the above three types.

Within the border zone, all four types of landscapes can be seen. These visual resources can be classified as natural, rural, urban, and transition landscapes. Most notable natural landscapes would be those within Guadalupe Mountains and Big Bend National Parks. Specifically, parts of Rio Grande as it flows through Big Bend National Park have been designated as "wild and scenic" under the Wild and Scenic Rivers Act, and thus protected. However, there are many more areas that could be considered as visual

resources than just those spaces within the National Parks. Rural landscapes occur in the more pastoral areas across the border zone. Most of the actual border crossings are more typical of urban landscapes and transitional landscapes bridge the many visual resources mentioned.

As will be discussed in Chapter 4, air quality impacts associated with the proposed actions are minor, so there will be no further analysis of visual resources in Chapter 4.

4. ENVIRONMENTAL CONSEQUENCES

This Chapter of the PEA addresses the potential environmental consequences associated with the Baseline, No Action, and Proposed Action Alternatives. The analysis focuses primarily on the environmental impacts associated with changes in the number of Mexican CMV operated and inspected under the three alternatives. As in Chapter 2, the analysis for each potential environmental impact area is divided into two subsections, the first addressing the impacts of the Mexico-domiciled CMC application process, and the second addressing the impacts from FMCSA's safety monitoring of Mexican CMV. A summary is provided that considers the total potential impact. The potential impacts are quantified, and direct comparisons between the alternatives are made, where possible.

Five of the areas of potential concern identified in Chapter 3 are discussed in detail in this Chapter. These five areas were selected because they may be directly impacted by the operation or inspection of CMV, or because direct impacts in these environmental areas could result in secondary impacts in other environmental areas. For example, direct impacts on air quality may cause secondary impacts on biological resources, water resources, visual resources, or endangered species. The Transportation and the Public Safety areas were analyzed to determine the probable affect that the alternatives would have on traffic congestion and safety involving CMV. The Air Quality and Noise areas were analyzed to determine how emission levels of air pollutants and noise would potentially be affected by the alternatives. Finally, the Socioeconomics area was analyzed to determine whether the distribution of impacts would disproportionately affect minority or low-income communities.

4.1. TRANSPORTATION

This section addresses the potential effects on traffic and congestion from the current baseline conditions, the No-Action alternative, and the Proposed Action.

4.1.1 Applications for Operating Authority

Baseline – Moratorium Retained with Current Application Forms
Under a continuation of the current baseline operating conditions, the moratorium would remain unmodified and FMCSA would take no action to modify its current application forms OP-2 and OP-1(MX) for Mexico-domiciled CMC. Mexico-domiciled CMC would use the existing Form OP-2 to apply for operating authority within the border zone, or the existing Form OP-1(MX) to apply for operating authority beyond the border zone. With the moratorium in place conditions, FMCSA would continue to be prevented from processing OP-1(MX) applications, and thus Mexico-domiciled CMC would not receive authority to operate beyond the border zone. FMCSA would continue to receive approximately 1,300 new applications annually from Mexico-domiciled CMC seeking authority to operate in the United States.

Under baseline operating conditions, the amount of goods imported from Mexico may continue to increase at approximately 9% per year. This increase in the amount of goods imported from Mexico may cause an increase in the number of northbound truck crossings from Mexico into the United States. With the moratorium in place, most goods would continue to be delivered to transfer stations on the U.S side of the border, where the trailer and/or the goods would be transferred to a United States CMV. These goods would then be delivered by a United States CMV to their intermediate or final destinations throughout the United States. Many of these goods would continue to be carried across the border by drayage carriers whose sole function is to ferry goods from transfer stations along the border in Mexico to transfer stations within the United States border zone.

Therefore, under baseline operating conditions, the total volume of goods imported from Mexico in 2002 could be approximately 36 million United States short tons, of which approximately 75%, or 27 million United States short tons, may be transported by truck. This amount of trade could generate approximately 5 million northbound truck crossings from Mexico into the United States in FY 2002. These truck crossings could continue to be made by both United States-domiciled CMC and Mexico-domiciled CMC with authority to operate in the United States. FMCSA estimates that 10,800 Mexico-domiciled CMC would operate approximately 71,500 CMV within the border zone in FY2002, all pursuant to OP-2 authority. This volume of traffic could continue to cause congestion problems at the border and along the major transportation corridors leading into the United States from Mexico.

No-Action – Moratorium Modified with Current Application Forms

Under the No-Action Alternative, a Presidential order would modify the moratorium and FMCSA would take no action to revise its current application forms for Mexico-domiciled CMC – OP-2 and OP-1(MX). Under this alternative, Mexico-domiciled CMC would be eligible to receive authority to operate their CMV both within the border zone pursuant to OP-2 authority and throughout the United States pursuant to OP-1(MX) authority, and would thus be permitted to transport their freight to intermediate or final destinations throughout the United States.

As discussed in Chapter 2, the FMCSA expects that the No Action Alternative may cause a slight increase in the total amount of goods imported into the United States from Mexico. In addition, economic opportunities created by the No Action Alternative could result in an approximate 10% increase in the annual number of Mexico-domiciled CMC applying for new authority to operate in the United States. As a result, FMCSA estimates that 11,000 Mexico-domiciled CMC would be authorized to operate approximately 73,000 CMV within and beyond the border zone in FY 2002. However, a portion of the increase in the number of Mexican CMV actually traveling within or beyond the border zone should be offset by a decrease in the number of United States CMV traveling these same routes. In addition, the increase in the number of Mexican CMV represents a very

small fraction of the approximately 4.5 million CMV currently operating in the United States.

This modest increase in trade and in the total number of Mexico-domiciled CMC with authority to operate CMV in the United States, compared to Baseline conditions, should not exacerbate the current traffic and congestion problems at the border.

Proposed Action – Moratorium Modified with Revised Application Forms
Under the Proposed Action Alternative, a Presidential order would modify the moratorium and FMCSA would revise its current application forms OP-2 and OP-1(MX) for Mexico-domiciled CMC, in order to improve FMCSA's capability to determine the willingness and ability of Mexico-domiciled CMC to comply with United States CMC safety regulations. Thus, under this alternative, Mexico-domiciled CMC could be eligible to receive authority to operate their CMV both within the border zone pursuant to the revised OP-2 authority, and throughout the United States pursuant to the revised OP-1(MX) authority.

Under the second rule, CMC intending to operate beyond the border zone pursuant to OP-1(MX) authority would be subject to a safety audit prior to receiving authority to operate in the United States. FMCSA expects that this requirement should not affect the total number of Mexican CMV operating in the United States nor the total number of Mexican CMV inspections, because the operations of carriers that fail the safety audit should be replaced by the operations of carriers that pass the audit. By requiring a pre-authority safety audit, FMCSA should be able to better ensure that only safe CMC would operate in the United States. Ensuring the safe operation of CMV would improve overall highway safety and result in a decrease in the total number of CMV crashes. A decrease in CMV crashes should cause a decrease in crash-related congestion. This could result in a beneficial impact on transportation and congestion both within the border zone and throughout the United States. This effect is difficult to quantify but is expected to be minor, however, given the proportion of Mexican to total CMV operating throughout the United States.

As discussed in Chapter 2, the FMCSA expects that the Proposed Action Alternative should have no effect on the total amount of goods imported into the United States from Mexico relative to the No Action Alternative. However, economic opportunities created by the Proposed Action would result in an increase of approximately 5% in the annual number of Mexico-domiciled CMC applying for new authority to operate in the United States. FMCSA expects that the increase in the number of new applications from Mexico-domiciled CMC could be less under the Proposed Action Alternative than under the No Action Alternative because the revised application forms would deter some applicants that would not be able to demonstrate their willingness and ability to comply with United States safety regulations. Thus, the FMCSA estimates that 10,900 Mexico-domiciled CMC could be authorized to operate approximately 72,000 CMV within and beyond the border zone.

Therefore, while the total number of Mexico-domiciled CMC with authority to operate their CMV in the United States may increase under the Proposed Action Alternative compared to the Baseline conditions, it would decrease relative to the No Action Alternative. However, since the changes in the number of Mexican CMV are a very small fraction of total United States CMV operations, they would have a very minor impact on the current traffic and congestion problems at the border. In addition, as discussed in Chapter 2, the Proposed Action Alternative should not affect the total amount of goods transported between the United States and Mexico, which would continue its approximate 9% rate of increase experienced under Baseline conditions. Since the total amount of trade would be unchanged from the No Action Alternative, the total number of northbound truck crossings also would not change from the 9% rate of increase expected under the No Action Alternative operating conditions. Therefore, increases in the number of Mexican CMV actually operating within or beyond the border zone compared to the Baseline alternative would be largely offset by a decrease in United States CMV operating along those same routes. Likewise, a decrease in the number of Mexican CMV in operation compared to the No Action Alternative would be largely offset by an increase in the number of United States CMV in operation along those same routes. Thus, this part of the Proposed Action Alternative would not further impact transportation systems at the border or in the United States when compared to the conditions under either the Baseline or No Action Alternatives.

4.1.2 Safety Monitoring for Mexico-Domiciled Motor Carriers

Baseline – Moratorium Retained with Current Safety Monitoring Program
Under a continuation of current baseline operating conditions, with the moratorium unmodified, Federal, State and local authorities would conduct safety inspections of United States, Canadian, and Mexican CMV at the border, at designated roadside inspection stations throughout the United States, at individual carriers' places of business, or at any point along the roadway system. The safety monitoring for Mexican CMV would be largely limited to monitoring border zone operations since most Mexico-domiciled CMC operations would be confined to the border zone. These inspections would not include verification of compliance with the FMVSS labeling requirement.

Based on current and projected numbers of inspections, including FMCSA's anticipated addition of 85 new Federal inspectors, FMCSA estimates that 2.77 million total CMV inspections could occur in the United States in 2002, with approximately 170,000 of these inspections involving Mexican CMV. These safety inspections take between 40 to 50 minutes to complete. The inspection process involves selecting one CMV for inspection per inspection area at a time, with fixed inspection stations often accommodating several inspection areas. Since the inspection process at fixed locations involves choosing CMV out of the lines for the weigh stations, at a rate of one CMV per inspection area at a time, the potential effect of inspections on congestion at and around the inspection stations is minimized.

No-Action – Moratorium Modified with Current Safety Monitoring Program
Under the No Action Alternative, the FMCSA would take no action to modify its current inspection and review authority after the Presidential order to modify the moratorium is implemented. FMCSA expects that once the moratorium is modified, some Mexico-domiciled CMC could apply for and receive authority to operate beyond the border zone. FMCSA would continue conducting inspections on Mexican CMV following the same guidelines used for United States and Canadian CMV. These inspections would occur both within and beyond the border zone, and would continue to occur at the border, at designated roadside inspection stations, at individual carriers' places of business, or at any point along the roadway. These inspections would not include verification of compliance with the FMVSS labeling requirement.

As the number of Mexican CMV operating the Unites States increases, and the length of the trips these CMV make increases, the number of inspections performed on Mexican CMV will likely increase as well. In addition, FMCSA will continue to deploy additional inspectors at the border, as described under the Baseline Scenario. FMCSA estimates that 2.78 million total CMV inspections would occur in the United States in 2002, with approximately 180,000 of these inspections involving Mexican CMV. All inspections would continue occurring at existing facilities. The safety inspections performed on Mexican CMV should occur throughout the United States, and would not be limited to the border zone. In addition, since the total number of inspections in the United States should increase only marginally, there should be only a minor effect on transportation from the No Action Alternative.

Proposed Action – Moratorium Modified with Revised Safety Monitoring Program for Mexico-Domiciled Motor Carriers
Under the Proposed Action, a Presidential order to modify the moratorium would be implemented and FMCSA would promulgate two new safety monitoring rules. The first rule would establish a safety monitoring system for all new applicant Mexico-domiciled CMC operating within and beyond the border zone. This system would include safety audits and compliance reviews to ensure that Mexico-domiciled CMC comply with applicable safety regulations and conduct safe operations within the United States. The second rule would allow FMCSA to enforce CMC compliance with the FMVSS labeling requirement.

FMCSA expects that once the moratorium is modified, some Mexico-domiciled CMC would apply for and receive authority to operate beyond the border zone. Under the Proposed Action Alternative, the revised Safety Monitoring System would monitor the operation of Mexican CMV within and beyond the border zone. FMCSA would continue conducting inspections on Mexican CMV following the same guidelines used for United States and Canadian CMV. These inspections would take place at the border, at designated roadside inspection stations, at individual carriers' places of business, or at any point along the roadway. These inspections would include verification of compliance with the FMVSS labeling requirement.

As discussed in Chapter 2, FMCSA expects the trends in the total number of inspections identified under the No Action Alternative to continue. As a result, FMCSA estimates that there could be the same schedule of inspections as under the No Action Alternative, with approximately 180,000 inspections of Mexican CMV in 2002, and a total number of CMV inspections in the United States of 2.78 million. All inspections would occur at existing facilities throughout the United States, using the same resources as those that would be used under the No-Action scenario. Thus, there would be no change on transportation from the inspections schedule under this part of the Proposed Action.

Therefore, the implementation of these rules should not result in any additional congestion at and around the inspections stations. In addition, as will be discussed further in the next section on Public Safety, the Mexican CMV that do not comply with safety regulations and standards would be put out-of-service, thus removing them from the roadways. By removing unsafe CMV from the transportation system, overall highway safety should improve and result in fewer CMV crashes. A decrease in CMV crashes would result in a decrease in safety-related congestion. This would result in a beneficial impact on transportation and congestion within and beyond the border zone. This effect is difficult to quantify but would likely be minor, given the proportion of Mexican to total CMV operating throughout the United States under this part of the Proposed Action.

Commercial Vehicle Safety Alliance Decal – Proposed Requirement:
Under the Proposed Action, Mexico-domiciled CMC granted provisional operating authority pursuant to Form OP-1(MX) would be required to maintain a current CVSA decal on all their CMV operating within the United States. In addition, CMC would be required to maintain current CVSA decals on their CMV for three years after receiving permanent OP-1(MX) authority. FMCSA estimates that this requirement could result in 230,000 Mexican CMV inspections in 2002. The additional inspections are necessary to meet the CVSA requirement of four yearly inspections for Mexican CMV operating pursuant to OP-1(MX) authority. It was assumed that the average number of inspections per Mexican CMV operating pursuant to OP-2 authority should be the same as that under the Proposed Action and No Action scenarios. Thus, the total number of CMV inspections in the United States should be 2.83 million. However, these inspections would be carried out at the same locations as inspections under the previous scenarios, or at other existing facilities where CVSA decal inspections currently take place. Since the increase in inspections represents a very small fraction of total nationwide inspections, there should be negligible effects on transportation and congestion from the intensified schedule of inspections for Mexican CMV.

As will be discussed further in the next section on Public Safety impacts, the increased number of inspections required by this alternative would help to ensure the safe operation of Mexican CMV in the United States, because CMV that do not pass inspections will be placed out-of-service and removed from the roadways. By removing unsafe CMV from the transportation system, overall highway safety could improve and result in fewer CMV crashes. A decrease in CMV crashes would cause a decrease in crash-related congestion.

This could result in a beneficial impact on transportation and congestion both within the border zone and throughout the United States. This effect is difficult to quantify but is expected to be minor, given the proportion of Mexican to total CMV operating throughout the United States.

4.1.3 Summary of Impacts of the Proposed Action on Transportation

No Action – Moratorium Modified with Current Application Forms and Current Safety Monitoring Program

The potential transportation impacts of the No Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring system. The No Action Alternative could result in an increase in the number of Mexican CMV operating and being inspected in the United States relative to the Baseline Scenario. The contribution of these increases compared to nationwide operations and inspections on CMV is very minor. In addition, these minor increases in the number of Mexican CMV operating within the United States could be further reduced by an offset from the reduction in the operations associated with those United States CMV trips replaced by trips carried out by some of the new entrant Mexican CMV operating within the United States. Furthermore, inspections on Mexican CMV would no longer be restricted to the border zone but could occur anywhere in the United States. Thus, the No Action Alternative could result in very minor adverse impacts to transportation and congestion in the United States.

Proposed Action – Moratorium Modified with Revised Application Forms and Revised Safety Monitoring System

The potential transportation impacts of the Proposed Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program (including implementation of the CVSA requirement). The resulting numbers of Mexican CMV operating and being inspected were compared to those calculated under the Baseline Scenario and the No Action Alternative. When compared to the Baseline Scenario, the Proposed Action could result in a marginal increase in the number of Mexican CMV operating in the United States. In addition, there could be an increase in the number of inspections on Mexican CMV. When compared to the No Action Alternative, the Proposed Action could result in a marginal decrease in the number of Mexican CMV operating within the United States. In addition, there could be an increase in the number of inspections on Mexican CMV.

Although there is a slight increase in the number of Mexican CMV operating within the United States when considering the combined effect of the No Action Alternative and the implementation of the Proposed Action, this increase is a result of the No Action Alternative and not the Proposed Action itself. In fact, the Proposed Action results in a slight reduction in the number of Mexican CMV operating in the United States. However, the changes in resulting numbers of Mexican CMV are negligible when

compared to national operations of CMV. Further, any increase in the number of Mexican CMV operating in the United States would be largely offset by a decrease in United States CMV operating along these same routes.

The increases in the number of inspections on Mexican CMV would not have an effect on transportation since these inspections would be dispersed throughout the United States. In addition, there could be safety benefits from the increased inspections that could result in transportation benefits from the reduction of crashes and other safety related incidents, which lead to congestion. Therefore, the implementation of the Proposed Action could result in a beneficial impact to transportation and congestion in the United States. This effect would be minor given the proportion of Mexican to total CMV operating throughout the United States.

4.2. PUBLIC SAFETY AND HEALTH

This section addresses the potential effects on public safety and health from the Baseline, No Action, and Proposed Action. A more detailed analysis of the safety benefits associated with the proposed rules can be found in the "*Regulatory Analysis and Regulatory Flexibility Analysis*" documents developed by the FMCSA to evaluate the costs and benefits of the Proposed Action.

4.2.1 Applications for Operating Authority

Baseline – Moratorium Retained with Current Application Forms
Under a continuation of the current baseline operating conditions, the moratorium would remain unmodified and the current application forms would not be revised. Mexico-domiciled CMC would remain largely limited to operating in the border zone. Most goods imported from Mexico by CMV would continue to be carried across the border by drayage carriers and delivered to transfer stations in the border zone. United States-domiciled CMC would continue to transport these goods from the transfer stations to their intermediate or final destinations throughout the United States.

No-Action – Moratorium Modified with Current Application Forms
Under the No Action Alternative, the moratorium would be modified by Presidential order and FMCSA would take no action to revise its current application forms OP-1(MX) and OP-2 for Mexico-domiciled CMC. Mexico-domiciled CMC would become eligible to operate beyond the border zone. As a result, FMCSA assumes some goods previously imported across the border by Mexican drayage carriers may be imported by Mexican long-haul carriers. Likewise, Mexico-domiciled CMC may transport some goods previously transported to transfer stations in the border zone directly to final destinations in the United States.

The potential shifting of trips from Mexico-domiciled drayage carriers to long-haul carriers may occur as some goods are delivered directly from Mexico to final destinations in the United States. The long-haul fleet may make these trips across the border in lieu of the drayage fleet, which is typically not maintained in a condition that allows for long distance cross-country trips. As discussed in Chapter 3, the out-of-service rate for the Mexican long-haul fleet is substantially better than the rate for the Mexican drayage fleet. This indicates that the Mexican long-haul fleet is better maintained and safer than the drayage fleet. Thus, a shift from drayage carriers to long-haul carriers may result in a beneficial impact to public safety.

The shifting of trips from Mexico-domiciled long-haul carriers to United States-domiciled long-haul carriers may occur as some goods are delivered directly from Mexico to final destinations in the United States. The Mexican long-haul fleet may replace a small segment of the United States long-haul fleet for those trips where it may be economically efficient for a Mexican CMV to make the trip. As discussed in Chapter 3, the Mexican long-haul fleet has an out-of-service rate comparable to the rate for the United States long-haul fleet. Thus, the shift from United States to Mexican long-haul CMV would not result in an impact to public safety.

Proposed Action – Moratorium Modified with Revised Application Forms
Under the Proposed Action Alternative, the moratorium would be modified by a Presidential order and the FMCSA would revise its current application forms OP-2 and OP-1(MX) for Mexico-domiciled CMC. The revision of the application forms should improve FMCSA's capability to determine the willingness and ability of Mexico-domiciled CMC to comply with United States safety standards. This should improve FMCSA's ability to identify unsafe CMC and deny them operating authority. As under the No Action Alternative, Mexico-domiciled CMC would become eligible to operate beyond the border zone. As a result, some goods previously imported across the border by Mexican drayage carriers may be imported by Mexican long-haul carriers. Some goods previously transported from transfer stations in the border zone to final destinations in the United States by United States-domiciled CMC could instead be transported by Mexico-domiciled CMC. The number of trips made by Mexican carriers as opposed to United States carriers could be lower under the Proposed Action Alternative than under the No Action Alternative.

Under the second rule, Mexican CMC seeking to operate beyond the border zones under Form OP-1(MX) authority would be subject to a safety audit, prior to receiving authority to operate within the United States. This requirement should create a more stringent screening process for applicants that should improve the ability of the FMCSA to deny entry to the highest risk Mexico-domiciled CMC. The decrease in the number of unsafe Mexican trucks and buses on the roadways should promote public safety and health by reducing the number of incidents associated with the operation of unsafe Mexican CMV in the United States. The total number of accidents, – and related injuries and fatalities, – potentially avoided by this requirement is difficult to quantify. This requirement should

result in an overall benefit to public health and safety, by reducing the number and proportion of high-risk CMC and CMV operating in the United States.

The revision of the application forms under this alternative may improve FMCSA's ability to screen applicants for either OP-1(MX) or OP-2 authority. The revised application forms would require applicants to provide more detailed information regarding the nature of their operations. Mexican carriers would plan for ensuring compliance with United States safety laws and regulations. The carriers would provide contact points for taking enforcement action against the carriers for violations, and other information that could be used by FMCSA's safety monitoring resources. These revisions would result in a beneficial impact on public safety. The proportion of Mexico-domiciled CMC to all CMC conducting operations in the United States is small, so this benefit will be minor.

The revision of the applications forms under the Proposed Action Alternative may provide the greatest benefit to public safety. The shift from drayage to long-haul fleets for transporting goods across the border could result in a benefit when compared to a continuation of the Baseline conditions. There may be no impact to public safety from the shift between Mexican and United States long-haul carriers. The implementation of the Proposed Action could result in a beneficial impact to public safety relative to both a continuation of Baseline conditions or implementation of the No Action Alternative. The benefit may be greater in the border zone where a higher proportion of trips involve Mexico imported goods.

4.2.2 Safety Monitoring for Mexico-Domiciled Motor Carriers

Baseline – Moratorium in place with Current Safety Monitoring Program
Under a continuation of the current Baseline operating conditions, the moratorium would remain unmodified and the current safety monitoring program would not be revised. Eligible Mexico-domiciled CMC applying for operating authority would continue to receive permanent certificates of authority. Mexico-domiciled CMC would remain largely limited to operating in the border zone, so safety inspections of Mexican CMV would continue to occur predominantly at the United States-Mexico border. Safety inspections would remain the primary tool used by Federal, State and local authorities to help ensure the safe operation of all CMV. These inspections would not include verification of CMC compliance with the FMVSS labeling requirement. Mexican CMV operating in the United States would be inspected approximately two to three times per year on average.

No-Action – Moratorium Modified with Current Safety Monitoring Program
Under the No Action Alternative, the moratorium would be modified by Presidential order and FMCSA would take no action to revise its safety monitoring program. Eligible Mexico-domiciled CMC applying for operating authority would continue to receive permanent certificates of authority. Mexico-domiciled CMC could be eligible to operate

beyond the border zone, so safety inspections of Mexican CMV could occur both at the United States-Mexico border and at other inspection locations throughout the United States. Safety inspections would remain the primary tool used by Federal, State and local authorities to help ensure the safe operation of all CMV. These inspections would not include verification of CMC compliance with the FMVSS label requirement. Mexican CMV operating in the United States would continue to be inspected approximately two to three times per year on average.

Under the No Action Alternative, there would be no impact on public safety. As the range of Mexico-domiciled CMC operations expand beyond the border zone, a larger number of Mexican CMV inspections would occur at inspection stations beyond the border zone. The inspection procedures used at these inspection stations are the same as the inspection procedures used at the United States-Mexico border. Thus, the likelihood that an unsafe condition on a CMV could be discovered may be the same at both inspection locations. As a result, there may be no public safety impact as a result of inspecting Mexican CMV at both the border and throughout the United States.

Proposed Action – Moratorium Modified with Revised Safety Monitoring System for Mexico-Domiciled Motor Carriers

Under the Proposed Action Alternative, the moratorium would be modified by Presidential order. The FMCSA would promulgate two rules to revise its safety monitoring program. Eligible Mexico-domiciled CMC applying for operating authority would receive provisional certificates of authority for 18 months. As under the No Action Alternative, Mexico-domiciled CMC could be eligible to operate beyond the border zone, so safety inspections of Mexican CMV should occur both at the United States-Mexico border and at other inspection locations throughout the United States. All Mexico-domiciled CMC, including carriers with current certificates of authority, would be required to re-apply using the revised applications forms set forth in the first two rules. In addition to the safety inspections used by Federal, State and local authorities, FMCSA would also conduct at least one safety audit or compliance review while a carrier was operating under a provisional authority. Both the safety inspections and the safety audits could be used as tools to help ensure the safe operation of Mexican CMV. Safety inspections would include verification and enforcement of CMC compliance with the FMVSS labeling requirement. Mexican CMV operating in the United States should continue to be inspected approximately two to three times per year on average.

By granting provisional operating authority to Mexico-domiciled CMC and conducting a safety audit or compliance review prior to granting permanent authority at the completion of the 18-month period, FMCSA may improve its oversight of CMC operations. By focusing its improved oversight on the initial 18-month period of CMC operations in the United States FMCSA should be more likely to identify and reform unsafe CMC practices that relate to the CMC's inexperience with United States safety regulations. FMCSA should take expedited action against carriers found to have committed certain identified violations of the regulations. These actions may result in a benefit to public safety. By requiring Mexico-domiciled CMC with existing certificates of authority to re-

apply using the revised forms OP-1(MX) and OP-2, FMCSA should enhance its oversight of these CMC's operations. These requirements may result in a benefit to public safety.

Through verification and enforcement of the FMVSS labeling requirement, FMCSA would ensure that all CMV operating in the United States were manufactured in compliance with the FMVSS requirements in place on the date of their manufacture. These FMVSS requirements help ensure that CMV are free from defects or other conditions that could make their operation on the roadways unsafe. The verification and enforcement of the labeling requirement may result in a benefit to public safety.

Commercial Vehicle Safety Alliance Decal – Proposed Requirement:
Under this proposed requirement, all Mexico-domiciled CMC granted provisional operating authority under Form OP-1(MX) would be required to maintain a current CVSA decal on all their CMV operating within the United States. In addition, CMC would be required to maintain current CVSA decals on their CMV for three years after receiving permanent OP-1(MX) authority. FMCSA estimates that this requirement could increase the average number of inspections for CMV operating pursuant to OP-1(MX) authority to approximately four inspections per year. The increase in the average annual number of inspections performed on CMV may provide a benefit to public health and safety. The benefit could be realized in three ways.

Firstly, the increase in the average annual number of inspections per vehicle increases the probability that an individual unsafe vehicle could actually be inspected in a given year. This increases the likelihood that the safety hazard on the unsafe vehicle may be discovered, that the unsafe vehicle could be removed from the roadway. As the likelihood of discovering unsafe vehicles increases, the actual number of unsafe CMV discovered and placed out of service should increase, thereby decreasing the number of unsafe vehicles on the roadway.

Secondly, as the number of unsafe vehicles discovered and placed out-of-service increases, the economic losses for CMC that operate these unsafe vehicles should increase. An increase in economic losses could create an economic disincentive for those carriers to continue operating unsafe vehicles. This may provide an economic incentive to properly maintain the vehicles. An economic incentive to properly maintain vehicles may result in a greater number of safe vehicles on the roadway.

Thirdly, increasing the average annual number of inspections per vehicle should result in an average increase in the frequency of inspections per vehicle. As the average frequency of inspections increases, the average length of time between inspections becomes shorter. As the average length of time between inspections becomes shorter, the potential period of time during which a safety hazard on an individual vehicle may go undetected should decrease. As the period of time that a safety hazard may go undetected decreases, the amount of time that the public could be exposed to that hazard should decrease, resulting in a decrease in overall risk to public safety.

4.2.3 Summary of Impacts of the Proposed Action on Public Safety and Health

No Action – Moratorium Modified with Current Application Forms and Current Safety Monitoring Program

The potential public safety and health impacts of the No Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program. The No Action Alternative could result in an increase in the number of Mexican CMV operating and being inspected in the United States relative to the Baseline Scenario. The contribution of these increases compared to nationwide operations and inspections on CMV is very minor. In addition, a shift from drayage carriers to long-haul carriers may result in a beneficial impact to public safety due to the better operating condition of long-haul CMV. This benefit would be minor, however, given the low proportion of CMV trips transporting goods imported from Mexico.

Under the No Action Alternative inspections on Mexican CMV would no longer be restricted to the border zone but could occur anywhere in the United States. Mexican CMV operating in the United States would continue to be inspected approximately two to three times per year on average. As the range of Mexico-domiciled CMC operations expand beyond the border zone, a larger number of Mexican CMV inspections would occur at inspection stations beyond the border zone. However, there may be no public safety impact as a result of inspecting Mexican CMV at both the border and throughout the United States.

Proposed Action – Moratorium Modified with Revised Application Forms and Revised Safety Monitoring Program

The potential public safety impacts of the Proposed Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program (including implementation of the CVSA requirement). The revision of the application forms should improve FMCSA's capability to determine the willingness and ability of Mexico-domiciled CMC to comply with United States safety standards. This should improve FMCSA's ability to identify and deny operating authority to unsafe CMC. The number of trips made by Mexican carriers as opposed to United States carriers could be lower under the Proposed Action Alternative than under the No Action Alternative. The revisions to the application forms could result in a beneficial impact on public safety. However, this benefit would be minor given the low proportion of Mexico-domiciled CMC to all CMC conducting operations in the United States. In addition, the shift from drayage carriers to long-haul carriers compared to the Baseline could result in a beneficial impact to public safety.

As under the No Action Alternative, Mexico-domiciled CMC could be eligible to operate beyond the border zone, so safety inspections of Mexican CMV should occur both at the United States-Mexico border and at other inspection locations throughout the United States. The requirements set forth under the Safety Monitoring System portion of the

Proposed Action would help FMCSA ensure that all Mexican CMV operating in the United States meet United States safety standards and regulations, thus promoting their safety of operation within the United States. Thus, the implementation of the Proposed Action could result in a beneficial impact to public safety relative to either a continuation of Baseline conditions or implementation of the No Action Alternative. The benefit may be greater in the border zone where a higher proportion of trips involve Mexico imported goods.

4.3. AIR QUALITY

This section addresses the potential effects on air quality from the current Baseline Scenario, the No-Action alternative, and the Proposed Action Alternative. The EPA emissions models – MOBILE5a and PART5 – were used to quantify direct pollutant emissions resulting from the operation of and inspections on Mexican CMV. The emissions effects and inventories were calculated based on conservative average engine emission factors for Mexican CMV and did not take into account the exclusion of very high emitters. The data and assumptions in this list are generally very conservative so actual emissions from the operation and inspection of Mexican CMV are expected to be significantly lower than those calculated here. The data and assumptions are presented in Appendix C, which presents detailed information on the modeling methodology, criteria pollutants, air quality health effects, legislation, current state of the environment, and source characteristics.

The determination of the contribution of emissions from the operation and inspection of CMV was carried out by comparing the calculated emissions with national levels of emissions from all on-road vehicle sources (e.g., light-duty and heavy-duty vehicles, commercial and private) and from all sources combined (e.g., transportation, industrial processes, fuel combustion, and miscellaneous). Emission values for on-road and "all sources" were obtained from the *National Air Quality and Emissions Trends Report, 1999*. Since the transportation sector continues to be a significant source of air pollutants at the national level, and total emissions continue to increase, current levels of emissions from the transportation sector are expected to be higher than those used in this analysis. Thus, the actual contribution of emissions from CMV operations and inspections should be lower than those presented here.

4.3.1 Applications for Operating Authority

As discussed in Chapter 2, the increase in the number of Mexican CMV that would operate within and beyond the border zone once the Presidential order to modify the moratorium is implemented would be partly offset by a decrease in the number of United States CMV operating along the same routes. The rate of replacement is at best difficult to quantify since the fashion in which Mexican CMC will respond to and operate under the new conditions resulting from the Presidential order cannot be determined with any degree of certainty at this time. In addition, the total amount of cargo transported from

Mexico into the United States could increase slightly with the Presidential order modifying the moratorium.

Therefore, the actual change in emissions under the different scenarios analyzed would be determined by the difference between the emissions from the additional trips carried out by Mexican CMV that would start operating in the United States once the Presidential order to modify the moratorium is implemented, and the emissions from the trips previously carried out by United States CMV that would be replaced by those Mexican CMV. Hence, the emissions profiles of the engines used by United States and Mexican CMV would determine the difference in emissions for every individual trip replacement. Since the ratio of replacement and Mexican engine emission profiles are difficult to predict, a conservative approach was used in this analysis in order to estimate the significance of any potential air quality impacts. The level of significance of air quality impacts was determined based upon the increase in emissions from the operation of the additional Mexican CMV, with no consideration of the reduction in the number of United States CMV that would be operating under the No Action Alternative conditions. Hence, the emissions reduction associated with the decrease in operations of United States CMV is not considered. Thus, the effect of the Presidential order to modify the moratorium is overestimated, since the actual increase in emissions would be lower than that calculated here.

Baseline – Moratorium Retained with Current Application Forms

Under a continuation of the current baseline operating conditions, the moratorium would remain unmodified and the current application forms would not be revised. Mexico-domiciled CMC would use the existing Form OP-2 to apply for operating authority within the border zone, or the existing Form OP-1(MX) to apply for operating authority beyond the border zone. With the moratorium in place, FMCSA would continue to be prevented from processing OP-1(MX) applications, and thus Mexico-domiciled CMC would not receive authority to operate beyond the border zone.

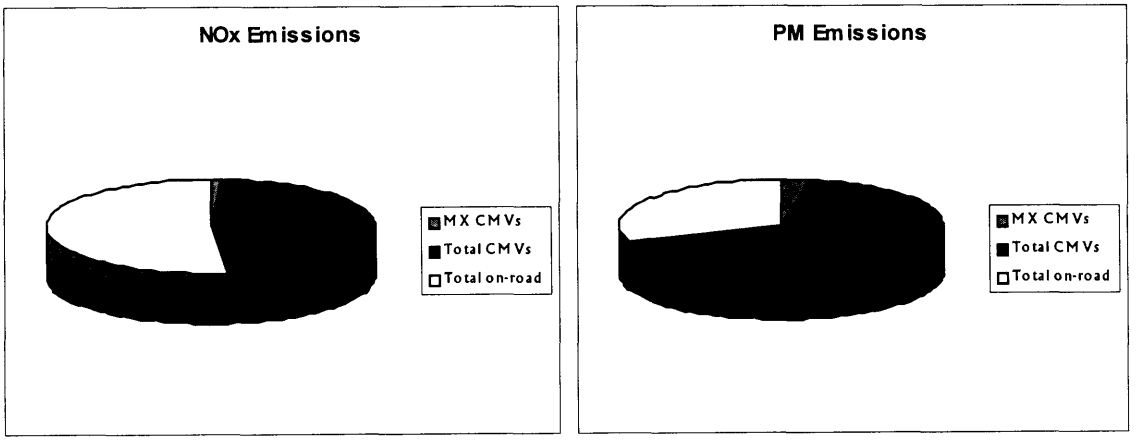
The FMCSA estimates that there are approximately 4.5 million CMV currently operating throughout the United States, including United States, Canadian, and Mexican CMV. The total amount of emissions – for criteria pollutants – generated by the total number of CMV operating in the United States can be calculated from the values included in Table C-4. These values were obtained from the *National Air Quality and Emissions Trends Report, 1999*. No independent values are provided for CMV emissions in the report, so a conservative approach was used, and all emissions from heavy-duty gasoline vehicles and from diesel vehicles were attributed to CMV. Since not all diesel vehicles are CMV, the emissions numbers reported here overestimate actual CMV emissions. As discussed in Chapter 3, the two pollutants of concern for analyzing the environmental impact of the operation of CMV are NO_X and PM. Using the conservative assumptions stated above, the maximum amount of NO_X that would be emitted under Baseline conditions is 4,094,000 short tons, representing about 48 percent of all NO_X on-road vehicle sources. The maximum amount of PM emissions that would be emitted is 201,000 short tons, representing about 68 percent of all on-road vehicle sources.

The FMCSA estimates that there are currently a maximum of 63,000 Mexican CMV operating in the United States under Baseline conditions within the border zone. FMCSA expects that approximately 10,800 Mexico-domiciled CMC would operate approximately 71,500 CMV within the border zone in FY2002, all pursuant to OP-2 authority. The total amount of emissions – for criteria pollutants – generated by the total number of Mexican CMV projected to operate within the border zone in FY2002 under Baseline conditions is shown in Table C-7 in Appendix C. The amount of NO_X emitted under the Baseline conditions would be approximately 116,000 short tons or 1.4 percent of all on-road sources, and approximately half a percent of all national NO_X sources. The amount of PM emissions under Baseline conditions would be approximately 9,400 short tons or 3.2 percent of all on-road/highway sources, and less than a tenth of a percent of all national PM sources. Figure 4-1 shows the relative distribution of NO_X and PM emissions for Mexican CMV, compared to those for all CMV – including United States and Canadian, and all other on-road sources. As shown in the figure, the contribution of emissions from Mexican CMV to the total for all CMV operating in the United States, and to all other on-road sources is relatively very small.

No-Action – Moratorium Modified with Current Application Forms

Under the No-Action Alternative, a Presidential order would modify the moratorium and FMCSA would take no action to revise its current application forms OP-2 and OP-1(MX) for Mexico-domiciled CMC. Under this alternative, Mexican CMV would operate within the border zone pursuant to OP-2 authority and throughout the United States pursuant to OP-1(MX) authority.

Figure 4-1: Distribution of NO_X and PM Emissions from On-Road Sources and Mexican, United States and Canadian CMV, FY 2002 as a Percent of Weight



The FMCSA estimates that 11,000 Mexico-domiciled CMC would operate approximately 73,000 CMV within and beyond the border zone. FMCSA estimates that approximately 5,900 Mexico-domiciled CMC could operate under the current OP-2 authority and would operate approximately 39,000 CMV within the border zone. In addition, FMCSA estimates that approximately 5,100 Mexico-domiciled CMC would receive OP-1(MX) authority and operate approximately 34,000 CMV beyond the border zone. These CMV would necessarily pass through the border zone to reach their destinations. Therefore, a portion of the emissions associated with the operation of those CMV operating pursuant to OP-1(MX) authority would occur within the border zone. Thus, they are accounted for in the analysis of the air quality impacts of the No Action Alternative.

The analysis of potential air quality impacts was performed following the conservative rationale and assumptions explained at the beginning of this section. In order to evaluate the significance of the emissions from the operation of Mexican CMV, two different calculations were performed: one for the emissions within the border zone, also representative of all emissions in the United States from all Mexican CMV; and the other for those occurring beyond the border zone, representative of the emissions from those Mexican CMV operating pursuant to OP-1(MX) authority. The emissions within the border zone were calculated under the assumption that the emissions of all 73,000 Mexican CMV would occur within the border zone, which is a conservative assumption since a portion of the emissions from the CMV operating pursuant to OP-1(MX) authority would occur outside the border zone. The total amount of emissions – for criteria pollutants – generated by the total number of Mexican CMV that would operate within the border zone under the No Action Alternative – including those CMV passing through – is shown in Table C-8 in Appendix C.

As discussed in Chapter 3, the two pollutants of concern are NO_X and PM. The maximum amount of NO_X potentially emitted by Mexican CMV operating within the border zone under the No-Action Alternative would be approximately 119,000 short tons or 1.4 percent of all on-road sources and approximately half a percent of all national NO_X sources. This represents an increase of 3,000 short tons of NO_X compared to the Baseline scenario. The maximum amount of PM emissions within the border zone under the No-Action Alternative would be approximately 9,600 short tons or 3.3 percent of all on-road/highway sources, and less than a tenth of a percent of all national PM sources. This represents an increase of approximately 200 short tons of PM compared to the Baseline scenario. This increase of about 2 percent represents the emissions change from the No Action Alternative as a result of the reduced number of OP-2 applicants, but including the CMC that would be applying for OP-1(MX) authority and operate beyond the border zone. Thus, the No Action Alternative could result in increased traffic of Mexican CMV in the border zone, with an associated increase in emissions from the operation of those Mexican CMV. This increase in emissions results in an insignificant impact to air quality, given its negligible contribution to all on-road and national emissions. In addition, as explained before, the increase in the number of Mexican CMV could be offset by a decrease in the number of United States CMV, so the increase in emissions should be significantly lower than that calculated above. Therefore, the No Action Alternative results in a very small contribution to air emissions within the border zone.

The amount of NO_X emitted beyond the border zone under the No Action Alternative would be approximately 55,000 short tons or 0.6 percent of all on-road sources and 0.2 percent of all national NO_X emissions. The amount of PM emissions beyond the border zone would be 4,500 short tons or 1.5 percent of all on-road sources and less than a tenth of a percent of all national PM emissions. These emissions would be offset by the reduction in emissions from those United States CMV that would be replaced by the Mexican CMV. Thus, the No Action Alternative would result in a very small contribution to air emissions beyond the border zone.

Proposed Action – Moratorium Modified with Revised Application Forms
Under the Proposed Action Alternative, the Presidential order would modify the moratorium and FMCSA would revise its current applications OP-2 and OP-1(MX) for Mexico-domiciled CMC. The revision of the application forms should improve FMCSA's capability to determine the willingness and ability of Mexico-domiciled CMC to comply with United States safety standards and regulations. Under this alternative, Mexican CMV would operate within the border zone under the revised OP-2 authority and throughout the United States under the revised OP-1(MX) authority. The FMCSA estimates that approximately 10,900 Mexico-domiciled CMC would operate approximately 72,000 CMV within and beyond the border zone. FMCSA estimates that 5,800 Mexico-domiciled CMC would receive OP-2 authority and would operate approximately 38,000 CMV within the border zone. In addition, FMCSA estimates that 5,100 Mexico-domiciled CMC would receive OP-1(MX) authority and operate approximately 34,000 CMV beyond the border zone.

Under the second rule, CMC intending to operate beyond the border zones under Form OP-1(MX) authority would be subject to a pre-authority safety audit, prior to receiving authority to operate within the United States FMCSA expects that this requirement should not affect the total number of Mexican CMV operating in the United States, or the number of inspections on those Mexican CMV.

The analysis of the significance of potential air quality impacts associated with the implementation of the applications part of the Proposed Action was performed following the conservative rationale and assumptions presented in the beginning of this section. Thus, the reduction in the number of United States CMV resulting from their replacement by Mexican CMV is not considered, so the resulting calculations overestimate the actual change in emissions. In order to evaluate the significance of the emissions from the operation of Mexican CMV, two different calculations were performed: one for the emissions within the border zone, also representative of all emissions in the United States from all Mexican CMV; and the other for those occurring beyond the border zone, representative of the emissions from those Mexican CMV operating pursuant to OP-1(MX) authority. The emissions within the border zone were calculated under the assumption that the emissions of all 72,000 Mexican CMV would occur within the border zone, which is a conservative assumption since a portion of the emissions from the CMV operating pursuant to OP-1(MX) authority would occur outside the border zone. The total amount of emissions generated by the total number of Mexican CMV that would

operate within the border zone under the Proposed Action Alternative – including those CMV passing through – is shown in Table C-9 in Appendix C.

As discussed in Chapter 3, the two pollutants of concern are NO_X and PM. The maximum amount of NO_X potentially emitted by Mexican CMV within the border zone under the Proposed Action Alternative would be 117,000 short tons or 1.4 percent of all on-road sources and approximately half a percent of all national NO_X sources. This represents a decrease of 2,000 short tons of NO_X compared to the No Action Alternative and an increase of 1,000 short tons compared to the Baseline Scenario. The maximum amount of PM emissions within the border zone under the Proposed Action Alternative would be approximately 9,500 short tons or 3.2 percent of all on-road sources and less than a tenth of a percent of all national PM sources. This represents a decrease of 100 short tons of PM compared to the No Action Alternative and an increase of 100 short tons compared to the Baseline Scenario. The increase in emissions relative to the Baseline Scenario is a result of increased trade under the No Action Alternative and not the implementation of the rules. The decrease in emissions of approximately 1 percent relative to the No Action Alternative represents the emissions change from the reduced number of Mexican CMV operating within the border zone that results from the implementation of the two rules revising Forms OP-2 and OP-1(MX). However, as noted above, the Mexican CMV that would not operate in the United States would be replaced by United States CMV, thereby further reducing any potential air quality benefits associated with the implementation of the proposed rules. Therefore, the implementation of this part of the Proposed Action results in a very small reduction in air emissions within the border zone, relative to the No Action Alternative.

The amount of NO_X and PM emissions beyond the border zone under the Proposed Action Alternative would be approximately the same as that calculated under the No Action Alternative since the difference in the number of Mexican CMV operating beyond the border zone under both scenarios is indiscernible under the approximation conditions used in this analysis. Thus, the implementation of this part of the Proposed Action would result in no air quality impacts beyond the border zone relative to the No Action Alternative. The difference in emissions compared to the Baseline Scenario would be very small relative to national levels of emissions, and would be a consequence of the increased trade under the No Action Alternative and not a result of the implementation of the revised Forms.

4.3.2 Safety Monitoring for Mexico-Domiciled Motor Carriers

To quantify the magnitude of direct pollutant emissions resulting from the inspections of Mexican CMV, the EPA emissions models, MOBILE5a and PART5, were used. MOBILE5a was used to determine emission factors for CO, VOC, and NO_X. PART5 was used to determine emission factors for Pb, SO_2, PM_{10}, and $PM_{2.5}$. For more detail on the methodology and data used for modeling please see Appendix C.

Baseline – Moratorium in place with Current Safety Monitoring Program
Under a continuation of the current baseline operating conditions, the moratorium would remain unmodified and the current safety monitoring would not be revised. Eligible Mexico-domiciled CMC applying for operating authority would continue to receive permanent certificates of authority. Mexico-domiciled CMC would remain largely limited to operating within the border zone, so safety inspections of Mexican CMV should continue to occur predominantly within the border zone. Safety inspections would remain the primary tool used by Federal, State and local authorities to help ensure the safe operation of all CMV. Inspections on Mexican CMV would follow the same guidelines used for United States and Canadian CMV, and would not include verification of compliance with the FMVSS labeling requirement. Mexican CMV operating in the United States would be inspected approximately two to three times per year on average.

FMCSA estimates that 2.77 million total CMV inspections would occur in the United States in 2002, with approximately 170,000 of these inspections involving Mexican CMV. All inspections would occur at existing facilities, and all inspections on Mexican CMV would occur in the border zone since they are only allowed to operate in that area. Roadside inspections take between 40 to 50 minutes with an engine-on-time (idle) of up to 15 minutes. Table C-10 in Appendix C shows the emissions calculations for the analysis of the current baseline conditions. The emissions resulting from the inspections represent a very small fraction of total emissions in the United States. Even when considering just the on-road vehicle emissions (not off-road or from other industries), the contribution from the inspections is still a very small fraction of these emissions. The main pollutants from cars, trucks, and buses that EPA targets for regulation are VOC, NO_X, CO, and PM. There have been great reductions of all these pollutants in the last 30 years.

As discussed in Chapter 3, NO_X and PM are the main pollutants of concern that EPA targets when analyzing emissions from heavy-duty vehicles. Current NO_X emissions were calculated to be approximately 2.74 short tons for 170,000 annual inspections of Mexican CMV, or 3.2×10^{-5} percent of all on-road emissions; and 44.6 short tons for all 2.77 million inspections on all CMV in the United States, or 5.2×10^{-4} percent of all on-road emissions. PM emissions were calculated at 0.17 short tons or 5.9×10^{-5} percent of all on-road emissions in the U.S from 170,000 inspections on Mexican CMV; and 2.84 short tons for all 2.77 million inspections on all CMV in the United States, or 9.6×10^{-4} percent of all on-road emissions. The contribution of emissions from inspections on CMV – Mexican, Canadian, and United States – to total on-road emissions is negligible. Considering these results and the conservatism of the data and assumptions used in the analysis, the effects on air quality in the United States under the current inspection schedule should be negligible.

No-Action – Moratorium Modified with Current Safety Monitoring Program
Under the No Action Alternative, a Presidential order would modify the moratorium and FMCSA would take no action to revise its safety monitoring program. Eligible Mexico-domiciled CMC applying for operating authority would continue to receive permanent

certificates of authority. Mexico-domiciled CMC would be eligible to operate beyond the border zone, so safety inspections of Mexican CMV would occur within and beyond the United States-Mexico border zone. Safety inspections would remain the primary tool used by Federal, State and local authorities to help ensure the safe operation of all CMV. Inspections on Mexican CMV would follow the same guidelines used for United States and Canadian CMV, and would not include verification of compliance with the FMVSS labeling requirement. Mexican CMV operating in the United States would be inspected approximately two to three times per year on average.

FMCSA estimates that 2.78 million total CMV inspections would occur in the United States in 2002, with approximately 180,000 of these inspections involving Mexican CMV. All inspections would continue occurring at existing facilities. The number of inspections on Mexican CMV should be slightly larger than under the Baseline scenario, but would occur throughout the United States and would not be limited to the border zone as is currently the case. However, all CMV operating beyond the border zone will necessarily pass through the border zone to reach their destinations and points of origin. Thus, a conservative approach was used, and it was assumed that all emissions from inspections of Mexican CMV would occur within the border zone, thereby calculating the maximum potential air quality impact of the No Action Alternative. Roadside inspections take between 40 to 50 minutes with an engine-on-time (idle) of up to 15 minutes. Table C-11 in Appendix C shows the emissions calculations for the analysis of the No Action Alternative. The calculations were performed using the same methodology and assumptions used in the Baseline Scenario. The emissions resulting from the inspections represent a very small percentage of total on-road emissions in the United States.

As discussed in Chapter 3, NO_X and PM are the main pollutants of concern that EPA targets when analyzing emissions from heavy-duty vehicles. Current NO_X emissions were calculated to be 2.89 short tons for 180,000 annual inspections of Mexican CMV, or 3.4×10^{-5} percent of all on-road emissions; and 44.8 short tons for all 2.78 million inspections on all CMV in the United States, or 5.2×10^{-4} percent of all on-road emissions. PM emissions were calculated at 0.19 short tons or 6.3×10^{-5} percent of all on-road emissions in the U.S from 180,000 inspections on Mexican CMV; and 2.85 short tons for all 2.78 million inspections on all CMV in the United States, or 1.0×10^{-3} percent of all on-road emissions. The contribution of emissions from inspections on CMV – Mexican, Canadian, and United States – to total on-road emissions is negligible. Considering these results and the conservatism of the data/assumptions used in the analysis, the effects on air quality in the United States under the current inspection schedule are negligible.

Under the No Action Alternative there would be an increase of 0.16 short tons of NO_X emitted when compared to the emissions from Mexican CMV under the Baseline scenario. The amount of PM emitted from Mexican CMV inspections would be 0.01 short tons more under the proposed action compared to the Baseline scenario. This represents an emissions increase of less than half a percent in NO_X and PM emissions from all CMV inspections as a result of the Presidential order to modify the moratorium. The emissions increase is a result of the increase in the number of Mexican CMV that

could be inspected under the No Action Alternative as a response to the increase in traffic of Mexican CMV within the United States. This increase in emissions represents a negligible fraction of total on-road emissions. Considering these results and the conservatism of the data and assumptions used in the analysis, the increase in air emissions under the No Action Alternative represents a very small contribution to air emissions within the border zone and throughout the United States.

Proposed Action – Moratorium Modified with Revised Safety Monitoring Program for Mexico-Domiciled Motor Carriers

Under the Proposed Action Alternative, a Presidential order would modify the moratorium and FMCSA would promulgate two rules to revise its safety monitoring program. Eligible Mexico-domiciled CMC applying for operating authority would receive provisional authority for a period of no less than 18 months. As under the No Action Alternative, Mexico-domiciled CMC would be eligible to operate beyond the border zone, so safety inspections of Mexican CMV would occur both at the U.S-Mexico border and at other inspection locations throughout the United States. All Mexico-domiciled CMC, including carriers with current certificates of authority, would be required to re-apply using the revised application forms set forth in the first two rules. In addition to the safety inspections used by Federal, State and local authorities, FMCSA would also conduct at least one safety audit or compliance review while a carrier was operating under a provisional authority. Both the safety inspections and the safety audit would be used as tools to help ensure the safe operation of Mexican CMV. Inspections on Mexican CMV would follow the same guidelines used for United States. and Canadian CMV, and would include verification of compliance with the FMVSS labeling requirement. Mexican CMV operating in the United States. would continue to be inspected approximately two to three times per year on average.

The inspection schedule would be the same than that under the No Action Alternative. Since there would be the same number of inspections on Mexican CMV, the total number of inspections on all CMV also remains the same. As in the No Action Alternative, these inspections could occur anywhere in the United States. and would not be limited to the border zone. Since these inspections include verification of FMVSS compliance, they will be approximately 5 seconds longer, or about a fifth of a percent longer than those inspections considered under the No Action Alternative and Baseline scenario. The increase in emissions from this added time was calculated and considered negligible due to its insignificant contribution to emissions from all inspections and to emissions from all on-road sources at the national level (see Table C-11 in Appendix C). Thus, the implementation of the revised Safety monitoring program should have no impacts to air quality, relative to the No Action Alternative.

<u>Commercial Vehicle Safety Alliance Decal – Proposed Requirement:</u>

Under the Proposed Action, FMCSA could implement a CVSA requirement, under which Mexico-domiciled CMC granted provisional operating authority under Form OP-1(MX) would be required to maintain a current CVSA decal on all their CMV operating within

the United States. In addition, CMC would be required to maintain current CVSA decal on their CMV for three years after receiving permanent OP-1(MX) authority. FMCSA estimates that this requirement could result in 230,000 Mexican CMV inspections in 2002. The additional inspections are necessary to meet the CVSA requirement of four yearly inspections for Mexican CMV operating pursuant to OP-1(MX) authority. It was assumed that the average number of inspections per Mexican CMV operating pursuant to OP-2 authority would be the same as that under the Proposed Action and No Action scenarios. This should result in an increase in the number of Mexican CMV inspections compared to the No Action Alternative and the Baseline scenario. Thus, the total number of CMV inspections in the United States should be 2.83 million. These inspections would occur at existing roadside inspection stations or other existing facilities where CVSA decal inspections currently take place.

Table C-12 in Appendix C shows the impact on emissions from the 230,000 inspections on Mexican CMV. The calculations were performed using the same methodology and assumptions used in the Proposed Action Alternative, including consideration of the slight increment in time for inspection due to the FMVSS requirement. The emissions resulting from the inspections represent a very small percentage of total on-road emissions in the United States. As discussed in Chapter 3, NO_X and PM are the main pollutants of concern that EPA targets when analyzing emissions from heavy-duty vehicles. Projected NO_X emissions were calculated to be approximately 3.7 short tons for 230,000 annual inspections of Mexican CMV, or 4.3×10^{-5} percent of all on-road emissions; and 45.6 short tons for all 2.83 million inspections on all CMV in the United States, or 5.3×10^{-4} percent of all on-road emissions. PM emissions were calculated at 0.24 short tons or 8.0×10^{-5} percent of all on-road emissions in the U.S from 230,000 inspections on Mexican CMV; and 2.91 short tons for all 2.83 million inspections on all CMV in the United States, or 1.0×10^{-3} percent of all on-road emissions.

Under this requirement, there would be an increase of approximately 30 percent on emissions from inspections on Mexican CMV and an increase of approximately 2 percent on emissions from all CMV, relative to the Proposed Action and No Action Alternatives. However, the contribution of emissions from inspections on all CMV nationwide to total on-road emissions is negligible. Considering these results and the conservatism of the data/assumptions used in the analysis, the effects on air quality in the United States under the proposed inspection schedule should be negligible.

4.3.3 Summary of Impacts of the Proposed Action on Air Quality

No-Action – Moratorium Modified with Current Application Forms and Current Safety Monitoring Program

The potential air quality impacts of the No Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program. The No Action Alternative could result in a maximum increase in NO_X and PM emissions from the operation and inspection of Mexican CMV of approximately 2 to 3 percent when

compared to the emissions calculated under the Baseline Scenario. The contribution of these emissions compared to nationwide emissions from all on-road sources is negligible. In addition, these minor emissions increases could be further reduced by the offset from the reduction in the emissions associated with those United States CMV trips replaced by trips carried out by some of the new entrant Mexican CMV operating within the United States. Thus, the No Action Alternative could result in very minor contributions to air emissions in the United States.

Proposed Action – Moratorium Modified with Revised Application Forms and Revised Safety Monitoring Program

The potential air quality impacts of the Proposed Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program (including implementation of the CVSA requirement). The calculated emission levels were compared to those calculated under the Baseline Scenario and No Action Alternative. When compared to the Baseline Scenario, the Proposed Action could result in a maximum increase in NO_X and PM emissions from the operation and inspection of Mexican CMV of approximately 1 percent. When compared to the No Action Alternative, the Proposed Action could result in a decrease in NO_X and PM emissions of approximately 1 to 2 percent. Thus, although there is a slight increase in the emissions of NO_X and PM when considering the combined effect of the No Action Alternative and the implementation of the Proposed Action, this increase is a result of the No Action Alternative and not the Proposed Action itself. In fact, the Proposed Action results in a slight reduction in emissions. Therefore, the implementation of the Proposed Action could result in a very minor reduction in air emissions in the United States. The changes in resulting emissions are negligible when compared to national levels of emissions for the operations of CMV, all on-road sources, and total emissions from all sources.

4.4. NOISE

Given detailed operational and site information regarding individual inspection stations throughout the United States, a site-specific analysis of noise impacts would be possible using the methodology outlined in Appendix E. With less detailed information the analysis of inspection noise impacts is limited to generalizations and order-of-magnitude approximations. It is important to note, however, that in all noise analyses presented herein, assumptions are made such that any potential error is on the conservative (i.e., predicting greater noise levels) than would actually occur.

An example of site-specific analysis follows. For a given inspection station, suppose that the nearest residential dwelling is located 100 ft from the inspection site. Given this proximity, as well as other assumptions outlined in Appendix E, FHWA regulations allow for up to 171 hourly heavy truck inspections at this site prior to consideration of noise mitigation measures. If the closest dwelling were located 200 ft from the site, up to 319 hourly operations would be permissible. In addition to the details presented in this

section, FHWA regulations necessitate the analysis of project sound levels with respect to existing ambient sound levels; see Appendix E. Given that inspection stations are already situated alongside roads and highways, it is likely that project sound levels will not require noise mitigation based on these criteria.

Conversely, if one knew the actual total operations at a given inspection station, it would then be possible to determine the minimum distance between the station and a residential dwelling that did not result in impact per FHWA regulations. A worst-case scenario follows. This analysis utilizes as a given the FMCSA-estimated yearly total inspections under each of the three scenarios (baseline, no action, and proposed action), the potential for inspections 235 days per year (weekdays only with 25 extra days off for bad weather and holidays), 7 hours of inspections per day (8-hour work day with 1 hour off for lunch) and a potential 200 inspection stations in states bordering Mexico. The analysis is conservative in that: (1) inspections may occur more than 235 days of the year (thus distributing the resultant noise over a longer time period), (2) inspections may occur any time during a 24-hour day (resulting in lower hourly-average sound levels), (3) inspections may potentially occur anywhere within the United States, as opposed to only within border states and at fixed inspection stations. Given the above-outlined scenario, on average one would expect approximately 7 hourly inspections, which indicates mitigation measures need only be considered for residential dwellings within 30 feet of the inspection station, per FHWA impact criteria.

It should be noted that the numbers of Mexican CMV identified for analysis herein (between approximately 71,500 and 73,000 vehicles for the various scenarios outlined below) represent less than 2% of the total number of such vehicles currently estimated to operate within the United States. While it is difficult to quantify potential noise impacts of such vehicles over an expanse of area such as the United States, intuitively the contribution of noise is relatively small when compared to the overall population of CMV. Further, given the conservative nature of the assumptions made in deriving the following scenarios, actual sound levels would be typically very low.

4.4.1 Applications for Operating Authority

Potential noise impact assessments utilize heavy trucks operating at a representative average speed of 40 mph. The FHWA's Traffic Noise Model (TNM) was utilized to model hourly equivalent sound levels for sound propagation over an acoustically hard surface. Further, worst-case scenarios were developed using the following assumptions: (1) that all United States-Mexico border crossings occur at the seven ports of entry identified in Chapter 3 (Laredo, Otay Mesa, El Paso, Brownsville, Hidalgo, Nogales, and Calexico); and (2) that each CMC utilizes approximately 6.63 CMV. Accordingly, total FMCSA CMC estimates were scaled by this factor of 1/7 for noise analyses at a single, "worst-case" site.

Baseline – Moratorium Retained with Current Application Forms
Under a continuation of the current baseline operating conditions, the moratorium would remain unmodified and the current application forms would not be revised. Mexico-domiciled CMC would use the existing Form OP-2 to apply for operating authority within the border zone, or the existing Form OP-1(MX) to apply for operating authority beyond the border zone. With the moratorium in place, FMCSA would continue to be prevented from processing OP-1(MX) applications, and thus Mexico-domiciled CMC would not receive authority to operate beyond the border zone.

The FMCSA estimates that there are approximately 4.5 million CMV currently operating throughout the United States, including United States, Canadian, and Mexican CMV. The FMCSA estimates that there are approximately of 63,000 Mexican CMV operating in the United States under Baseline conditions within the border zone. FMCSA expects that 10,800 Mexico-domiciled CMC could operate a maximum of 71,500 CMV within the border zone in FY2002, all pursuant to OP-2 authority. Using the scaling factor highlighted above, an estimated 10,300 (conservatively rounding up the calculated 10,214) Mexican CMV may potentially cross the border at one crossing. In order to be very conservative, it was further assumed that all 10,300 vehicles hypothetically crossing each location would do so within the same hour. Using these assumptions, the TNM predicts hourly equivalent sound levels of 76.6 dBA at a distance of 900 feet. Given the extremely conservative nature of the assumptions and the calculated noise levels, the baseline scenario would result in indistinguishable contributions to noise levels.

No Action – Moratorium Modified with Current Application Forms
Under the No-Action Alternative, a Presidential order would modify the moratorium and FMCSA would take no action to revise its current application forms OP-2 and OP-1(MX) for Mexico-domiciled CMC. Under this alternative, Mexican CMV would operate within the border zone pursuant to OP-2 authority and throughout the United States pursuant to OP-1(MX) authority.

The FMCSA estimates that 11,000 Mexico-domiciled CMC could operate approximately 73,000 CMV within and beyond the border zone. FMCSA estimates that 5,900 Mexico-domiciled CMC could operate under the current OP-2 authority and could operate a maximum of 39,000 CMV within the border zone. In addition, FMCSA estimates that 5,100 Mexico-domiciled CMC would receive OP-1(MX) authority and operate 34,000 CMV beyond the border zone. These CMV would necessarily pass through the border zone to reach their destinations. Therefore, it is assumed that a seventh of all 73,000 Mexican CMV – or 10,500 (conservatively rounding up the calculated 10,428) Mexican CMV – could pass through a location within the same hour. The TNM predicts hourly equivalent sound levels of 76.6 dBA at a distance of 900 feet. Thus, the No Action Alternative results in no change in noise levels relative to the Baseline scenario. Thus, the No Action Alternative would result in no noise impacts.

Beyond the border zone, assume that a seventh of all 34,000 Mexican CMV – or 4,900 (conservatively rounding up the calculated 4,857) Mexican CMV – operating pursuant to

OP-1(MX) authority could pass through a location within the same hour. The TNM predicts hourly equivalent sound levels of 73.3 dBA at a distance of 900 feet. In addition, the increase in the number of Mexican CMV would be offset by a decrease in the number of United States CMV traveling the same routes. Thus, the No Action Alternative would result in a very minor increase in noise levels beyond the border zone relative to the Baseline scenario. Given the extremely conservative nature of the assumptions and the calculated noise levels, the No Action Alternative would result in negligible contributions to noise levels.

Proposed Action – Moratorium Modified with Revised Application Forms
Under the Proposed Action Alternative, the Presidential order would modify the moratorium and FMCSA would revise its current applications OP-2 and OP-1(MX) for Mexico-domiciled CMC. The revision of the application forms will improve FMCSA's capability to determine the willingness and ability of Mexico-domiciled CMC to comply with United States safety standards and regulations. Under this alternative, Mexican CMV would operate within the border zone under the revised OP-2 authority and throughout the United States under the revised OP-1(MX) authority.

Under the second rule, Mexican CMC seeking to operate beyond the border zones pursuant to Form OP-1(MX) authority would be subject to a pre-authority safety audit, prior to receiving authority to operate within the United States FMCSA expects that this requirement should not affect the total number of Mexican CMV operating in the United States, nor the number of inspections on those Mexican CMV. This alternative should create a more stringent screening process for applicants that should improve the ability of the FMCSA to deny entry to the highest risk Mexico-domiciled CMC, thereby reducing the number of CMV in operation. This should result in a reduction of noise emissions by eliminating the impacts associated with operating and inspecting those vehicles. Quantitative estimates of the noise reductions resulting from this supplemental alternative are at best difficult to calculate due to the lack of data on the actual number of Mexican CMV that would be denied authority to operate in the United States. However, with a reduced number of inspections of Mexican vehicles, the total number of inspections should remain within the operating limits initially established for the inspection stations. Implementation of this requirement should result in a minor reduction compared to the No Action Alternative.

The FMCSA estimates that 10,900 Mexico-domiciled CMC could operate a maximum of 72,000 CMV within and beyond the border zone. FMCSA estimates that 5,800 Mexico-domiciled CMC could operate under the current OP-2 authority and could operate 38,000 CMV within the border zone. In addition, FMCSA estimates that 5,100 Mexico-domiciled CMC could receive OP-1(MX) authority and operate a maximum of 34,000 CMV beyond the border zone. These CMV may necessarily pass through the border zone to reach their destinations. Therefore, it is assumed that a seventh of all 72,000 Mexican CMV – or 10,300 (conservatively rounding up from the calculated 10,286) Mexican CMV – could pass through a location within the same hour. The TNM predicts hourly equivalent sound levels of 76.6 dBA at a distance of 900 feet. In addition, the

increase in the number of Mexican CMV would be offset by a decrease in the number of United States CMV traveling the same routes. Thus, the Proposed Action Alternative results in minor reduction in noise levels relative to the No Action Alternative and no change from the Baseline scenario.

Beyond the border zone, there should be no changes relative to the No Action Alternative in the approximate number of CMV operating pursuant to OP-1(MX) authority and potentially passing through a location within the same hour. Accordingly, the TNM predicts hourly equivalent sound levels of 73.3 dBA at a distance of 900 feet. Thus, the implementation of the two revised forms results in no change in sound levels beyond the border zone relative to the No Action Alternative, and thereby in no noise impacts.

4.4.2 Safety Monitoring Program for New Applicants

Baseline – Moratorium in place with Current Safety Monitoring Program
Under a continuation of the current baseline operating conditions, the moratorium would remain unmodified and the current safety monitoring would not be revised. Eligible Mexico-domiciled CMC applying for OP-2 authority would continue to receive permanent certificates of authority. Mexico-domiciled CMC would remain largely limited to operating within the border zone, so safety inspections of Mexican CMV would continue to occur predominantly within the border zone. Safety inspections would remain the primary tool used by Federal, State and local authorities to help ensure the safe operation of all CMV. Inspections on Mexican CMV would follow the same guidelines used for United States and Canadian CMV, and would not include verification of compliance with the FMVSS labeling requirement. Mexican CMV operating in the United States would be inspected approximately two to three times per year on average.

Based on current and projected number of inspections on Mexican CMV and the expected increase from the addition of inspectors to work along the United States-Mexico border, FMCSA estimates that 2.77 million total CMV inspections would occur in the United States in 2002, with approximately 170,000 of these inspections involving Mexican CMV. All inspections would occur at existing facilities, and all inspections on Mexican CMV would occur in the border zone since they are only allowed to operate in that area. Roadside inspections take between 40 to 50 minutes with an engine-on-time (idle) of up to 15 minutes. During this time, noise emissions could potentially affect that area. However, the number of inspections will remain within the operating limits initially established for the inspection stations. Thus, the Baseline scenario will result in no noise impacts.

No-Action – Moratorium Modified with Revised Safety Monitoring Program
Under the No Action Alternative, a Presidential order would modify the moratorium and FMCSA would take no action to revise its safety monitoring program. Eligible Mexico-domiciled CMC applying for operating authority would continue to receive permanent certificates of authority. Mexico-domiciled CMC would be eligible to operate beyond

the border zone, so safety inspections of Mexican CMV would occur within and beyond the United States-Mexico border zone. Safety inspections would remain the primary tool used by Federal, State and local authorities to help ensure the safe operation of all CMV. Inspections on Mexican CMV would follow the same guidelines used for United States and Canadian CMV, and would not include verification of compliance with the FMVSS labeling requirement. Mexican CMV operating in the United States would be inspected approximately two to three times per year on average.

The FMCSA estimates that 2.78 million CMV inspections would occur in the United States, with 180,000 of these inspections involving Mexican vehicles. All inspections would occur at existing facilities, and the inspections on Mexican CMV would occur within and beyond the border zone. Since all Mexican CMV would necessarily pass through the border zone to reach their destinations, they could be inspected within the border zone. Thus, since the actual geographic distribution of inspections is unknown, this analysis assumes that all 180,000 inspections on Mexican CMV could occur within the border zone. However, both within and beyond the border, the number of inspections would remain within the operating limits initially established for the inspection stations. Therefore, the No Action Alternative would result in no noise impacts from the inspection of Mexican CMV within and beyond the border zone.

Proposed Action – Moratorium Modified with Revised Application Forms
Under the Proposed Action Alternative, a Presidential order would modify the moratorium and FMCSA would promulgate two rules to revise its safety monitoring program. Eligible Mexico-domiciled CMC applying for operating authority would receive provisional authority for a period of no less than 18 months. As under the No Action Alternative, Mexico-domiciled CMC would be eligible to operate beyond the border zone, so safety inspections of Mexican CMV would occur both at the U.S-Mexico border and at other inspection locations throughout the United States. All Mexico-domiciled CMC, including carriers with current certificates of authority, would be required to re-apply using the revised application forms set forth in the first two rules. In addition to the safety inspections used by Federal, State and local authorities, FMCSA would also conduct at least one safety audit or compliance review while a carrier was operating under provisional authority. Both the safety inspections and the safety audit would be used as tools to help ensure the safe operation of Mexican CMV. Inspections on Mexican CMV would follow the same guidelines used for United States and Canadian CMV, and would include verification of compliance with the FMVSS labeling requirement. Mexican CMV operating in the United States would continue to be inspected approximately two to three times per year on average.

The inspection schedule would be the same as under the No Action Alternative. Since there would be the same number of inspections on Mexican CMV, the total number of inspections on all CMV would remain the same. As in the No Action Alternative, these inspections would occur at existing facilities and would not be limited to the border zone. Since these inspections would include verification of FMVSS compliance, they will be approximately 5 seconds longer, or about a fifth of a percent longer than those

inspections considered under the No Action Alternative and Baseline scenario. This would essentially have negligible effects on noise levels.

Commercial Vehicle Safety Alliance Decal – Proposed Requirement:
Under this requirement, all Mexico-domiciled CMC granted provisional operating authority under Form OP-1(MX) would be required to maintain a current CVSA decal on all their CMV operating within the United States. In addition, CMC would be required to maintain current CVSA decals on their CMV for three years after receiving permanent OP-1(MX) authority. FMCSA estimates that this requirement could result in 230,000 Mexican CMV inspections in 2002. The additional 50,000 inspections are necessary to meet the CVSA requirement of four yearly inspections for Mexican CMV operating pursuant to OP-1(MX) authority. It was assumed that the average number of inspections per Mexican CMV operating pursuant to OP-2 authority would be the same than that under the Proposed and No Action scenarios. Thus, the total number of CMV inspections in the United States should be 2.83 million. These inspections would occur at existing roadside inspection stations or other existing facilities where CVSA decal inspections currently take place. These inspections would include verification of the FMVSS label so would be just as long as those under the Proposed Action.

Since all Mexican CMV would necessarily pass through the border zone to reach their destinations, they could be inspected within the border zone. Thus, since the actual geographic distribution of inspections is unknown, this analysis assumes that all 230,000 inspections on Mexican CMV could occur within the border zone. However, both within and beyond the border, the number of inspections would remain within the operating limits initially established for the inspection stations. Therefore, the implementation of the CVSA requirement would result in indistinguishable noise impacts from the inspection of Mexican CMV within and beyond the border zone.

4.4.3 Summary of Impacts of the Proposed Action on Noise

No Action – Moratorium Modified with Current Application Forms and Current Safety Monitoring Program
The potential noise impacts of the No Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program. The No Action Alternative could result in an increase in the number of Mexican CMV operating and being inspected in the United States relative to the Baseline Scenario, with an associated potential increase in noise. However, the contribution of these noise increases compared to noise emissions from operations and inspections on all CMV, and in particular to total on-road emissions, is negligible. In addition, these minor increases in the number of Mexican CMV operating within the United States could be further reduced by a reduction in the operations associated with those United States CMV trips replaced by trips carried out by some of the new entrant Mexican CMV operating within the United States. Furthermore, inspections on Mexican CMV would no longer be restricted to the border

zone but could occur anywhere in the United States. Thus, the No Action Alternative could result in negligible contributions to noise emissions in the United States.

Proposed Action – Moratorium Modified with Revised Application Forms and Revised Safety Monitoring Program
The potential noise impacts of the Proposed Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program (including implementation of the CVSA requirement). The resulting numbers of Mexican CMV operating and being inspected were compared to those calculated under the Baseline Scenario and the No Action Alternative. When compared to the Baseline Scenario, the Proposed Action could result in a marginal increase in the number of Mexican CMV operating in the United States. In addition, there could be a significant increase in the number of inspections on Mexican CMV. When compared to the No Action Alternative, the Proposed Action could result in a marginal decrease in the number of Mexican CMV operating within the United States. In addition, there could be a significant increase in the number of inspections on Mexican CMV.

Although there is a slight increase in the number of Mexican CMV operating within the United States compared to the Baseline, this change is negligible when compared to national operations of CMV. In addition, the increased number of inspections and longer inspections would not result in identifiable changes in sound levels. Thus, given the estimated number of Mexican CMV operating and being inspected, the implementation of the Proposed Action would result in no noise impacts.

4.5. SOCIOECONOMICS

This section addresses the potential effects on socioeconomics from the current Baseline Scenario, the No Action Alternative and the Proposed Action. Impacts from the rules on socioeconomics and environmental justice are identified where appropriate.

4.5.1 Applications for Operating Authority

Baseline – Moratorium Retained with Current Application Forms
Under a continuation of the current baseline operating conditions, the moratorium would remain unmodified and the current application forms would not be revised. Mexico-domiciled CMC would use the existing Form OP-2 to apply for operating authority within the border zone, or the existing Form OP-1(MX) to apply for operating authority beyond the border zone. With the moratorium in place, FMCSA would continue to be prevented from processing OP-1(MX) applications, and thus Mexico-domiciled CMC would not receive authority to operate beyond the border zone.

The FMCSA estimates that there are approximately 4.5 million CMV currently operating throughout the United States, with a maximum of 63,000 Mexican CMV operating within the border zone. FMCSA estimates that under the baseline scenario, there could be a maximum of 71,500 Mexican CMV operating pursuant to OP-2 authority in FY2002. Any potential impacts associated with these operations should be concentrated in the border zone as Form OP-2 restricts operations to a 20-mile radius from the border (FMSCA 2001c). According to 2000 census data, 4.8 million people live in the seven counties adjacent to the busiest border crossings, with over half of those people living in San Diego County adjacent to the Otay Mesa crossing. Of the people living adjacent to these seven crossings, 50% identified themselves as being of Hispanic or Latino origin (83% if San Diego County is excluded). San Diego County had a median household income of $39,427 (See Appendix G for more demographic and socioeconomic data) and the remaining counties had median household incomes that ranged from $20,034 to $26,515. During the same period, the total United States population was 281.4 million with 12.5% identifying themselves as being of Hispanic or Latino origin. The median household income throughout the United States was $37,005 (United States Census Bureau 2001). Given this information, the current border zone activities – and their effects – could be disproportionately impacting Hispanic and Latino communities as well as low-income communities in the border counties.

No Action – Moratorium Modified with Current Application Forms

Under the No-Action Alternative, a Presidential order would modify the moratorium and FMCSA would take no action to revise its current application forms OP-2 and OP-1(MX) for Mexico-domiciled CMC. Under this alternative, Mexican CMV would operate within the border zone pursuant to OP-2 authority and throughout the United States pursuant to OP-1(MX) authority. The FMCSA estimates that 11,000 Mexico-domiciled CMC could operate approximately 73,000 CMV within and beyond the border zone. FMCSA estimates that approximately 5,900 Mexico-domiciled CMC could operate 39,000 CMV under the current OP-2 authority. In addition, FMCSA estimates that approximately 5,100 Mexico-domiciled CMC could receive OP-1(MX) authority and operate approximately 34,000 CMV beyond the border zone. These CMV should necessarily pass through the border zone to reach their destinations. Therefore, all 73,000 Mexican CMV could travel within and/or through the border zone.

Thus, under the No Action alternative, there could be an increase of approximately 1,500 Mexican CMV with authority to operate in the border zone, compared to the Baseline. In addition, as discussed in Chapter 2, the modification of the moratorium may cause a slight increase in the total amount of goods imported into the United States from Mexico. This modest increase in trade and in the total number of Mexican CMV with authority to operate in the United States should result in an economic benefit to the communities in the border zone. This economic benefit would be offset by a decrease in the use of transfer stations within the border zone, as Mexico-domiciled CMC begin transporting goods directly from Mexico to their final destinations beyond the border zone. It is difficult to quantify the effects from each of these factors; however, the overall economic impact within the border zone, whether beneficial or adverse, is expected to be small.

Beyond the border zone, the FMCSA anticipates that Mexican CMV would travel throughout the United States, and that their travel would not be limited to specifically identifiable areas. Thus, since the impacts associated with Mexico-domiciled CMC operations would be spread throughout the United States, no single area or community would be disproportionately impacted, and negative socioeconomic impacts beyond the border zone would be minor.

Proposed Action – Moratorium Modified with Revised Application Forms
Under the Proposed Action Alternative, the Presidential order would modify the moratorium and FMCSA would revise its current applications OP-2 and OP-1(MX) for Mexico-domiciled CMC. The revision of the application forms will improve FMCSA's capability to determine the willingness and ability of Mexico-domiciled CMC to comply with United States safety standards and regulations. Under this alternative, Mexican CMV would operate within the border zone under the revised OP-2 authority and throughout the United States under the revised OP-1(MX) authority. Under the second rule, Mexican CMC seeking to operate beyond the border zones pursuant to Form OP-1(MX) authority would be subject to a pre-authority safety audit, prior to receiving authority to operate within the United States.

The FMCSA estimates that approximately 10,900 Mexico-domiciled CMC could operate approximately 72,000 CMV within and beyond the border zone. FMCSA estimates that 5,800 Mexico-domiciled CMC could operate under the current OP-2 authority and could operate approximately 38,000 CMV within the border zone. In addition, FMCSA estimates that 5,100 Mexico-domiciled CMC could receive OP-1(MX) authority and operate approximately 34,000 CMV beyond the border zone. These CMV could necessarily pass through the border zone to reach their destinations and to return to Mexico. Therefore, all 72,000 Mexican CMV could travel within and/or through the border zone.

Thus, under the Proposed Action Alternative, there could be decrease of approximately 1,000 Mexican CMV with authority to operate in the border zone, compared to the No Action Alternative, and an increase of 500 Mexican CMV compared to the Baseline. As discussed in Chapter 2, the proposed rules are not expected to increase the total amount of goods imported into the United States from Mexico. The decrease in the total number of Mexican CMV with authority to operate in the United States compared to the No Action Alternative, should be offset by an increase in the number of trips made by existing Mexican CMV since the overall volume of trade should not be affected by the Proposed Action. In addition, fewer Mexico-domiciled CMC would transport goods directly from Mexico to final destinations within the United States, mitigating this adverse economic impact to the border zone from the No Action Alternative. It is difficult to quantify the effects from each of these factors; however, the overall economic impact within the border zone, whether beneficial or adverse, is expected to be small. This conclusion applies to a comparison of economic impacts between the Proposed Action alternative and either the No Action or Baseline

Beyond the border zone the implementation of the Proposed Action results in a reduction of 110 Mexican CMV operating pursuant to OP-1(MX) authority, when compared to the number operating under the No Action Alternative. The level of safety would be improved, as the reduction in vehicles should be the result of the FMCSA denying authority to high-risk CMC. Thus, the revision of Forms OP-2 and OP-1(MX) could reduce the impacts associated with increased border traffic resulting from the No Action Alternative. Therefore, low income and Hispanic/Latino communities living beyond the border zones could benefit from this part of the Proposed Action, and would not be disproportionately affected by its implementation.

4.5.2 Safety Monitoring for Mexico-Domiciled Motor Carriers

Baseline – Moratorium Retained with Current Safety Monitoring Program
Under a continuation of the current baseline operating conditions, the moratorium would remain unmodified and the current safety monitoring would not be revised. Eligible Mexico-domiciled CMC applying for operating authority would continue to receive permanent authority. Mexico-domiciled CMC would remain largely limited to operating within the border zone, so safety inspections of Mexican CMV would continue to occur predominantly within the border zone. Mexican CMV operating in the United States would be inspected approximately two to three times per year on average.

Based on current and projected number of inspections on Mexican CMV and the expected increase from the addition of inspectors to work along the United States-Mexico border, FMCSA estimates that 2.77 million total CMV inspections could occur in the United States in 2002, with approximately 170,000 of these inspections involving Mexican CMV. These roadside inspections take between 40 to 50 minutes. Since the inspection process at fixed locations involves choosing CMV out of the lines for the weigh stations, at a rate of one CMV per inspection area at a time, the potential effects at and around the inspection stations are minimized. In addition, FMCSA anticipates that all non-Mexican CMV inspections will continue to occur at any of the State and Federal inspection stations located throughout the United States and will not be concentrated in any particular area. Inspections on Mexican CMV would largely occur within the border zone.

No-Action – Moratorium Modified with Current Safety Monitoring Program
Under the No Action Alternative, a Presidential order would modify the moratorium and FMCSA would take no action to revise its safety monitoring program. Eligible Mexico-domiciled CMC applying for operating authority would continue to receive permanent authority. Mexico-domiciled CMC would be eligible to operate beyond the border zone, so safety inspections of Mexican CMV would occur within and beyond the United States-Mexico border zone. Mexican CMV operating in the United States would be inspected approximately two to three times per year on average.

FMCSA expects that the proportion of Mexican CMV inspected would increase as the number of Mexican CMV operating in the United States increases. In addition, FMCSA will continue to deploy additional inspectors at the border, as described under the Baseline Scenario. FMCSA estimates that 2.78 million total CMV inspections would occur in the United States in 2002, with approximately 180,000 of these inspections involving Mexican CMV. All inspections would continue occurring at existing facilities. The number of inspections on Mexican CMV could be slightly larger than under the current baseline conditions, but could occur anywhere in the United States and would not be limited to the border zone as is currently the case. Thus, no single area or community would be disproportionately impacted, since these inspections will occur at any of the State and Federal inspection stations located throughout the United States and will not be concentrated in any particular area. Therefore, the No Action Alternative could have a minor beneficial impact to socioeconomics in the border zone. However, the significance of this benefit is expected to be minor and is at best difficult to quantify since there is no data on the expected geographic distribution of inspections on Mexican CMV. In addition, the total number of inspections in the United States would increase only marginally, so there would be no impacts on socioeconomics from the No Action Alternative.

Proposed Action – Moratorium Modified with Revised Safety Monitoring Program for Mexico-Domiciled Motor Carriers

Under the Proposed Action Alternative, a Presidential order would modify the moratorium and FMCSA would promulgate two rules to revise its safety monitoring program. Eligible Mexico-domiciled CMC applying for operating authority would receive provisional authority for a period of no less than 18 months. As under the No Action Alternative, Mexico-domiciled CMC would be eligible to operate beyond the border zone, so safety inspections of Mexican CMV would occur both at the U.S-Mexico border and at other inspection locations throughout the United States. All Mexico-domiciled CMC, including carriers with current certificates of authority, would be required to re-apply using the revised application forms set forth in the first two rules. In addition to the safety inspections used by Federal, State and local authorities, FMCSA would also conduct at least one safety audit or compliance review while a carrier was operating under a provisional certificate of authority. Mexican CMV operating in the United States would continue to be inspected approximately two to three times per year on average. These inspections would include verification of compliance with the FMVSS labeling requirement.

The inspection schedule would be the same as under the No Action Alternative and the total number of inspections on all CMV also should remain the same. As in the No Action Alternative, these inspections could occur anywhere in the United States and would not be limited to the border zone. Since these inspections include verification of FMVSS compliance, they will be approximately 5 seconds longer, or about a fifth of a percent longer than those inspections considered under the No Action Alternative and Baseline scenario. Since the total number of inspections will not change, and any potential beneficial or adverse impacts associated with CMV inspections would be spread

throughout the United States, no single area or community would be disproportionately affected (FMCSA 2001b). Furthermore, safety benefits from the implementation of the revised Safety Monitoring System would have a minor beneficial impact on socioeconomics within and beyond the border zone.

Commercial Vehicle Safety Alliance Decal – Proposed Requirement:
Under this requirement, all Mexico-domiciled CMC granted provisional operating authority under Form OP-1(MX) would be required to maintain a current CVSA decal on all their CMV operating within the United States. In addition, CMC would be required to maintain current CVSA decals on their CMV for three years after receiving permanent OP-1(MX) authority. FMCSA estimates that this requirement could result in 230,000 Mexican CMV inspections in 2002. The additional 50,000 inspections are necessary to meet the CVSA requirement of four yearly inspections for Mexican CMV operating pursuant to OP-1(MX) authority. It was assumed that the average number of inspections per Mexican CMV operating pursuant to OP-2 authority should be the same than that under the Proposed and No Action scenarios. The total number of CMV inspections in the United States should be 2.83 million. These inspections would occur at existing roadside inspection stations or other existing facilities where CVSA decal inspections currently take place.

The total number of inspections should only increase by approximately 2 percent when compared to the Proposed Action, No Action, and Baseline scenarios. In addition, these inspections would occur at any of the State and Federal inspection stations located throughout the United States and should not be concentrated in any particular area. Since the total number of inspections should change only marginally, and the impacts associated with CMV inspections should be spread throughout the United States, no single area or community would be disproportionately affected (FMCSA 2001b). Furthermore, safety benefits from the implementation of the CVSA requirement should have a minor beneficial impact on socioeconomics within and beyond the border zone.

4.5.3 Summary of Impacts of the Proposed Action on Socioeconomics

No Action – Moratorium Modified with Current Application Forms and Current Safety Monitoring Program
The potential socioeconomics impacts of the No Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program. The No Action Alternative could result in an increase in the number of Mexican CMV operating and being inspected in the United States relative to the Baseline Scenario. The contribution of these increases compared to nationwide operations and inspections on CMV is very minor. In addition, these minor increases in the number of Mexican CMV operating within the United States could be further reduced by the offset from the reduction in the operations associated with those United States CMV trips replaced by trips carried out by some of the Mexican CMV operating within the United States.

Furthermore, inspections on Mexican CMV would no longer be restricted to the border zone but could occur anywhere in the United States. Therefore, there would be very minor changes in operations and inspections when compared to national CMV operations and inspections.

Operation and inspection emissions of NO_X and PM would be higher than under Baseline conditions, with possible disproportionate impacts on those minority and low-income communities in the border counties. However, as previously mentioned, increases in operations are minor when compared to national CMV operations and would be offset by reductions in United States operations along the same routes. In addition, inspections could occur anywhere in the United States and would not be limited to the border zone. Thus, any impacts associated with the inspection of Mexican CMV would be spread out throughout the United States instead of being confined to the border zone. In addition, since the total number of inspections in the United States would increase only marginally, there would be very minor contributions to emissions and no effects on socioeconomics from the No Action Alternative.

Proposed Action – Moratorium Modified with Revised Application Forms and Revised Safety Monitoring Program

The potential socioeconomics impacts of the Proposed Action Alternative were determined by combining the analysis performed for the two categories of regulatory actions used in this study: applications for operating authority, and safety monitoring program (including implementation of the CVSA requirement). The resulting numbers of Mexican CMV operating and being inspected were compared to those calculated under the Baseline Scenario and the No Action Alternative. When compared to the Baseline Scenario, the Proposed Action could result in a marginal increase in the number of Mexican CMV operating in the United States. In addition, there could be an increase in the number of inspections on Mexican CMV. When compared to the No Action Alternative, the Proposed Action could result in a marginal decrease in the number of Mexican CMV operating within the United States. In addition, there could be a significant increase in the number of inspections on Mexican CMV. Thus, although there is a slight increase in the number of Mexican CMV operating within the United States when considering the combined effect of the No Action Alternative and the implementation of the Proposed Action, this increase is a result of the No Action Alternative and not the Proposed Action itself. In fact, the Proposed Action results in a slight reduction in the number of Mexican CMV operating in the United States. However, the changes in resulting numbers of Mexican CMV are negligible when compared to national operations of CMV.

Operation and inspection emissions of NO_X and PM should be lower than those under the No Action Alternative. Furthermore, the FMCSA estimates that the implementation of the Proposed Action would improve its ability to promote the safe operation of Mexican CMV within the United States, thereby reducing the number of high-risk CMV in operation and thereby the number of safety related incidents. The effect on socioeconomics would be beneficial because the roadways will be safer. This effect

would be minor however, given the proportion of Mexican to United States and Canadian CMV operating throughout the United States.

5. MITIGATION AND BEST MANAGEMENT PRACTICES

As explained in Chapter 4, because the Proposed Action by FMCSA is mostly administrative, impacts associated with this Action are expected to be minor. The only area of potential concern is the proposed focus on increasing the number of roadside inspections of Mexican CMV. This focus, however, will only marginally increase the total number of inspections in the United States. Moreover, the FMCSA anticipates that the increase in roadside inspections of Mexican CMV may cause the number of Mexico-domiciled CMC and CMV operating in the United States to be reduced (FMCSA 2001b). Therefore, the Proposed Action should not have any significant adverse effects requiring mitigation. Nonetheless, in an effort to be conservative and mitigate potential adverse impacts, areas of general and specific mitigation are discussed below.

Through the Proposed Action, the FMCSA expects to target the highest risk CMC and bring them into compliance with United States safety and environmental laws, standards, policies, rules, and regulations. The Proposed Action does not limit the operations of Mexico-domiciled CMV throughout the border zone and nation. Therefore, the only mitigation practice available is ensuring that high risk Mexico-domiciled CMC are screened out and denied operating authority in the United States through the development of the safety data-tracking database established by FMCSA based on the revised application forms and the enhanced safety monitoring program.

FMCSA has instituted proactive outreach and education efforts to minimize any potential impacts. The agency has made additional funding available to the Border States for increased enforcement and compliance activities. FMCSA has also hired additional inspectors and used funds to purchase equipment, provide training, and conduct outreach efforts. Additionally, FMCSA trained Mexican inspectors in order to perform inspections on Mexican CMV. The DOT has developed a requirements handbook and will hold a three-day information conference to assist CMC in understanding the requirements for legal operations outside of their own countries. FMCSA itself is holding regular seminars in the border regions to educate CMC about FMCSA regulations (Lameiro 2001). These efforts could also include information regarding new requirements set forth by the Proposed Action.

More specifically, FMCSA could use Best Management Practices (BMP) to further mitigate any possible impacts. In general, BMP deployed by FMCSA to their field inspectors will limit and minimize impacts on the environment and human resources. BMP devised by agencies are used to train their staff in siting new facilities and in daily operations. The FMCSA BMP includes random roadside inspections that will not potentially have an adverse affect on the environment or human resources.

Inspectors should take great care in initiating and conducting random roadside inspections on Mexico-based CMV. Specifically, the FMCSA could implement inspector education and training on BMP policies for conducting safe inspections. For example, FMCSA could instruct its roadside inspectors not to perform random inspections in or near any of the following sensitive receptor areas: railway crossings, highway ramps and

interchanges; human structures (especially schools, hospitals, and residences); wetlands, floodplains during a storm; wilderness areas, ecological/wildlife refuges, preserves, conservation areas and sanctuaries; threatened and endangered species and their habitat; coastal zones; steeply sloping terrain; hazardous waste sites; capped land fills; wild and scenic rivers; scenic highways, national natural landmarks, prime and unique farmlands; historical, archeological, and cultural sites; and national and state parks and recreation areas.

Furthermore, the inspectors should not conduct a random roadside inspection under dangerous conditions, including severe weather warnings. The random roadside inspections could be planned to the maximum extent possible so as to not impact one highway corridor during the day or during peak commuting hours (7:00 to 10:00 a.m. and 4:00 to 7:00 p.m.) near metropolitan centers, thus reducing the potential of congestion. Additionally, FMCSA random roadside inspections could have a buffer zone between planned inspections along a given highway corridor. To the extent practicable, a majority of the random roadside inspections on Mexico-based CMV could take place outside of the commercial border zone so as to minimize adverse impacts on the existing infrastructure, congestion, and emissions in the border region. Any indication of leaking fluids from the fuel tank, engine, or cargo department of the Mexico-domiciled CMV should result in the inspector immediately contacting local police and fire departments, and where necessary, the state Hazardous Materials Rapid Response Team.

The actual types and extent of minor impacts indirectly related to the Proposed Action would depend upon site-specific conditions. These actions could include new state inspection stations that would be subject to its own site-specific NEPA analysis prepared by the state. In the FMCSA Proposed Action, no new construction of any facility or roadway is planned. The adherence of the FMCSA inspectors to BMPs for inspections at existing stations, random inspections, the siting of new inspection stations, and any other BMPs developed in the future will mitigate and assuage any deleterious environmental and human resources impacts from the planned roadside inspections for Mexico-based CMV, and thus the Proposed Actions.

The Proposed Action by FMCSA has no significant environmental impacts and thus requires no mitigation. If in the future it is determined that adverse impacts are occurring, FMCSA may consider developing strategies to address those impacts.

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APPENDIX A – DEFINITION OF COMMERCIAL MOTOR VEHICLES AND DESCRIPTION OF ROADSIDE INSPECTIONS

Commercial motor vehicle (CMV) are defined as self-propelled or towed motor vehicle used on a highway in interstate commerce to transport passengers or property when the vehicle--

(1) Has a gross vehicle weight rating or gross combination weight rating, or gross vehicle weight or gross combination weight, of 4,537 kg (10,001 lb) or more; whichever is greater; or

(2) Is designed or used to transport more than 8 passengers (including the driver) for compensation; or

(3) Is designed or used to transport more than 15 passengers, including the driver, and is not used to transport passengers for compensation; or

(4) Is used in transporting material found by the Secretary of Transportation to be hazardous under 49 U.S.. 5103 and transported in a quantity requiring placarding under regulations prescribed by the Secretary under 49 CFR, subtitle B, chapter I, subchapter C. (49 CFR 390.5)

Roadside inspections of CMC are carried out by FMCSA to ensure the safety of operation of drivers and commercial vehicles in the United States. There are six different levels of inspections:

- Level I- North American Standard Inspection
- Level II- Walk-Around Driver/Vehicle Inspection
- Level III- Driver-Only Inspection
- Level IV- Special Inspections
- Level V- Vehicle-Only Inspection
- Level VI- Enhance NAS Inspection for Radioactive Shipments

The North American Truck Inspection Procedure (Level I) consists of first interviewing the driver and collecting all of his/her documents and paperwork. Then, the inspector checks for the presence of hazardous materials. After checking thoroughly for hazardous materials, the inspector reviews all of the documents and the paperwork received from the CMC. Next, the inspector starts the vehicle inspection, starting with the left front of the truck and examining all parts, including the trailer and wheels, and moving then to the left rear of the truck. The right rear comes next, followed by the right saddle tank area and the right fuel tanks. The inspector then moves up to the right front of the truck and continues by checking the steering wheel lash, the air loss rate, the axles, and the brake adjustment. The inspection is completed by inspecting the tractor protection system that includes both the tractor protection valve and the emergency brakes, and the fifth wheel movement (CVSA 2001). The engine will be off for most of the inspection. There are, however, some parts of the inspection, such as verification of the air pressure, where the

truck must be running to build up the air (Cisneros 2001). The Level I inspection is the most intensive and takes about 20 minutes. These inspections are held primarily at the border inspection stations in Arizona, California, New Mexico and Texas. The other inspection levels take less time to complete, and are done less frequently than the Level I inspections (Cisneros 2001).

The Level II inspection includes only the items from the Level I inspection that can be inspected without physically getting under the vehicle. The Level III inspection includes an examination of the driver and his/her documents and paperwork. The Level IV inspection includes a one-time inspection of a particular item. The Level V inspection includes all parts of a vehicle in a Level I, without a driver being present. These inspections can be conducted at any location. The Level VI inspections consist of an inspection for select radiological shipments, which include inspection procedures, enhancements to the Level I inspection, radiological requirements, and the enhanced out-of-service criteria. Select radiological shipments include only highway route controlled quantities as defined by title 49, Section 173.403 and all transuranics (CVSA 2001). Buses are subject to the same requirements but escape doors and windows are also inspected.

If a truck fails the inspection, it is placed out-of-service. The ensuing action varies by State and is determined by the inspection station polices, as well as by practical conditions at the time the vehicle is rendered under out-of-service status. For example, in most cases in California the out-of-service truck would remain parked at the inspection site until the repairs are made. In the rare case that the repairs cannot be made on site, the company can have the vehicle towed to a repair facility. In Arizona, if the vehicle can be fixed within 2 hours, it is allowed to remain onsite until the repairs are made. If the repairs will take longer than 2 hours, either the company or United States Customs will tow the vehicle to a repair facility. At various border locations in Texas, the policies change based on the available space at that specific site. In some cases, the vehicle may be allowed to return to Mexico for repairs; on other occasions, the repairs are made on site (Cisneros 2001).

Aside from direct and indirect safety benefits, the inspections could have an environmental benefit, as they have the potential to alert officials of other problems, such as leaking CMV. There is always the possibility that leaking CMV could cause environmental harm, but if officials become aware of the problem they could notify the proper environmental authorities to address the issue and minimize any potential environmental effect from the release of hazardous and other materials from the CMV.

APPENDIX B – ROLES OF SELECTED AGENCIES WITH ENVIRONMENTAL AND PUBLIC HEALTH OVERSIGHT AUTHORITY OVER THE OPERATION OF CMC IN THE UNITED STATES

Below is a summary of the regulatory functions that Federal agencies other than FMCSA play in the oversight of the operation of CMC in the United States.

The Environmental Protection Agency (EPA) regulates air emissions from braking action and fuel. Within the EPA, the Office of International Affairs, Region 6, and Region 9 have personnel who, on a regular basis, work with State and local government officials to monitor air quality in the cities along the southern borders of Texas and New Mexico. In areas where air quality does not meet federal standards, appropriate local and State agencies work with EPA to design air quality improvement plans to reduce emissions, to improve air quality to national standards. The EPA also sponsors a program, known as The Border XXI Program, which protects and improves the environment and environmental health while fostering sustainable development in the United States-Mexico border region, is an alliance of organizations dedicated to environmental progress on the United States-Mexico Border area.

The Department of Agriculture (USDA) safeguards agriculture from invasive species entering the country on unchecked cargo shipments. The Food and Drug Administration (FDA) ensures that foods are safe, wholesome and sanitary; human and veterinary drugs, biological products, and medical devices are safe and effective; cosmetics are safe; and electronic products that emit radiation are safe. They also regulate products to ensure that they are in compliance with the law and FDA regulations; noncompliance is identified and corrected; and any unsafe or unlawful products are removed from the marketplace.

The Center for Disease Control (CDC) is the lead federal agency for protecting the health and safety of people, providing credible information to enhance health decisions, and promoting health through strong partnerships. They also serve as the national focus for developing and applying disease prevention and control, environmental health, and health promotion and education activities designed to improve the health of the people of the United States. Of specific interest, the CDC estimates that thousands of deaths and millions of illnesses each year are food related, imposing substantial health care costs and risking lives. The FDA and CDC play key roles in our country's food safety system. Together with the USDA, the EPA, and state and local agencies, the FDA and CDC lead rapid responses to outbreaks of food borne illness, conduct research into the causes and routes of transmission of food borne illness, and educate health professionals and the public on treatment and prevention of food borne illness.

The FHWA heads up a program called the Federal-Aid Highway Program, which provides Federal financial and technical assistance to the States to plan, construct, and

improve the National Highway System, urban and rural roads, and bridges. The program fosters the development of a safe, efficient, and effective highway and intermodal system nationwide. Another program, the Motor Carrier Safety Program, promotes safe CMV operations to reduce crashes. The program develops, communicates, and enforces performance-based regulations, for CMC, drivers, and vehicles to protect the traveling public on our Nation's highways.

Within the Department of the Interior (DOI), the Office of Environmental Policy and Compliance provides for a coordinated and unified approach and response to environmental issues that affect multiple bureaus in order to ensure that the DOI speaks as one entity with respect to those issues. This office provides guidance for the DOI's compliance with the full range of existing environmental statutes, executive orders, regulations and other requirements.

The ACOE provides quality, responsive engineering services to the nation, which includes planning, designing, building and operating water resources and other civil works projects (i.e. Navigation, Flood Control, Environmental Protection, Disaster Response, etc.).

The Health and Human Services (HHS) develops ways to improve monitoring of agricultural and manufacturing processes abroad and to prevent the importation of unsafe produce. In July 1999, President Clinton expanded his Food Safety Initiative by asking HHS and the Department of Treasury to explore actions they could take to protect United States consumers from unsafe imported foods.

APPENDIX C – AIR QUALITY

This section presents detailed information on modeling methodology, criteria pollutants, air quality health effects, legislation, current state of the environment, and source characteristics. This section serves as a complement to the general air quality information provided in the Air Quality Section in Chapter 3 (Section 3.4).

To quantify the magnitude of direct pollutant emissions resulting from the inspections of Mexican CMC, the EPA emissions models, MOBILE5a and PART5, were used. MOBILE5a was used to determine emission factors for CO, VOC, and NO_X. PART5 was used to determine emission factors for Pb, SO_2, PM_{10}, and $PM_{2.5}$. Due to the lack of actual modeling data and the resulting assumptions that needed to be made, the predictions from these models should only be considered provisional, first-order approximations. The following list indicates the data and assumptions that were used in modeling the emissions during the inspections (FMCSA 2001b):

Total inspection time of 50 minutes.

- Engine on time (idle) of 15 minutes during inspection.
- Approximately 130,000 out of 400,000 Mexican heavy-duty vehicles were considered to be manufactured after 1994. Modeling was conducted for years 1986 and 1994.
- 2.3 million inspections occur on heavy-duty trucks and buses in the United States each. The amount of total inspections performed will not change but under the proposed actions a shift will occur to inspect more Mexican heavy-duty trucks and buses. Under the No-Action Alternative the number inspections of Mexican trucks and buses will be 170,000 in 2002. Under Rule 3: Safety Fitness Oversight Program for New Applicants 180,000 inspections of Mexican trucks and buses would occur in 2002. Under the Commercial Vehicle Safety Alliance requirement, 230,000 inspections would occur on Mexican CMV in 2002.
- The average VMT for CMV was assumed to be 80,000 per year (VIUS 1999).
- The daily maximum and minimum temperatures (i.e., part of the local area parameters for MOBILE5a) were estimated for the border areas (i.e., San Diego, CA and El Paso, TX) to be 51 and 76 degrees Fahrenheit.
- The modeling temperatures (i.e., part of the scenario data for MOBILE5a) were also estimated for the border areas as 51 and 76 degrees Fahrenheit. Both of these temperatures were used to create different scenario runs.
- The Reid Vapor Pressure of 14.9 psi was obtained from published literature for gasoline samples with a "high volatility" rating (Bardon and Rao 1984).
- The weights of heavy-duty vehicles were modeled by using both the low end at 8,500 lbs and the high end at 80,000 lbs (limit for a United States truck). Although Mexican vehicles can weigh more than 80,000 lbs, it was not considered likely that there would be many above this value.
- Only heavy-duty gasoline and diesel vehicles and buses were modeled. The default fleet mix for vehicle-miles-traveled as provided by the models was used. Since MOBILE5a does not explicitly provide emission factors for buses, they were assumed to be similar to those for heavy-duty diesel vehicles.

The data and assumptions in this list are generally very conservative. For those cases when more than one scenario was modeled (e.g., for different temperatures), the higher emission factors were used. A significant confounding variable in this analysis is that both MOBILE5a and PART5 were based on United States vehicles. Therefore, the methods and/or data that form the backbone of these models may not be applicable to Mexican vehicles. However, it is believed that the conservative nature of this analysis overrides the magnitude of this affect. The analysis also took into account evaporative hydrocarbon losses for heavy-duty gasoline vehicles. Diesel fuel does not evaporate. For simplicity and conservatism, the total VOC emissions were used for the idling condition. The evaporative emissions (i.e., diurnal, hot soak, and resting) during the engine-off period were also taken into account by using the appropriate evaporative components provided by MOBILE5a.

Table C-1 shows the primary and secondary standards used to regulate air pollution in the United States. The standards for short term averages (i.e., less than 24 hours) are devised to protect the public from short-term exposures resulting in adverse health effects, and the standards for long term averages (i.e., annual) are devised to protect the public from both short-term and prolonged exposures.

Table C-1. NAAQS as of December 2000

	Primary Standard		Secondary Standard	
Pollutant	**Type of Average**	**Standard Level Concentration**	**Type of Average**	**Standard Level Concentration**
CO	8-hour	9 ppm	No Secondary Standard	
	1-hour	35 ppm	No Secondary Standard	
Pb	Maximum Quarterly Average	1.5 ug/m^3	Same as Primary Standard	
NO_2	Annual Arithmetic Mean	0.053 ppm	Same as Primary Standard	
O_3	Maximum Daily 1-hour Average	0.12 ppm	Same as Primary Standard	
	4th Maximum Daily 8-hour Average	0.08 ppm	Same as Primary Standard	
PM_{10}	Annual Arithmetic Mean	50 ug/m^3	Same as Primary Standard	
	24-hour	150 ug/m^3	Same as Primary Standard	
$PM_{2.5}$	Annual Arithmetic Mean	15 ug/m^3	Same as Primary Standard	
	24-hour	65 ug/m^3	Same as Primary Standard	
SO_2	Annual Arithmetic Mean	0.03 ppm	3-hour	0.50 ppm
	24-hour	0.14 ppm		

Source: EPA 2001.

Sources for the criteria pollutants and their status are presented in the following discussions:

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is caused by incomplete carbon combustions. Vehicle exhaust accounts for about 60 percent of all CO emissions in the United States. Therefore, the highest concentrations of CO are found in areas of heavy traffic congestion; in urban areas vehicle exhaust accounts for 95 percent of CO emissions. Other causes of CO are industrial sources, non-transportation fuel combustion, and wildfires (EPA 2001). A majority of the non-attainment areas are in the western half of the United States with California having the highest CO levels. Also having non-attainment levels were parts of counties in Washington, Idaho, Oregon, Montana, Utah, Colorado, Nevada, Arizona, and Texas in the west and Pennsylvania and Massachusetts in the East (EPA 2001).

Lead

Prior to the enactment of EPA regulations that reduced the content of lead in gasoline during the late seventies and early eighties, the primary source of lead (Pb) emissions in the United States was the automobile. Now, the major sources of lead emissions are industrial processes, primarily metals processing. The highest concentrations of lead in the air are near smelters and battery processors. Lead emissions and concentrations decreased sharply during the 1980s and early 1990s. The emissions decreased 95 percent in 20 years and the concentrations decreased by 94 percent in the same period (EPA 2001). Parts of counties in Montana, Nebraska, Missouri, and Tennessee have non-attainment levels of lead in the atmosphere (EPA 2001).

Nitrogen Dioxide

High temperature combustion processes are the major sources of nitrogen dioxide (NO_2) nationwide. These processes are found in both automobiles and power plants. Indoor heaters and gas stoves also can create harmful indoor quantities of the gas. Out of the areas that at one time violated the national air quality standard for NO_2, all areas now meet the standard (EPA 2001). There are no officially designated non-attainment areas for NO_2 (EPA 2001).

Ozone

Ozone (O_3) is a gas that is formed from a reaction between VOCs and NO_X in the presence of heat and sunlight. Some examples of VOC emission sources are, motor vehicles, chemical plants, refineries, factories, consumer and commercial products and other industrial sources. The NO_X sources are listed above. Ideal conditions for ozone formation are high temperatures, clear skies, light winds and limited vertical mixing. The ozone levels at urban and suburban locations have decreased almost 25 percent over the past 20 years while the rural locations have only decreased by 14 percent (EPA 2001). There are many non-attainment designations in the United States with almost the entire

states of Massachusetts, New Jersey, Connecticut and Rhode Island covered by this status. Also in a non-attainment designation are most of Pennsylvania, California, Maryland, and Delaware; and also select counties in New York, Arizona, New Mexico, Texas, Colorado, Oregon, Louisiana, Missouri, Illinois, Virginia, Kentucky, Indiana, Wisconsin, Georgia, and Alabama (EPA 2001).

Sulfur Dioxide

Sulfur dioxide (SO_2) is formed when fuels containing sulfur (mostly coal and oil) are burned and also during metal smelting and other industrial processes. Fuel combustion accounts for a majority of the SO_2 emissions thereby causing most of the nation's SO_2 to be found in the vicinity of large industrial facilities such as coal-fired power plants. SO_2 concentrations have decreased almost 50 percent from 1980 to 1999 and emissions have decreased 28 percent. These decreases are due mostly to SO_2 controls that EPA implemented as part of their Acid Rain Program in 1995 (EPA 2001). The non-attainment designations are in Montana, Nevada, Utah, Arizona, New Mexico, Minnesota, Wisconsin, Indiana, Ohio, West Virginia, Pennsylvania, and New Jersey (EPA 2001).

Particulate Matter

Particulate matter (PM_{10}) are particles that are less than 10 micrometers in diameter and are a mixture of solid particles and liquid droplets found in the air such as dust, dirt, soot and smoke. These particles are generated from a number of different sources: combustion from motor vehicles, power generation, industrial facilities, fires, driving on unpaved roads and wind blowing on dust are just a few. From 1990 to 1999, the concentration of these particles decreased by 18 percent and the emissions decreased by 16 percent. In 1999, EPA started monitoring $PM_{2.5}$ particles that are less than 2.5 micrometers in diameter. In addition to the monitoring of the $PM_{2.5}$ particles, in 2000 EPA started a Phase II Acid Rain Program to regulate coal-fired power plants. The non-attainment designations for PM_{10} were mostly in the west (EPA 2001). There were parts of counties in Connecticut, Pennsylvania, Indiana, Illinois, Texas, New Mexico, Colorado, Nevada, Utah, Wyoming, Montana, Idaho, Washington, and Oregon with the largest numbers of counties in California and Arizona (EPA 2001).

The formation of these criteria pollutants and their health effects are presented in Table C-2. The health effects can be categorized into two general categories: acute and chronic. Acute or short-term effects usually include irritations, headaches, and nausea. Chronic or long-term effects may include decreased lung capacity and cancer.

Table C-2. Criteria Pollutant Description and Potential Health Effects

Pollutant	Pollutant Description	Potential Health Effects
CO	Colorless, odorless gas that is caused by incomplete carbon combustion.	CO acts as an asphyxiant by interfering with the blood's ability to carry oxygen from the lungs to the rest of the body. It can impair the brain's ability to function properly and is a threat especially to individuals with cardiovascular disease.
Pb	Solid emitted usually as an inorganic particle from any processors that use lead such as smelters, battery manufactures, etc.	Inhalation and/or congestion can result in behavioral changes, learning disabilities, seizures, severe and permanent brain damage, and death.
NO_2	Reddish-brown, highly reactive gas formed from high temperature combustion through reactions involving N_2 and oxygen.	NO_2 can irritate lungs, cause bronchitis and pneumonia, and impair an individual's resistance to infections.
O_3	Gas that is formed from a reaction between VOCs and NO_X in the presence of heat and sunlight.	Exposure to O_3 can cause chest constrictions and irritations of the mucous membranes.
PM	Particulate matter either solid or liquid usually in the range of 0.005 to 100 micrometers in aerodynamic diameter. Other related terms include aerosols, dust, fumes, soot, etc.	In general, the smaller the PM, the deeper it can penetrate into the respiratory system, and the more damage it can cause. Depending on size and composition, PM can damage lung tissue, aggravate existing respiratory and cardiovascular diseases, and cause cancer.
SO_2	Gas formed when fuels containing sulfur are burned (combusted).	As a gas, it is highly soluble in water and will likely be trapped in the upper respiratory tract causing irritations but less long-term damage. When entrained in an aerosol, SO_2 can reach far deeper into the respiratory system causing severe respiratory distress.

Source: Masters 1998 and EPA 2001.

Table C-3 presents the contribution of different sectors of the United States economy to total emissions of criteria pollutants. Transportation emissions include all ground, air, and water transportation systems.

Table C-3. Source Contribution to Emissions for the United States during 1999

Pollutant	Percent Source Contribution			
	Transportation[a]	Industrial Processes	Fuel Combustion	Miscellaneous
CO	77.1	7.8	5.5	9.6
Pb	12.8	75.3	11.9	0.0
NO_2	55.5	3.7	39.5	1.3
VOC	47.0	44.1	5.0	3.9
PM_{10}	24.7	41.5	33.8	0.0
$PM_{2.5}$	27.6	39.4	33.0	0.0
SO_2	6.9	7.8	85.3	0.1

[a]Including on-road and off-road sources.
Source: EPA 2001.

Table C-4 presents a summary of the contribution of the different types of on-road vehicles to total vehicle emissions in the United States. Vehicles are classified according to size and fuel type.

Table C-4. Total Emissions from On-Road Mobile Sources in 1999

Pollutant	Total Emissions by Vehicle Category (thousand short tons)					Total from all Sources[f]
	LDGV[a]	LDGT[b]	HDGV[c]	Diesels[d]	Total On-Road Vehicles[e]	
CO	27,382	16,115	4,262	2,230	49,989	88,063
Pb	14	7	1	0	22	4,199
NO_2	2,859	1,638	459	3,635	8,590	25,393
VOC	2,911	1,722	375	289	5,297	18,145
PM_{10}	59	36	12	189	295	23,679
$PM_{2.5}$	34	22	8	166	229	6,773[g]
SO_2	137	91	17	118	363	18,867

[a]LDGV = Light Duty Gas Vehicle (Includes motorcycles).
[b]LDGT = Light Duty Gas Truck.
[c]HDGV = Heavy Duty Gas Vehicle.
[d]Diesels = Encompasses all diesel vehicles.
[e]Values may not equal total due to rounding.
[f]Includes all sources (i.e., transportation, industrial processes, fuel combustion, and miscellaneous).
[g]From 1998.
Source: EPA 2001.

Table C-5 shows the changes in emissions and concentrations of criteria pollutants in the United States for the last 20 years.

Table C-5. Percent Changes in Emissions and Concentrations in the US (1980-1999)

Pollutant	Percent Change in Emissions	Percent Change in Atmospheric Concentrations
CO	-21	-57
Pb	-94	-94
NO_2	+4	-25
VOC/O_3	-31[a]	-12[b]
PM_{10}	-15[c]	-18[c]
$PM_{2.5}$	N/A[d]	-17[c]
SO_2	-27	-50

[a]Emissions of VOCs.
[b]Concentration of O_3 for 8-hr.
[c]For 1990-1999.
[d]Not Available.
Source: EPA 2001.

Table C-6 shows estimated pollutant emissions due to these different fuel types. The emission estimates were calculated using EPA's MOBILE5 and PART5 models.

Table C-6. Estimated Total 1997 Vehicle Emissions by Fuel Type

Pollutant	Emissions due to Gasoline (x 1000 Tons)	Emissions due to Diesel (x 1000 Tons)
CO	48,749	1,509
NO_X	5,103	1,933
VOC	4,989	238
SO_2	235	84
PM_{10}	105	165
$PM_{2.5}$	63	144

Source: EPA 2001.

Emissions from Operation and Inspection of Mexican CMV

Table C-7 shows the total amount of emissions – for criteria pollutants – generated by the approximately 71,500 Mexican CMV projected to operate in FY2002 under Baseline conditions.

Table C-7. Total Annual Emissions from Operations of Mexican CMV under the Baseline Scenario

Pollutant	Operations[a] (short tons)	Total from On-Road Vehicles[b] (short tons)	% of On-Road[c]	Total all Sources[d] (short tons)	% of all Sources[e]
CO	307826	49989000	0.6158%	88063000	0.3496%
NO_2	116489	8590000	1.3561%	25393000	0.4587%
VOC	45182	5297000	0.8530%	18145000	0.2490%
Pb	60	22000	0.2734%	4199000	0.0014%
SO_2	7835	363000	2.1585%	18867000	0.0415%
PM_{10}	9397	295000	3.1855%	23679000	0.0397%
$PM_{2.5}$	8528	229000	3.7239%	6773000	0.1259%

[a] = Total emissions from the operation of Mexican CMVs in the Border Zone
[b] = Total emissions from the operation of on-road vehicles in the United States
[c] = % of On-Road = (Inspections/Total from On Road Vehicles) X 100%
[d] = Total emissions from all sources in the United States
[e] = % of all Sources = (Inspections/Total from all Sources) X 100%

Table C-8 shows the total amount of emissions – for criteria pollutants – generated by the approximately 73,000 Mexican CMV projected to operate in FY2002 under the No Action Alternative.

Table C-8. Total Annual Emissions from Operations of Mexican CMV under the No Action Alternative

Pollutant	Operations[a] (short tons)	Total from On-Road Vehicles[b] (short tons)	% of On-Road[c]	Total all Sources[d] (short tons)	% of all Sources[e]
CO	314284	49989000	0.6287%	88063000	0.3569%
NO_2	118933	8590000	1.3846%	25393000	0.4684%
VOC	46130	5297000	0.8709%	18145000	0.2542%
Pb	61	22000	0.2791%	4199000	0.0015%
SO_2	8000	363000	2.2038%	18867000	0.0424%
PM_{10}	9594	295000	3.2523%	23679000	0.0405%
$PM_{2.5}$	8707	229000	3.8021%	6773000	0.1286%

[a] = Total emissions from the operation of Mexican CMVs in the Border Zone
[b] = Total emissions from the operation of on-road vehicles in the United States
[c] = % of On-Road = (Inspections/Total from On Road Vehicles) X 100%
[d] = Total emissions from all sources in the United States

[e] = % of all Sources = (Inspections/Total from all Sources) X 100%

Table C-9 shows the total amount of emissions – for criteria pollutants – generated by the approximately 72,000 Mexican CMV projected to operate in FY2002 under the Proposed Action Alternative.

Table C-9. Total Annual Emissions from Operations of Mexican CMV under the Proposed Action Alternative

Pollutant	Operations[a] (short tons)	Total from On-Road Vehicles[b] (short tons)	% of On-Road[c]	Total all Sources[d] (short tons)	% of all Sources[e]
CO	309978	49989000	0.6201%	88063000	0.3520%
NO_2	117304	8590000	1.3656%	25393000	0.4620%
VOC	45498	5297000	0.8589%	18145000	0.2507%
Pb	61	22000	0.2753%	4199000	0.0014%
SO_2	7890	363000	2.1736%	18867000	0.0418%
PM_{10}	9463	295000	3.2077%	23679000	0.0400%
$PM_{2.5}$	8587	229000	3.7500%	6773000	0.1268%

[a] = Total emissions from the operation of Mexican CMVs in the Border Zone
[b] = Total emissions from the operation of on-road vehicles in the United States
[c] = % of On-Road = (Inspections/Total from On Road Vehicles) X 100%
[d] = Total emissions from all sources in the United States
[e] = % of all Sources = (Inspections/Total from all Sources) X 100%

Table C-10 shows the total amount of emissions – for criteria pollutants – generated from the inspection of 170,000 Mexican CMV under the Baseline Scenario.

Table C-10. Total Annual Emissions from Inspections of Mexican CMV under the Baseline Scenario

Pollutant	Inspections[a] (short tons)	Total from On-Road Vehicles[b] (short tons)	% of On-Road[c]	Total all Sources[d] (short tons)	% of all Sources[e]
CO	35.5797	49,989,000	0.00007118%	88,063,000	0.00004040%
NO_2	2.7370	8,590,000	0.00003186%	25,393,000	0.00001078%
VOC	7.7720	5,297,000	0.00014672%	18,145,000	0.00004283%
Pb	0.0013	22,000	0.00000580%	4,199,000	0.00000003%
SO_2	0.1330	363,000	0.00003665%	18,867,000	0.00000071%
PM_{10}	0.1747	295,000	0.00005921%	23,679,000	0.00000074%
$PM_{2.5}$	0.1585	229,000	0.00006922%	6,773,000	0.00000234%

[a] = Total emissions from the inspections of Mexican CMVs
[b] = Total emissions from the operation of on-road vehicles in the United States
[c] = % of On-Road = (Inspections/Total from On Road Vehicles) X 100%
[d] = Total emissions from all sources in the United States
[e] = % of all Sources = (Inspections/Total from all Sources) X 100%

Table C-11 shows the total amount of emissions – for criteria pollutants – generated from the inspection of 180,000 Mexican CMV under the No Action and Proposed Action Alternatives.

Table C-11. Total Annual Emissions from Inspections of Mexican CMV under the No Action Alternative

Pollutant	Inspections[a] (short tons)	Total from On-Road Vehicles[b] (short tons)	% of On-Road[c]	Total all Sources[d] (short tons)	% of all Sources[e]
CO	37.6727	49,989,000	0.00007536%	88,063,000	0.00004278%
NO_2	2.8980	8,590,000	0.00003374%	25,393,000	0.00001141%
VOC	8.2292	5,297,000	0.00015535%	18,145,000	0.00004535%
Pb	0.0014	22,000	0.00000614%	4,199,000	0.00000003%
SO_2	0.1409	363,000	0.00003880%	18,867,000	0.00000075%
PM_{10}	0.1850	295,000	0.00006269%	23,679,000	0.00000078%
$PM_{2.5}$	0.1679	229,000	0.00007330%	6,773,000	0.00000248%

[a] = Total emissions from the inspections of Mexican CMVs
[b] = Total emissions from the operation of on-road vehicles in the United States
[c] = % of On-Road = (Inspections/Total from On Road Vehicles) X 100%
[d] = Total emissions from all sources in the United States
[e] = % of all Sources = (Inspections/Total from all Sources) X 100%

Table C-12 shows the total amount of emissions – for criteria pollutants – generated from the inspection of 230,000 Mexican CMV under the CVSA Supplemental Alternative.

Table C-12. Total Annual Emissions from Inspections of Mexican CMV under the Proposed Action Alternative

Pollutant	Inspections[a] (short tons)	Total from On-Road Vehicles[b] (short tons)	% of On-Road[c]	Total all Sources[d] (short tons)	% of all Sources[e]
CO	48.2175	49,989,000	0.00009646%	88,063,000	0.00005475%
NO_2	3.7092	8,590,000	0.00004318%	25,393,000	0.00001461%
VOC	10.5326	5,297,000	0.00019884%	18,145,000	0.00005805%
Pb	0.0017	22,000	0.00000785%	4,199,000	0.00000004%
SO_2	0.1803	363,000	0.00004966%	18,867,000	0.00000096%
PM_{10}	0.2367	295,000	0.00008024%	23,679,000	0.00000100%
$PM_{2.5}$	0.2148	229,000	0.00009381%	6,773,000	0.00000317%

[a] = Total emissions from the inspections of Mexican CMVs
[b] = Total emissions from the operation of on-road vehicles in the United States
[c] = % of On-Road = (Inspections/Total from On Road Vehicles) X 100%
[d] = Total emissions from all sources in the United States
[e] = % of all Sources = (Inspections/Total from all Sources) X 100%

APPENDIX D – ENVIRONMENTAL SCREENING PROCESS

Introduction
The following resources were eliminated from the environmental consequences analysis because of the insignificance of the impacts on these resources from the implementation of the four proposed rules and supplemental alternatives: topography, biological resources, cultural resources, visual resources, endangered species, water resources, land use, hazardous waste and solid waste. These resources were dropped from detailed environmental analysis because: 1) the alternatives do not require any construction activities, and 2) the resource consumption levels and associated waste generation required for longer application forms are insignificant. This appendix includes the calculations of the impacts on resource consumption, which aided in the determination of the insignificant impacts on the above-mentioned resources and the specifics behind why these resources were eliminated.

Topography and Geology
As shown in Table D-1, the number of trees that would be cut down and land-acres cleared due to the implementation of the revised forms OP-2 and OP-1(MX) represent a negligible contribution to the total number of trees cut down and acreage cleared for paper production in the United States There would be no significant adverse impacts on erosion of the areas due to the clear-cutting of the trees. In addition, the absence of construction activities will leave the topography and geology of the land unchanged.

Biological Resources
The Proposed Actions are shown in Table D-1.. Paper is made from trees. Trees are cut down which can have an impact on the habitat of biological resources. The number of additional trees and acreage cleared is minimal, so impacts on habitat are minimal. There would be little impact on biological resources from the Proposed Actions.

Localized air emissions from the inspections could raise concerns over potential negative effects on biological resources derived from particulate deposition and acid rain effects on water bodies and vegetation. However, the contribution of emissions associated with the inspection activities is negligible when compared to emissions from other transportation activities. Thus, the impact on biological resources from the inspections is negligible.

Endangered Species
The production process and disposal of the revised forms will result in small contributions to resource consumption and pollution, which could have impacts on endangered species and their habitat. However, as shown in Table D-1, the contribution to resource consumption and pollution from this alternative is minor when compared to local, regional, and national levels of resource consumption and pollution associated with the production and disposal of paper and other office supplies, and from water supply, electricity generation and distribution, and other public utilities. Thus, there would be no

impacts to endangered species and their critical habitat from the production, use, and disposal of the revised forms.

The deployment of the safety fitness oversight program involves increased roadside inspections and the creation of safety audits for Mexican carriers. Since trucks and buses are required to have their engines on (idle) for part of the inspection, an increase in local emissions would result from the inspections. These localized air quality problems could raise concerns over potential negative effects on endangered species and their critical habitat. These effects are expected to be insignificant given the minor contribution of the emissions generated during the roadside inspections to emissions generated from all other transportation and industrial sources.

In addition, existing inspection stations will be used so no new construction will be required. Thus, there would be no negative effects on endangered species and critical habitat from construction. It is possible that habitat changes could have occurred at some inspection stations and they could now be in the vicinity of critical habitat. Further analysis would be needed at the site-specific level to identify the potential presence of endangered species and analyze alternatives to mitigate impacts if found. No mitigation for impacts on endangered species and critical habitat is required due to the absence of adverse impacts.

Water Resources

During roadside inspections trucks and buses are required to have their engines on (idle) for part of the inspection, resulting in emissions of air pollutants. These localized air emissions could raise concerns over potential negative effects on water quality derived from particulate deposition and acid rain effects on water bodies. These effects are expected to be insignificant given the minor contribution of the emissions generated during normal operations and the roadside inspections compared to emissions generated from all other transportation and industrial sources. Water quality is expected to improve over time, as environmental regulations governing truck and bus emission rates become more stringent and industry and society in general become more environmentally conscious.

The revised forms are longer, thus resulting in the consumption of some additional paper and other office supplies. The production process for the supply of these resources and services, as well as associated disposal activities, could result in small increases in resource consumption and pollution, which could have impacts on the quality and quantity of water resources. Proper silviculture processes are designed to prevent erosion and sedimentation. Production processes use water and electricity, potentially affecting the quantity of water. Also, disposal activities associated with the production process have the potential to affect the quality of water resources. The contribution to water and resource consumption and pollution generation from the Proposed Actions is minimal when compared to local, regional, and national levels of resource consumption and pollution. Proper harvesting, production processes, and disposal techniques should further minimize potential impacts.

In addition, inspections will be carried out in existing facilities so no new construction directly related to this alternative will be required. Construction can disrupt water quality and quantity through runoff, erosion, and sedimentation, among other causes. Since there will be no new construction and incremental emission effects are minor, the implementation of the more frequent roadside inspections for Mexican CMC will have an insignificant impact on the quality and quantity of water resources in the United States.

Based on the analysis presented above, it is expected that the Proposed Actions would result in minimal adverse impacts to the quality and quantity of water resources in the United States. No mitigation for impacts on water resources is required due to the absence of adverse impacts.

Land Use

Since CMV are required to have their engines on (idle) for part of the inspection, an increase in local emissions would result from the inspections. These localized air quality problems could raise concerns over potential negative effects from particulate deposition on land use, especially on agricultural and 4(f) resources. Consideration of these effects is of utmost importance since the products of agricultural land are used for human consumption. In addition, 4(f) resources have special value for their recreational functions. However, these effects are expected to be insignificant given the minor contribution of the emissions generated during the roadside inspections compared to emissions generated from all other transportation and industrial sources. In addition, inspections will be carried out in existing facilities so no new construction directly related to this alternative will be required. Construction can disrupt land use patterns and adversely affect agricultural lands and 4(f) resources.

The increases in resource consumption and pollution from the updated forms could have impacts on land use and agricultural and 4(f) resources. In large scale, the production process for the supply of more paper – and its associated disposal activities – could result in changes in land use patterns for tree harvesting and cutting, as well as in changes to the quality and quantity of water resources, potentially affecting agricultural lands and 4(f) resources. However, the additional resources needed for the implementation of this alternative are minor, especially when compared to local, regional, and national levels of resource consumption and pollution associated with the production and disposal of paper and other office supplies.

Based on the analysis presented above, it is expected that the Proposed Actions would result in minor adverse impacts to the land use, agricultural resources, and 4(f) resources. No mitigation for impacts on land use is required due to the absence of adverse impacts.

Cultural Resources

The cultural resources in all areas would be unharmed and unaffected by the implementation of the proposed actions. No construction activities would take place as a result of these actions, which would leave these resources untouched.

Visual Resources
Large-scale increases in paper production could result in the harvesting and clear-cutting of trees, with the potential to adversely impact the visual characteristics and size of forested areas. However, from the calculations above, it is shown that the number of trees cut down is minimal and would have no adverse impacts on visual resources. Construction can disrupt the visual landscape in rural, urban, and transitional areas by dividing them with the added infrastructure; in natural areas, construction can result in habitat fragmentation, potentially affecting the visual value of natural resources. There would be no construction with the implementation of the proposed rules, therefore leaving the visual resources unchanged.

Solid Waste
The revised forms would require Mexico CMC to provide additional safety related information to ensure the safety of their operation in the United States. Since the revised form will be longer, there will be an increase in the consumption of paper and other office supplies. Large-scale increases in paper production, use, and disposal could result in the generation of large quantities of solid wastes. The primary source of fiber for pulp and papermaking is wood. During the production process a wide variety of solid wastes are generated. These include boiler fly ash, bottom grate ash, wastewater sludge, lime grits, and slaker grits. However, the pulp and paper industry has made remarkable progress in reclaiming solid waste products. The reclamation of cellulose and other parts of the wood used has resulted in the minimization of waste streams and the promotion of higher economic success for the industry (Freeman 1995).

However, the amount of additional resources necessary for the production, filing, and processing of the revised form is minimal, especially when compared to current levels of paper production in the country. Thus, the additional generation of solid wastes from the use of the revised forms is minor, so there are no major impacts on solid waste generation from the Proposed Actions. FMCSA could further mitigate the generation of solid waste by promoting active recycling programs, particularly at the locations where the forms are processed.

Roadside inspections will be intensified and will target high-risk carriers that would be identified with the information collected from the filing of the revised forms. These inspections last about 40 to 50 minutes. During this time the inspector verifies the safety conditions of the driver and vehicle. There are no major sources of solid waste generated from the inspection. The roadside inspections will be carried out in existing facilities and all travel will take place on existing roadways. No new construction directly related to the Proposed Actions is required. Construction could result in the generation of solid wastes that could pose a negative impact on public health and the environment. Since there will be no new construction directly related to the Proposed Actions, the implementation of the more frequent roadside inspections for Mexico CMC would not have a significant adverse impact on the generation of solid wastes in the United States.

Based on the analysis presented above, it is expected that the implementation of the Proposed Actions would not have a negative impact on public health and the environment

from the generation of solid wastes. No mitigation for impacts from solid wastes is required due to the absence of major adverse impacts.

Hazardous Material and Waste

As mentioned in Section 4.3 (Transportation, Public Safety and Health), there is concern over the ability of Mexico CMC to comply with FMCSA CMC safety standards and conduct safe operations in the United States. In the absence of the revisions to the three rules and two supplemental alternatives proposed by FMCSA to enhance the safety of operation of Mexico CMC, there is a greater risk of high-risk Mexican carriers operating in the United States. This would increase the likelihood of crashes, vehicle breakdowns, and other safety related incidents. This could lead to safety, health, and environmental risks if the Mexico CMC involved in these safety-related incidents are transporting hazardous materials. The impacts associated with releases of hazardous substances and wastes associated with crashes and breakdowns will be material-dependent, since the risk posed by hazardous materials is inherent to each material.

Impacts could result in public safety and health effects, property damages and other economic losses, and environmental contamination. Public safety and property damage impacts could result from incidents where explosive, flammable, and oxidizing materials are present. Public health effects could result from exposure – direct or indirect – to poisonous or toxic substances and wastes. Direct effects could include direct contact with the material or exposure to fumes from volatile compounds for example; indirect exposure could include exposure to hazardous materials through water supplied from contaminated water bodies. Environmental contamination could result from the release of hazardous materials in the ground, in water resources, and in the air. Effects on natural ecosystems could be significant, especially for sensitive habitats and species. In addition, transportation mobility and congestion effects could result from the response and clean-up activities associated with the treatment of a hazardous materials release, resulting in economic losses. Depending on the severity of the release, whole stretches of highways could be closed to protect the public from exposure to the hazardous material.

In addition to the potential of adverse impacts from the release of hazardous freight, there is also the potential of releasing fuel and oils from trucks or buses in an accident. These spills would most likely be minor, but nonetheless could lead to adverse impacts on public safety and health. Based on the analysis presented above, it is expected that the current situation and the No Action Alternative could result in a moderate to significant adverse impact to public safety and health, transportation, property damage, water resources, and biological resources from releases of hazardous materials associated with safety-related incidents involving Mexico CMC. In 1999, according to the FMCSA, there were 91,416 large truck hazardous materials crashes in 1999. The number of tow away crashes with no fatalities or injuries was 40,391 or 44 percent of all large truck hazardous materials crashes. The number of large truck crashes resulting in injury from hazardous materials carriers was 46,127 or 51 percent of all large truck hazardous materials crashes. A small number of fatal crashes occurred in 1999 from these vehicles, 4,898 crashes or five percent of all large truck hazardous material crashes. FMCSA does not track the hazardous material crashes from large trucks by nationality of the CMC,

thus it is not possible to track the number of these crashes involving Mexico based CMV (FMCSA 2001g).

Since the revised forms will be longer, there will be an increase in the consumption of paper and other office supplies. Large-scale increases in paper production could result in the generation of large quantities of hazardous wastes. The pulp and paper industry is one of the largest generators of hazardous waste placed in industrial surface impoundments (Freeman 1989). However, the pulp and paper industry has made remarkable progress in reclaiming waste products from their production processes (Freeman 1995). In addition, the amount of additional resources necessary for the production, filing, and processing of the revised form is minimal, especially when compared to current levels of paper production in the country, so the additional generation of hazardous wastes from the use of the revised form is negligible.

The use of the revised forms and safety audits and inspection may enable FMCSA to better assess the Mexico CMC' safety programs and their willingness and ability to comply with United States CMC safety standards. This would enhance the safe operation of Mexico carriers in the United States, thus reducing the risk of crashes and other safety-related incidents. With a lower risk of accidents, the risk of exposure to hazardous substances and wastes being transported by the Mexico carrier and/or another carrier involved in the incident is reduced. The reduction in the risk of hazardous materials releases will be beneficial since it reduces the potential impacts on public safety and health, water resources, biological resources, transportation, and property. Thus given the small change in resources hazardous waste generation, the Proposed Actions will have a positive impact on the safety of transportation of hazardous materials.

The Safety Monitoring Oversight Program for New Applicants will allow the implementation of an intensified inspection program and safety audits for Mexico carriers operating in the United States. These systems would help FMCSA determine if the Mexico CMC operating in the United States comply with the applicable safety regulations and conduct safe operations. This would enhance the safe operation of Mexico CMC in the United States, thus reducing the risk of crashes and other safety-related incidents. With a lower risk of accidents, the risk of exposure to hazardous substances and wastes being transported by the Mexico carrier and/or another carrier involved in the incident is reduced. This reduction in the risk posed by hazardous materials releases will reduce the potential impacts on public safety and health, air quality, water resources, biological resources, transportation, and property.

Roadside inspections will be intensified for Mexican CMC and could target high-risk carriers that would be identified with the information collected from the filing of the forms under the Proposed Actions. These inspections last about 40 to 50 minutes, time during which the inspector verifies the safety conditions of the driver and vehicle. A CMC could experience a release of hazardous materials during the inspection. Depending on the characteristics of the hazardous material and the quantities released, there could be negative impacts on public safety and health, biological resources, water resources, and air quality. In the event of a release, a response team composed of trained

hazardous materials professionals will be called to the site to clean up the release and minimize its potential effects by containing the release and transporting it to a hazardous waste handling facility. For mitigation purposes, FMCSA could limit the number of roadside inspections in areas close to sensitive habitats or densely populated areas.

Roadside inspections will be carried out in existing facilities and all travel will take place on existing roadways, so no new construction directly related to this alternative will be required. Construction could result in the generation of hazardous wastes that could pose a negative impact on public health and safety, air quality, water resources, and biological resources. Since there will be no new construction, the implementation of the more frequent roadside inspections for Mexico based CMC will have no impact on the generation of hazardous wastes in the United States. The implementation of the safety program could have a beneficial impact on detecting the transport of regulated hazardous materials without the appropriate authority from EPA and DOT. The more intensive roadside inspection program would increase the likelihood of detecting carriers that are not compliant with applicable rules for the transport of hazardous substances and wastes and preventing them from re-entering the highway system, thus avoiding the potential of an adverse impact.

Based on the analysis presented above, it is expected that the implementation of the Proposed Actions and Supplemental Alternatives would result in a significant benefit to public safety and health, transportation, property damage, air quality, water resources, and biological resources. These actions will result in the minimization of the likelihood of a serious, catastrophic release of hazardous materials associated with safety-related incidents involving Mexico CMV. No mitigation for impacts from hazardous materials is required due to the absence of adverse impacts.

Methodology/ Resource Consumption

The resource consumption calculations were based on the following assumptions:

- 1 ton of regular/copy laserwriter paper is 200,000 sheets
- Typical yield of paper: 125 lbs per tree
- Typical forest space for 1 tree: 100 sq. feet or 440 trees/acre
- 1 ton of regular paper requires: 55,000 gallons of water

Please note the above are all per year.
(Woods 1995)

Current OP-1: 10 pages
Current OP-2: 8 pages
New OP-1: 37 pages
New OP-2: 37 pages

Under No Action Alternative
5900 - # of MX carriers retaining or applying for OP-2 authority in Year 1

5100 - # of MX carriers applying for OP-1(MX) authority in Year 1

Under Proposed Rules 1 & 2
5800 - # of MX carriers applying for OP-2 authority in Year 1

5100 - # of MX carriers applying for OP-1(MX) authority in Year 1

For the total number of trucks, multiply the number of carriers by 6.63

Formulas:

Total Sheets Per Form
(# Total Carriers) x (# of pages per form) = Total sheets per form

Tons of Paper
1 ton paper = X
200,000 sheets Total sheets per form

X= tons paper

Pounds of Paper
(X tons paper)(2000 lbs/ton) = Y lbs. paper

Number of Trees
(Y lbs. Paper) / (125 lbs. paper/ tree) = Z trees

Number of Acres
(Z trees) / (440 trees/acre) = W acres

Gallons of Water
1 ton = X tons
55,000 gal. H_2O V gal H_2O

V = Gallons of Water

Percent To Total
1-((Total quantity – Form Quantity) / (Total Quantity)) = Percent to total

Sample Calculations for Proposed Revised Form OP-1(MX) Year 1:

5100 total Carriers

1. Start by finding the Total Number of Sheets Per Form

(5100 Carriers) X (37 pages) = 188,700 pages

2. Use the Total Sheets Per Form number from above to find the number of Tons of Paper.

1 ton = 200,000 sheets
X tons = 188,700 sheets

X = 0.9435 tons

3. Use the number of Tons of Paper from above to determine the Pounds of Paper.

(0.9435 tons) X (2000 lbs/ton) = 1887 lbs. of paper

4. Use the Pounds of Paper to find the Number of Trees used

(1887 lbs. of paper) / (125 lbs./tree) = 15.1 Trees

5. Use the Number of Trees to find the Acres of Land Cleared

(15.1 trees) / (440 trees/acre) = 0.034 Acres

6. Use the Number of Tons from above to find the Number of Gallons of Water used

1 ton = 55,000 gallons of water
0.9435 tons = V gallons of water

V = 51,892.5 Gallons of Water

7. To find the Percent to total, subtract the Form Quantity from the Total Quantity and divide that difference by the Total Quantity. Subtract that number from 1 to get the Percent to total.

1 – ((1360000000 – 15.1) / (1360000000) = 1.11 x 10-8 = Percent to total

Table D-1: Resource Consumption for Paper Production

	Tons of Paper	Number Trees	% to Total	Number Acres	% to Total	Gallons Water	% to Total
Revised Form OP-1(MX): Year 1	0.9435	15.096	1.11E-08	0.0343	1.107E-08	51892.5	1.11E-08
Revised Form OP-2: Year 1	1.0730	17.168	1.26E-08	0.0390	1.259E-08	59015	1.262E-08
No Action Form OP-1(MX) Year 1	0.9435	15.096	1.11E-08	0.0343	1.107E-08	51892.5	1.11E-08
No Action Form OP-2: Year 1	1.0915	17.464	1.28E-08	0.0397	1.28E-08	60032.5	1.284E-08
Total Consumption per Year	85,000,000	1,360,000,000	NA	3,100,000	NA	4.675E+12	NA

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APPENDIX E – NOISE EMISSIONS ANALYSIS

Background

In March 1998, the Federal Highway Administration (FHWA) released the Traffic Noise Model, Version 1.0 (FHWA TNM®). TNM was developed as a means for aiding compliance with policies and procedures under FHWA noise regulations. TNM is a state-of-the-art computer program used for predicting noise impacts in the vicinity of highways. It uses advances in personal computer hardware and software to improve upon the accuracy and ease of modeling highway noise, including the design of effective, cost-efficient highway noise barriers (Anderson 1998, Menge 1998, Fleming 1995).

The foundation around which the acoustic algorithms in the TNM are structured is its Reference Energy Mean Emission Level (REMEL) database. The TNM REMEL database was developed during the period from July 1993 through November 1995 by the United States Department of Transportation, John A. Volpe National Transportation Systems Center, Acoustics Facility as part of a national study, entitled Highway Noise Model Database Development (FHWA 1995).

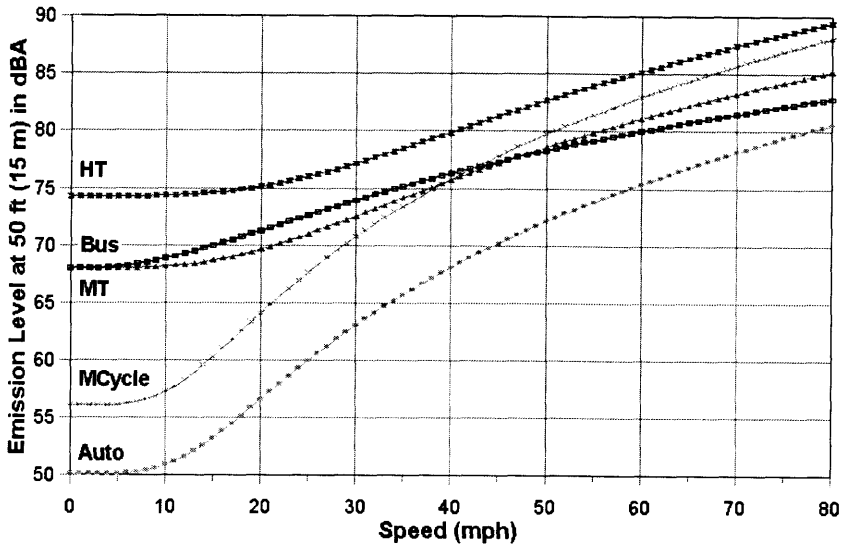
In support of database development, measurements were conducted at 40 sites in nine states across the country. The states included in the study were California, Connecticut, Florida, Kentucky, Maryland, Massachusetts, Michigan, New Jersey, and Tennessee. In total, over 6000 individual vehicle events were measured at speeds of between 0 (idle) and 80 mph. All data were grouped according to five standard vehicle types as follows: automobiles, medium trucks, heavy trucks, buses, and motorcycles. The national noise emission level database collected in support of TNM is the most comprehensive database of its type in the world. Figure E-1 shows the final sound-level-speed relationships built into TNM for the baseline condition of average pavement, level grade, and constant-flow traffic. The graphic depicts the emission level (in dBA at a distance of 50 ft) versus speed for each of the five vehicle types.

Approach

Of particular interest for the purpose of the current assessment is the baseline noise emission level in Figure E-1 for heavy trucks and buses under idle conditions (0 mph). For heavy trucks, the baseline emission level at 50 ft. is 74.3 dBA. For buses, the baseline emission level at 50 ft. is 68.0 dBA. These levels were used in conjunction with TNM to develop sound-level relationships, which can be easily adapted for assessing impact in border-crossing scenarios (Lee 1998). Two TNM input cases were built, one each for heavy trucks and buses. These cases were built assuming propagation over an acoustically hard surface, such as a large open parking lot. In each case, receptors were positioned at distances from 0 to 1000 ft, in 1 ft increments up to 100 ft and 10 ft increments for larger distances (191 total distances). For each of these 191 distances, the

number of vehicles (or border crossing inspections) was varied from 0 to 1000 vehicles per hour in increments of 1 vehicle (1000 total inspections).

Figure E-1. National Noise Emission Levels in TNM



A statistical regression was then developed from the resultant data and a set of equal-level curves were plotted. The resultant heavy trucks over an acoustically hard surface and buses over an acoustically hard surface curves are shown in Figures E-2 through E-5. As can be seen, the curves are displayed in 5 dBA increments from 50 to 75 dBA. The noise descriptor is the hourly equivalent sound level, which is the FHWA's descriptor of choice for judging noise impact in the vicinity of roadways. In addition to 5 dBA increments, the 67 dBA equal-level curve is plotted. As discussed in the following section, an hourly equivalent sound level of 67 dBA is important for judging noise impact in accordance with FHWA criteria.

Impact Assessment

The current FHWA procedures for highway traffic noise analysis and abatement are contained in 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction Noise" (Reagan, not dated). These procedures provide guidance for effective control of the undesirable effects of traffic noise and require that consideration of noise mitigation be undertaken in impacted communities.

Per FHWA procedures, traffic noise impacts occur under either of two separate conditions:

(1) When the predicted traffic noise levels are unacceptably high and approach or exceed an absolute level, also referred to as the noise abatement criteria. Under this condition, the FHWA defines an hourly equivalent sound level of 67 dBA as the noise abatement criteria for typical exterior land use.

Figure E-2. Heavy Truck Sound Levels, Acoustically Hard Surface

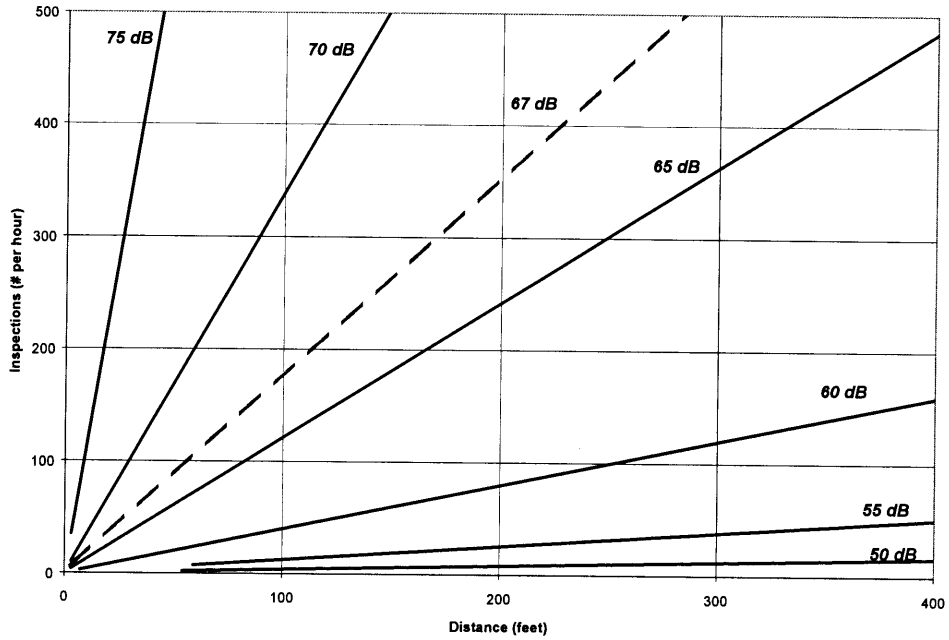


Figure E-3. Heavy Truck Sound Levels, Acoustically Hard Surface (Close In)

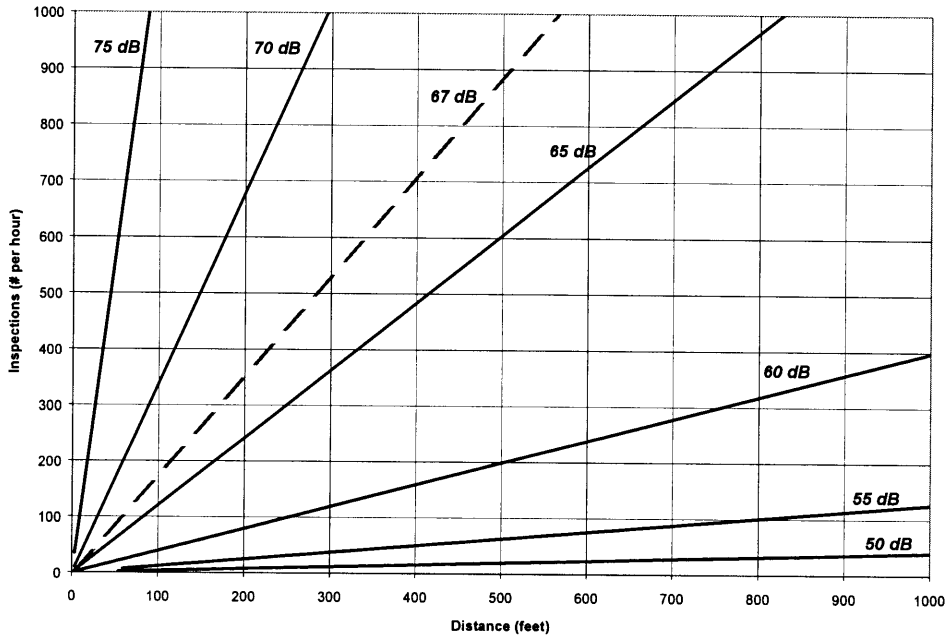


Figure E-4. Bus Sound Levels, Acoustically Hard Surface

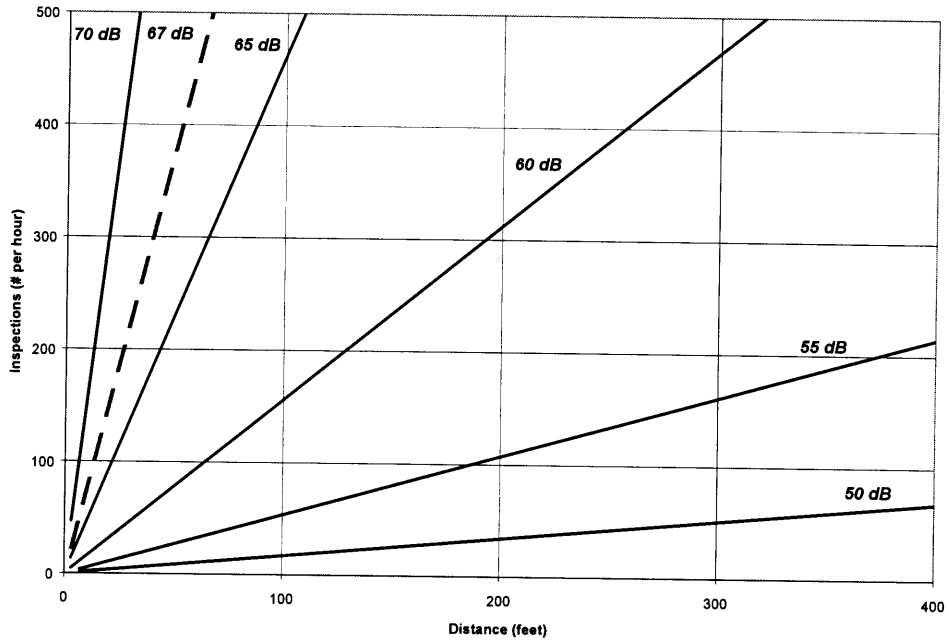
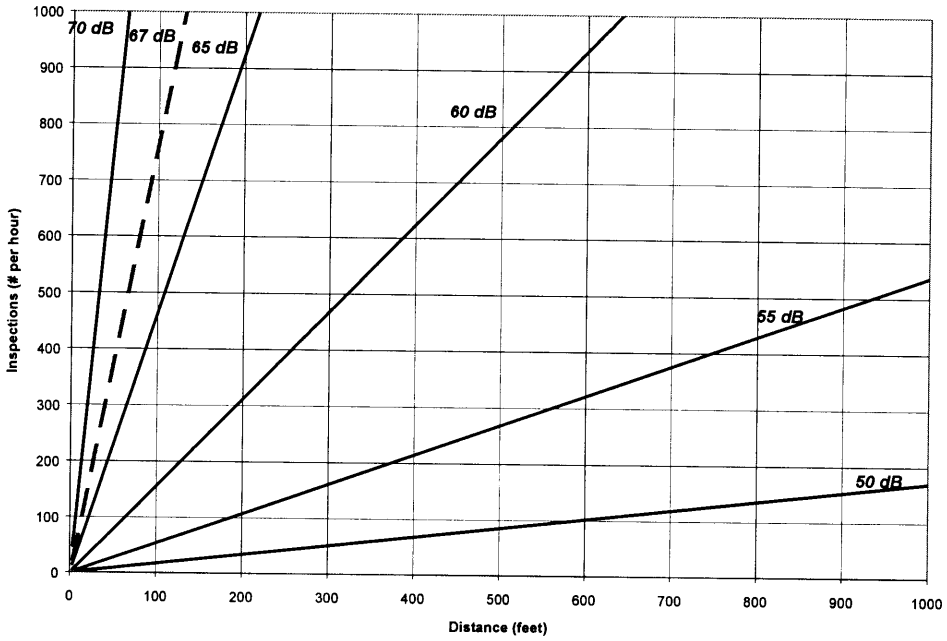


Figure E-5. Bus Sound Levels, Acoustically Hard Surface (Close In)



It should be noted that 67 dBA criteria was established by the FHWA based on two assumptions: that 67 dBA is an achievable level by noise abatement measures and that 67 dBA is a reasonable median level between 80 dBA, a level historically used as an

upper limit, and 55 dBA a level historically considered as the desired level. Further, the FHWA's descriptor of choice for judging noise impact in the vicinity of roadways is the hourly equivalent sound level because it is a metric that is computationally simple, practical, accurate, and easily understood. Other metrics, such as the day-night average sound level used by many Government agencies including the Federal Aviation Administration, greatly increases not only the time and cost of acoustic measurements, but also the number of computations and assumptions that can potentially introduce mathematical errors (FHWA 1998a & b).

(2) When the predicted traffic noise levels *substantially* exceed the existing noise levels, even though the predicted levels may not exceed the noise abatement criteria. Under the this condition, the FHWA allows individual State Highway Agencies to establish their own definition of "substantial increase." A typical level defined as a substantial increase is 10 dBA, which represents a doubling of perceived loudness.

For the purpose of the current assessment, the statistical regression curves shown in the Approach section of this Appendix may be used as an initial screening tool to determine noise impacts in the vicinity of a border crossing. In general, the portions of the plots below and to the right of the 67-dBA curves represent the regions where FHWA impact criteria do not identify impact per condition 1 above. The following examples demonstrate the use of these curves:

Example 1:

Assuming that two hundred inspections of heavy CMV occur per hour at a location with residential dwellings located 150 ft from the roadway, the predicted noise levels are less than 67 dBA – no impact. However, if the number of heavy CMV inspections were to increase to 500 per hour, the resulting noise levels would be greater than 67 dBA – noise impact. Per FHWA regulations, noise mitigation measures would need to be considered.

Example 2:

Assuming that fifty inspections of buses occur per hour at a location with residential dwellings located 400 ft from the roadway, the predicted noise levels (49.4) would be less than 67 dBA – no impact. However, if the number of bus inspections would increase to 700 per hour, the predicted noise levels (60.8) are still less than 67 dBA, but there would be a substantial increase in noise levels, e.g., 11.4 dBA. Per FHWA regulations, noise mitigation measures may need to be considered, depending upon the individual State's definition of "substantially exceed" highlighted above.

The methodology presented herein provides a simple, yet accurate approach to assessing noise impact for idling heavy trucks and buses in the vicinity of a roadside inspection station.

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APPENDIX F –SELECTED NAFTA ENVIRONMENTAL REFERENCES

CEC, 2001. *"Closing the Pathways of Aquatic Invasive Species Across North America."* Commission for Environmental Cooperation, Conservation of Biodiversity. April 11, 2001.

http://www.cec.org/programs_projects/conserv_biodiv/217/index.cfm?varlan=english
This document presents the work of a project designed to develop alternatives to protect marine and aquatic ecosystems from the effects of aquatic invasive species. The initiative will develop a coordinated, multinational prevention and control campaign aimed at eliminating pathways for the introduction of invasive species among the coastal and fresh waters of Canada, Mexico, and the United States.

CEC, 2001. *"Assessing Environment and Trade Relationships."* Commission for Environmental Cooperation, Environment, Economy and Trade. April 11, 2001.

http://www.cec.org/programs_projects/trade_environ_econ/112/index.cfm?varlan=english
This project is designed to deepen understanding of the linkages between the environment and trade liberalization, in accordance with the provision in Article 10(6)(d) of NACEC to undertake an "ongoing assessment" of the environmental effects of NAFTA. Among the strengths of NACEC's work in this area is the commitment to undertake trade-related environmental assessments in an open and participatory way.

CEC, 2001. *"Tri-national Air Quality Improvement Initiative: North American Trade and Transportation Corridors."* Commission for Environmental Cooperation, Pollutants and Health. April 11, 2001.

http://www.cec.org/programs_projects/pollutants_health/313/index.cfm?varlan=english
This project seeks to address significant air quality and other environmental issues associated with transport along North American trade corridors. Such issues affect all three countries of North America.

CEC, 2001. *"Comparative Report on Environmental Standards."* Commission for Environmental Cooperation, Law and Policy. April 11, 2001.

http://www.cec.org/programs_projects/law_policy/411/index.cfm?varlan=english
NACEC is preparing a report on existing environmental standards in an area of concern for Canada, Mexico and the U. S. Areas under current consideration include, for example, trends in trade in wastes and the regulatory regimes controlling transboundary movement of wastes, intensive agriculture practices, control regimes for invasive species, and controls on air emissions from electricity generating facilities. This report will form the basis for identifying a process to

develop greater compatibility of environmental technical regulations and standards in the area studied.

CEC, 1999. "*Assessing Environmental Effects of the North American Free trade Agreement: An Analytic Framework (Phase II) and Issue Studies (3).*" Communications and Public Outreach Department of the CEC Secretariat, Commission for Environmental Cooperation. March 1999.

http://www.cec.org/pubs_info_resources/publications/pdfs/english/engframe.pdf
This document is the second draft of a methodology for examining the environmental effects of NAFTA. This methodology represents the ongoing work of a team of more than two-dozen experts, with advice from dozens of other experts and stakeholders from the United States, Canada, and Mexico. In addition to the methodology, this report contains three issue studies taken from the agriculture and energy sectors that were chosen to test and enrich the framework.

CEC, 1997. "*NAFTA's Institutions: The Environmental Potential and Performance of the NAFTA Free trade Commission and Related Bodies.*" Communications and Public Outreach Department of the CEC Secretariat, Commission for Environmental Cooperation. November 1997.

http://www.cec.org/pubs_info_resources/publications/pdfs/english/NAFTen.pdf
This project presents a framework to be used for the ongoing monitoring of the environmental changes occurring throughout North America in the wake of NAFTA and the side agreements negotiated in conjunction with it. This study analyzes the way NAFTA's economic institutions have moved to fulfill their responsibilities and potential for environmental enhancement specific in the NAFTA text, and have acted synergistically with NAFTA's environmental institutions. Specifically, the document identifies and assesses NAFTA's achievements during the first three years and evaluates how they might be built upon in the future.

CEC, 1996. "*NAFTA Effects – Potential NAFTA Effects: Claims and Arguments 1991-1994.*" Commission for Environmental Cooperation. August 1996.

http://www.cec.org/pubs_info_resources/publications/enviro_trade_econ/claindex.cfm?varlan=english
This document identifies the major claims and arguments made by governments, academics, non-governmental organizations (NGOs), and others in Canada, the United States, and Mexico, suggesting that there are potential direct and indirect environmental effects of the NAFTA.

CEC, 1996. "*NAFTA Effects – A Survey of Recent Attempts to Model the Environmental Effects of Trade.*" Commission for Environmental Cooperation. August 1996.

http://www.cec.org/pubs_info_resources/publications/pdfs/english/nsae.pdf
This document reviews current theoretical understandings about the impact of trade, trade liberalization, and trade agreements on the environment. It also

discusses the state of knowledge about modeling and analyzing the environmental effects of trade.

CEC, 1996. "*Dispute Avoidance: Weighing the Values of Trade and the Environment under the NAFTA and the NAAEC.*" Commission for Environmental Cooperation. October 1996.

http://www.cec.org/pubs_info_resources/publications/pdfs/english/disputee.pdf
This document examines past, present, and potential environmental trade disputes in North America, in order to identify ways to avoid and/or resolve such disputes. The report also discusses trade policies and dispute resolution systems already in place under NAFTA and GATT, and cites possible improvements.

CEC, 1996. "*Building a Framework for Assessing NAFTA Environmental Effects Report of a Workshop held in La Jolla, CA, on April 29 and 30, 1996.*" Commission for Environmental Cooperation. November 1996.

http://www.cec.org/pubs_info_resources/publications/pdfs/english/builde.pdf
This document makes available the presentations and supporting documents from the CEC's first public meeting of its NAFTA Effects Project. In addition to presenting original research from top experts in Mexico, the United States, and Canada, this report includes both a summary of the workshop, and contact information.

CPA, 2001. Rylander , Carole Keeton. "Economic Factors Affecting Cross-border Transportation." *State Functions at the Texas-Mexico Border and Cross-Border Transportation.* Texas Comptroller of Public Accounts. January 2001.

http://www.cpa.state.tx.us/specialrpt/border/sfatb1.html
This document contains the border logistics at the United States – Mexico border in Texas. It explains the *maquilladoras* role in the population and traffic increase at the border and also discusses other general border information.

CPA, 2001. Rylander , Carole Keeton. "The Cross-Border Process." *State Functions at the Texas-Mexico Border and Cross-Border Transportation.* Texas Comptroller of Public Accounts. January 2001.

http://www.cpa.state.tx.us/specialrpt/border/sfatb4.html
This document discusses the border crossing process between the United States and Mexico at the Texas border. It includes the pre-border crossing activities in Mexico, bridge crossing processes and both Mexican and United States Inspections processes.

EPA, 2000. *Protecting the Environment of the United States – Mexico Border Area.* United States Environmental Protection Agency Border Program. Washington: December 2000.

http://www.scerp.org/transition.pdf

This paper discusses the many tools that the United States and Mexico have developed to carry out improvement at the United States – Mexico border, an area under particularly strong environmental stress. It also discusses the opportunities for the new United States and Mexican Administrations and the opportunities that they have to advance institutional and environmental improvements.

GTW, 2001. Hunter, J. Martin, et al. "In the Matter of Cross-Border Trucking Issues." *NAFTA Panel Established Pursuant to Chapter Twenty.* Public Citizen Global Trade Watch. February 2001.

http://www.citizen.org/pctrade/nafta/naftapg.html

This discussion states that the panel must decide whether the United States is in breach of Articles 1202 and/or 1203 of NAFTA by failing to modify its moratorium on the processing of applications by Mexican- owned trucking firms for authority to operate in the United States border states.

USITC, 2000 "International Trade Developments." *International Economic Review.* United States. Office of Economics. Washington: August/September 2000.

http://www.usitc.gov/ier.htm

This document measures the impact of free trade on the environment. The document finds evidence that freer trade may induce cleaner production in poorer countries while resulting in small increases in pollution. This minor effect may also be offset by improved environmental regulations, as freer trade causes income to rise.

USMCC, 1998 "*Environmental Issues in Mexico under NAFTA.*" United States – Mexico Chamber of Commerce, NAFTA Forum Series. Washington. May 1998.

http://www.usmcoc.org/environment.html

This paper describes NAFTA's impact on the environmental situation in Mexico. It also highlights bi-national and multinational Mexican institutions that are working to improve Mexico's environment. This paper also explains the opportunity that United States environmental technology firms have to export solutions to Mexico.

APPENDIX G – SOCIOECONOMIC DEMOGRAPHIC NUMBERS

Table G-1 represents the number of heavy-duty vehicle (greater than 14,001 pounds gross vehicle weight) crossings from Mexico at each of the border crossings. Using the information on this table, percentages of the number of crossings per station as compared with total crossings were computed. It was found that there are seven crossing locations representing 90.5% of the total border crossings in 2000. These seven crossings were selected to quantify total population, median income, and ethnicity. Four of these seven crossings were in Texas - Brownsville, Hidalgo, Laredo, and El Paso; two in California – Otay Mesa and Calexico; and one in Arizona - Nogales.

On table G-2, the border crossing locations were broken down into specific details. The census information on the counties in which these seven border crossings are located, was found on the United States Census Bureau website. The data from the counties was compared to the United States data as a whole, and was used to identify the impact that the Proposed Action would have on the low-income and minority populations in these areas.

Crossing Location	County	Population	Income (Median)*	Population Breakdown: White Population	Percent White	Persons of Hispanic or Latino Origin	Percent Persons of Hispanic or Latino Origin	White Persons not of Hispanic or Latino Origin	Percent White Persons not of Hispanic or Latino Origin
Nogales, Arizona	Santa Cruz	38,381	$26,515.00	29,170	76.00	31,012	80.80	6,832	17.80
Brownsville, Texas	Cameron	335,227	$21,699.00	269,187	80.30	282,596	84.30	48,608	14.50
El Paso, Texas	El Paso	679,622	$25,866.00	502,241	73.90	531,464	78.20	115,536	17.00
Hidalgo, Texas	Hidalgo	569,463	$20,034.00	442,473	77.70	502,836	88.30	59,224	10.40
Laredo, Texas	Webb	193,117	$23,386.00	158,742	82.20	182,109	94.30	9,463	4.90
Otay Mesa, California	San Diego	2,813,833	$39,427.00	1,871,199	66.50	751,293	26.70	1,547,608	55.00
Calexico, California	Imperial	142,361	$23,359.00	70,326	49.40	102,785	72.20	28,757	20.20
Border totals		4,772,004		3,343,338	70.06	2,384,096	49.96	1,816,027	38.06
Border totals minus Otay Mesa		1,958,171		1,472,139	75.18	1,632,802	83.38	268,419	13.71
	U.S. Total	**281,421,906**	**$37,005.00**	**211,347,851**	**75.10**	**35,177,738**	**12.50**	**194,462,537**	**69.10**

*Income is based on a 1997 Model-based estimate

Crossing Location	Population Breakdown: African American Population	Percent African American	American Indian and Alaskan Native Population	American Indian and Alaskan Native	Asian Population	Percent Asians	Native Hawaiian Population	Percent Native Hawaiian	Other race Population	Percent Other race	Two or More Races
Nogales, Arizona	154	0.40	269	0.70	192	0.50	38	0.10	7,561	19.70	998
Brownsville, Texas	1,676	0.50	1,341	0.40	1,676	0.50	0	0.00	53,636	16.00	7,710
El Paso, Texas	21,068	3.10	5,437	0.80	6,796	1.00	680	0.10	121,652	17.90	21,748
Hidalgo, Texas	2,847	0.50	2,278	0.40	3,417	0.60	0	0.00	105,920	18.60	11,959
Laredo, Texas	772	0.40	966	0.50	772	0.40	0	0.00	27,036	14.00	4,828
Otay Mesa, California	160,388	5.70	25,324	0.90	250,431	8.90	14,069	0.50	360,171	12.80	132,250
Calexico, California	5,694	4.00	2,705	1.90	2,847	2.00	142	0.10	55,663	39.10	5,125
Border totals	192,601	4.04	38,319	0.80	266,132	5.58	14,930	0.31	731,640	15.33	184,618
Border totals minus Otay Mesa	32,212	1.65	12,995	0.66	15,701	0.80	860	0.04	371,469	18.97	52,368
U.S. Total	**34,614,894**	**12.30**	**2,532,797**	**0.90**	**10,131,189**	**3.60**	**281,422**	**0.10**	**15,478,205**	**5.50**	**6,754,126**

Source: 2000 U.S. Census data

North Bound Truck Crossings from Mexico - 1984 to 2000

State	US Port	FY1984	FY1988	FY1992	FY1993	FY1994	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000
Texas	Brownsville	148,344	160,927	203,116	224,147	264,345	233,615	224,537	238,175	273,087	294,938	311,808
	Progresso	3,379	16,668	35,179	23,760	22,711	22,962	21,978	17,963	17,298	17,800	11,401
	Hidalgo	41,678	89,363	129,354	147,492	158,405	174,049	198,260	225,337	261,322	308,273	367,217
	Rio Grande City	6,547	6,670	11,639	15,649	15,665	14,936	11,937	16,867	18,658	20,103	22,793
	Roma	12,090	10,718	14,881	14,110	12,273	11,426	12,630	12,019	13,140	15,753	14,551
	Laredo	120,285	208,316	432,061	473,480	659,924	733,783	899,754	1,162,419	1,340,653	1,455,597	1,502,978
	Eagle Pass	26,819	31,155	41,868	45,318	55,046	54,779	54,269	68,385	85,974	98,755	107,540
	Del Rio	5,411	16,318	30,448	32,672	32,601	36,601	39,107	43,530	50,949	58,881	61,018
	Presidio	4,991	8,140	5,712	5,606	4,764	5,291	2,987	3,823	6,683	8,370	9,051
	Fabens	5,485	2,796	8,636	3,199	700	269	141	178	181	191	198
	El Paso	134,482	179,177	554,104	588,162	580,200	610,177	577,152	596,538	591,258	657,664	725,064
	Total	**509,511**	**730,248**	**1,466,998**	**1,573,595**	**1,806,634**	**1,897,888**	**2,042,752**	**2,385,234**	**2,659,203**	**2,936,325**	**3,133,619**
	% of Grand Total	**52.70%**	**60.10%**	**64.76%**	**65.44%**	**65.88%**	**65.46%**	**66.59%**	**66.82%**	**67.78%**	**68.96%**	**68.95%**
	% growth (annualized)		**9.42%**	**19.05%**	**7.27%**	**14.81%**	**5.05%**	**7.63%**	**16.77%**	**11.49%**	**10.42%**	**6.72%**
New Mexico	Santa Teresa				2,214	4,554	5,360	13,611	31,788	31,093	23,899	31,018
	Columbus	3,753	2,022	1,484	1,345	1,351	2,087	2,426	1,997	4,004	4,867	4,892
	Total	**3,753**	**2,022**	**1,484**	**3,559**	**5,905**	**7,447**	**16,037**	**33,785**	**35,097**	**28,766**	**35,910**
	% of Grand Total	**0.39%**	**0.17%**	**0.07%**	**0.15%**	**0.22%**	**0.26%**	**0.52%**	**0.95%**	**0.89%**	**0.68%**	**0.79%**
	% growth (annualized)		**-14.33%**	**-7.44%**	**139.82%**	**65.92%**	**26.11%**	**115.35%**	**110.67%**	**3.88%**	**-18.04%**	**24.83%**
Arizona	Douglas	11,644	17,686	26,113	18,300	47,522	38,242	34,585	41,802	35,561	33,288	32,788
	Naco	3,412	4,694	7,718	4,521	5,043	5,789	5,610	6,578	7,650	8,126	8,293
	Nogales	102,131	132,174	154,845	185,107	187,423	203,298	225,274	238,425	256,494	255,412	258,201
	Sasabe	2,036	1,588	1,527	1,691	1,308	1,180	1,512	1,393	1,844	2,381	2,775
	Lukeville	3,003	1,899	1,765	2,278	2,419	2,665	2,766	3,254	3,723	4,355	3,887
	San Luis	10,839	23,526	34,847	36,620	43,356	44,214	44,377	45,175	42,472	39,974	41,522
	Total	**133,065**	**181,567**	**226,815**	**248,517**	**287,071**	**295,388**	**314,124**	**334,627**	**347,744**	**343,536**	**347,466**
	% of Grand Total	**13.76%**	**14.94%**	**10.01%**	**10.33%**	**10.47%**	**10.19%**	**10.24%**	**9.37%**	**8.86%**	**8.07%**	**7.64%**
	% growth (annualized)		**8.08%**	**5.72%**	**9.57%**	**15.51%**	**2.90%**	**6.34%**	**6.53%**	**3.92%**	**-1.21%**	**1.14%**
California	Andrade	1,111	1,888	1,577	1,420	3,114	3,818	3,935	3,078	2,137	2,072	1,578
	Calexico	161,519	142,689	152,317	156,381	176,625	176,420	169,403	190,160	222,105	250,083	281,032
	Tecate	44,967	58,974	41,833	36,710	34,674	41,064	45,932	64,262	57,914	59,647	61,707
	Otay Mesa *			374,141	384,615	428,086	477,390	475,427	558,383	599,001	637,849	683,703
	San Diego *	112,911	97,712	88								
	Total	**320,508**	**301,263**	**569,956**	**579,126**	**642,699**	**698,692**	**694,697**	**815,883**	**881,157**	**949,651**	**1,028,020**
	% of Grand Total	**33.15%**	**24.79%**	**25.16%**	**24.08%**	**23.44%**	**24.10%**	**22.65%**	**22.86%**	**22.46%**	**22.30%**	**22.62%**
	% growth (annualized)		**-1.54%**	**17.28%**	**1.61%**	**10.98%**	**8.71%**	**-0.57%**	**17.44%**	**8.00%**	**7.77%**	**8.25%**
All	**Grand Total**	**966,837**	**1,215,100**	**2,265,253**	**2,404,797**	**2,742,309**	**2,899,415**	**3,067,610**	**3,569,529**	**3,923,201**	**4,258,278**	**4,545,015**
	% growth (annualized)		**5.88%**	**16.85%**	**6.16%**	**14.03%**	**5.73%**	**5.80%**	**16.36%**	**9.91%**	**8.54%**	**6.73%**

Source: U.S. Customs Service.

* The San Diego border crossing was closed during the period of 1988-1992 and the Otay Mesa border crossing was opened as a replacement.

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APPENDIX H – PROPOSED FORMS OP-2 AND OP-1(MX)

See following pages.