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Regulatory Assessment
for the Final Rule

Documents Required for Travel Within the Western Hemisphere

The Western Hemisphere Travel Initiative Implemented in the Land Environment

Report Excluding Appendices

Final | March 2008

INDUSTRIAL ECONOMICS, INCORPORATED

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ACKNOWLEDGEMENTS

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PREFACE

This final rule implementing the second phase of the Western Hemisphere Travel Initiative (WHTI) for entries by land and sea is considered to be an economically significant regulatory action under Executive Order 12866 because it may result in the expenditure of over $100 million in any one year. Accordingly, this rule has been reviewed by the U.S. Office of Management and Budget (OMB). The following summary presents the costs and benefits of requirements for U.S. citizens entering the United States from other countries in the Western Hemisphere by land and sea, plus the costs and benefits of several alternatives considered during the rulemaking process. For a summary of the impacts of implementing WHTI in the land environment alone, see the Executive Summary of this report.

The proposed rule for implementation of WHTI in the land and sea environments was published June 26, 2007 (72 FR 35088). The U.S. Department of Homeland Security (DHS) and the U.S. Department of State (DOS) received approximately 1,500 comments to the proposed rule. Responses to these comments are contained in the preamble to the final rule.

The regulatory assessments summarized in this preface consider U.S. travelers entering the United States via land ports-of-entry on the northern and southern borders (including arrivals by ferry and pleasure boat) as well as certain cruise ship passengers. Costs to obtain the necessary documentation for air travel were considered in a previous analysis examining the implementation of WHTI in the air environment (the Regulatory Assessment for the November 2006 Final Rule for implementation of WHTI in the air environment can be found at www.regulations.gov; document number USCBP-2006-0097-0108). If travelers have already purchased a passport for travel in the air environment, they would not need to purchase a passport for travel in the land or sea environments. We do not attempt to estimate the number of individuals who travel in more than one environment, and, therefore, may have already obtained a passport due to the air rule and will not incur any burden due to this rule. To the extent that the three traveling populations overlap in the air, land, and sea environments, we have potentially overestimated the direct costs of the rule presented here.

The period of analysis is 2005–2018 (14 years). We calculate costs beginning in 2005 because although the suite of WHTI rules is not yet in place, DOS has already seen a dramatic increase in passport applications since the WHTI plan was announced in early 2005. We account for those passports obtained prior to full implementation to more accurately estimate the economic impacts of the rule as well as to incorporate the fairly

sizable percentage of travelers who currently hold passports in anticipation of the new requirements.

In addition to the traditional passport book, the Secretary of Homeland Security is designating the passport card, U.S. Customs and Border Protection (CBP) trusted traveler cards (NEXUS, SENTRI, FAST), the Merchant Mariner Document (MMD), and specified documents from DHS-approved enhanced driver's license programs as acceptable travel documents for U.S. citizens to enter the United States at land and sea ports-of-entry (POEs). Because DHS and DOS believe that children under the age of 16 pose a low security threat in the land and sea environments, U.S. children may present a birth certificate in lieu of the designated documents. Additionally, DHS and DOS have determined that waiving certain cruise passengers from a passport requirement is the best approach to balance security and travel efficiency considerations in the cruise ship environment. To meet the cruise waiver, a passenger must board the cruise ship at a port or place within the United States and the passenger must return on the same ship to the same U.S. port or place from where he or she originally departed.

For the summary of the analysis presented here, CBP assumes that only the passport book, trusted traveler cards, and the MMD are available in the first years of the analysis (recalling that the period of analysis begins in 2005 when passport cards and pilot-program documents were not yet available). CBP also assumes that most children under 16 will not obtain a passport or passport card but will instead use alternative documentation (birth certificates). The estimates reflect that CBP trusted traveler cards will be accepted at land and sea POEs. Finally, CBP assumes that most of the U.S. cruise passenger population will present alternative documentation (government-issued photo ID and birth certificate) because they meet the waiver criteria proposed.

To estimate the costs of the rule, we follow this general analytical framework—

— Determine the number of U.S. travelers that will be covered

— Determine how many already hold acceptable documents

— Determine how many will opt to obtain passport books (and passport cards) and estimate their lost "consumer surplus"

— Determine how many will forgo travel instead of obtaining passport books or passport cards and estimate their lost "consumer surplus"

We estimate covered land travelers using multiple sources, including: crossing data from the Bureau of Transportation Statistics (BTS, 2004 data), a study of passport demand conducted by DOS (completed in 2005), and a host of regional studies conducted by state and local governments and academic research centers.

Other than the DOS's passport demand study, no source exists to our knowledge that has estimated the total number of land entrants nationwide. Researchers almost always count or estimate *crossings*, not *crossers* and focus on a region or locality, not an entire border. Building on the work conducted for DOS's passport study, we distilled approximately 300 million annual crossings into the number of frequent (defined as crossing the border

at least once a year), infrequent (crossing once every 3 years), and rare (crossing once every 10 years) "unique U.S. adult travelers." We then estimate the number of travelers without acceptable documentation and estimate the cost to obtain a document. The fee for the passport varies depending on the age of the applicant, whether or not the applicant is renewing a passport, whether or not the applicant is requesting expedited service, and whether or not the applicant obtains a passport book or a passport card. Additionally, we consider the amount of time required to obtain the document and the value of that time. To estimate the value of an applicant's time in the land environment, we conducted new research that built on existing estimates from the U.S. Department of Transportation. To estimate the value of an applicant's time in the sea environment, we use estimates for air travelers' value of time (air and sea travelers share very similar characteristics) from the Federal Aviation Administration (FAA, 2005 data). We use the 2005 DOS passport demand study and CBP statistics on the trusted traveler programs to estimate how many unique U.S. travelers already hold acceptable documents.

We estimate covered cruise passengers using data from the Maritime Administration (MARAD, 2006 data) and itineraries available on the cruise line websites (for 2007). The overwhelming majority of Western Hemisphere cruise passengers—92 percent—would fall under the proposed cruise-passenger waiver. Passengers not covered by the waiver fall into four trade markets—Alaska (72 percent), Trans-Panama Canal (16 percent), U.S. Pacific Coast (8 percent), and Canada/New England (4 percent). We estimate that these passengers will have to obtain a passport book rather than one of the other acceptable documents because these travelers will likely have an international flight as part of their cruise vacation, and only the passport book is a globally accepted travel document. We use a comment to the August 2006 Notice of Proposed Rulemaking (NPRM) for implementation of WHTI in the air and sea environments (71 FR 46155) from the International Council of Cruise Lines to estimate how many unique U.S. cruise travelers already hold WHTI-compliant documentation.

Based on CBP's analysis, between 0.7 million and 5.0 million unique U.S. travelers without WHTI-compliant documentation desire trips across the border each year between the time WHTI was first announced (2005) and its implementation date (2009).[1] Of these, the majority enter through a land-border crossing (via privately owned vehicle, commercial truck, bus, train, on foot) and ferry and recreational boat landing sites. In each year, between 0.1 million and 0.3 million are cruise passengers who do not meet the waiver criteria (note that over 90 percent of U.S. cruise passengers are expected to meet the waiver criteria). CBP estimates that the traveling public will acquire between 0.6 million and 4.5 million passports each year, at a direct cost to traveling individuals of $86 million to $417 million annually (in undiscounted terms). These estimates are summarized in Table A (next page).

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[1] Note that the analysis anticipates a significant number of travelers will obtain WHTI-compliant documents in 2005 through 2008, prior to the implementation of the rule. In addition, travelers who only make trips in the first half of 2009 will not be required to comply with the rule.

TABLE A   AFFECTED TRAVELERS, PASSPORT DEMANDED, AND COSTS LEADING UP TO WHTI
IMPLEMENTATION (ALL ESTIMATES IN MILLIONS, UNDISCOUNTED)

	2005	2006	2007	2008	2009
AFFECTED TRAVELERS					
Land/ferry/pleasure boat crossers	2.9	0.8	0.4	4.8	3.5
Cruise passengers	0.3	0.3	0.3	0.2	0.1
Total	**3.3**	**1.1**	**0.7**	**5.0**	**3.6**
PASSPORTS DEMANDED					
Land/ferry/pleasure boat crossers	2.7	0.8	0.4	4.4	3.2
Cruise passengers	0.3	0.3	0.2	0.2	0.1
Total	**3.0**	**1.0**	**0.6**	**4.5**	**3.2**
TOTAL COSTS OF PASSPORTS					
Land/ferry/pleasure boat crossers	$371	$105	$52	$373	$271
Cruise passengers	$46	$40	$34	$27	$11
Total	**$417**	**$146**	**$86**	**$399**	**$283**

Note: Totals may not sum due to rounding.

To estimate potential forgone travel in the land environment, we derive traveler demand curves for access to Mexico and Canada based on survey responses collected in DOS's passport study. We estimate that when the rule is implemented, the number of unique U.S. travelers to Mexico decreases by 5.7 percent, 6.4 percent, and 15.7 percent for frequent, infrequent, and rare travelers, respectively. The number of U.S. travelers visiting Canada decreases by 3.3 percent, 9.5 percent, and 9.6 percent for frequent, infrequent, and rare travelers, respectively. These estimates account for the use of a passport card for those travelers who choose to obtain one. For unique travelers deciding to forgo future visits, their implied value for access to these countries is less than the cost of obtaining a passport card.

To estimate potential forgone travel in the sea environment, we use a study from Coleman, Meyer, and Scheffman (2003), which described the Federal Trade Commission investigation into potential impacts of two cruise-line mergers and estimated a demand elasticity for cruise travel. We estimate that the number of travelers decreases by 24 percent, 13 percent, 7 percent, and 6 percent for travelers on short (one to five nights), medium (six to eight nights), long (nine to 17 nights), and very long cruises (over 17 nights) once the rule is implemented.

We then estimate total losses in consumer surplus. The first figure below represents U.S. travelers' willingness to pay (D_1) for access to Mexico and Canada. At price P_1, the

number of US travelers without passports currently making trips to these countries is represented by Q_1. As seen in the second figure, if the government requires travelers to obtain a passport or passport card in order to take trips to Mexico and Canada, the price of access increases by the cost of obtaining the new document, to P_2. As a result, the number of travelers making trips to these countries decreases to Q_2.
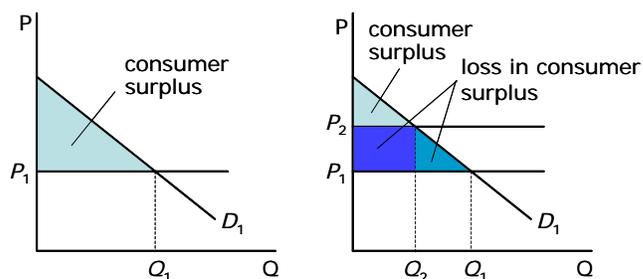
All travelers in this figure experience a loss in consumer surplus; the size of the surplus loss depends on their willingness to pay for access to these countries. The lost surplus experienced by travelers whose willingness to pay exceeds P_2 is shown in the dark blue rectangle, and is calculated as $(P_2 - P_1) * Q_2$. Travelers whose willingness to pay for access to these countries is less than the price of the passport or passport card will experience a loss equal to the area of the aqua triangle, calculated as $\frac{1}{2} * (Q_1 - Q_2) * (P_2 - P_1)$.

Costs of the rule (expressed as losses in consumer surplus) are summed by year of the analysis. We then add the government costs of implementing WHTI over the period of analysis. Fourteen-year costs are $3.3 billion at the 3 percent discount rate and $2.7 billion at 7 percent, as shown in Table B. Annualized costs are $296 million at three percent and $314 million at seven percent.

The primary analysis for land summarized here assumes a constant number of border crossers over the period of analysis; in the complete Regulatory Assessment we also consider scenarios where the number of border crossers both increases and decreases over the period of analysis. It is worth noting that border crossings have been mostly decreasing at both the northern and southern borders since 1999. The analysis for sea travel assumes a six percent annual increase in passenger counts over the period of analysis as the Western Hemisphere cruise industry continues to experience growth.

TABLE B   TOTAL COSTS FOR US TRAVELERS OVER THE PERIOD OF ANALYSIS (2005-2018, IN $MILLIONS)

YEAR	COST	3% DISCOUNT RATE	7% DISCOUNT RATE
2005	$435	$435	$435
2006	153	148	143
2007	91	85	79
2008	493	451	406
2009	431	383	333
2010	352	304	255
2011	270	226	183
2012	235	191	149
2013	235	186	140
2014	290	222	159
2015	314	234	161
2016	250	181	120
2017	225	158	101
2018	201	137	84
Total		$3,340	$2,748

Finally, we conduct a formal uncertainty (Monte Carlo) analysis to test our assumptions for the analysis in the land environment. We first conducted a preliminary sensitivity analysis to identify the variables that have the most significant effect on consumer welfare losses. We found that the frequency of travel (assumptions about the number of trips taken in a decade by frequent, infrequent, rare travelers), crossings at multiple POEs, projected crossing growth rate, and the amount of time spent applying for documentation were the most sensitive variables in the analysis. The variables that did not appear to have an impact on consumer losses were the estimated number of crossings by Lawful Permanent Residents or Native Americans and estimated future timing with which travelers will apply for acceptable documentation. After we conducted our formal Monte Carlo analysis we found that our most sensitive assumptions are: the projected crossing growth rate, the frequency of travel, and the number of new unique travelers that enter the population annually. The results of the Monte Carlo analysis are presented in Table C. Note that these estimates do not include the government costs of implementation, estimated to be $0.8 billion over the time period of the analysis (three percent discount rate) because we have no basis for assigning uncertainty parameters for government costs.

TABLE C   SUMMARY OF KEY CHARACTERISTICS OF PROBABILITY DISTRIBUTIONS OF TOTAL
           WELFARE LOSSES IN THE LAND ENVIRONMENT (2005-2018, IN $BILLIONS), 3
           PERCENT DISCOUNT RATE

STATISTIC	VALUE
Trials	10,000
Mean	$2.2
Median	$2.1
Std Dev	$0.5
Variance	2.4E+08
5th Percentile	$1.5
95th Percentile	$3.1
Point Estimate	$2.3

We then consider the secondary impacts of forgone travel in the land and sea environments. Forgone travel will result in gains and losses in the United States, Canada, and Mexico. For this analysis, we made the simplifying assumption that if U.S. citizens forgo travel to Canada and Mexico, their expenditures that would have been spent outside the country now remain here. In this case, industries receiving the diverted expenditure in the United States experience a gain, while the travel and related industries in Canada and Mexico suffer a loss. Conversely, if Canadian and Mexican citizens forgo travel to the United States, their potential expenditures remain abroad—a loss for the travel and related industries in the United States, but a gain to Canada and Mexico. Note that "gains" and "losses" in this analysis cannot readily be compared to the estimated costs of the rule to travelers and the government because the former represent changes in expenditures (rather than changes in consumer and producer surplus), while the latter represent estimates of changes in welfare (measured, in part, as changes in consumer surplus).

For cruise passengers, we have only rough estimates of where U.S. passengers come from, how they travel to and from the ports where they embark, where they go, and the activities they engage in while cruising. We know even less about how they will alter their behavior if they do, in fact, forgo obtaining a passport. Ideally, we could model the indirect impacts of the rule with an input-output model (either static or dynamic) that could give us a reasonable estimation of the level the impact, the sectors affected, and regional impacts. Unfortunately, given the dearth of data, the assumptions we had to make, the very small numbers of travelers who are estimated to forgo travel, and the fact that much of their travel experience occurs outside the United States, using such a model would not likely produce meaningful results. We recognize, however, that multiple industries could be indirectly affected by forgone cruise travel, including (but not limited to): cruise lines; cruise terminals and their support services; air carriers and their support services; travel agents; traveler accommodations; dining services; retail shopping; tour operators; scenic and sightseeing transportation; hired transportation (taxis, buses); and arts, entertainment, and recreation.

According to the MARAD dataset used for the sea analysis, there are 17 cruise lines operating in the Western Hemisphere, nine of which are currently offering cruises that would be indirectly affected by a passport requirement. While we expect that cruise lines will be indirectly affected by the rule, how they will be affected depends on their itineraries, the length of their cruises, their current capacity, and future expansion, as well as by travelers' decisions. We expect short cruises (one to five nights) to be most notably affected because the passport represents a greater percentage of the overall trip cost, passengers on these cruises are less likely to already hold a passport, and travel plans for these cruises are frequently made closer to voyage time. Longer cruises are less likely to be affected because these trips are planned well in advance, passengers on these voyages are more likely to already possess a passport, and the passport cost is a smaller fraction of the total trip cost.

Because border-crossing activity is predominantly a localized phenomenon, and the activities engaged in while visiting the United States are well documented in existing studies, we can explore the potential impacts of forgone travel more quantitatively in the land environment. Using various studies on average spending per trip in the United States, Canada, and Mexico, we estimate the net results of changes in expenditure flows in 2009 (the first year the requirements will be implemented) and subsequent years.[2] Because Mexican crossers already possess acceptable documentation to enter the United States (passport or Border Crossing Card), we do not estimate that Mexican travelers will forgo travel to the United States. The summary of expenditure flows is presented in Table D.

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[2] Note that travel is affected for seven out of 12 months in 2009 (i.e., June through December).

TABLE D   NET EXPENDITURE FLOWS IN NORTH AMERICA, 2009, 2010, AND SUBSEQUENT YEARS (IN MILLIONS)

2009	
Spending by US travelers who forgo travel to Mexico	+$160
Spending by Mexican travelers who forgo travel to the United States	0
Spending by US travelers who forgo travel to Canada	+60
Spending by Canadian travelers who forgo travel to United States	-400
Net	-180
2010	
Spending by US travelers who forgo travel to Mexico	+280
Spending by Mexican travelers who forgo travel to the United States	0
Spending by US travelers who forgo travel to Canada	+110
Spending by Canadian travelers who forgo travel to United States	-440
Net	-50
Subsequent years (annual)	
Spending by US travelers who forgo travel to Mexico	+280
Spending by Mexican travelers who forgo travel to United States	0
Spending by US travelers who forgo travel to Canada	+110
Spending by Canadian travelers who forgo travel to United States	-330
Net	+60

To examine these impacts more locally, we conduct eight case studies using a commonly applied input-output model (IMPLAN), which examines regional changes in economic activity given an external stimulus affecting those activities. We estimate the share of the expenditure changes described above attributable to travelers coming from and going to each of our study areas. We then add in potential lost local spending due to the need for U.S. travelers to purchase WHTI-compliant documentation. In all our case studies but two, forgone border crossings attributable to WHTI have a less-than-one-percent impact on the regional economy both in terms of output and employment. The results of these eight case studies are presented in Table E.

TABLE E   MODELED DISTRIBUTIONAL EFFECTS IN EIGHT CASE STUDIES

STUDY AREA (COUNTIES)	STATE	CHANGE AS % OF TOTAL…	
		OUTPUT	EMPLOYMENT
San Diego	California	+0.02	+0.03
Pima, Santa Cruz	Arizona	+0.02	+0.02
Hidalgo, Cameron	Texas	+0.1	+0.1
Presidio	Texas	+0.4	+0.4
Niagara, Erie	New York	-0.2	-0.3
Washington	Maine	-1.4	-3.2
Macomb, Wayne, Oakland	Michigan	-0.02	-0.04
Whatcom	Washington	-0.5	-1.3

As shown, we anticipate very small net positive changes in the southern-border case studies because Mexican travelers to the United States use existing documentation, and their travel is not affected. The net change in regional output and employment is negative in the northern border case studies because Canadian travelers forgoing trips outnumber U.S. travelers staying in the United States and because Canadian travelers to the United States generally spend more per trip than U.S. travelers to Canada. On both borders, those U.S. travelers that forgo travel do not necessarily spend the money they would have spent outside the United States in the case-study region; they may spend it outside the region, and thus outside the model.

Finally, because the benefits of homeland security regulations cannot readily be quantified using traditional analytical methods, we conduct a "break-even analysis" to determine what the reduction in risk would have to be given the estimated costs of the implementation of WHTI (land environment only). Using Risk Management Solutions' U.S. Terrorism Risk Model (RMS model), we worked with the RAND Corporation (RAND) to estimate the reduction in baseline annual expected losses from terrorist events (i.e., the "critical risk reduction") that would have to occur in order for the costs of the rule to equal the benefits—or break even.

The RMS model has been developed for use by the insurance industry and provides an assessment of the overall terrorism risk from both foreign and domestic terrorist organizations. The RMS model generates a probabilistic estimate of the overall terrorism risk from loss estimates for dozens of types of potential attacks against several thousand potential targets of terrorism across the United States. For each attack mode-target pair (constituting an individual scenario) the model accounts for the probability that a successful attack will occur and the consequences of the attack. RMS derives attack probabilities from a semi-annual structured expert elicitation process focusing on terrorists' intentions and capabilities. It bases scenario consequences on physical modeling of attack phenomena and casts target characteristics in terms of property damage and casualties of interest to insurers. Specifically, property damages include costs of damaged buildings, loss of building contents, and loss from business interruption

associated with property to which law enforcement prohibits entry immediately following a terrorist attack. RMS classifies casualties based on injury-severity categories used by the worker compensation insurance industry.

The results in Table F below are based on the annualized cost estimate (assuming a seven percent discount rate) of the rule presented above. These results show that a decrease in perceived risk (i.e., the "low risk" scenario generated by RAND to characterize the expected annual losses in the United States from terrorist attacks) leads to a smaller annualized loss and a greater required critical risk reduction for the benefits of the rule to break-even with costs. Conversely, an increase in perceived risk (i.e., the "high risk" scenario) leads to a greater annualized loss and a smaller required critical risk reduction. The total range in critical risk reduction under the standard threat outlook produced by the RMS model is approximately a factor of three and ranges from 5.5 to 14 percent depending on the methodology used to value the benefits of avoided terrorist attacks (i.e., the value of avoided injuries and deaths).

TABLE F   CRITICAL RISK REDUCTION FOR THE PROPOSED RULE (7 PERCENT DISCOUNT RATE)

VALUATION METHODOLOGY	CRITICAL RISK REDUCTION		
	LOW RISK	STANDARD RISK	HIGH RISK
Cost of injury (fatality = $1.1 million)	27%	14%	6.8%
Willingness to pay (VSL = $3 million)	21	10	5.2
Quality of life (VSL = $3 million)	18	8.8	4.4
Willingness to pay (VSL = $6 million)	14	7.0	3.5
Quality of life (VSL = $6 million)	11	5.5	2.8

Several key factors affect estimates of the critical risk reduction required for the benefits of the rule to equal or exceed the costs. These factors include: the uncertainty in the risk estimate produced by the RMS model; the potential for other types of baseline losses not captured in the RMS model; and the size of other non-quantified direct and ancillary benefits of the rule. The RMS model likely underestimates total baseline terrorism loss because it only reflects the direct, insurable costs of terrorism. It does not include any indirect losses that would result from continued change in consumption patterns or preferences or that would result from propagating consequences of interdependent infrastructure systems. For example, the RMS model does not capture the economic disruption of a terrorism event beyond the immediate insured losses. Furthermore, the model also excludes non-worker casualty losses and losses associated with government buildings and employees. Finally, the model may not capture less-tangible components of losses that the public wishes to avoid, such as the fear and anxiety associated with experiencing a terrorist attack. Omission of these losses will cause us to overstate the necessary risk reductions.

Although the risk reduction associated with the final rule cannot be quantified due to data limitations, a separate analysis conducted by CBP of alternative POE processing technology investments suggests that reductions in wait time at the border are likely. CBP did not analyze a scenario exactly comparable to the final rule (i.e., it does not consider the effect of exempting children). However, CBP's analysis suggests the benefits associated with an alternative implementing standard documents and RFID technology are sufficiently large to offset the costs of WHTI. The change in the magnitude of wait time benefits when children are exempt is unknown.

<div style="float:left">ALTERNATIVES TO THE FINAL RULE</div>

CBP considered the following alternatives to the final rule—

1. Require all U.S. travelers (including children) to present a valid passport book upon return to the United States from countries in the Western Hemisphere.

2. Require all U.S. travelers (including children) to present a valid passport book, RFID-capable passport card, or CBP trusted traveler document upon return to the United States from countries in the Western Hemisphere.

3. Require all U.S. travelers (including children) to present a valid passport book, a passport card that is not RFID-capable, or CBP trusted traveler document upon return to the United States from countries in the Western Hemisphere.

Calculations of costs for the alternatives can be found in the two Regulatory Assessments for the final rule.

ALTERNATIVE 1: REQUIRE ALL US TRAVELERS (INCLUDING CHILDREN) TO PRESENT A VALID PASSPORT BOOK

The first alternative would require all U.S. citizens, including minors under 16 and all cruise passengers, to present a valid passport book only. This alternative was rejected as potentially too costly and burdensome for low-risk populations of travelers. While the passport book will always be an acceptable document for a U.S. citizen to present upon entry to the United States, DHS and DOS believe that the cost of a traditional passport book may be too expensive for some U.S. citizens, particularly those living in border communities where land-border crossings are an integral part of everyday life. As stated previously, DHS and DOS, believe that children under the age of 16 pose a low security threat in the land and sea environments and will be permitted to present a birth certificate when arriving in the United States at all land and sea ports-of-entry from within the Western Hemisphere. DHS and the State Department have also determined that waiving certain cruise passengers from a passport requirement is the best approach to balance security and travel efficiency considerations in the cruise ship environment.

ALTERNATIVE 2: REQUIRE ALL US TRAVELERS (INCLUDING CHILDREN) TO PRESENT A VALID PASSPORT BOOK, RFID-CAPABLE PASSPORT CARD, OR CBP TRUSTED TRAVELER DOCUMENT

The second alternative is similar to the final rule, though it includes children and does not provide a waiver for cruise passengers. While this alternative incorporates the low-cost

passport card and CBP trusted traveler cards as acceptable travel documents, this alternative was ultimately rejected as potentially too costly and burdensome for low-risk populations of travelers (certain cruise passengers and minors under 16).

ALTERNATIVE 3: REQUIRE ALL US TRAVELERS (INCLUDING CHILDREN) TO PRESENT A VALID PASSPORT BOOK, PASSPORT CARD THAT IS NOT RFID-CAPABLE, OR CBP TRUSTED TRAVELER DOCUMENT

The third alternative is similar to the final rule, though it does not include RFID technology in the passport card, includes children, and does not provide a waiver for cruise passengers. This alternative was rejected because DHS and the State Department strongly believe that facilitation of travel, particularly at the land borders where wait times are a major concern, should be a primary achievement of WHTI implementation. Table G presents a comparison of the costs of the final rule and the alternatives considered.

TABLE G   COMPARISON OF REGULATORY ALTERNATIVES (IN $MILLIONS)

ALTERNATIVE	14-YEAR COST (7%)	COMPARED TO FINAL RULE	REASON REJECTED
Final rule	$2,748	n/a	
Alternative 1: Passport book only for all U.S. travelers	$6,728	+$3,979	Cost of a passport considered too high for citizens in border communities; low-risk traveling populations (certain cruise passengers, children under 16) unduly burdened
Alternative 2: Passport book, passport card, and other designated documents for all U.S. travelers	$5,751	+$3,003	Low-risk traveling populations (certain cruise passengers, children under 16) unduly burdened
Alternative 3: Passport book, passport card that is not RFID-capable, and other designated documents for all U.S. travelers	$5,340	+$2,591	Low-risk traveling populations (certain cruise passengers, children under 16) unduly burdened; unacceptable wait times at land-border ports of entry

It is important to note that for scenarios where the RFID-capable passport card is acceptable (the final rule and Alternative 2), the estimates include government implementation costs for CBP to install the appropriate technology at land POEs to read RFID-enabled passport cards and the next generation of CBP trusted traveler documents. These technology deployment costs are estimated to be substantial, particularly in the early phases of implementation. As a result, the alternatives allowing more documents than just the passport book result in higher government costs over 14 years than alternatives allowing only the passport book or the passport card that is not RFID-enabled, which can be processed with existing readers that scan the passport's machine-

readable zone. Providing waivers for minors and most cruise passengers results in notable cost savings over 14 years (about $2.5 billion to $4.0 billion depending on the documents considered).

ACCOUNTING STATEMENT

As required by OMB Circular A-4, CBP has prepared an accounting statement showing the classification of the expenditures associated with this rule. The table below provides an estimate of the dollar amount of these costs and benefits, expressed in 2005 dollars, assuming seven percent and three percent discount rates. We estimate that the cost of this rule will be approximately $314 million annualized (seven percent discount rate) and approximately $296 million annualized (three percent discount rate). Non-quantified benefits are enhanced security and efficiency.

ACCOUNTING STATEMENT: CLASSIFICATION OF EXPENDITURES, 2005-2018 (2005 DOLLARS)

	3% DISCOUNT RATE	7% DISCOUNT RATE
Costs		
Annualized monetized costs	$296 million	$314 million
Annualized quantified, but un-monetized costs	Indirect costs to the travel and tourism industry	Indirect costs to the travel and tourism industry
Qualitative (un-quantified) costs	Indirect costs to the travel and tourism industry	Indirect costs to the travel and tourism industry
Benefits		
Annualized monetized benefits	None quantified	None quantified
Annualized quantified, but un-monetized benefits	None quantified	None quantified
Qualitative (un-quantified) benefits	Enhanced security and efficiency	Enhanced security and efficiency

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CHAPTER 6   INDIRECT EFFECTS

LIST OF ACRONYMS

ANPRM	Advance Notice of Proposed Rulemaking
B&M	Brownsville & Matamoros International Bridge
BCC	Border Crossing Card
BLS	U.S. Bureau of Labor Statistics
BTS	U.S. Bureau of Transportation Statistics
BVI	British Virgin Islands
CBA	Cost-Benefit Analysis
CBP	U.S. Customs and Border Protection
CRF	Capital Recovery Factor
C-TPAT	Customs-Trade Partnership Against Terrorism
DHS	U.S. Department of Homeland Security
DOJ	U.S. Department of Justice
DOS	U.S. Department of State
DOT	U.S. Department of Transportation
EA	Environmental Assessment
EDL	Enhanced Driver's License
EPA	U.S. Environmental Protection Agency
FAST	Free and Secure Trade
FBI	Federal Bureau of Investigation
FONSI	Finding of No Significant Impact
GDP	Gross Domestic Product
GES	Global Enrollment System
INA	Immigration and Nationality Act
IRS	Internal Revenue Service
IRTPA	Intelligence Reform and Terrorism Prevention Act of 2004
IT	information technology
LPR	Lawful Permanent Resident
MMD	Merchant Mariner Document
MSA	Metropolitan Statistical Area
MRZ	machine-readable zone
NAICS	North American Industry Classification System
NCIC	National Crime Information Center
NCTC	National Counterterrorism Center
NEPA	National Environmental Policy Act
NPRM	Notice of Proposed Rulemaking
OFO	Office of Field Operations (CBP)
OIT	Office of Information Technology (CBP)
OMB	U.S. Office of Management and Budget
PEA	Programmatic Environmental Assessment
POE	port(s)-of-entry
POV	privately owned vehicle
PRA	Paperwork Reduction Act
RF	radio frequency

RFA/SBREFA	The Regulatory Flexibility Act of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996
RFID	Radio Frequency Identification
SAIC	Science Applications International Corporation
SANDAG	San Diego Association of Governments
SBA	Small Business Administration
SEMCOG	Southeast Michigan Council of Governments
SENTRI	Secure Electronic Network for Travelers' Rapid Inspection
TECS	Treasury Enforcement Communications System
TRIP	Tourism Risk Impact Projection
TSDB	Terrorism Screening Database
UMRA	The Unfunded Mandates Reform Act of 1995
USPS	U.S. Postal Service
USVI	U.S. Virgin Islands
VWP	Visa Waiver Program
WHTI	Western Hemisphere Travel Initiative
WTP	willingness to pay

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EXECUTIVE SUMMARY

INTRODUCTION This Regulatory Assessment analyzes the final rule that is the second phase of a joint U.S. Department of Homeland Security (DHS) and U.S. Department of State (DOS) plan to implement the Western Hemisphere Travel Initiative (WHTI). This document assesses the requirements in the rule pertaining to those individuals entering the United States through ports-of-entry (POEs) on the Canadian and Mexican land borders and in the Caribbean.[1] This Regulatory Assessment focuses on entries by land, ferry, and pleasure boat. A separate Regulatory Assessment issued concurrently evaluates the changes in requirements for entries by sea, including requirements for cruise ship passengers.

The primary purposes of the regulation are: (1) to enhance the security of the United States by allowing border security officials to more quickly, efficiently, accurately, and reliably review documentation, and identify persons of concern to national security; and (2) to expedite the movement of legitimate trade and travel within the Western Hemisphere. The border security of the United States is a "public good;" in fact, law enforcement and border defense are often used as textbook examples of public goods. A public good has two primary features: it is *non-rival* and *non-excludable*. A non-rival good can be consumed by one individual without reducing the amount of the good available for other individuals, and a non-excludable good cannot be denied from anyone's consumption. All residents of the United States benefit from security, and no one can be excluded (absent an extreme measure such as deportation) from consuming those benefits. In many cases of this type, uncoordinated private market activity alone will not provide a socially optimal amount of a public good. Thus, economic theory lends support for the general role of government in assuring that our borders are secure.

This rule reduces the range of documentation that individuals may present at the border upon entry into the United States, simplifying and facilitating the job of the primary inspector and improving the quality of the documentation. Specifically, U.S. Customs and Border Protection (CBP) is concerned that the WHTI-compliant documentation is reliable evidence of an individual's identity and citizenship, can be validated against other government databases, and has document security features. These features enable a more accurate and thorough review of individuals entering the United States, reducing the risk of a terrorist event or other illegal act. In addition, the rule may streamline the

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[1] In the Caribbean, there are six ferry routes from the British Virgin Islands to the U.S. Virgin Islands and one route between Freeport, Grand Bahama, and Palm Beach, Florida, where travelers enter the United States through land POEs. These entries account for approximately one-tenth of one percent of total entries at land POEs. As a result, this analysis focuses on travelers using POEs along the U.S.-Mexico and U.S.-Canada borders, discussing effects to ferry passengers where data are available.

processing of individuals with WHTI-compliant documentation, speeding their border crossing and allowing inspectors to focus on individuals of concern. In order to reduce the costs and impacts of these requirements on individuals, DHS and DOS considered several regulatory alternatives.

REGULATORY ALTERNATIVES

In accordance with Executive Order 12866, "Regulatory Planning and Review," DHS and DOS are required to consider both regulatory and non-regulatory approaches before proposing new rules.[2] Consistent with the executive order, DHS and DOS considered various alternatives before proceeding with the present rule. The specific alternatives analyzed in this Regulatory Assessment are summarized briefly below:

ALTERNATIVE 1: All U.S. citizens entering the United States via the Mexican or Canadian border must present a traditional passport book.

> ALTERNATIVE 1A: Alternative 1, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 1B: Alternative 1, except for U.S. and Canadian children under 16 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 2: All U.S. citizens must present a passport book, a passport card containing a vicinity-read radio frequency identification (RFID) chip, a CBP trusted traveler card (Free and Secure Trade (FAST), NEXUS, Secure Electronic Network for Travelers' Rapid Inspection (SENTRI)), a DHS-approved Enhanced Driver's License (EDL), or a Merchant Mariner Document (MMD). In addition, Canadian citizens not enrolled in a CBP trusted traveler program will need to present a Canadian passport. For the purposes of this analysis, we assume that there will be no change in the documentation required of lawful permanent residents (LPRs), Mexican citizens, Native Americans, members of the U.S. Armed Forces with military identification and traveling on official orders, and NATO military personnel on official duty.[3]

> ALTERNATIVE 2A: Alternative 2, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

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[2] 58 FR 51735, October 4, 1993.

[3] Mexican nationals must present a valid, unexpired passport and a valid, unexpired visa issued by a U.S. embassy or consulate abroad, or they must present a Border Crossing Card (BCC), also known as a "laser visa." As of September 31, 2001, first-time applicants for BCCs are required to present a valid Mexican passport during the application process. However, individuals who obtained a BCC prior to that date may not currently possess a valid passport.

ALTERNATIVE 2B (chosen alternative): Alternative 2, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 3: Alternative 2, except the passport card and EDLs will not contain a vicinity-read RFID chip.

ALTERNATIVE 3A: Alternative 3, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 3B: Alternative 3, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.[4]

Under Alternatives 2 and 3, we consider the option of travelers using an alternative format, credit-card sized passport, known as a "passport card." The Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA), as amended, requires DHS and DOS to seek to facilitate the frequent travel of those living in border communities. To that end, DOS, in consultation with DHS, promulgated a rule setting up a specific program to issue the passport card.[5]

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[4] In Section 546 of the DHS Appropriations Act of 2007, Congress expressed an interest that an alternative procedure for groups of children traveling across an international border under adult supervision with parental consent be developed. Under Alternatives 2A, 2B, 3A, and 3B, U.S. and Canadian children age 14 to age 18 or 16 to 18, depending on the alternative, who are traveling with public or private school groups, religious groups, social or cultural organizations, or teams associated with youth sport organizations that arrive at U.S. sea or land POEs, would be permitted to present a birth certificate, when the groups are under the supervision of an adult affiliated with the organization (including a parent of one of the accompanied children who is only affiliated with the organization for purposes of a particular trip) and when all the children have parental or legal guardian consent to travel. For purposes of this alternative procedure, an adult would be considered to be a person age 19 or older, and a group would consist of two or more people.

The group, organization, or team would be required to contact CBP upon crossing the border at the POE where it will cross and provide pertinent information on organizational letterhead (complete details can be found in the final rule).

To avoid delays upon arrival at a POE, CBP would recommend that the group, organization or team provide this information well in advance of arrival, and would recommend that each participant carry a government or school issued photo identification document, if available. Travelers with the group who are age 19 and over would be subject to the applicable travel document requirements specified in the final rule.

The group exemption described above is considered qualitatively in this analysis. Data describing the number and frequency of such group trips and the size of those groups are not available. Furthermore, many of the children in these groups may require passport books or passport cards to travel across the border with family or friends when crossing for non-group activities because they are too old to meet the general child exemption. We have no information about how many groups or portions of groups would take advantage of this exemption.

[5] U.S. Department of State, "Card Format Passport; Changes to Passport Fee Schedule," 72 FR 74169.

The final rule defining WHTI-compliant documentation in the land environment implements Alternative 2B as the option that best meets the programmatic objectives at reasonable costs to affected travelers. Under this alternative, travelers have the option of obtaining the less expensive passport card, and children under 16 years of age may travel using existing documentation (e.g., a birth certificate). This alternative also provides additional flexibility for groups of children traveling across the border.[6]

Note that although this analysis attempts to mirror the terms and wording of the final rule, no attempt is made to precisely replicate the regulatory language and readers are cautioned that the actual finalized regulatory text, not the text of this assessment, is binding.

OVERVIEW OF ANALYTIC METHOD

In this analysis, we first define the current requirements for entry to the United States via land, ferry, and pleasure boat. We then characterize the number of crossings occurring in 2004 and the associated number of unique travelers who would be affected by the rule. Beginning with 2004, we project future demand for travel to Mexico and Canada for the period 2005 through 2018 (i.e., from the time the IRTPA was passed until ten years after the rule's anticipated implementation date in June 2009), and we identify the likely reaction of U.S. travelers to the alternative documentation requirements considered. Specifically, we calculate the number of individuals potentially affected and the welfare loss that they experience as a result of the increased cost of access to these countries. We also estimate the cost to the government of implementing the regulation.

Next, we consider the indirect effects of the regulation on travel-related expenditure flows between the United States, Canada, and Mexico. We also consider the distribution of costs to sensitive subgroups such as small entities, local border communities, and the energy sector. Finally, we describe the potential benefits of the rule, including reductions in terrorism risk and changes in wait times at border crossings.

SUMMARY OF FINDINGS

In this section, we describe the results of this Regulatory Assessment. For detailed discussion of our methods, data sources, and key limitations, see the related chapters in the main body of the report.

DIRECT COSTS

We estimate two types of direct costs of the rule. First, WHTI effectively increases the price of access to Mexico and Canada by requiring travelers who enter the United States from these countries at land POEs to present a valid passport or other WHTI-compliant documentation in circumstances where travel was previously permitted without such documentation. If a traveler's willingness to pay for access to these countries exceeds the post-regulation price of documentation, then he or she will decide to obtain the necessary document and will continue traveling. In this instance, the price of the travel document

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[6] Throughout this analysis, we assume the document requirements will take effect in June 2009.

represents his or her opportunity cost (also referred to as welfare loss). Travelers whose willingness to pay is less than the post-regulation price of access will decide not to travel to Mexico or Canada. The size of the individual welfare loss experienced by these travelers will vary; however, the loss would never exceed the cost of obtaining the document. Because the cost of obtaining a traditional passport book is more expensive than obtaining a passport card, we estimate that more travelers would decide to forgo obtaining WHTI-compliant documents under Alternative 1 than Alternatives 2 and 3.

Between 2005 and 2018, we estimate that 25 million to 45 million individuals who do not currently have WHTI-compliant documentation will want to travel to Mexico or Canada. The range in estimates depends on assumptions about future travel demand and the regulatory alternative considered (i.e., whether children will be exempt from carrying a passport book or card). Of these individuals, we anticipate that between 2 million and 6 million (eight percent to 13 percent) may forgo future travel out of the country; the rest of the travelers will obtain WHTI-compliant documentation.

We also estimate the costs to CBP of implementing the rule. Under Alternative 1, we assume that CBP would accelerate development of a new Vehicle Primary Client application, upgrade existing computer hardware and software, and increase its secondary inspection capabilities (i.e., CBP anticipates that travelers unaware of the requirement to carry a passport book would increase the demand for secondary inspection). Under Alternative 2, in addition to the costs outlined in Alternative 1, CBP will incur costs to install and operate vicinity radio frequency identification (RFID) technology at land POEs, upgrade systems to accommodate additional passport and EDL data, and manage increased enrollment in CBP trusted traveler programs. Finally, under Alternative 3, CBP will incur the same costs as Alternative 2 but without the technology to read vicinity RFID technology.[7]

Exhibit ES-1 summarizes the total present value of direct costs under each regulatory alternative, applying a discount rate of three or seven percent. Under Alternative 1, total direct costs are greatest over the 14-year period of analysis, ranging from \$2.3 billion to \$4.9 billion.[8] Direct costs to the traveling public are lower under Alternative 2 (where the lower-cost passport card is available), and although the potential government costs of implementing RFID technology at the POEs adds significant costs, overall Alternative 2 is less costly than Alternative 1.[9] Under Alternative 2, total direct costs range from \$2.2

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[7] We do not anticipate that DOS will experience incremental costs as a result of the regulation. DOS costs associated with adjudicating and issuing passports (and passport cards) are recovered in the fee charged by DOS.

[8] Of these costs, 28 to 42 percent are estimated to have occurred in 2005 through 2008, before the expected effective date of the regulation.

[9] We note that in the draft regulatory assessment made available for public comment, Alternative 2 was more costly than Alternative 1. Since that time, DOS published its final rule increasing the costs of the passport book by \$8 and decreasing the costs of the passport card by \$12. These changes shift the cost ranking of regulatory alternatives.

billion to $4.0 billion.[10] Finally, Alternative 3, which specifies the lower cost passport card option without the RFID implementation costs to the government, results in the lowest total costs ranging from $1.8 billion to $3.5 billion.[11] Estimates for the final rule, Alternative 2B, are shaded.

Exhibit ES-2 presents the undiscounted stream of costs over the period of analysis. We present the "steady-state" travel demand scenario—which assumes that crossing volumes remain constant over the period of analysis.[12] Estimated annual costs peak in 2008, when the largest number of travelers are likely to apply for documents and when we anticipate that CBP will incur large start-up costs to implement RFID technology at the POEs. Again, estimates for the final rule, Alternative 2B, are shaded.

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[10] Of these costs, 29 to 39 percent are estimated to have occurred in 2005 through 2008, before the expected effective date of the regulation.

[11] Of these costs, 33 to 47 percent are estimated to have occurred in 2005 through 2008, before the expected effective date of the regulation.

[12] Costs for decreasing and increasing travel demand scenarios are presented in Chapter 5.

EXHIBIT ES-1 TOTAL PRESENT VALUE DIRECT COSTS (2005 – 2018, BILLION 2005 DOLLARS)

	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
NO CHILDREN EXEMPTION			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$4.3 (3.4 to 4.7)	$3.0 (2.4 to 3.2)	$3.0 (2.4 to 3.2)
Government implementation costs	0.1	0.8	0.3
Total	4.5 (3.5 to 4.9)	3.7 (3.1 to 4.0)	3.2 (2.6 to 3.5)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	3.5 (2.8 to 3.8)	2.4 (2.0 to 2.6)	2.4 (2.0 to 2.6)
Government implementation costs	0.1	0.6	0.2
Total	3.6 (2.9 to 3.9)	3.0 (2.6 to 3.2)	2.6 (2.2 to 2.8)
CHILDREN EXEMPTION (UNDER 14)			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$3.6 (2.8 to 3.9)	$2.4 (1.9 to 2.6)	$2.4 (1.9 to 2.6)
Government implementation costs	0.1	0.8	0.3
Total	3.7 (2.9 to 4.1)	3.2 (2.7 to 3.4)	2.7 (2.2 to 2.9)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	2.9 (2.3 to 3.2)	2.0 (1.6 to 2.2)	2.0 (1.6 to 2.2)
Government implementation costs	0.1	0.6	0.2
Total	3.0 (2.4 to 3.3)	2.6 (2.2 to 2.8)	2.2 (1.8 to 2.4)
CHILDREN EXEMPTION (UNDER 16)			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$3.4 (2.7 to 3.8)	$2.3 (1.8 to 2.5)	$2.3 (1.8 to 2.5)
Government implementation costs	0.1	0.8	0.3
Total	3.6 (2.8 to 3.9)	3.1 (2.6 to 3.3)	2.6 (2.1 to 2.8)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	2.8 (2.2 to 3.0)	1.9 (1.6 to 2.1)	1.9 (1.6 to 2.1)
Government implementation costs	0.1	0.6	0.2
Total	2.9 (2.3 to 3.2)	2.5 (2.2 to 2.7)	2.1 (1.8 to 2.3)

Note: Totals may not sum due to rounding. The central estimate in each cell represents the steady-state travel demand scenario. The range represents the decreasing travel demand and increasing travel demand scenarios.

EXHIBIT ES-2   UNDISCOUNTED TOTAL DIRECT COSTS (MILLION 2005 DOLLARS)

YEAR	ALTERNATIVE 1			ALTERNATIVE 2			ALTERNATIVE 3		
	NO CHILD EXEMPTION	CHILD EXEMPTION (UNDER 14)	CHILD EXEMPTION (UNDER 16)	NO CHILD EXEMPTION	CHILD EXEMPTION (UNDER 14)	CHILD EXEMPTION (UNDER 16)	NO CHILD EXEMPTION	CHILD EXEMPTION (UNDER 14)	CHILD EXEMPTION (UNDER 16)
2005	$458	$399	$391	$453	$394	$386	$453	$394	$386
2006	130	113	111	129	112	110	129	112	110
2007	64	56	55	64	56	55	64	56	55
2008	746	661	647	542	484	474	504	446	437
2009	599	506	492	505	442	433	426	363	354
2010	516	427	414	422	362	353	344	283	274
2011	321	277	267	308	277	270	229	198	191
2012	271	226	212	275	243	234	196	164	155
2013	295	228	211	290	244	233	212	166	154
2014	484	379	361	366	294	282	306	234	222
2015	540	421	403	399	318	306	338	258	246
2016	381	290	274	315	253	241	254	192	181
2017	325	256	242	273	225	215	213	165	155
2018	283	225	213	240	199	190	180	139	130

Note: Based on the steady-state travel demand scenario and a seven percent interest rate for annualizing capital costs.

Because costs are anticipated to exceed $100 million in any one year, the rule represents an economically "significant" regulatory action as defined by Executive Order 12866. The Office of Management and Budget has reviewed this Regulatory Assessment under that Executive Order.

INDIRECT IMPACTS ON CROSS-BORDER TRAVEL EXPENDITURES

We also consider the indirect impacts of the rule expressed as incremental changes in expenditure flows between the United States, Mexico, and Canada resulting from a small percentage of individuals from each country who opt not to travel across the border. From the perspective of the United States, the final regulation will likely change the flows of travel expenditures through two effects. First, a small percentage of U.S. travelers may choose to not to obtain WHTI-compliant documents forgoing trips across the borders. For this analysis, we have made the simplifying assumption that they would spend domestically all of the money they were planning to spend in Mexico or Canada. Their decision would imply a positive effect on spending in the United States. Second, some Mexican and Canadian travelers may opt not to travel. Similar to above, we made the simplifying assumption that they would spend all of their money in their home countries instead; thus their decisions imply a negative effect on spending in the United States.[13]

Exhibit ES-3 shows the present value impact of the net change in forgone expenditures in the United States under the steady-state travel demand scenario. Under all but one scenario, the benefit of increased U.S. spending as a result of those U.S. travelers choosing not to travel to Canada and Mexico outweighs the impact of reduced Canadian and Mexican spending in the United States.[14] This benefit is greater under Alternative 1 because the higher cost of the passport book relative to the passport card (Alternative 2 or 3) results in a greater number of U.S. travelers staying home and spending domestically. Note that the values presented in Exhibit ES-3 represent changes in expenditures, not welfare losses or gains. As such, they cannot be compared or added to the direct cost estimates presented in Exhibit ES-1.

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[13] We also assume that travelers who obtain acceptable documentation and continue traveling offset the cost of the document by reducing expenditures at home by a comparable amount. At a national level, the net effect of this assumption on the U.S. economy is zero (i.e., U.S. citizens continuing to travel spend less locally, but their passport fees are paid to the U.S. government; Canadian citizens continuing to travel spend the same amount on trips to the United States). This assumption has significant implications for impacts to local communities, discussed in the next section.

[14] We note that based on information provided by the Conference Board of Canada on the likely effects of WHTI, the proportion of Canadian travelers opting not to travel to the United States is greatest in 2008 and then declines. As a result, the net impact to the United States under Alternatives 2 and 3 in 2008 and 2009 is anticipated to be negative because the lost revenues from Canadian travelers outweigh the increased spending in the United States by U.S. citizens. However, in every year after 2009, the losses associated with Canadian travelers are smaller than the gains associated with increased U.S. spending domestically.

EXHIBIT ES-3   PRESENT VALUE NET CHANGE IN EXPENDITURES IN THE UNITED STATES
(2005 – 2018, MILLION 2005 DOLLARS)

DISCOUNT RATE	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
Three Percent	$410	$320	$260	-$40	$80	$160
Seven Percent	260	200	160	-70	30	80

Note: Based on the steady-state travel demand scenario.

DISTRIBUTIONAL EFFECTS ON BORDER COMMUNITIES

To understand the potential effect of the rule on specific border communities, we conduct eight case studies. We select four U.S. communities for examination along the U.S.-Mexico border and four U.S. communities along the U.S.-Canada border. Each case study uses an input-output model (IMPLAN) to estimate the impact of changes in visitation on regional economic output and employment. In addition, we assume that U.S. citizens who obtain WHTI-compliant documentation will decrease their household spending locally by a similar amount. We use the steady-state travel demand scenario, and to bound the potential distributional impacts, we analyze Alternative 1 (highest potential impacts on travel) and Alternative 2B/3B (lowest potential impacts on travel; also the final rule).

It is important to recognize the limitations of the results produced by input-output modeling tools. Specifically, IMPLAN is a static model—it only measures the impacts resulting from a discrete change in demand at a single point in time. The model does not account for future adjustments in the economy, such as the re-employment of U.S. workers who IMPLAN may project to be displaced. Consequently, the long-run effects on output and employment in the study area are likely less than the IMPLAN estimates presented here. In other words, the changes in output and employment we present are not annual impacts. Rather, the model results reflect a jolt to the economy and are likely to decrease over time as the regional economy continues to grow and adjust to the changes in Mexican, Canadian, and U.S. spending.

Exhibit ES-4 summarizes the results of these case studies. Under Alternative 1, two of the study areas are anticipated to experience relatively small net gains in regional output and employment as a result of the regulation, while the remaining study areas will experience losses. Under Alternative 2B, U.S. communities in the study areas along the U.S.-Mexico border are anticipated to experience relatively small net gains as a result of the regulation, while the U.S. communities in the study areas along the U.S.-Canada

border are expected to experience small losses in regional output and employment. Gains are more prevalent and losses are lower under Alternative 2B (the final rule) because U.S. citizens spend less on documentation (thereby maintaining domestic household spending closer to current levels), and all Mexican citizens continue to travel to the United States because they already have WHTI-compliant documentation. It is important to note that in six of our eight regional study areas, gains and losses are estimated to be less than one percent of total regional output and employment. The study areas experiencing higher adverse impacts are Washington County, Maine, and Whatcom County, Washington.

POTENTIAL RISK REDUCTION BENEFITS

This rule is intended to reduce the vulnerabilities identified in the final report of the National Commission on Terrorist Attacks Upon the United States (The 9/11 Commission). The historical absence of uniform travel document requirements for Canadian and U.S. citizens across the mutual border has resulted in the current multiplicity of documents presented at POEs. As a result, those individuals who seek to enter the United States or Canada illegally or who pose a potential threat could falsely declare themselves as U.S. or Canadian citizens. These same vulnerabilities exist for travelers crossing back and forth across the southern border with Mexico.

Simply standardizing documentation requirements for many travelers entering the United States will allow border security officials to more quickly, efficiently, accurately, and reliably review documentation and identify persons of concern to national security. Additionally, combining such a requirement with the use of RFID technology, or some other type of technology, may enable CBP officers to record the crossing of passport card holders, even if they lack the time and resources to carefully inspect and interview each traveler. Finally, more efficient review of documents may assist CBP in achieving its general goal of expediting the movement of legitimate trade and travel within the Western Hemisphere.

EXHIBIT ES-4   DISTRIBUTIONAL ECONOMIC IMPACTS IN U.S. BORDER COMMUNITIES OF REGULATORY ALTERNATIVES (2005 DOLLARS)

REGIONAL STUDY AREAS	TOTAL OUTPUT (BILLION DOLLARS)	TOTAL EMPLOYMENT (JOBS)	OUTPUT CHANGE (MILLION DOLLARS)	% OF TOTAL OUTPUT	EMPLOYMENT CHANGE (JOBS)	% OF TOTAL EMPLOYMENT
ALTERNATIVE 1						
San Diego County, CA	$228.90	1,831,039	-$18.6	0.01%	-461	0.03%
Pima and Santa Cruz Counties, AZ	47.6	460,036	-1.7	<0.01	-53	0.01
Hidalgo and Cameron Counties, TX	30	393,633	38.1	0.1	359	0.1
Presidio County, TX	0.2	2,509	0.6	0.2	2	0.1
Niagara and Erie Counties, NY	73.4	608,055	-181.0	0.2	-2,562	0.4
Washington County, ME	1.8	18,989	-34.5	1.9	-792	4.2
Macomb, Wayne, and Oakland Counties, MI	393.4	2,391,556	-116.2	0.03	-1,479	0.06
Whatcom County, WA	14.5	100,122	-114.6	0.8	-1,780	1.8
ALTERNATIVE 2B/3B (CHOSEN ALTERNATIVE)						
San Diego County, CA	$228.90	1,831,039	$31.9	0.01%	274	0.01%
Pima and Santa Cruz Counties, AZ	47.6	460,036	6.5	0.01	68	0.01
Hidalgo and Cameron Counties, TX	30	393,633	28.6	0.1	330	0.1
Presidio County, TX	0.2	2,509	0.6	0.2	7	0.3
Niagara and Erie Counties, NY	73.4	608,055	-138.0	0.2	-1,994	0.3
Washington County, ME	1.8	18,989	-27.4	1.5	-636	3.3
Macomb, Wayne, and Oakland Counties, MI	393.4	2,391,556	-86.0	0.02	-1,127	0.05
Whatcom County, WA	14.5	100,122	-89.0	0.6	-1,403	1.4

Note: Based on the steady-state travel demand scenario and 2008 trips. Totals may not sum due to rounding.

POTENTIAL WAIT TIME BENEFITS

Standardizing documentation requirements for many travelers and changing the inspection process will likely affect the amount of time needed for inspection, which in turn will affect overall wait times at POEs. Alternatives 1 and 3 could accelerate the inspection process and reduce wait times if CBP officers can more quickly adjudicate the validity of documents due to increased familiarity with passport books and passport cards versus drivers' licenses, birth certificates, and other documents issued by countless authorities. Alternative 2 could further reduce wait times if an advanced technology, such as RFID, supplants the need for travelers to physically hand their documentation to the CBP officer.

If, under any alternative, CBP exempts children from the requirement, requiring them only to produce a birth certificate, the overall effect on wait times at POEs is less certain. The effect will depend on how CBP officers verify the relationship between the children and their parents, how they adjudicate the validity of the birth certificates, and how, under Alternative 2, they inspect adults with RFID passport cards traveling with children holding only birth certificates.

Independent of this regulatory assessment, CBP prepared a cost-benefit analysis (CBA) of alternative POE processing technology investments. As part of this CBA, analysts evaluated the wait time improvements attributable to each technology alternative, including requiring a standardized set of documents; requiring that machine-readable zone (MRZ) technology be incorporated into the standard set of acceptable documents; and allowing RFID technology to be utilized in certain documents.[15] Exhibit ES-5 presents the monetized wait time benefits associated with each technology alternative and attempts to "map" the technology alternatives to the regulatory alternatives analyzed in this report. This exercise suggests that regulatory alternatives incorporating RFID technology have the greatest potential to result in a rulemaking generating positive net benefits.

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[15] *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007.

EXHIBIT ES-5   BEST ESTIMATE OF WAIT TIME BENEFITS AND NET BENEFITS ASSOCIATED WITH THE REGULATORY ALTERNATIVES (2005-2018, BILLION 2005 DOLLARS)

"MAPPING" OF REGULATORY TO TECHNICAL ALTERNATIVES		BENEFIT ASSOCIATED WITH REGULATORY ALTERNATIVE	BEST ESTIMATE OF REGULATORY ALTERNATIVE COST	NET BENEFITS ("Y")
REGULATORY ALTERNATIVE	BENEFIT ("X") RELATIVE TO CBP TECHNICAL ALTERNATIVES			
THREE PERCENT DISCOUNT RATE				
1	Baseline < X < Technical Alt 2	$0 < X < $3.3	$4.5	-$4.5 < Y < -$1.2
1 with child exemption	Baseline < X < Regulatory Alt 1	$0 < X < $3.3	3.6	-$3.6 < Y < -$0.3
2	Technical Alt 2 < X < Technical Alt 3	X ≈ $4.8	3.7	Y ≈ $1.1
2 with child exemption (chosen alternative)	Baseline < X < Technical Alt 3	$0 < X < $4.8	3.1	-$3.1 < Y < $1.7
3	Technical Alt 1 < X < Technical Alt 2	X ≈ $3.3	3.2	Y ≈ $0.1
3 with child exemption	Baseline < X < Technical Alt 2	$0 < X < $3.3	2.6	-$2.6 < Y < $0.7
SEVEN PERCENT DISCOUNT RATE				
1	Baseline < X < Technical Alt 2	$0 < X < $2.4	3.6	-$3.6 < Y < -$1.2
1 with child exemption	Baseline < X < Regulatory Alt 1	$0 < X < $2.4	2.9	-$2.9 < Y < -$0.5
2	Technical Alt 2 < X < Technical Alt 3	X ≈ $3.4	3.0	Y ≈ $0.4
2 with child exemption (chosen alternative)	Baseline < X < Technical Alt 3	$0 < X < $3.4	2.5	-$2.5 < Y < $0.9
3	Technical Alt 1 < X < Technical Alt 2	X ≈ $2.4	2.6	Y ≈ -$0.2
3 with child exemption	Baseline < X < Technical Alt 2	$0 < X < $2.4	2.1	-$2.1 < Y < $0.3

Note: The best estimate of the cost of each regulatory alternative is taken from Exhibit ES-1. For the child exemption alternatives, costs for exempting children under 16 are presented because this is the age specified in the final rule.

IMPACTS ON SMALL ENTITIES, GOVERNMENTS, AND ENERGY

Under the requirements of the Regulatory Flexibility Act (RFA) of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) and Executive Order 13272, entitled "Proper Consideration of Small Entities in Agency Rulemaking," agencies, during the development of their rules, must consider the potential distributional impact of those rules on small entities. With the exception of certain sole proprietors, DHS and DOS do not believe that small entities are subject to the requirements of the rule. Individuals are subject to the requirements, and individuals are not considered to be small entities. Because this rule does not directly regulate small entities, other than certain sole proprietors who will not experience a significant economic impact, DHS certifies that this rule does not have a significant economic impact on a substantial number of small entities.

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA) requires agencies to assess the effects of their regulatory actions on state, local, and Tribal governments and the private sector. This regulation will not result in direct expenditures by state, local, and Tribal governments. Direct costs are incurred by U.S. citizens and the Federal government. Furthermore, the annualized costs of the regulation to U.S. travelers are estimated to be $160 million to $430 million, depending on assumptions regarding the number of U.S. travelers desiring future access to Mexico and Canada, the discount rate, and the regulatory alternative. These results represent less than 0.01 percent of the 2007 Gross Domestic Product (GDP) of $13.8 trillion, well below the macro-economic effect range of 0.25 percent to 0.5 percent that the Office of Management and Budget considers measurable.[16]

Executive Order 13211, "Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use," requires Federal agencies to prepare and submit a "Statement of Energy Effects" for all "significant energy actions." The regulation will not have a significant adverse effect on the supply, distribution, and use of energy.

KEY SOURCES OF UNCERTAINTY

Our estimates of total welfare losses to U.S. travelers, indirect effects on travel-related expenditures, distributional impacts to local border communities, and the benefits of the final regulation are subject to substantial uncertainty. Below, we describe key issues. More complete discussions of uncertainty are provided at the conclusion of each chapter. Also, we provide the results of a quantitative uncertainty analysis in Appendix C.

- **Estimates of the baseline number of unique travelers who are likely to make trips to Mexico and Canada and who do not currently possess WHTI-**

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[16] U.S. Office of Management and Budget, Office of Information and Regulatory Affairs, "Memorandum for the Heads of Executive Departments and Agencies," March 31, 1995. GDP obtained from U.S. Department of Commerce, Bureau of Economic Analysis, "National Economic Accounts," as viewed at http://www.bea.gov/national/xls/gdplev.xls on March 5, 2008.

compliant documentation. As described in Chapters 4 and 5, we use 2004 Bureau of Transportation Statistics (BTS) data on the number of crossings at land POEs to estimate the number of unique travelers who will require documentation. Converting crossings to unique travelers requires a number of assumptions, such as typical traveler crossing frequency, the typical number of POEs utilized by an individual, nationality, age, and current rate of passport ownership. Our assumptions are based primarily on survey data collected by DOS, Statistics Canada, a variety of state and local governments, and academic researchers. We also rely on general Census data. These are the best available data sources; however, they are incomplete, in that they do not address every POE. As a result, we have transferred results to parts of the country where no data are available.

Furthermore, we project future travel demand starting with the 2004 unique traveler estimates. Sufficient data are not available to predict future travel demand with certainty; therefore, we model three possible scenarios based on historical trends, assumptions that travel demand remains constant in the future, and projected population growth. Our estimates of welfare losses to travelers are sensitive to these travel demand scenarios.

- **Estimates of the number of unique travelers who decide to forgo future travel out of the United States.** To estimate the number of travelers who opt to forgo future travel rather than obtain the necessary travel documents, we rely on a survey completed by DOS that asked travelers whether, as a result of WHTI, they would obtain a passport. In certain cases, the respondents who replied "no" may have been protesting a future regulation, rather than reporting the actual decision they will make once the rule takes effect. Conversely, respondents who replied "yes" may have been overly optimistic about their future actions. As a result, the direction of bias in our estimates of welfare losses to these individuals and lost trips is uncertain.

  Furthermore, when the survey was conducted in 2005, respondents were unaware of the potential for an increase in the price of a passport book, a less expensive passport card, and exemptions for children. We use the survey responses to model the demand curve for access to Mexico and Canada, and then use that information to estimate the number of travelers who may forgo future travel under Alternative 1 after the passport fee changes and under Alternatives 2 and 3. To the extent that the curve reflects biased information regarding future expectations for obtaining passports, the traveler opt-out rate under this alternative may be over- or understated.

- **Changes in expenditure flows across the border.** Chapter 6 describes the change in travel-related expenditures in the United States resulting from fewer trips out of the country by U.S. citizens and fewer trips to the United States by Mexican and Canadian citizens. We make the simplifying assumption that the money these travelers would have spent on foreign travel remains in their home

country. We do not attempt to determine the portion of forgone travel-related expenditures that might be used instead for purchasing goods from foreign entities via mail order or the internet. The implications of this assumption on the results of the analysis are uncertain.

Furthermore, we also assume that affected travelers who obtain acceptable documentation and continue traveling reduce their spending at home by an amount proportional to the cost of the document. The implication of this assumption is no net change in expenditures in the United States on a national level. In terms of the distributional effects of the rule, local U.S. communities may experience losses as passport fees flow to the Federal government. The extent to which travelers reduce their spending abroad rather than at home to offset their documentation costs has an indeterminate effect on the results of our analysis (i.e., the direction of bias is unknown).

- **Changes in economic output and employment in border communities.** In our case studies of the potential impacts of lost trips to border communities, we rely on a publicly available input-output model called IMPLAN.[17] The model is static—it only measures the impacts resulting from a discrete change in demand at a single point in time. IMPLAN does not account for future adjustments in the economy, such as the re-employment of U.S. workers who IMPLAN may project to be displaced. Consequently, the long-run effects on output and employment in the study area are likely less than the IMPLAN estimates presented in this report. In other words, the changes in output and employment we present are not annual impacts. Rather, the changes reflect a jolt to the regional economy in the model and are likely to decrease over time as the regional economy continues to grow and adjust to the changes in Mexican, Canadian, and U.S. spending.

Additionally, significant uncertainty exists regarding the destination of foreign travelers entering the United States at specific POEs. Our regional study areas seek to capture an area large enough to encompass the majority of changed expenditures resulting from WHTI. In many cases, however, Mexicans and Canadians travel and spend money beyond the regional study areas we have defined. By confining all forgone Mexican and Canadian spending to our regional study areas, we likely overestimate the economic impact of reduced travel from Mexico and Canada in these counties. The actual impacts are likely to be dispersed over a greater geographic area, rather than entirely localized in the border counties. The same bias exists with regard to our assumptions about the household locations of U.S. travelers who decide to obtain WHTI-compliant documentation and therefore spend less money in their local communities.

Finally, we assume that lost spending in border communities is partially offset by the spending of U.S. travelers who decide not to leave the country. Some U.S. travelers leaving the country at POEs in the study areas come from outside the

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[17] The IMPLAN model is owned and maintained by the Minnesota IMPLAN Group, Inc. (MIG).

study area (e.g., a traveler leaving the United States at the Buffalo-Niagara POE may not live in the Buffalo economic region; he or she may come from farther away). As a result, offsetting spending by these travelers in the local community may be overstated. Conversely, we assume that travelers who opt out of visiting Mexico or Canada for vacation or leisure now take trips outside of the study region to other parts of the United States. By removing their expenditures completely from the IMPLAN analysis, we may overstate impacts to the local communities.

- **Unquantified benefits of the final rule.** This analysis does not estimate or monetize the terrorism risk reductions resulting from the final rule. However, an analysis by CBP of the potential reductions in wait time at the border associated with requiring standardized documents and implementing RFID technology suggest that even without such risk reduction estimates, the benefits of the rule are likely to be greater than its costs. Monetized risk estimates would further increase this positive ratio of benefits to costs.

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CHAPTER 1 | INTRODUCTION AND OVERVIEW

U.S. Customs and Border Protection (CBP), the U.S. Department of Homeland Security (DHS), and the U.S. Department of State (DOS) are developing regulations to assure that individuals entering the United States produce documentation that CBP border officials will be able to reliably review to evaluate identity and citizenship. The specific rule assessed in this document pertains to those individuals entering the United States through ports-of-entry (POEs) on the Canadian and Mexican land borders and in the Caribbean. This includes entries by land, ferry, and pleasure boats. A separate analysis evaluates the changes in requirements for entries by sea, including cruise ships.

This introductory chapter provides background information on the final rule, discusses the need for the rule, a summary of the rule, and the regulatory options considered by CBP, DHS, and DOS. It then describes requirements for the economic analysis of proposed Federal regulations and presents an overview of the analytic approach followed in this report. The subsequent chapters and appendices discuss the analytic approach, as well as the results and limitations, in detail.

NEED FOR THE RULE

Under the Immigration and Nationality Act (INA), nonimmigrant aliens and U.S. citizens are generally required to present passports to enter the United States. DOS may make certain exceptions to these requirements. Specifically, current regulations permit U.S. citizens and nonimmigrant aliens from Canada, Bermuda, and Mexico to enter the United States from certain Western Hemisphere countries without presenting a passport.

On December 17, 2004, the President signed the Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA). Section 7209 of IRTPA requires that the Secretary of Homeland Security, in consultation with the Secretary of State, develop and implement a plan to require travelers entering the United States to present a passport, other document, or combination of documents, that are "deemed by the Secretary of Homeland Security to be sufficient to denote identity and citizenship." Section 7209, as amended, expressly provides that U.S. citizens and nationals and categories of individuals for whom documentation requirements have previously been waived under Section 212(d)(4)(B) of the INA (8 U.S.C 1182(d)(4)(B)) will be required to comply. The implementation of section 7209 of IRTPA is referred to as the Western Hemisphere Travel Initiative (WHTI).

Section 7209 limits the Secretaries' respective authorities to waive generally applicable document requirements. Both U.S. citizens and nonimmigrant aliens who currently do not require passports to enter the United States will need to present a passport or other acceptable identity and citizenship document when entering the United States from

countries within the Western Hemisphere. The principal groups of individuals affected that are currently exempt from the general passport requirement when entering the United States from within the Western Hemisphere are: U.S. citizens, Canadian citizens, citizens of the British Overseas Territory of Bermuda, and Mexican citizens.

On September 1, 2005, DHS and DOS jointly published in the *Federal Register* an advance notice of proposed rulemaking (ANPRM), announcing that they planned to issue rulemakings to implement section 7209 of IRTPA.[18] On August 11, 2006, DHS and DOS published a notice of proposed rulemaking (NPRM) for air and sea arrivals that proposed that, subject to certain narrow exceptions, beginning January 8, 2007, all U.S. citizens and nonimmigrant aliens, including those from Canada, Bermuda and Mexico, entering the United States at air and sea POEs would be required to present a valid passport, in circumstances where travel was previously permitted without such a document.[19] The final rule for travelers entering the United States at air POEs was published in the *Federal Register* on November 24, 2006.[20] Beginning January 23, 2007, U.S. citizens and nonimmigrant aliens from Canada, Bermuda, and Mexico entering the United States at air POEs are generally required to present a valid passport. Accordingly, all aviation passengers and crew, including commercial flights and general aviation flights (i.e., private planes), who arrive at air POEs in the United States from countries within the Western Hemisphere are required to possess a valid passport. The only exceptions to this requirement are for United States citizens who are members of the United States Armed Forces traveling on active duty; travelers who present a Merchant Mariner Document traveling in conjunction with maritime business; and travelers who present a NEXUS Air card for use at a NEXUS Air kiosk.

This analysis addresses the second phase of implementation of Section 7209. On June 26, 2007, DHS and DOS published an NPRM for land and sea arrivals that proposed that, subject to certain exemptions, beginning January 31, 2008, U.S. citizens and nonimmigrant aliens from Canada, Bermuda, and Mexico entering the United States at sea and land POEs would be required to present a valid passport or other documentation designated by the Secretary of Homeland Security in circumstances where entry into the United States was previously allowed without such a documentation. The implementation date has since been delayed to June, 2009. The purpose of this report is to estimate the

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[18] U.S. Department of Homeland Security, U.S. Customs and Border Protection, and U.S. Department of State, *Documents Required for Travel Within the Western Hemisphere; Advance Notice of Proposed Rulemaking*, *Federal Register*, Vol. 70, No. 169, September 1, 2005, pp. 52037-52039.

[19] U.S. Department of Homeland Security, U.S. Customs and Border Protection, and U.S. Department of State, *Documents Required for Travelers Arriving in the United States at Air and Sea Ports of Entry from Within the Western Hemisphere; Notice of Proposed Rulemaking*, *Federal Register*, Vol. 71, No. 155, August 11, 2006, pp. 46155-46174.

[20] U.S. Department of Homeland Security, U.S. Customs and Border Protection, and U.S. Department of State, *Documents Required for Travelers Departing From or Arriving In the United States at Air Ports-of-Entry From Within the Western Hemisphere; Final Rule*, *Federal Register*, Vol. 71, No. 226, November 24, 2006, pp. 68412-68430.

costs and benefits of the regulatory alternatives identified for implementing these requirements for entry at land POEs, by ferry, or by pleasure boat.

CURRENT REQUIREMENTS

Current documentation requirements for entry into the United States depend on the citizenship of the individual.

- U.S. citizens are not required to present a passport book when coming by land, ferry, or pleasure boat from any country in the Western Hemisphere other than Cuba. When entering, a U.S. citizen must satisfy the CBP officer at the POE of his or her citizenship; the officer examines the documentation presented and may ask for additional documentation until satisfied that the individual is a U.S. citizen.

- Nonimmigrant aliens arriving in the U.S. must present to the CBP officer at the border a valid, unexpired passport book issued by his or her country of citizenship and a valid, unexpired visa issued by a U.S. embassy or consulate abroad. The primary current exceptions are:

  - Citizens of Canada and Bermuda arriving from anywhere in the Western Hemisphere other than Cuba. Bermudan and Canadian citizens must satisfy the inspecting CBP officer of their citizenship. The CBP officer may request identification including a birth certificate, passport book, or citizenship card.

  - Mexican nationals with a Border Crossing Card (BCC) arriving from contiguous territory. As of September 31, 2001, first time applicants for BCCs are required to present a valid Mexican passport during the application process as the primary document of citizenship and identity.[21]

In addition, CBP has established several programs that issue cards and identification to facilitate streamlined processing at the border. These programs include Free and Secure Trade (FAST), NEXUS, or Secure Electronic Network for Travelers' Rapid Inspection (SENTRI). Refugees and lawful permanent residents (LPRs) are also allowed entry with appropriate documentation.

SUMMARY OF FINAL RULE

In support of the final rule, we evaluated the following regulatory alternatives:

ALTERNATIVE 1: All U.S. citizens entering the United States via the Mexican or Canadian border must present a traditional passport book.

> ALTERNATIVE 1A: Alternative 1, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

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[21] Note that some individuals may have a BCC, but not a passport. Under current rules, these individuals can be admitted into the United States.

ALTERNATIVE 1B: Alternative 1, except for U.S. and Canadian children under 16 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 2: All U.S. citizens must present a passport book, a passport card containing a vicinity-read radio frequency identification (RFID) chip, a CBP trusted traveler card (FAST, NEXUS, SENTRI), a Department of Homeland Security (DHS)-approved Enhanced Driver's License (EDL), or a Merchant Mariner Document (MMD). In addition, Canadian citizens not enrolled in a CBP trusted traveler program will need to present a Canadian passport. For the purposes of this analysis, we assume that there will be no change in the documentation required of lawful permanent residents (LPRs), Mexican citizens, Native Americans, members of the U.S. Armed Forces with military identification and traveling on official orders, and NATO military personnel on official duty.[22]

ALTERNATIVE 2A: Alternative 2, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 2B (chosen alternative): Alternative 2, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 3: Alternative 2, except the passport card and EDLs will not contain a vicinity-read RFID chip.

ALTERNATIVE 3A: Alternative 3, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 3B: Alternative 3, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

Alternatives 1A, 1B, 2A, 2B, 3A and 3B reflect options that CBP considered with respect to the documentation requirements for children. Specifically, under these options CBP would permit entry of U.S. and Canadian children under 14 (ages 0 to 13) or 16 (ages 0 to 15) with a birth certificate. In addition, U.S. and Canadian children ages 14 to 18 or 16 to

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[22] Mexican nationals must present a valid, unexpired passport and a valid, unexpired visa issued by a U.S. embassy or consulate abroad, or they must present a Border Crossing Card (BCC), also known as a "laser visa." As of September 31, 2001, first-time applicants for BCCs are required to present a valid Mexican passport during the application process. However, individuals who obtained a BCC prior to that date may not currently possess a valid passport.

18, depending on the regulatory alternative, traveling with a group could enter the United States with a birth certificate.[23]

Under Alternatives 2 and 3, we consider the option of travelers using an alternative format, credit-card sized passport, known as a "passport card". The 2004 IRTPA requires DHS and DOS to seek to facilitate the frequent travel of those living in border communities. Therefore, DOS, in consultation with DHS, on October 17, 2006, proposed a specific program to issue the passport card.[24] The passport card will carry a machine readable zone (MRZ) and a unique reference number that will serve as a pointer to a secure database managed by DHS. Presenting the passport card at a border POE will allow the associated record to be retrieved from a secure DHS database, allowing the inspector to compare the citizen desiring entry into the United States with the original issuance record to determine that it is the same person. To ensure that retrieval of the data is both rapid and efficient, CBP is considering using radio frequency identification (RFID) vicinity read technology under Alternative 2. The passport card will be limited for use to enter the United States along land borders (including entries by ferry and pleasure vessel). Additionally, DHS is designating the passport card as an acceptable document for cruise travel in the Western Hemisphere. For the purposes of this analysis, we assume that RFID vicinity read technology is implemented under Alternative 2 beginning in January 2009, and that RFID-enhanced passport cards are available beginning in 2008. *Nothing in this report, however, precludes a traveler from using a passport card at a land POE earlier than this date, if a traveler has obtained such a document.*

DHS, DOS, and CBP have concluded that Alternative 2B will best balance the security needs of the United States with the potential costs imposed on Americans and the United States economy. The primary difference between Alternative 1B and Alternative 2B is that (1) travelers using CBP trusted traveler cards will be allowed to continue to use them, and (2) travelers will have the new, less expensive documentation option of the passport card. The only difference between Alternative 2B and Alternative 3B is that, under Alternative 2B, the passport card will be enhanced with a vicinity-read RFID chip, enabling CBP to scan a traveler's passport card without physically taking possession of the document.

The primary purposes of the final rule are: (1) to enhance the security of the United States by improving the ability of our border inspectors to identify individuals who may pose a threat to the critical infrastructure or key resources of the country, or who are engaged in

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[23] The final rule sets forth additional procedures that would apply to groups of children crossing the border. The group exemption is considered qualitatively in this analysis. Data describing the number and frequency of such group trips and the size of those groups are not readily available. Furthermore, because the children in these groups will still require passport books or passport cards to travel across the border with family or friends during non-group activities (i.e., children in this group are too old for the more general child exemption), many of these individuals may still obtain acceptable documentation. We have no information about what portion of the group will take advantage of this exemption.

[24] U.S. Department of State, "Card Format Passport; Changes to Passport Fee Schedule," *Federal Register*, October 17, 2006 (Volume 71, Number 200), pgs. 60928-60932.

illegal acts; and (2) to facilitate the processing of individuals entering the United States via land or sea. The border security of the United States is a public good in that all residents of the United States benefit from security, and market forces alone are not sufficient to induce adequate and consistent protection. As a result, to address this market failure, the government is responsible for assuring that our borders are secure, and that individuals who enter the United States possess documentation that allows border inspectors to reliably evaluate identity and citizenship.

This rule reduces the range of acceptable documentation that individuals can present at the border upon entry into the United States, simplifying and facilitating the job of the primary inspector and improving the quality of the documentation. Specifically, CBP is concerned that the acceptable documentation is reliable evidence of an individual's identity and citizenship, can be validated against other government databases, and has document security features. These features enable a more accurate and thorough review of individuals entering the United States, reducing the risk of a terrorist event or other illegal act. In addition, the rule is expected to streamline the processing of individuals with acceptable documentation, speeding their border crossing and allowing inspectors to focus on individuals of concern. In order to reduce the costs and impacts of these requirements on individuals, CBP is finalizing alternatives for certain selected categories of travelers.

REQUIREMENTS AND GUIDELINES FOR REGULATORY ANALYSIS

Executive Order 12866, dated September 30, 1993, and amended on January 18, 2007, requires Federal agencies to conduct economic analyses of significant regulatory actions as a means to improve regulatory decision making. Significant regulatory actions include those that may "(1) [h]ave an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) [c]reate a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) [m]aterially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) [r]aise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order."[25]

Office of Management and Budget's *Circular A-4*, dated September 17, 2003, provides guidance to Federal agencies on the development of regulatory analysis as required under Section 6(a)(3)(c) of Executive Order 12866. As outlined in the Office of Management and Budget (OMB) guidance, analyses of these actions should be designed to provide information for decision makers on the potential benefits to society of alternative regulatory and non-regulatory approaches to risk management compared to potential costs, recognizing that not all benefits and costs can be described in monetary or even in

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[25] Executive Order 12866, *Regulatory Planning and Review*, September 30, 1993, Section 3(f). This text was unchanged by the recent amendments to the Executive Order. See *Executive Order: Further Amendment to Executive Order 12866 on Regulatory Planning and Review*, as viewed at http://www.whitehouse.gov/news/releases/2007/01/print/20070118.html on January 24, 2007.

quantitative terms. The guidance also focuses on ensuring that decisions are based on the best available scientific, technical, and economic information. The specific topics addressed include determining whether federal regulation is warranted, examining alternative regulatory and non-regulatory approaches, and assessing the benefits, costs, and other impacts of the alternatives.

In addition, the requirements noted above discuss the need for analysis of distributional impacts and equity concerns. Consideration of these types of concerns is also required by several statutes and executive orders, including the following:[26]

The Regulatory Flexibility Act of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (RFA/SBREFA) requires agencies to evaluate the impacts of the reporting, record-keeping, and other compliance requirements imposed on small entities and to consider regulatory alternatives and other measures that can minimize these impacts while accomplishing the stated objectives of the applicable statutes. Analysts may first conduct a screening analysis to determine if effects on small entities are significant. A detailed analysis is not required if the agency can certify that the rule "will not, if promulgated, have a significant economic impact on a substantial number of small entities."

The Unfunded Mandates Reform Act of 1995 (UMRA) requires that the government consider the costs and benefits of any proposed or final rule that includes a Federal mandate resulting in the "expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of $100,000,000 in any 1 year."[27] Title II of UMRA directs agencies to prepare an economic analysis that assesses: the anticipated benefits and costs of the mandate; the extent to which Federal resources and financial assistance are available to offset the costs imposed; any disproportionate budgetary effects on any particular geographic area or sector; and any effects on the national economy.

Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use requires agencies to evaluate the impacts of significant energy actions on energy supply, distribution, or use (including a shortfall in supply, price increases, and increased use of foreign supplies) and to consider reasonable alternatives to actions with adverse energy effects. The agencies must publish a Statement of Energy Effects in all proposed and final rules.[28]

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[26] These and other statutes and executive orders also include requirements that apply to the regulatory development process (e.g., for consultation with representatives of the groups of concern). The discussion in this section focuses on the requirements for economic analysis.

[27] UMRA Section 202(a).

[28] Executive Order 13211, *Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use*, May 18, 2001.

The analytical results described in this report address the requirements for regulatory analysis outlined above. In this report, we provide estimates of the incremental costs associated with the final rule. We also evaluate our ability to quantify direct benefits derived from the rule and provide a qualitative evaluation of the potential benefits of the regulatory options. We present information on the available data sources we rely upon and the analytic methodologies we employ and discuss the implications of limitations in the analysis. Finally, as required by various statutes and administrative orders, we address the distributional effects of the regulation.

The basic steps we undertake and discuss in this report include the following:

1. **Estimate baseline conditions**: This step involves estimating current and future conditions in the absence of the rule. It includes identifying and characterizing the potentially affected universe (e.g., individuals that will be directly affected by the rule) and determining the baseline status of travelers if no new regulations are promulgated.

2. **Predict responses to the new regulations**: The second step in the analysis involves predicting the responses of the regulated community to the new regulations. Typically, analysts assume that regulated individuals will select the least-cost compliance option.

3. **Estimate changes in costs**: The third step is to determine the total incremental social costs attributable to the new regulations. The conceptually correct approach to estimating these costs includes consideration of market impacts (e.g., decreases in the cross-border travel due to the increased costs of travel documentation). Note our focus is to estimate the direct costs to U.S. citizens and government, not the costs that might be incurred by foreign travelers. The direct costs of the final WHTI regulation include the costs to U.S. citizens to obtain the required travel documents; the welfare losses to the subset of this group that choose not to obtain new documents; and the costs DOS and CBP are expected to incur to implement the program. We also estimate indirect costs in terms of changes in travel spending in the United States as the travel behavior of U.S. citizens and aliens changes in response to the regulation.

4. **Assess the potential benefits of this regulatory action**: The fourth step in an ideal analysis involves assessing the benefits of the regulation and quantifying and monetizing those benefits to the extent possible. We discuss the potential direct benefits of the final rule qualitatively.

5. **Assess distributional impacts**: While Steps 3 and 4 focus on the net effects of the regulations, decision-makers and stakeholders are also interested in the effects of the regulations on specific groups, such as small businesses, discrete geographic areas, or governments. As discussed earlier, analyses of several of these concerns are required by statute and administrative order. In the case of the WHTI travel documentation requirements, distributional impacts may occur as a result of changed travel by either Mexican and Canadian visitors choosing to not visit the United States or reducing spending in the United States, or by U.S.

travelers choosing to travel in the United States rather than to Canada or Mexico. The distributional analyses consider the costs or the benefits of the regulations for the groups of concern.

The analysis in the chapters that follow addresses each of these components in detail. Chapters 2 through 4 provide a description and analysis of the current baseline situation; specifically, determining an estimate of the number of unique U.S. citizens crossing into the United States via POEs and the type of documentation that these citizens possess. Chapter 2 provides an overview of the recent history of U.S. passport book issuance, provides background on the percentage of individuals holding passport books throughout the country, and summarizes existing CBP trusted traveler programs. Chapter 3 describes the borders with Mexico and Canada, with particular focus on the nature of the crossings at POEs. The POEs are the focal point of our analysis. Chapter 4 describes our derivation of an estimate of the number of unique U.S. citizens crossing into the U.S. in 2004 based on POE and other data that we have analyzed. In this Chapter, we also make an estimate of the nature of documentation that these unique citizens hold (e.g., passports, CBP trusted traveler cards). This provides the basis for our estimate of the numbers of individuals that will need to obtain documentation under the alternatives evaluated for this rule.

In Chapter 5, we estimate the direct costs of the WHTI regulation. Chapter 6 presents our analysis of the indirect costs of the rule. Chapter 7, consistent with regulatory requirements, discusses the distribution of the economic impacts on groups of particular concern. In this Chapter we look at a selected set of counties on the Mexican and Canadian border to evaluate the potential local impact of the regulatory options under consideration. In Chapter 8, we assess the potential security benefits of the regulatory alternatives. Chapter 9 qualitatively discusses the potential changes in wait times at the border and provides a range of the values of possible benefits for each regulatory alternative. Chapter 10 presents the regulatory flexibility analysis, and Chapter 11 evaluates the impacts as required by UMRA, as well as other impacts not otherwise addressed in the report. Chapter 12 outlines the changes in the analysis between the proposed rule and the final rule.

Although this analysis attempts to mirror the terms and wording of the rule, no attempt is made to precisely replicate the regulatory language and readers are cautioned that the actual finalized regulatory text, not the text of this assessment, is binding.

CHAPTER 2 | EXISTING U.S. ENTRY DOCUMENTATION RELEVANT TO WHTI IMPLEMENTATION

This chapter discusses in detail the documentation options presently available to individuals entering the United States via border crossings at Mexican and Canadian ports-of-entry (POEs), including ferry and pleasure boat POEs. We focus specifically on those current documentation options, including the passport book, CBP trusted traveler programs, Native American documentation, and the Mexican Border Crossing Card (BCC), that may still be accepted after implementation of the Western Hemisphere Travel Initiative (WHTI). In the following sections, we first discuss passport books, specifically the number and geographic distribution of U.S. citizens currently holding valid passport books, and the trends in U.S. passport book issuance over the last four decades. Then, we summarize the various CBP trusted traveler programs available to enter the United States at land borders, including NEXUS, the Secure Electronic Network for Travelers' Rapid Inspection (SENTRI), Free and Secure Trade (FAST), and the I-68 program. Next, we discuss the special provisions extended to Native Americans for crossing the border. The chapter concludes with a discussion of the Mexican BCC.

UNITED STATES PASSPORT BOOKS Passport books are official documents that individuals use as evidence of their identity and nationality.[29] The U.S. Department of State (DOS) is the only authorized issuer of U.S. passport books. Currently, U.S. citizens (adults and children) require a valid, unexpired passport book to travel to and from Cuba and anywhere outside the Western Hemisphere (Europe, Africa, Asia, and Australia).[30]

U.S. POPULATION HOLDING ACTIVE PASSPORT BOOKS

To understand the baseline prevalence of passport books in the United States, we first reviewed publicly available data from DOS. In a press briefing, DOS estimated that in April 2005, 62 million people, or 23 percent of Americans, held U.S. passport books.[31]

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[29] U.S. Department of State, Bureau of Consular Affairs, *Passports*, as viewed at http://travel.state.gov/passport/passport_1738.html on November 17, 2006.

[30] U.S. Customs and Border Patrol, *Documentary Requirements for Entry To The United States*, as viewed at http://www.cbp.gov/xp/cgov/travel/vacation/kbyg/documentary_req.xml on November 17, 2006.

[31] U.S. Department of State, *Western Hemisphere Travel Initiative*, Foreign Press Center Briefing, April 5, 2005, as viewed at http://www.state.gov/r/pa/prs/ps/2005/44286.htm on November 17, 2006.

This estimate represents an increase of 9 million individuals over the DOS estimate of 53 million passbook holders in March 2004.[32]

To obtain a passport book, U.S. citizens submit different applications, depending on whether they have held a passport book in the past and the age of the applicant. First-time adult and all child (under the age of 16) applicants submit form *DS-11: Application for Passport*.[33] If an adult obtained a passport book within the last fifteen years and that individual meets several other criteria (described in detail in Chapter 5 of this report), then he or she is eligible to submit an application for renewal, referred to as *DS-82: Application for Passport by Mail*.[34] Adult passport books are valid for a period of 10 years.[35] A child's passport book is valid for only five years.[36]

DOS estimates that in 2005 it processed 6.6 million form *DS-11* (first-time and children applications) passport book applications and 2.9 million form *DS-82* (renewal applications), for a total of 9.5 million applications.[37] DOS issued eighteen percent of passport books via form *DS-11* to children.[38]

DISTRIBUTION OF ACTIVE PASSPORT BOOKS

For a more detailed understanding of the geographic distribution of current passport book holders, we obtained data from DOS via U.S. Customs and Border Protection (CBP) describing the number of U.S. passport books issued by zip code over the period of March 2001 through March 2006. These data included records for nearly 30,000 zip codes. The database contained inconsistent and incomplete records, which we reconciled by removing approximately 42 million of them.[39] Taking into account the time periods

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[32] U.S. Department of State, *Remarks of Maura Harty, Assistant Secretary of State for Consular Affairs, before the Migration Policy Institute*, March 25, 2004, as viewed at http://travel.state.gov/law/legal/testimony/testimony_809.html on November 17, 2006.

[33] U.S. Department of State, Bureau of Consular Affairs, *Passports*, as viewed at http://travel.state.gov/passport/passport_1738.html on November 17, 2006.

[34] U.S. Department of State, Bureau of Consular Affairs, *Passports*, as viewed at http://travel.state.gov/passport/passport_1738.html on November 17, 2006.

[35] U.S. Department of State, *Application for a U.S. Passport*, as viewed at http://travel.state.gov/pdf/DS-0011.pdf on November 17, 2006; and U.S. Department of State, Bureau of Consular Affairs, *How to Apply for a Passport Renewal*, as viewed at http://travel.state.gov/passport/get/renew/renew_833.html on November 17, 2006.

[36] U.S. Department of State, *Application for a U.S. Passport*, as viewed at http://travel.state.gov/pdf/DS-0011.pdf on November 17, 2006.

[37] U.S. Department of State, Bureau of Consular Affairs, Passport Services, Office of Field Operations, Field Coordination Division; *Notice of Information Collection Under Emergency Review: Form DS-82, Application for a U.S. Passport by Mail*, OMB Control Number1405-0020, Federal Register: Vol. 70, No. 53, March 21, 2005, as viewed at http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-5588.htm on November 17, 2006.

[38] U.S. Department of State, *Paperwork Reduction Act Submission, Form DS-11*, 2006.

[39] Of the 81 million records in the original database, 41 million had null state codes or zip code values, 340,000 did not contain real zip codes or the state and zip codes did not match, 400,000 appeared to be

over which passport books are active (i.e., five years for a child passport book and 10 years for an adult passport book), we conclude from these data that 60.8 million people held active passport books in the U.S. in 2005.[40]

The passport book issuance data are displayed geographically in Exhibit 2-1. The data shows some concentrations of passport book issuances in zip codes where large passport centers exist. Thus, the data may not be entirely representative of the home zip code of passport book applicants. Overall, however, we believe that the data provide a reasonable picture of the residences of passport book applicants. It is apparent that urban areas, particularly in the northeastern United States and West Coast, tend to have higher percentages of the population with active passport books. Exhibit 2-2 summarizes estimates of the average percentage of statewide population holding active passport books as of March 2006. We calculate this by dividing the total number of active passports in each state by the state population. We find that the percentage of state population holding active passport books ranges from 6.5 percent (Mississippi) to 42.6 percent (New Jersey).

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foreign zip codes, and 16,000 were military zip codes. Approximately 39 million records remained in the database for analysis.

[40] This estimate is consistent with the previously reported DOS estimate of 62 million passport holders in 2005. The difference may be explained by the incomplete data in the zip code database that could not be included in our analysis.

EXHIBIT 2-1   DISTRIBUTION OF POPULATIONS HOLDING ACTIVE PASSPORT BOOKS AS OF MARCH 2006 (BY ZIP CODE)

Zip Code Population with Passports
Percent Holding Active Passport
- 0
- 1-10
- 11-20
- 21-50
- Greater than 50
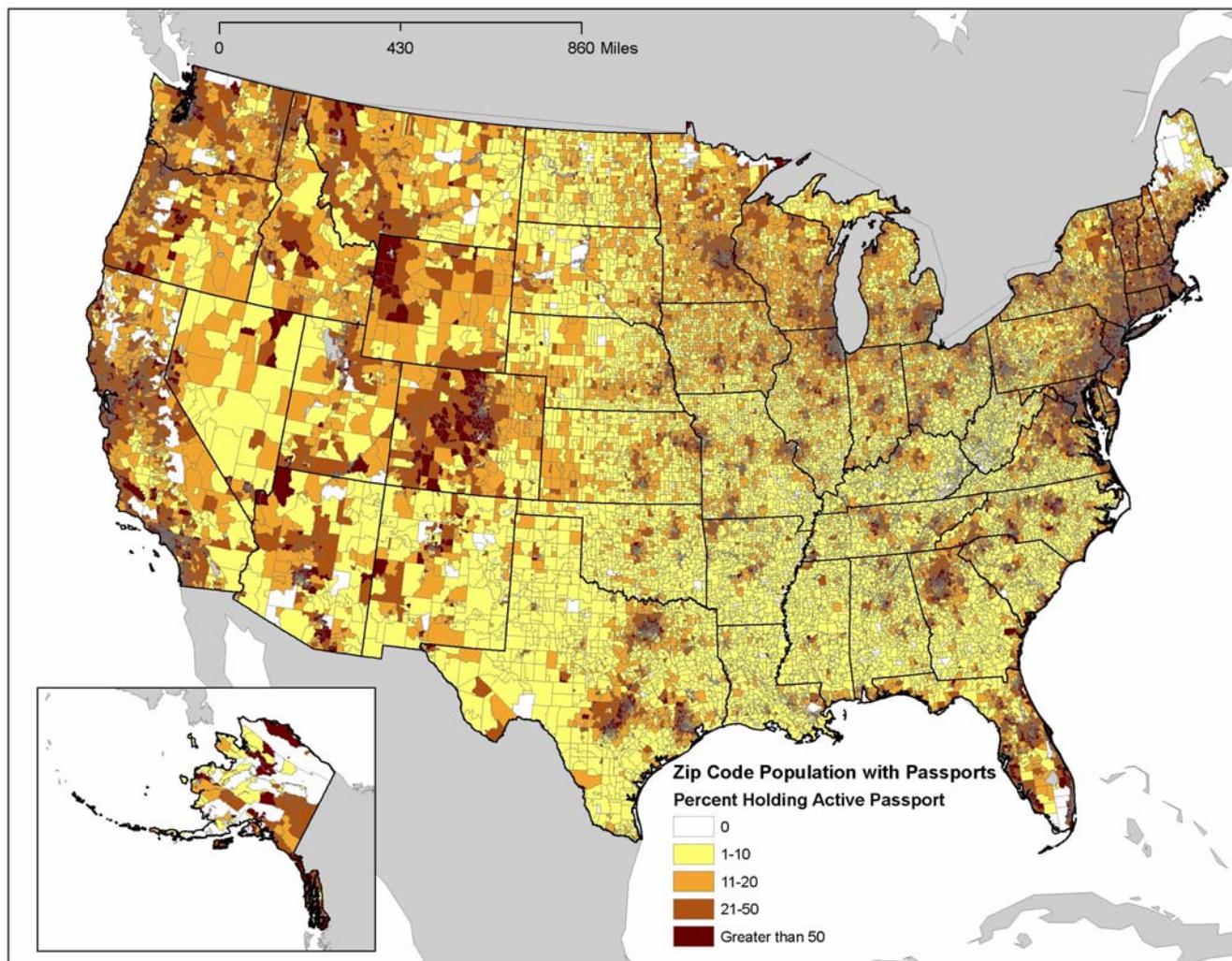
Source: IEc analysis of DOS passport book data.

EXHIBIT 2-2   PERCENT OF STATE POPULATION HOLDING ACTIVE PASSPORT BOOKS AS OF MARCH
2006

STATE	PERCENTAGE OF STATE POPULATION HOLDING ACTIVE PASSPORT BOOK	STATE	PERCENTAGE OF STATE POPULATION HOLDING ACTIVE PASSPORT BOOK
New Jersey	42.6%	Idaho	20.5%
Hawaii	39.0	Montana	19.8
New York	35.4	Wisconsin	18.6
Massachusetts	35.3	Georgia	18.5
New Hampshire	34.2	Michigan	17.9
California	33.8	Wyoming	17.7
Washington	32.8	Kansas	17.6
Colorado	31.6	Nebraska	15.5
Connecticut	31.2	New Mexico	15.5
Rhode Island	30.0	North Carolina	15.3
Florida	29.4	Iowa	14.9
Alaska	29.3	Missouri	14.2
Vermont	28.4	Ohio	14.2
Maryland	28.2	North Dakota	13.9
Minnesota	28.0	South Dakota	13.8
Oregon	27.2	Indiana	13.4
Nevada	26.6	Oklahoma	13.3
Virginia	26.4	South Carolina	13.0
Delaware	24.3	Tennessee	12.2
Pennsylvania	22.3	Kentucky	10.0
Arizona	22.2	Louisiana	9.5
Utah	22.2	Alabama	9.4
Illinois	21.9	Arkansas	8.9
Maine	21.0	West Virginia	7.8
Texas	20.8	Mississippi	6.5

Source: IEc analysis of DOS passport book data. Calculated as the total number of active
passports in each state divided by the 2000 state population.

PASSPORT BOOK ISSUANCE TRENDS

Exhibit 2-3 shows the historical trend in annual passport book issuance from 1974 to 2006.[41] Annual passport book issuance grew steadily to about 5 million applications in 1986, but then declined to about 3.3 million as of 1992. Since 1993, the number of passport books issued per year has increased threefold to about 12 million per year in 2006.[42]

EXHIBIT 2-3   U.S. PASSPORT BOOK ISSUANCE (1974-2006)
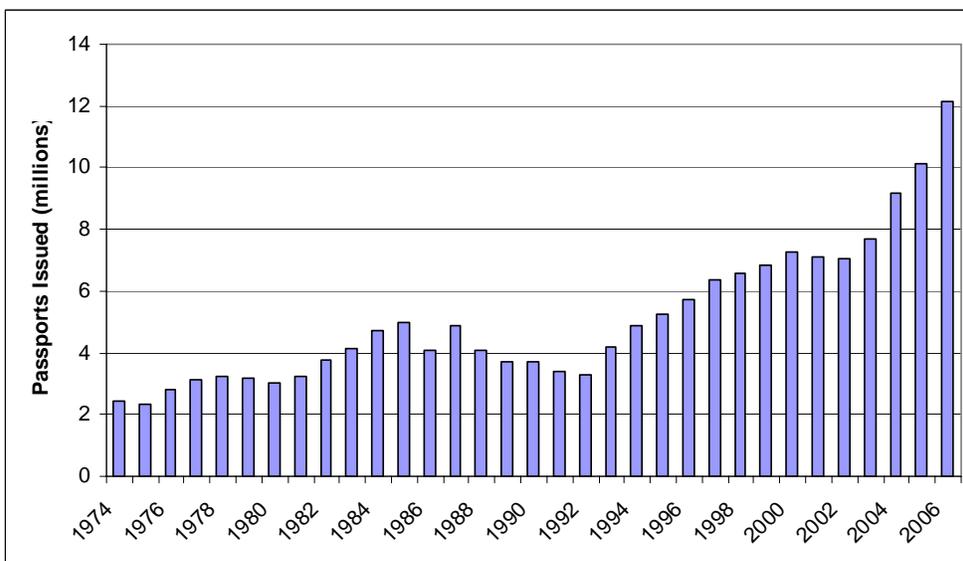
Source: Based on U.S. Department of State, *Passport Statistics*, as viewed at
http://travel.state.gov/ passport/services/stats/stats_890.html on January 25, 2006.

CBP TRUSTED
TRAVELER
PROGRAMS

CBP trusted traveler programs expedite border crossings for individuals who voluntarily undergo a background risk assessment and pre-approval process. The following summarizes the CBP trusted traveler programs currently in place at U.S. land border crossings.

NEXUS

NEXUS is a joint program between CBP and the Canada Border Services Agency designed to expedite inspection of low-risk, pre-approved travelers. Participants in the program must be citizens or lawful permanent residents (LPRs) of the United States or Canada.[43] Citizens of another country who will temporarily reside lawfully in Canada or

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[41] Based on Department of State statistics. U.S. Department of State, *Passport Statistics*, as viewed at http://travel.state.gov/passport/services/stats/stats_890.html on January 25, 2007.

[42] IEc adjusted the data to take into account DOS's change in 1996 from calendar year data collection to fiscal year data collection.

[43] U.S. Customs and Border Protection, *United States - Canada NEXUS Highway Program*, as viewed at http://www.cbp.gov/ xp/cgov/travel/frequent_traveler/nexus.xml on July 10, 2006.

the United States during the term of the NEXUS membership and pass an Interpol criminal history check may also be eligible to participate in NEXUS.[44] As of February 2007, 118,045 participants were enrolled in the NEXUS program.[45] Participants must renew their NEXUS cards every five years. The initial enrollment fee is $50 U.S. or $80 Canadian per applicant that is 18 years or older. No fee is required of applicants under 18 years old.[46] All applicants submit to a background check and an in-person interview with border officials.

When crossing the border using the dedicated lanes, all vehicle occupants, including children, must have a NEXUS card for the vehicle to receive expedited inspection.[47] NEXUS participants scan their cards at the border, and the cardholder's photo and personal information appear on a screen in the CBP inspection booth. A CBP official then compares the photos with each vehicle occupant and cross-references the cardholder's personal information using various law enforcement databases. However, NEXUS lanes are not open twenty-four hours a day.[48]

SENTRI

Participants in the SENTRI program are able to use dedicated commuter lanes at certain U.S.-Mexico border POEs.[49] Enrollment is limited to drivers and passengers of non-commercial vehicles. To participate in the program, individuals undergo background checks and an in-person interview with CBP officials. Once the participant's photo, vehicle, and personal information are entered into the SENTRI database, CBP officials use Automatic Vehicle Identification technology to electronically identify the vehicle and its passengers at the border, thereby reducing the traveler's border crossing wait time. Both U.S. and Mexican travelers are eligible to participate in the program. In February 2007, the program had 120,460 enrollees.[50] Applicants to SENTRI must be citizens or lawful permanent residents of the United States, or non-immigrants determined to be eligible by the Commissioner of CBP. Currently, 60 percent of SENTRI participants are

[44] U.S. Customs and Border Protection, *United States - Canada NEXUS Highway Program*, as viewed at http://www.cbp.gov/ xp/cgov/travel/frequent_traveler/nexus.xml on July 10, 2006.

[45] Information provided by U.S. Customs and Border Protection, Office of Field Operations, to IEc on March 19, 2007.

[46] Canada Border Services Agency, *NEXUS Highway program - Frequently Asked Questions*, as viewed at http://www.cbsa-asfc.gc.ca/travel/nexus/faq-e.html on November 17, 2006.

[47] Intermec, *Nexus: Life in the Fast Lane RFID Powers Border Crossing Program*, as viewed at http://www.intermec.com/eprise/main/Intermec/Content/About/getCaseStudy?ArticleID=981 on November 17, 2006.

[48] U.S. Customs and Border Protection, *United States - Canada NEXUS Highway Program*, as viewed at http://www.cbp.gov/ xp/cgov/travel/frequent_traveler/nexus.xml on July 10, 2006.

[49] U.S. Customs and Border Protection, *SENTRI Program*, as viewed at http://www.cbp.gov/xp/cgov/travel/frequent_traveler/sentri.xml on March 6, 2006.

[50] Information provided by U.S. Customs and Border Protection, Office of Field Operations, to IEc on March 19, 2006.

U.S. citizens and 40 percent are Mexican citizens.[51] A SENTRI card costs $129 per person or $256 per family, and holders must renew the card every five years.[52]

FAST

CBP's FAST program allows for expedited clearance of known low-risk commercial cargo at land border POEs when all participants in a supply chain; importer, carrier, truck-driver, and (on the southern border) manufacturer are members in good standing of CBP advanced risk screening programs. In order to participate in FAST, truck drivers must undergo a background check and "report to an enrollment center where they will be interviewed, have their original identification and citizenship documents reviewed, fingerprinted, and have a digital photo taken."[53] The FAST program allows fully qualified FAST trips expedited security clearance via dedicated FAST lanes at POEs on the U.S.-Mexico border and the U.S.-Canada border. In 2006, 9,640 U.S. truck drivers were enrolled in the program (at both borders).[54] Program enrollees must renew their membership every five years at a cost of $50 per truck driver. All other FAST lane users obtain their low-risk certification from the CBP Customs-Trade Partnership Against Terrorism (C-TPAT). Applicants must submit their company's C-TPAT Supply Chain Security Profile to CBP for review.[55] This document serves to confirm that the company has put in place a variety of security procedures, such as:

- Written and verifiable processes for screening business partners;

- Inspection procedures that include a physical search of all readily accessible conveyance areas;

- Tracking and monitoring procedures that include electronic tracking of driver movement;

- Procedures for verifying the physical integrity of cargo containers; and

- Screening of prospective employees and periodic reviews of current employees.

The FAST program is available at a select number of crossings at both the Mexico and Canada borders.

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[51] U.S. Department of State, *Testimony before Senate Committee on Foreign Relations of Stewart Verdery, Assistant Secretary for Border and Transportation Security Policy and Planning, Department of Homeland Security*, March 23, 2004, as viewed at http://usinfo.state.gov/wh/Archive/2004/Sep/13-944658.html on November 17, 2006.

[52] U.S. Customs and Border Protection, *Commissioner Launches Improvements to Southern Border Expedited Traveler Program*, as viewed at http://www.cbp.gov/xp/cgov/newsroom/commissioner/messages/commis_tours_southwest/sentri_prog.xml on November 15, 2006.

[53] U.S. Customs and Border Protection, *FAST: Free and Secure Trade Overview*, as viewed at http://www.cbp.gov/xp/cgov/import/commercial_enforcement/ctpat/fast/ on July 7, 2006.

[54] Personal communication with CBP.

[55] U.S. Customs and Border Protection, *Online Application for U.S./Mexico Highway Carriers*, as viewed at http://www.cbp.gov/xp/cgov/import/commercial_enforcement/ctpat/fast/us_mexico/mexico_highway/app_us_mex_hwy.xml on November 17, 2006.

I-68 PROGRAM

The I-68 program is designed for recreational boaters who enter U.S. waters from Canada. Participants report their entry to CBP by phone each time they cross the border. Eligible program participants include citizens and LPRs of the United States and Canada as well as non-citizens with proper entry documents on visits less than 72 hours, who do not travel inland farther than 25 miles from the shoreline.[56] Enrollment in the I-68 program costs $16 per individual or $32 per family. For an applicant to receive the application form in the mail, the cost is an additional $20.[57] All applicants submit to a background check and an in-person interview with border officials. Holders of the I-68 permit must renew every 12 months.

NATIVE AMERICAN DOCUMENTATION
Federally recognized Native American and Alaska Native tribes can issue their own Tribal identification documentation. This documentation is currently sufficient to allow Native Americans to enter the United States. Canadian-born Native Americans can also present Tribal identification documentation to cross the border.

The U.S Census Bureau estimates that the total number of Tribal members nationwide is 5,493,421, with approximately 33,070 whose Tribal lands abut international borders.[58] Exhibit 2-4 lists the 20 tribes located within 20 miles of the border. Of these 20 tribes, 15 are found on the Canadian border, five on the Mexican border.

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[56] U.S. Customs and Border Protection, *Reporting Requirements for all Private Boat Operators in Puget Sound, WA*, as viewed at http://www.cbp.gov/xp/cgov/travel/pleasure_boats/ on November 17, 2006.

[57] U.S. Customs and Border Protection, *Canadian Border Boat Landing Program, I-68 Permit Program*, as viewed at http://www.cbp.gov/xp/cgov/travel/pleasure_boats/cbbl.xml on November 17, 2006.

[58] U.S. Census Bureau, *Summary of Tribal Populations, United States, 2000*, as viewed at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_lang=en on March 16, 2006.

EXHIBIT 2-4   NATIVE AMERICAN TRIBES RESIDING IN THE UNITED STATES WITHIN 20 MILES OF THE BORDER

TRIBE NAME	STATE(S) OF RESIDENCE
Bad River Band of Lake Superior Tribe of Chippewa Indians	Wisconsin
Bay Mills Indian Community	Michigan
Blackfeet	Montana
Cocopah	Arizona
Grand Portage Band of Ojibwe	Minnesota
Kickapoo Tribe	Texas
Lummi Indian Nation	Washington
Makah	Washington
Mohawk Council of Akwesasne (Canada)	New York
Nooksack Indian Nation	Washington
Passamaquoddy Pleasant Point	Maine
Passamaquoddy Tribe of Indian Township	Maine
Quechan	Arizona, California
Red Cliff Band of Lake Superior Chippewa	Wisconsin
Red Lake Band of Ojibwe	Minnesota
Sault Tribe of Chippewa Indians	Michigan
Seneca Nation	New York
St. Regis Mohawk Tribe	New York
Tohon O'odham Nation	Arizona
Ysleta del Sur Pueblo	Texas

Source: Based on CBP classification of "border tribes."

MEXICAN BORDER CROSSING CARD Mexican citizens entering the United States must present both a passport book and visa, or a BCC, also known as a "laser visa." Acceptable visas include a variety of work and tourist visas, such as the H-1B, H-2A and H-2B temporary work visas, the B-1 business traveler visa, and the B-2 tourist visa.[59] The laser visa functions like B-1 and B-2 visas; it permits the holder to remain in the U.S. border region for up to 30 days.[60,61] In California, New Mexico, and Texas, the border region extends 25 miles from the border, while in Arizona the region extends 65 miles from the border. If Mexicans holding a laser visa or other visa wish to remain in the United States for more than 30 days or wish

[59] U.S. Citizenship and Immigration Services, *Immigration Classifications and Visa Categories*, as viewed at http://www.uscis.gov/graphics/services/visas.htm on November 17, 2006.

[60] U.S. Citizen and Immigration Services, *News Release: Mexican Border Crossing Cards to Expire Soon*, March 21, 2001, as viewed at http://www.uscis.gov/graphics/publicaffairs/newsrels/lvexpire.htm on November 17, 2006.

[61] New Mexico Border Authority, *Travel to the USA: Form I-94 Arrival and Departure Record,* as viewed at http://www.nmborder.com/travel_usa.html on November 17, 2006.

to travel outside of the border region, they must purchase an I-94 permit at a POE for $6. Holders of the I-94 permit may travel throughout the United States for up to six months.[62]

A laser visa costs $100 and holders must renew every 10 years. As of April 1, 1998, the U.S. Citizenship and Immigration Services began issuing this visa in machine-readable biometric form, which includes a photograph and a fingerprint of the cardholder. Older, non-biometric BCCs became invalid on September 30, 2001. Mexican citizens replacing an old BCC are not required to present a passport book to acquire the new biometric laser visa; however, all new applicants for the laser visa must possess a valid Mexican passport book.[63]

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[62] New Mexico Border Authority, *Travel to the USA: Form I-94 Arrival and Departure Record,* as viewed at http://www.nmborder.com/travel_usa.html on November 17, 2006.

[63] U.S. Department of State, Bureau of Consular Affairs, *Border Crossing Card (BCC)*, as viewed at http://travel.state.gov/visa/temp/types/types_1266.html on November 17, 2006.

CHAPTER 3 | PORTS-OF-ENTRY INTO THE UNITED STATES FROM MEXICO, CANADA, AND THE CARIBBEAN: BACKGROUND

This chapter provides background on land border crossings at U.S.-Mexico and U.S.-Canada ports-of-entry (POEs) and ferry crossing POEs in the continental United States and the Caribbean. This chapter provides an overview of POE border crossing data and presents our characterization of recent trends and modes of travel. Then, it provides detailed descriptions of crossing activity along the U.S.-Mexico and U.S.-Canada borders, which includes discussion of the busiest POEs. Limited information regarding Caribbean POEs is provided in our discussion of ferry travel.

OVERVIEW OF POE BORDER CROSSING DATA

Most cargo and visitors to the United States must pass through a POE, officially defined as "any designated place at which a Customs and Border Protection officer is authorized to accept entries of merchandise, to collect duties, and to enforce the various provisions of the customs and navigation laws."[64] POEs include international airports and seaports, as well as land crossings and ferry debarkation points along the U.S.-Mexico and the U.S.-Canada borders, and in U.S. territories in the Caribbean. This report focuses on land crossings and ferry debarkation points. In 2005, U.S. Customs and Border Protection (CBP) published a list identifying 347 land and seaports in the United States, which are organized into three classes:[65]

> **Class A ports:** A POE for all aliens, as well as U.S. citizens.[66] Class A ports are most common, comprising 73 percent of all land and seaports. These include all high-traffic ports (e.g., Detroit, Michigan and Nogales, Arizona), but also many smaller ports (e.g., Pittsburg, New Hampshire).

> **Class B ports:** A port designated for aliens who possess valid Permanent Resident Cards, valid non-resident aliens' border-crossing identification cards, or documents under documentary waivers, as well as U.S. citizens. These low-traffic ports are uncommon, comprising only seven percent of all land and seaports. None of these ports are along the U.S.-Mexico border, but there are several along the U.S.-Canada border. Examples include Goat Haunt, Montana, and Nighthawk, Washington.

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[64] United States Customs Service, Department Of The Treasury, Customs Warehouses, Container Stations And Control Of Merchandise Therein, Title 19--Customs Duties, Chapter I-- Part 101, General Provisions (19 CFR 101.1).

[65] U.S. Department of Homeland Security, 8 CFR Ch 1 (1-1-05-Edition).

[66] An alien, who may be either a resident or non-resident, is a non-citizen of the United States.

Class C ports: A port designated only for aliens who are arriving in the United States as vessel crewmen, as well as U.S. citizens. These low-traffic seaports comprise 20 percent of all land and seaports. Examples include Eureka, California, and Valdez, Alaska.

The U.S. Bureau of Transportation Statistics (BTS) publishes inbound monthly border crossing/entry data for vehicles, buses, trains, containers, passengers, and pedestrians.[67] The data include crossings by POE on the U.S.-Canada and U.S.-Mexico land borders as well as some international ferry debarkation points. BTS reports data for 112 land and ferry-crossing POEs, several of which are comprised of multiple crossing points or ports grouped together (e.g., data for Alexandria Bay and Cape Vincent in New York are aggregated). These represent a subset of the 347 land and seaports in the United States. The BTS data represent the best available quantitative information on incoming traffic into the United States for land and ferry crossings and are our primary data.[68] The following sections review the recent trends in land and ferry border crossings into the United States and then review crossings by travel mode.[69]

NATIONWIDE CROSSING TRENDS

According to BTS data, approximately 314 million U.S.-bound border crossings by individuals occurred via land and ferry POEs in 2005. As shown in Exhibit 3-1, total crossings reached a high of approximately 400 million per year in 1999 and 2000, but have since declined. The 2005 count of border crossings is 21 percent lower than the peak level of crossings in 1999. The data suggest that this downward trend may be slowing; overall U.S.-bound crossings did not change from 2003 to 2004, and then decreased by only three percent in 2005 relative to 2004.

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[67] CBP provides this data to BTS.

[68] Much of our description of POEs and crossings in this chapter is based on our analysis of the BTS data (U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on September 15, 2006). We have not individually footnoted each sentence that is based on BTS data and IEc analysis.

[69] For the purpose of discussing crossing trends, we present BTS data through 2005. However, 2004 data serve as the baseline for this analysis, because travelers unfamiliar with the specifics of the legislation may have begun incurring costs to acquire documentation soon after passage of the Intelligence Reform and Terrorism Prevention Act (IRTPA) in December 2004. Later in this chapter, when we present data describing the number of crossings at specific POEs, we rely on 2004 data.

EXHIBIT 3-1   TOTAL INBOUND LAND BORDER CROSSINGS TO THE UNITED STATES, 1995-2005, IN MILLIONS
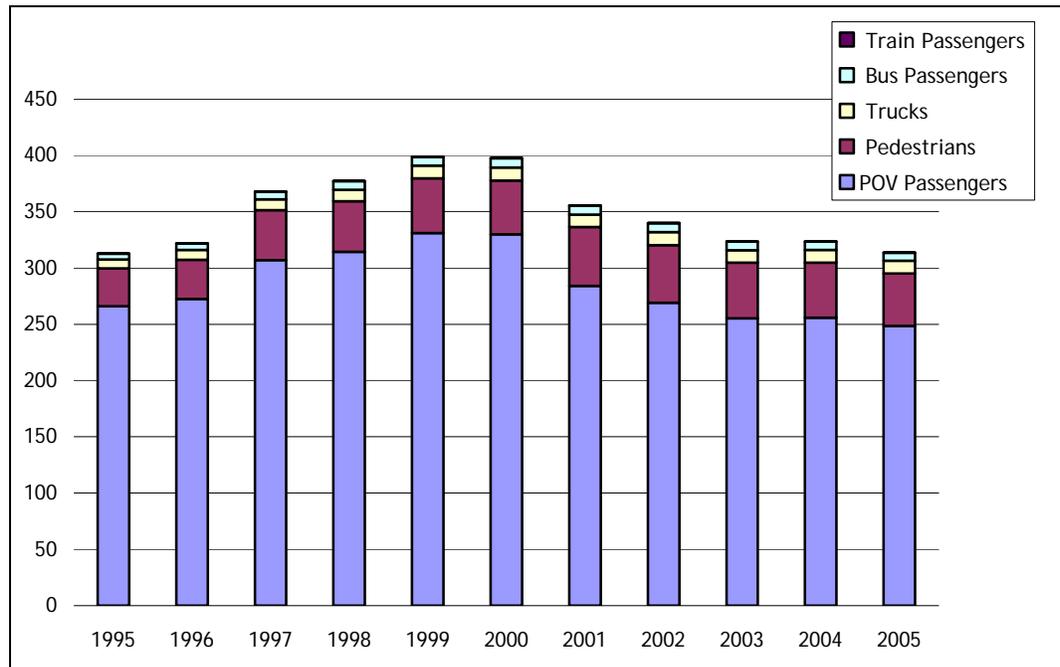
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

The mode of travel for individuals entering the United States has also changed over the past few years. The data indicate that more people are entering by foot and by bus, as compared to privately owned vehicles (POVs). However, better recordkeeping of arrivals by those modes may have influenced this apparent trend.[70] Our detailed analysis of crossing traffic by travel mode is presented in the next section.

Crossing traffic is concentrated at a few U.S. land border POEs. Exhibit 3-2 shows the 10 busiest POEs, which accounted for 67 percent of all crossings in 2004. Eight of the 10 busiest POEs are on the U.S.-Mexico border.

[70] "Truck passengers" are not reported by BTS because, according to BTS, the data are unreliable. (Personal communication with Steve Beningo, International Transportation Specialist, Bureau of Transportation Statistics, Research and Innovative Technology Administration on April 19, 2006). Thus, we assume that every truck contains one passenger (the driver), adding 11.4 million crossings in 2004. Adding these crossings does not significantly change the distribution of travelers across the various modes of transport, although it does increase the total annual crossings by approximately four percent.

EXHIBIT 3-2   TOP TEN HIGHEST CROSSING VOLUME POEs, 2004

POE RANK	PORT OF ENTRY	BORDER COUNTRY	NUMBER OF LAND CROSSINGS	PERCENT OF TOTAL U.S. LAND CROSSINGS
1	San Ysidro, CA	Mexico	43,872,934	13.6%
2	El Paso, TX	Mexico	37,536,713	11.6
3	Laredo, TX	Mexico	21,737,989	6.7
4	Hidalgo, TX	Mexico	18,630,599	5.8
5	Brownsville, TX	Mexico	18,563,536	5.7
6	Nogales, AZ	Mexico	16,486,123	5.1
7	Buffalo-Niagara Falls, NY	Canada	16,171,391	5.0
8	Calexico, CA	Mexico	15,482,051	4.8
9	Otay Mesa, CA	Mexico	14,338,531	4.4
10	Detroit, MI	Canada	13,217,333	4.1
-	All remaining POEs	Both	107,709,194	31.3
Total Crossings			323,746,394	100.0%

Note: Land crossings include POV, pedestrian, bus, train, truck, ferry and pleasure boat crossings.
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

NATIONWIDE CROSSINGS BY TRAVEL MODE

POV

Passengers in POVs accounted for 79 percent of total land border crossings, with 255.8 million crossings made in 2004. POEs with the highest number of crossings by POV passengers include San Ysidro (33.4 million), El Paso (28.1 million), and Hidalgo (15.5 million). In general, U.S.-Mexico border POEs have considerably more POV crossings than U.S.-Canada border POEs. For example, the POE on the U.S.-Canada border with the largest number of POV crossings is Buffalo-Niagara Falls with 13.2 million crossings in 2004, which was less than half of the POV passenger crossings at San Ysidro that year.

Truck

Trucks accounted for four percent of total land border crossings, with 11.4 million crossings made in 2004. POEs with the highest number of crossings by truck include Detroit (1.7 million), Laredo (1.4 million), and Buffalo-Niagara Falls (1.2 million).

Suppliers using trucks traveling between Ontario and Michigan noted that they usually dedicate a small number of drivers to border crossings to allow for the development of

familiarity with customs agents.[71] If this practice is typical for all truck border crossings, then relatively few individual drivers are likely to constitute a large number of crossings.

Foot

Pedestrians accounted for 15 percent of total land border crossings, with 48.9 million crossings in 2004. POEs with the highest number of crossings by foot include San Ysidro (9.5 million), El Paso (8.4 million), and Nogales (6.1 million). High volume pedestrian travel is prevalent on the U.S.-Mexico border, where pedestrians cross in large numbers for employment and same-day shopping. As a comparison, the POE on the U.S.-Canada border with the largest number of pedestrian crossings is Buffalo-Niagara Falls with 547,000 crossings, which would represent only six percent of pedestrian crossings at San Ysidro. Overall, pedestrians account for 19 percent of all land border crossings on the U.S.-Mexico border but account for only one percent of all land border crossings on the U.S.-Canada border.

Bus

Border crossings via bus accounted for two percent of total land border crossings in 2004. Bus riders comprised less than 10 percent of crossings at any POE at all ports except for Sault Ste. Marie, Michigan (11.6 percent); Fortuna, North Dakota (12.0 percent); and Skagway, Alaska (48.5 percent).

Many bus companies provide cross-border service. According to the American Bus Association, "[f]ixed route, intercity buses serve sixteen Canadian and Mexican border crossings with 359 daily schedules and at least as many charter and tour buses cross these borders every day."[72] The major provider of bus service is Greyhound, which has cross-border service between the United States, Mexico, and Canada.[73] In addition, smaller, more specialized bus companies provide service across both land borders. A transit study conducted in 2000 by the Whatcom Council of Governments indicated that there is a higher availability of cross-border, regional transit on the U.S.-Mexico border than on the U.S.-Canada border.[74] For example, only two bus providers appear to serve the U.S.-

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[71] Andrea, D.J. and B.C. Smith, Center for Automotive Research, *The Canada-U.S. Border: An Automotive Case Study*, prepared for the Canadian Department of Foreign Affairs and International Trade, January 2002 pg. 18.

[72] Testimony of Peter J. Pantuso, President and CEO of American Bus Association, Hearing on Transit and Over-the-Road Bus Security, U.S. House of Representatives, Committee on Transportation and Infrastructure, Subcommittee on Highways, Transit, and Pipelines on March 29, 2006, as viewed at http://www.house.gov/transportation/highway/03-29-06/pantuso.pdf on April 4, 2006.

[73] Greyhound Lines, Inc., *Route Map*, as viewed at http://www.greyhound.com/locations/routemap.shtml on April 21, 2006.

[74] The Whatcom Council of Governments is a regional planning agency serving Whatcom County, Washington, which leads the International Mobility and Trade Corridor Project, "a U.S.-Canadian coalition of business and government entities…formed to jointly identify and pursue improvements to cross-border mobility in the Cascade Gateway" (Whatcom Council of Governments, *International Mobility and Trade Corridor Project*, as viewed at http://www.wcog.org/DesktopDefault.aspx?tabid=22 on April 21, 2006.)

Canada border at POEs in Detroit-Windsor and Seattle-Vancouver, while several companies provide service between a number of U.S. and Mexican cities.[75]

Train

Train passengers account for a very small number of total land border crossings (0.1 percent of total land border crossings in 2004). Except at Skagway, Alaska, where approximately 19 percent of crossings occur via railway, the percentage of rail crossings at all other POEs is not significant. Passenger train border crossings only occur on the U.S.-Canada border, though freight trains cross both borders.[76] Two-thirds of land border POEs do not report any train or train passenger crossings.

Most train passengers entering the United States at Skagway are tourists riding the White Pass and Yukon Route Scenic Railway, which claims to be the busiest tourist railroad in North America.[77] This railway was completed in 1900 and "has operated exclusively as a historical tourist attraction since 1988." The train operates between the coastal city of Skagway and destinations within British Columbia and the Yukon Territory of Canada. Passengers on these trips are required to carry proof of citizenship. An estimated 85 percent of passengers ride on the Skagway train as part of a cruise ship excursion.

Ferry

Ferries arrive in the United States from international locations in five regions. The Pacific Northwest is home to several routes between British Columbia and Washington and Alaska. In the Great Lakes region, several ferries sail between Ontario and three states. On the east coast, three ferries carry passengers between Canada and Maine. One ferry crosses the Rio Grande River from Mexico (Los Ebanos). Ferries in the Caribbean operate between the Bahamas and Florida and between the British Virgin Islands (BVI) and the U.S. Virgin Islands (USVI).

Crossing data for ferry passengers comes from several sources. BTS does not specifically identify ferry passengers; rather, these passengers are categorized as arriving via truck, bus, POV, or foot. BTS reports that nearly all recorded crossings are made via ferry at six POEs.[78] An estimate of the number of crossings at these "water-only" POEs, which

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[75] The Detroit-Windsor tunnel crossing, which is the second busiest crossing between the United States and Canada, is serviced by a "tunnel bus." (Michigan Department of Transportation, *Detroit-Windsor Tunnel*, as viewed at http://www.michigan.gov/mdot/0,1607,7-151-9618_11089---,00.html on May 4, 2006). In addition to running daily every 30 minutes, the tunnel bus provides special service for sporting and other recreational events. (City of Windsor, *Tunnel Bus: Downtown Windsor to Downtown Detroit, Including Casino Windso*r, as viewed at http://www.citywindsor.ca/DisplayAttach.asp?AttachID=3080 on May 4, 2006 and Quick Coach Lines Ltd., *Quick Shuttle Service*, as viewed at http://www.quickcoach.com/ on May 4, 2006.) Information on U.S.-Mexico bus service taken from Whatcom Council of Governments, *IMTC Cross-Border Transit Study White Paper #3: Survey of Existing Cross-Border Transit Services*, as viewed at http://www.wcog.org/library/imtc/transit3.pdf on May 4, 2006.

[76] Personal communication with U.S. Bureau of Customs and Border Protection, March 10, 2006.

[77] The information in this paragraph is taken from White Pass & Yukon Route, *Schedule*, as viewed at http://www.whitepassrailroad.com/schedule.html on April 24, 2006.

[78] Personal communication with Steve Beningo, International Transportation Specialist, Bureau of Transportation Statistics, Research and Innovative Technology Administration on March 30, 2006.

include three ports in Washington, two in Maine, and one in Alaska, is shown in Exhibit 3-3. At these POEs, approximately 379,000 crossings into the United States were made in 2004.[79]

EXHIBIT 3-3   BORDER CROSSINGS AT FERRY POEs, 2004

FERRY POES	NUMBER OF BTS-RECORDED CROSSINGS AT FERRY POES				TOTAL ESTIMATED NUMBER OF CROSSINGS VIA FERRY
	TRUCK	BUS	POV	PEDESTRIAN	
Ketchikan, AK	-	-	12,947	3,817	16,764
Bar Harbor, ME	5	2,590	44,651	11,905	59,151
Portland, ME	47	2,419	26,535	21,559	50,560
Anacortes, WA		866	73,438	7,141	92,706
Friday Harbor, WA	-	-	7,089	2,907	9,996
Port Angeles, WA	1,305	5,488	142,970	-	149,763
Total	2,618	11,363	307,630	57,329	378,940

Note: Los Ebanos, Great Lakes, Caribbean ferry crossings are not included. The total number of crossings by ferry is assumed to be the sum of POV passenger and pedestrian crossings reported by BTS.
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on September 15, 2006.

The largest ferry system in the United States is in the state of Washington, home of three ferry POEs.[80] A 1999 survey of ferry passengers traveling between Sidney, British Columbia, and Anacortes and Friday Harbor, Washington, indicated that this travel is mostly tourist-oriented, with 88 percent of riders citing social reasons, recreation, shopping or sightseeing as the purpose of their trip during the week.[81] This percentage increased to 93 percent for passengers surveyed on Sunday. Due in part to the tourist nature of ferry travel, research has shown that the demand for ferry travel may be relatively elastic and price-sensitive. One study of British Columbia pleasure travelers showed that changes in the cost of ferry travel could lead to a change in demand that is two to three times the change in the price.[82]

[79] Because Los Ebanos, Great Lakes, other Maine, and Caribbean ferry crossings are not included, this estimate understates the total number of ferry passenger crossings.

[80] Washington State Department of Transportation, *About WSF*, as viewed at http://www.wsdot.wa.gov/ferries/your_wsf/ on August 30, 2006.

[81] Washington State Department of Transportation, *WSF 1999 Travel Survey*, June 2000, as viewed at http://www.wsdot.wa.gov/ferries/travel_survey/wsf1999ts.htm on September 15, 2006.

[82] Pritchard, M.P., "Tourist Price Sensitivity and the Elasticity of Demand: The Case of BC ferries," *e-Review of Tourism Research (eRTR)*, Vol. 1, No. 4, 2003, as viewed at http://ertr.tamu.edu/pdfs/a-45.pdf on September 15, 2006.

In the Great Lakes region, five routes operate between Ontario and the states of Michigan, New York, and Ohio. However, BTS data for these POEs are combined with other crossing data and cannot be isolated from pedestrian or POV crossing data.[83] Surveys conducted by BTS in 2000 and 2006 give some sense of scale of these trips. For example, the 2006 BTS survey reports 51,000 ferry passengers traveled in either direction between Cape Vincent, New York, and Wolfe Island, Ontario, which is a small fraction of the 1.8 million inbound crossings reported for the Alexandria Bay/Cape Vincent POE in 2004.

Maine is home to two additional ferry POEs. Bar Harbor supports ferry travel to various locations in Nova Scotia. Until 2004, Portland received ferry passengers from Yarmouth, Nova Scotia.

The only ferry crossing along the U.S.-Mexico border is at Los Ebanos, Texas, located 24 miles west of McAllen, Texas. The Los Ebanos ferry is the only hand-operated ferry that crosses a U.S. border and has been in continuous operation since 1950. However, the ferry crossing data are aggregated with Rio Grande City. A 2000 BTS survey reports 122,000 passengers in 77,000 vehicles crossed the Rio Grande at Los Ebanos, three cars at a time.[84]

In the Caribbean, there are six ferry routes from the BVI and USVI and one route between Freeport, Grand Bahama, and Palm Beach, Florida. Of the six routes in the Virgin Islands, two each arrive at: Charlotte Amalie, the capital and largest city in the USVI, located on the island of Saint Thomas; Cruz Bay, the largest city on Saint John; and Red Hook, a smaller city on Saint Thomas. Red Hook does not have a customs and immigration office, so passengers stop at Cruz Bay for processing prior to debarkation. The 2000 BTS survey of ferry operators only reports crossings for one of two carriers on the route between Charlotte Amalie and West End, Tortola, BVI, carrying 316,000 passengers.[85] No data are available for the other ferries in the Caribbean.

Pleasure Boats

According to data collected by CBP, slightly more than 65,000 crossings into the United States occurred via pleasure boats in 2005.[86] The CBP data are summarized in Exhibit 3-

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[83] Personal communication with M. Sprung, International Transportation Specialist, Bureau of Transportation Statistics, Research and Innovative Technology Administration, on May 8, 2006; and *National Census of Ferry Operators*, as viewed at http://www.transtats.bts.gov/Tables.asp?DB_ID=616 on May 8, 2006.

[84] *National Census of Ferry Operators*, as viewed at http://www.transtats.bts.gov/Tables.asp?DB_ID=616 on May 8, 2006.

[85] *National Census of Ferry Operators*, as viewed at http://www.transtats.bts.gov/Tables.asp?DB_ID=616 on May 8, 2006.

[86] For the purpose of this rule, a pleasure boat is defined as any documented vessel with a pleasure license endorsement, as well as any undocumented American pleasure vessel, used exclusively for pleasure and not for the transportation of persons or property for compensation or hire. This includes small pleasure vessels arriving in the United States from an inland waterway connecting to a foreign port or place within 12 miles of the shoreline. CBP notes that the process for documenting pleasure vessels is currently being restructured to ensure better tracking of pleasure boats and passengers. U.S. Customs and Border Protection, Office of Field Operations, *Pleasure Boats Information*, as viewed at

4. The busiest ports for pleasure boats were Seattle, Miami, and Buffalo. Note that the ports listed in Exhibit 3-4 are CBP Field Offices, or cities that represent a regional area where numerous individual landing sites are represented.[87] Pleasure boaters traveling between the United States and Canada are eligible for alternative entry programs including the Canadian Border Boat Landing Program (I-68 Permit) and NEXUS.[88] CBP trusted traveler programs for water entry are not available on the U.S.-Mexico border.

EXHIBIT 3-4   NUMBER OF PLEASURE BOAT TRAVELERS ENTERING U.S. POEs, 2005

REGIONAL AREA OF ENTRY PORT	NUMBER PLEASURE BOAT TRAVELERS
Seattle, WA	23,448
Miami, FL	15,043
Buffalo, NY	13,335
Detroit, MI	3,574
San Juan, PR	2,783
San Diego, CA	2,204
Chicago, IL	1,608
Boston, MA	1,099
Portland, OR	1,042
Tampa, FL	570
All Others	476
Total	65,182

Source: U.S. Customs and Border Protection, Office of Field Operations, *Pleasure Boats Information*, as viewed at http://www.cbp.gov/linkhandler/cgov/toolbox/publications/travel/pleasureboats.ctt/pleasureboats.doc on March 15, 2006.

CHARACTERIZATION
OF U.S.-MEXICO
BORDER POEs

The United States border with Mexico includes 25 POEs in California, Arizona, New Mexico, and Texas. In 2004, 77.6 percent of all POV, bus, train, ferry, truck, pleasure boat and pedestrian crossings into the United States occurred through these 25 POEs, totaling 247 million crossings. Of these crossings, 50 percent occurred in Texas, 35 percent in California, 14 percent in Arizona, and less than one percent in New Mexico. Thirty-nine percent of all commercial truck crossings into the United States occurred

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http://www.cbp.gov/linkhandler/cgov/toolbox/publications/travel/pleasureboats.ctt/pleasureboats.doc on March 15, 2006.

[87] Because the CBP data records of pleasure boat entries do not entirely correspond to BTS POE definitions, data for all pleasure boats are sorted according to whether they arrived in the U.S. via southern border routes or northern border routes. These estimates are subsequently added to U.S.-Mexico and U.S.-Canada border estimates.

[88] U.S. Customs and Border Protection, *Reporting Requirements for All Private Boat Operators (Washington State)*, as viewed at http://www.cbp.gov/xp/cgov/newsroom/fact_sheets/travel/fact_sheet_boaters.xml on May 5, 2006.

through the 25 southern border POEs, representing 4.5 million crossings in 2004.[89]
Exhibit 3-5 illustrates the location and relative volume of inbound crossings at each POE.
Exhibit 3-6 presents the number of 2004 northbound crossings from Mexico by POE.
The three POEs with the highest crossing volumes in 2004 were San Ysidro, California,
El Paso, Texas, and Laredo, Texas.

EXHIBIT 3-5   MAP OF LAND POES ON THE U.S.-MEXICO BORDER

Sources: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006 and GIS data on POE locations obtained through communication with CBP on March 22, 2006.

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[89] The BTS TranStats database does not track the number of individuals in each commercial truck entering the United States. In this analysis, each commercial truck is assumed to carry only the driver.

EXHIBIT 3-6   INBOUND CROSSINGS AT LAND POEs ON THE U.S.-MEXICO BORDER, 2004 (IN ORDER OF TOTAL NUMBER OF CROSSINGS)

POE	TOTAL CROSSINGS	CUMULATIVE %
San Ysidro, CA	43,872,934	18%
El Paso, TX	37,536,713	33
Laredo, TX	21,737,989	42
Hidalgo, TX	18,630,599	49
Brownsville, TX	18,563,536	57
Nogales, AZ	16,486,123	64
Calexico, CA	15,482,051	70
Otay Mesa, CA	14,338,531	76
San Luis, AZ	9,715,263	80
Eagle Pass, TX	9,217,500	83
Calexico East, CA	6,688,140	86
Douglas, AZ	5,031,573	88
Del Rio, TX	4,477,798	90
Progreso, TX	4,161,490	91
Andrade, CA	3,603,670	93
Roma, TX	3,128,567	94
Tecate, CA	3,033,995	95
Rio Grande City, TX	2,533,148	96
Naco, AZ	2,231,879	97
Presidio, TX	1,755,111	98
Fabens, TX	1,420,971	99
Columbus, NM	1,333,966	99
Lukeville, AZ	1,264,358	100
Santa Teresa, NM	579,419	100
Sasabe, AZ	104,828	100
Pleasure Boats	21,040	100
Border Total	**246,951,192**	**100%**

Note: Crossings include POV, pedestrian, bus, train, truck, ferry and pleasure boat crossings.
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

Approximately half of the 25 POEs on the U.S.-Mexico border consist of multiple crossing points (bridges, roads, etc.). For example, four bridges connect the city of El Paso to Ciudad Juarez, Mexico. Exhibit 3-7 summarizes the number of crossing points at each POE, as well as the number of inbound lanes for processing passenger vehicles and commercial vehicles. The exhibit also lists the number of lanes dedicated to the Free and Secure Trade (FAST) and Secure Electronic Network for Travelers' Rapid Inspection (SENTRI) trusted traveler programs. Note that the number of lanes refers to the number of lanes for processing vehicles, not to the number of lanes for vehicular traffic leading

up to the POE. For example, at El Paso, the Bridge of the Americas has four traffic lanes heading northbound, which then diverge into 10 vehicle processing lanes at the POE.

EXHIBIT 3-7   INBOUND LANES AT LAND POEs ON THE U.S.-MEXICO BORDER

POE	CROSSING POINTS	POV LANES	CARGO LANES	SENTRI/FAST LANES
Douglas, AZ	1	6	2	
Lukeville, AZ	1	3	1	
Naco, AZ	1	2	1	
Nogales, AZ	3	12	4	Y
San Luis, AZ	1	6	2	
Sasabe, AZ	1	1	0	
Andrade, CA	1	2	0	
Calexico East, CA	1	8	3	Y
Calexico, CA	1	10	0	Y
Otay Mesa, CA	1	13	7	Y
San Ysidro, CA	1	24	0	Y
Tecate, CA	1	2	1	
Columbus, NM	2	2	1	
Santa Teresa, NM	1	2	2	
Brownsville, TX	4	17	8	Y
Del Rio, TX	2	5	2	
Eagle Pass, TX	2	11	2	Y
El Paso, TX	4	30	12	Y
Fabens, TX	2	3	0	
Hidalgo, TX	2	16	4	Y
Laredo, TX	4	20	16	Y
Presidio, TX	1	4	1	
Progreso, TX	1	4	1	
Rio Grande City, TX	2	2	1	
Roma, TX	2	5	1	
Total	43	210	72	10 POEs

Source: Personal communication with Customs and Border Protection, Office of Regulations and Rulings, on July 31, 2006.

Exhibit 3-8 shows the historical trend in inbound crossings from Mexico over the 11-year period from 1995 to 2005. Between 1995 and 1999, inbound crossings increased annually, reaching a peak of approximately 297.5 million crossings in 1999. Since then, annual inbound crossings have declined.[90] Pedestrian crossings have increased as a share of total crossings over the 10-year period. In 1995, pedestrian crossings accounted for 15.9 percent of total southern border crossings, while POV crossings accounted for 81.9 percent. In contrast, pedestrian crossings accounted for 19.1 percent of total southern border crossings in 2005, while POV crossings accounted for 77.6 percent.

EXHIBIT 3-8   HISTORICAL INBOUND LAND CROSSINGS AT THE U.S.-MEXICO BORDER, 1995-2005
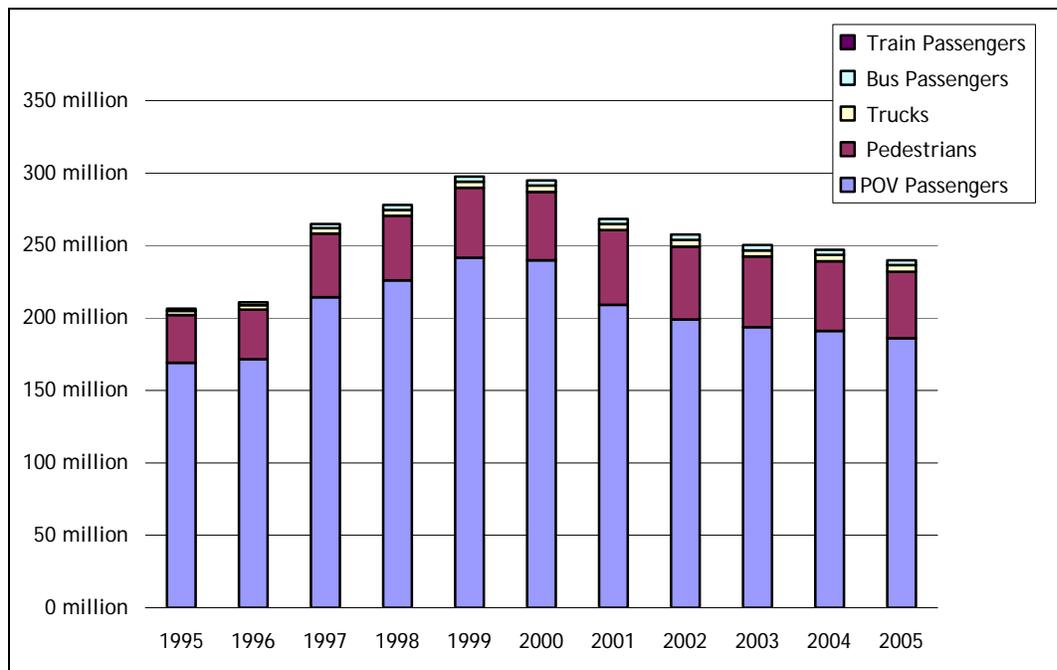
Note: Crossing data through 2005 is presented for a more accurate depiction of recent trends in border crossing; however, 2004 crossing data is presented elsewhere in this report for representing baseline conditions because IRTPA was enacted in December 2004.

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

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[90] Over the period from 1995 to 2005, seasonal fluctuations in inbound crossings are not evident. The lack of seasonality is likely due to the fact that frequent travelers account for the vast majority of crossings. Travelers who cross at least two times per month accounted for 79 percent of inbound crossings in 2004.

Exhibit 3-9 presents the distribution of southern border crossings by mode of travel in 2004.

EXHIBIT 3-9   DISTRIBUTION OF INBOUND LAND CROSSINGS AT U.S.-MEXICO BORDER BY MODE OF TRAVEL, 2004

MODE OF TRANSPORT	TOTAL CROSSINGS	PERCENT
POV Passengers	190,936,607	77%
Pedestrians	48,084,235	19
Truck Drivers	4,503,688	2
Bus Passengers	3,388,517	1
Train Passengers	17,105	0
Pleasure Boats	21,040	0
Total Passengers	246,951,192	100%

Note: Columns may not sum due to rounding.
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

U.S. TRAVELERS TO MEXICO

Many of the largest POEs are located in close proximity to Mexican cities and within cross-border metropolitan areas. Residents of these border-spanning cities cross on a regular basis for a variety of reasons, including to work, shop, vacation, visit family, and obtain medical services. The primary source of detailed information about the purpose and nature of border crossings on the Mexican border are surveys done in Southern California.[91]

Surveys of travelers at the San Ysidro, Otay Mesa, and Tecate POEs in San Diego County, California, indicate that 53 percent of crossings by San Diego County residents are to visit family in Mexico. Shopping and work are, respectively, the second and third most cited reasons for crossing the border. Exhibit 3-10 presents the distribution of U.S. traveler crossings by trip purpose for San Diego County residents, non-county residents, and all U.S. travelers. County residents account for two-thirds of U.S. crossings at San Ysidro, Otay Mesa, and Tecate, while travelers from outside of the county, primarily from the Los Angeles and San Francisco metropolitan areas, account for the remaining third.

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[91] Information in this section is taken from San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

EXHIBIT 3-10   U.S. TRAVELER CROSSINGS IN SAN DIEGO BY TRIP PURPOSE (%)

TRIP PURPOSE	SAN DIEGO COUNTY RESIDENTS	NON-SAN DIEGO COUNTY RESIDENTS	ALL U.S. TRAVELERS
Visit Family	53.0%	53.5%	55.7%
Shop	15.1	10.2	12.7
Work	11.4	2.3	9.1
Recreation/ Entertainment	6.2	14.0	8.9
Medical	9.1	9.9	8.5
School	1.0	0.0	0.6
Other	4.3	10.2	4.4
Total	100%	100%	100%

Note: Columns may not sum due to rounding.
Source: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

We believe that "impulse travelers" also make a significant number of trips to Mexico. Impulse travelers likely fall within the shopping and recreation/ entertainment group, which together account for 21.6 percent of all U.S. traveler crossings into San Diego. The impulse traveler decides to cross the border with little to no advanced planning. These travelers, who may or may not reside along the border, are of particular importance in this analysis. Under current crossing requirements, spur-of-the-moment border travel is relatively easy. However, if crossing requirements become more stringent, impulse travelers may not be able to cross as readily if they do not possess the necessary travel documents.

Because recent border surveys in Arizona, New Mexico, and Texas have not focused on U.S. travelers, the distribution of U.S. crossings by trip purpose is less clear for these states than for California. There is reason to believe that the predominant trip purposes may vary by state. For example, in Texas, U.S. travelers account for 57 percent of inbound crossings, which differs considerably from the other southern border states, where U.S. travelers account for roughly 30 percent of inbound crossings. The higher proportion of U.S. crossings in Texas may occur for a variety of reasons. For example, more Texans may work in Mexico and, therefore, cross the border more often than U.S. residents of the other border states.

CHARACTERISTICS OF THE HIGHEST VOLUME U.S.-MEXICO LAND POES
The 10 highest volume POEs on the southern border, described here, accounted for 83 percent of total inbound crossings from Mexico in 2004. Total crossings at these POEs range from 43.9 million at San Ysidro to 9.2 million at Eagle Pass. It should be noted that ongoing and planned construction projects have the potential to significantly shift traffic from certain POEs to others in the coming years. An almost completed highway

between Topolobampo, a deep-water port on Mexico's west coast, and Presidio, Texas, will shift truck traffic from Hidalgo and Laredo and create a shorter route from Texas to the Pacific Ocean than the current route to the Port of Long Beach.[92]

#1. San Ysidro, California

San Ysidro is the busiest land border POE in the United States. In 2004, San Ysidro processed 43.9 million travelers, 18 percent of all northbound crossings along the U.S.-Mexico border. Approximately 33.4 million people crossed the border in POVs, accounting for 76 percent of inbound crossings. Pedestrians accounted for another 22 percent, and bus passengers the remaining two percent. Since 1994, all commercial traffic in both directions crosses at nearby Otay Mesa, described below.

Located 15 miles south of downtown San Diego at the terminus of Interstate 5 and directly across the border from Tijuana, San Ysidro serves the 2.9 million residents of the San Diego metropolitan area and the 1.4 million residents of Tijuana with 24 vehicle lanes, four of which are SENTRI commuter lanes.[93] The average wait time for travelers in the regular inspection lanes is 45 minutes.[94]

More than half of U.S. citizens crossing at this POE are Mexican-Americans returning from visiting their families.[95] Many of those crossing are tourists taking advantage of inexpensive medical services and pharmaceuticals. A large contingent of San Diego-area college students and members of the military visit Tijuana to take advantage of the lower drinking age, a purpose facilitated by the recent expansion of trolley service from San Diego to the San Ysidro border crossing.[96]

Residents of Mexico represent 70 percent of crossings at this border, almost entirely from Tijuana. They primarily visit Chula Vista or San Diego for shopping and errands, while one-sixth travel for work.[97] A 2002 survey found the shoppers were primarily interested in buying clothes, groceries, and shoes, due to the lower priced and higher quality

[92] Hunt, H.D., "La Entrada al Pacifico," *Tierra Grande*, Vol. 9, No. 1, January 2002, as viewed at http://recenter.tamu.edu/tgrande/vol9-1/1540.html on January 28, 2007.

[93] U.S. population estimates from U.S. Census Bureau, *Population Estimates*, as viewed at http://www.census.gov/popest/estimates.php on August 15, 2006. Mexican population estimates from Instituto Nacional de Estadística Geografía e Informática (INEGI), *II Conteo de Población y Vivienda 2005,* as viewed at h*ttp://www.inegi.gob.mx/est/contenidos/espanol/proyectos/conteos/conteo2005/default.asp?c=6224* on August 15, 2006.

[94] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

[95] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

[96] Lange, J.E. and R.B. Voas, "Youth Escaping Limits on Drinking: Binging in Mexico," *Addiction*, Vol. 95, No. 4, 2000, pp. 521-528.

[97] Lange, J.E. and R.B. Voas, "Youth Escaping Limits on Drinking: Binging in Mexico," *Addiction*, Vol. 95, No. 4, 2000, pp. 521-528.

products found on the U.S. side of the border.[98] The *San Diego Union-Tribune* publishes a weekly Spanish-language circular called "La Bolsa Azul," which they distribute throughout Tijuana on Fridays, enticing Mexican shoppers to come across the border for weekend sales.[99]

#2. El Paso, Texas

El Paso, the second busiest POE on the southern border, consists of four distinct crossing points: Paso Del Norte, Bridge of the Americas, Ysleta (also known as the Zaragosa Bridge), and Stanton Street. Approximately 720,000 people live in the El Paso area and 1.3 million people live in Ciudad Juárez, across the Rio Grande. The four El Paso crossing points have a total of 42 vehicle primary processing lanes, including four dedicated to the SENTRI program and 12 dedicated to commercial trucks. In 2004, 720,000 trucks entered the United States at this POE, making El Paso the third busiest truck crossing point on the southern border.

Little published data describing the characteristics of travelers at this border are available. One survey of weekend night border crossers found 46 percent visited bars in Ciudad Juárez, 20 percent visited restaurants, and 22 percent visited family.[100]

#3. Laredo, Texas

Laredo, the third busiest POE on the southern border, has a population of 224,700 and is located opposite Nuevo Laredo, Mexico, with a population of 355,800. The Laredo POE consists of five separate bridges across the Rio Grande. Interstate 35 directly connects Laredo with San Antonio, 150 miles to the north. In 2004, 1.4 million commercial trucks entered the United States via Laredo.

Bridge I, the Gateway to the Americas Bridge, handles pedestrian and non-commercial vehicle traffic with four vehicle processing lanes. Bridge II, the Juarez-Lincoln International Bridge, lies 500 yards east of Bridge I at the foot of I-35. It consists of 12 lanes for non-commercial vehicles. Bridge III, the Colombia Solidarity Bridge, crosses the Rio Grande 20 miles northwest of Laredo and combines four lanes for non-commercial traffic with eight lanes for trucks. Bridge IV, the World Trade Bridge, lies seven miles north of Bridges I and II and is a commercial-only bridge with eight lanes for processing trucks.[101] The final bridge is the railroad crossing a half-mile west of Bridge I,

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[98] López Alejandra, S.O. and S.S. Contreras. "Patrones y hábitos de consumo en Baja California." *Comercio Exterior*, Vol. 52, No. 8, August 2002, as viewed at http://revistas.bancomext.gob.mx/rce/sp/articleReader.jsp?id=7&idRevista=21 on February 15, 2007.

[99] *The San Diego Union-Tribune*, "La Bolsa Azul", as viewed at
http://www.utads.com/media_kit/la_bolsa_azul.html on January 28, 2007.

[100] Voas, R.B., Roman, E., Kelley-Baker, T., and A.S. Tippetts, "A Partial Ban on Sales to Reduce High-Risk Drinking South of the Border: Seven Years Later," *Journal of Studies on Alcohol*, September 2006, p. 748.

[101] Bridge descriptions from personal communication with Office of Regulations and Rulings, U.S. Customs and Border Protection, Department of Homeland Security, on July 31, 2006.

across which an average of 10 trains carry freight into the U.S. each day. The city of Laredo earned 11 percent of its revenue from tolls collected on these bridges in 2005.[102]

#4. Hidalgo, Texas

Hidalgo, the fourth busiest POE on the southern border in 2004, is located about eight miles from McAllen, Texas, with a metropolitan area population of 678,300, and directly opposite Reynosa, Mexico, with a population of 526,900. The Hidalgo POE consists of two crossing points, approximately 4 miles apart, with 12 non-commercial traffic lanes leading into Hidalgo and four lanes each for commercial and non-commercial traffic heading into neighboring Pharr. A large majority of the crossings occur on the McAllen-Hidalgo-Reynosa International Bridge (74.2 percent in 2003), including almost 98 percent of pedestrian crossings at this POE.[103]

#5. Brownsville, Texas

The Brownsville POE connects the city of Brownsville with the city of Matamoros in Tamaulipas and consists of four bridges: Brownsville & Matamoros International Bridge (B&M), Gateway International Bridge, Veterans International Bridge at Los Tomates, and Free Trade Bridge at Los Indios. B&M is the oldest bridge, first opened in 1909, and still operates as a railroad and commercial traffic crossing today, joined by a four-lane bridge for cars, built in 1997. Gateway International Bridge opened in 1926 and today primarily serves commuters coming north and tourists heading south. Los Tomates is the youngest of the bridges in Brownsville, opening to traffic in 1999. The bridge connects US Highway 77 to the industrial area of Matamoros and its many *maquiladoras*. Los Tomates handles most of the truck traffic between Brownsville and Matamoros. Los Indios is not in Brownsville but is located 20 miles northwest, providing convenient access to the city of Harlingen to the north.[104]

In 2003, 91 percent of pedestrians entering Brownsville used the Gateway Bridge.[105] Passenger vehicles were spread evenly across the three bridges into Brownsville, with between 2 million and 2.3 million cars crossing each bridge, while only 760,000 crossed at Los Indios. Of the 12,000 buses that crossed Brownsville's bridges in 2003, 95 percent entered the United States via Los Tomates. A survey of Mexican shoppers in downtown Brownsville from the same year estimated that 96 percent planned to return to Matamoros that same day, while 81 percent of Mexicans shopping at the nearby Sunrise Mall

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[102] City of Laredo, *Proposed Annual Budget FY 2005-2006*, as viewed at http://www.cityoflaredo.com/Budget/Budget_Presentations/2005-2006/Budget.htm on September 12, 2006.

[103] Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004, p. 15.

[104] Bridge descriptions from The University of Texas at Brownsville and Texas Southmost College, *Bridges of the Area*, as viewed at http://blue.utb.edu/localhistory/bridges_of_the_area.htm on January 28, 2007.

[105] Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004, p. 15.

intended to return to Mexico the same day.[106] Both groups reported crossing an average of once per week.

#6. Nogales, Arizona

Nogales, with a population of 42,000, borders Nogales, Mexico, with a population of 193,500. The city is located 60 miles south of Tucson on Interstate 19 and consists of three crossing points: Mariposa, DeConcini, and Morely. Mariposa, which is located about one mile west of the others, opened in 1976 to handle freight and was then expanded in 1983 to handle passenger vehicles. The Mariposa crossing consists of four lanes for trucks and four for passenger vehicles. DeConcini, in downtown Nogales, has eight lanes for non-commercial vehicles, while the adjacent Morely Avenue crossing is pedestrian-only. A railroad also crosses between DeConcini and Morely.

Nogales serves as the primary route for the import of winter produce by truck.[107] Winter truck crossings approach twice the volume of summer crossings. For example, over 25,000 trucks crossed the border at Nogales in January 2004 as compared to 13,000 in August.

In a 2001 survey of Mexican visitors returning home from Arizona through the Nogales POE, 75 percent of respondents reported visiting the United States to shop, 10 percent came to work, and eight percent visited family. This survey estimated that 80 percent of people crossing into the United States at Nogales were non-U.S. residents. Of non-U.S. residents, 94 percent were returning the same day they entered the United States, and 99.9 percent had crossed through Nogales both ways. Across all POEs in Arizona, the average expenditure by visitors to the United States was $99 per party if crossing by car and $39 per party if crossing by foot. Of these expenditures, 41 percent was spent at department stores and 25 percent on groceries. In sum, this survey estimated that over 47 percent of all sales tax revenue in Santa Cruz County, of which Nogales is the county seat, comes from Mexicans shopping in the United States.[108]

#7. Calexico, California

Characteristically, Calexico is different than the other POEs on the U.S.-Mexico border. Calexico is fairly small, with a population of only 36,000, while its Mexican counterpart, the city of Mexicali (capital of Baja California), has a population of 856,000. Calexico is located 90 miles east of San Diego along the most direct route from central Mexico to Los Angeles.

A 1998 survey of border crossers at Calexico and the nearby Calexico East POE found non-U.S. residents made almost 80 percent of observed crossings. The survey reports 90

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[106] Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004, p. 5.

[107] U.S. American Consulate in Nogales, Sonora, México, *Nogales Local Histor*y, as viewed at http://nogales.usconsulate.gov/NE_Local_History.htm on January 28, 2007.

[108] Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002, p. 36.

percent of people crossing at this POE stayed in Calexico, and eight percent passed through on their way to El Centro, nine miles to the north. Thirty-four percent came to Calexico to shop, 22 percent crossed for work, and 15 percent were returning from social visits to Mexico. Of the shoppers, one third shopped in the vicinity of the POE, while another third headed two miles north to Imperial Avenue and Cole Road, where retail stores are popular destinations. Of the workers, 70 percent worked in agriculture, making up 88 percent of all agriculture workers in the county. In fact, 40 percent of all employees in Imperial County commute from Mexico.[109]

A more recent door-to-door survey in Mexicali found shoppers primarily traveled to the United States to buy clothes, groceries, and footwear. Shoppers are enticed by television ads and "La Bolsa Azul," the weekly Spanish-language circular published by the *San Diego Union-Tribune* and distributed on Fridays throughout Tijuana and Mexicali. The survey found 32 percent of shoppers came to the United States because of lower prices, while 24 percent cited higher quality products.[110]

All commercial traffic is directed to Calexico East, which is located just outside of town. It serves as the most direct crossing point for freight from Mexicali and central Mexico to the Port of Long Beach. Calexico East was the eleventh busiest POE by crossing volume in 2004.

#8. Otay Mesa, California

Otay Mesa is located five miles east of San Ysidro. The POE has 13 lanes for processing POVs and seven for trucks. Because no commercial traffic can cross at San Ysidro, Otay Mesa serves as the primary freight POE for the area. In 2004, slightly more commercial vehicles passed through Otay Mesa than El Paso, making this the second busiest commercial crossing on the southern border. Otay Mesa is also a popular POE for tourists and commuters traveling from Tijuana to San Diego, who may wish to avoid the long lines at San Ysidro and are not coming from the center of Tijuana.

#9. San Luis, Arizona

The San Luis POE is 16 miles south of Yuma, Arizona. Pedestrians, POVs and commercial vehicles cross at this POE, utilizing six lanes for POV traffic and two lanes for trucks. Twenty-five percent of crossings are made by foot. A 2001 survey of crossers at this POE found 78.2 percent were not U.S. citizens. This survey found that, of the Mexican nationals returning home at this border, over 99 percent were returning from a same-day trip. Sixty-nine percent of the Mexicans crossed to shop, while almost 20 percent crossed for work purposes. The largest contingent of crossings at this border are Mexicans walking across from San Luis Rio Colorado, Mexico, for a short shopping trip.

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[109] San Diego Dialogue and Centro de Estudios Económicos del Sector Empresarial de Mexicali, A.C. with the Assistance of Universidad Autónoma de Baja California. *Survey of Border Crossers: Imperial/Mexicali Valleys*, prepared for Imperial County Board of Supervisors, March 1998, p. 8.

[110] López, S., Alejandra, O., and S.S. Contreras, "Patrones y hábitos de consumo en Baja California." *Comercio Exterior*, Vol. 52, No. 8, August 2002, as viewed at http://revistas.bancomext.gob.mx/rce/sp/articleReader.jsp?id=7&idRevista=21 on February 15, 2007.

#10. Eagle Pass, Texas

Eagle Pass's POE consists of two bridges. One bridge handles only pedestrian and POV traffic; the other handles both POVs and commercial vehicles. The first bridge has five lanes for cars, while the second bridge has six lanes for cars, in addition to two lanes for trucks. The combined population of Eagle Pass and Piedras Negras to the south is under 200,000, yet over nine million inbound crossings occur here annually. Located less than two miles into the United States, the Mall de las Aguilas in Eagle Pass is a popular shopping destination for Mexicans, who come from as far away as Monterrey, the second largest city in Mexico.[111] Thirty-eight percent of the mall's shoppers come from Mexico, who report visiting on average 2.4 times per month.

CHARACTERIZATION OF U.S.-CANADA LAND POEs

The U.S. border with Canada has 87 POEs located in Alaska, Washington, Idaho, Montana, North Dakota, Minnesota, Michigan, New York, New Hampshire, Vermont, and Maine. Although U.S.-Canada POEs are far more numerous than U.S.-Mexico POEs, far fewer people cross the U.S.-Canada border annually. In 2004, 24 percent of all crossings into the United States by POV, bus, train, truck, and foot occurred through these 87 POEs, totaling 76.7 million crossings. Of those crossings, 35 percent occurred in New York, 26 percent in Michigan, 15 percent in Washington, 10 percent in Maine, and the remaining 14 percent in other border states. In addition to crossings by individuals, the U.S.-Canada POEs also accommodates commercial truck traffic. Almost seven million commercial truck crossings occurred on the northern border, accounting for 60.5 percent of all truck crossings into the U.S. in 2004. Detroit, Buffalo-Niagara, and Port Huron, Michigan, are the most active crossing points for commercial trucks. Exhibits 3-11 and 3-12 illustrate the location and relative volume of inbound crossings at each POE. Exhibit 3-13 presents the number of 2004 inbound crossings from Canada by POE. The three POEs with the highest crossing volumes in 2004 were Buffalo-Niagara Falls, Detroit, and Blaine.

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[111] Mall de las Aguilas, *Fact Sheet*, as viewed at http://www.malldelasaguilas.com/mimages/factSheets.pdf on September 13, 2006.

EXHIBIT 3-11   MAP OF LAND POEs ON THE U.S.-CANADA BORDER (EASTERN HALF)

Sources: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006. GIS data on POE locations obtained through communication with CBP on March 22, 2006.

EXHIBIT 3-12   MAP OF LAND POEs ON THE U.S.-CANADA BORDER (WESTERN HALF)
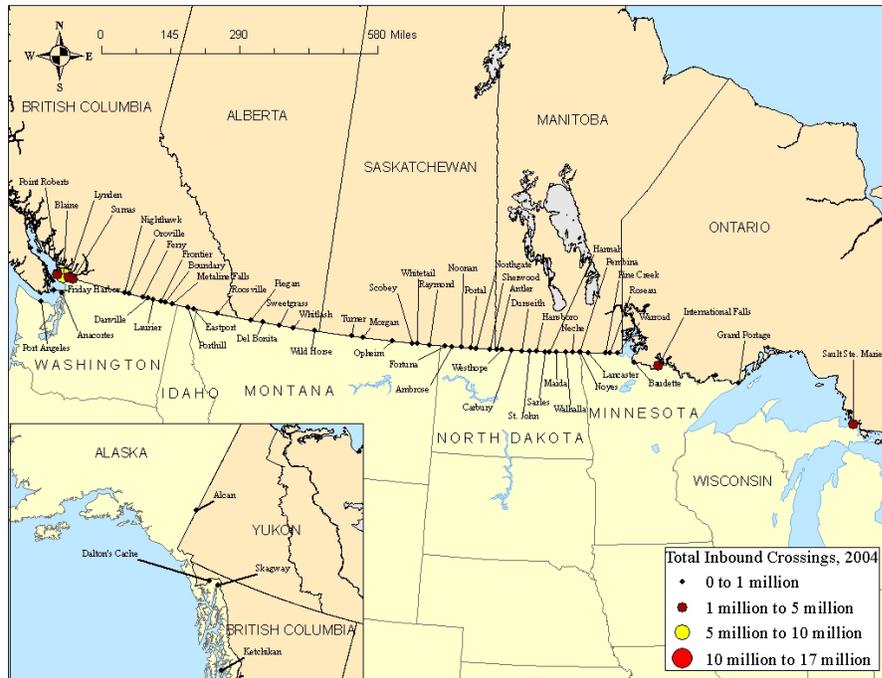
Sources: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006. GIS data on POE locations obtained through communication with CBP on March 22, 2006.

EXHIBIT 3-13   INBOUND CROSSINGS AT LAND POEs ON THE U.S.-CANADA BORDER, 2004 (IN ORDER OF TOTAL NUMBER OF CROSSINGS)

POE	TOTAL CROSSINGS	CUMULATIVE %
Buffalo-Niagara Falls, NY	16,171,391	21%
Detroit, MI	13,217,333	38
Blaine, WA	5,595,176	46
Port Huron, MI	4,987,209	52
Champlain-Rouses Pt., NY	4,245,510	58
Massena, NY	3,748,692	63
Calais, ME	2,692,448	66
Sault Ste. Marie, MI	1,922,429	69
Alexandria Bay/Cape Vincent, NY	1,832,235	71
Sumas, WA	1,672,089	73
Point Roberts, WA	1,600,556	75
Derby Line, VT	1,392,711	77
International Falls, MN	1,267,760	79
Lynden, WA	1,175,782	80
Highgate Springs, VT	1,172,789	82
Madawaska, ME	1,137,313	83
Other POEs	12,922,585	100
Border Total	**76,754,008**	**100%**

Note: Crossings include POV, pedestrian, bus, train, truck, ferry and pleasure boat crossings.
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

Unlike the U.S.-Mexico border, many of the POEs on the northern border are small, consisting of a single crossing point with a single lane for vehicle traffic. There are, however, several large POEs. The two crossings from Windsor, Ontario, into Detroit contain 21 lanes for POVs and seven lanes for trucks. The four bridges from Ontario into Buffalo have a combined 38 lanes for POVs, making it the highest capacity land POE entering the United States. Exhibit 3-14 lists the number of crossing points at each POE, as well as the number of inbound lanes for processing POVs and commercial vehicles. The table also lists the number of lanes dedicated to the FAST and NEXUS trusted traveler programs.

EXHIBIT 3-14   INBOUND LANES AT LAND POES ON THE U.S.-CANADA BORDER

POE	CROSSING POINTS	POV LANES	CARGO LANES	NEXUS/FAST LANES
Alcan, AK	1	1	0	
Dalton Cache, AK	1	1	1	
Poker Creek, AK	1	1	0	
Skagway, AK	1	1	0	
Eastport, ID	1	6	2	
Porthill, ID	1	2	1	
Bridgewater, ME	1	1	1	
Calais, ME	2	3	1	
Eastport, ME	2	2	0	
Fort Fairfield, ME	2	3	1	
Fort Kent, ME	2	2	1	
Houlton, ME	4	9	2	Y
Jackman, ME	5	7	4	
Limestone L, ME	1	1	1	
Madawaska, ME	2	2	2	
Van Buren, ME	1	1	2	
Vanceboro, ME	1	2	0	
Detroit, MI	2	21	7	Y
Port Huron, MI	2	9	5	Y
Sault Ste. Marie, MI	1	2	1	
Baudette, MN	1	1	1	
Crane Lake, MN	1	1	1	
Grand Portage, MN	1	2	1	
International Falls/Ranier, MN	1	2	1	
Lancaster, MN	1	1	1	
Pinecreek, MN	1	1	1	
Roseau, MN	1	1	1	
Warroad, MN	1	1	1	
Del Bonita, MT	1	1	1	
Morgan, MT	1	1	1	
Opheim, MT	1	1	1	
Piegan, MT	2	3	1	
Raymond, MT	1	1	1	
Roosville, MT	1	1	1	
Scobey, MT	1	1	1	
Sweetgrass, MT	1	2	1	Y
Trail Creek, MT	1	1	0	
Turner, MT	1	1	2	
Whitetail, MT	1	1	1	
Whitlash, MT	1	1	1	
Wildhorse, MT	1	1	1	
Willow Creek, MT	1	1	0	
Ambrose, ND	1	3	1	
Antler, ND	1	1	1	
Carbury, ND	1	1	1	

POE	CROSSING POINTS	POV LANES	CARGO LANES	NEXUS/FAST LANES
Dunseith, ND	1	2	1	
Fortuna, ND	1	1	1	
Hannah, ND	1	1	1	
Hansboro, ND	1	1	1	
Maida, ND	1	1	1	
Neche, ND	1	1	1	
Noonan, ND	1	1	0	
Northgate, ND	1	1	1	
Noyes, ND	1	2	1	
Pembina, ND	1	6	3	Y
Portal, ND	1	1	3	
Sarles, ND	1	1	1	
Sherwood, ND	1	1	1	
St. John, ND	1	3	2	
Walhalla, ND	1	1	1	
Westhope, ND	1	1	1	
Alexandria Bay, NY	1	6	2	
Buffalo/Niagara Falls, NY	4	38	5	Y
Champlain-Rouses Point, NY	5	17	2	Y
Chateaugay, NY	5	9	0	
Massena, NY	1	4	1	
Ogdensburg, NY	1	3	0	
Beecher Falls, VT	3	3	3	
Derby Line, VT	4	8	2	
Highgate Springs/Alburg, VT	4	9	1	Y
Norton, VT	1	2	1	
Richford, VT	4	8	0	
Blaine, WA	2	14	3	
Boundary, WA	1	1	0	
Danville, WA	1	1	0	
Ferry, WA	1	1	0	
Frontier, WA	1	1	0	
Laurier, WA	1	1	0	
Lynden, WA	1	3	2	
Metaline Falls, WA	1	1	0	
Nighthawk, WA	1	1	0	
Oroville, WA	1	2	0	
Point Roberts, WA	1	3	1	Y
Sumas, WA	1	4	2	
Total	122	274	101	9 POEs

Source: Personal communication with Office of Regulations and Rulings, U.S. Customs and Border Protection, Department of Homeland Security, on July 31, 2006.

Exhibit 3-15 shows the historical trend in inbound crossings from Canada over the eleven-year period from 1995 to 2005. Between 1995 and 2005, inbound crossings decreased by 30 percent, an average of 2.9 million per year. The majority of this decrease is attributable to a decrease in crossings by POVs, which decreased 35 percent since 1995. However, truck traffic increased by 32 percent from 1995 to 2005. Pedestrian crossings have fluctuated the most in the last 10 years, nearly doubling between 2000 and 2002 before returning to pre-2001 levels in 2005. Pedestrian crossings nonetheless comprise a small portion of overall crossings on the Canadian border.

EXHIBIT 3-15   HISTORICAL INBOUND LAND CROSSINGS AT THE U.S.-CANADA BORDER, 1995-2005
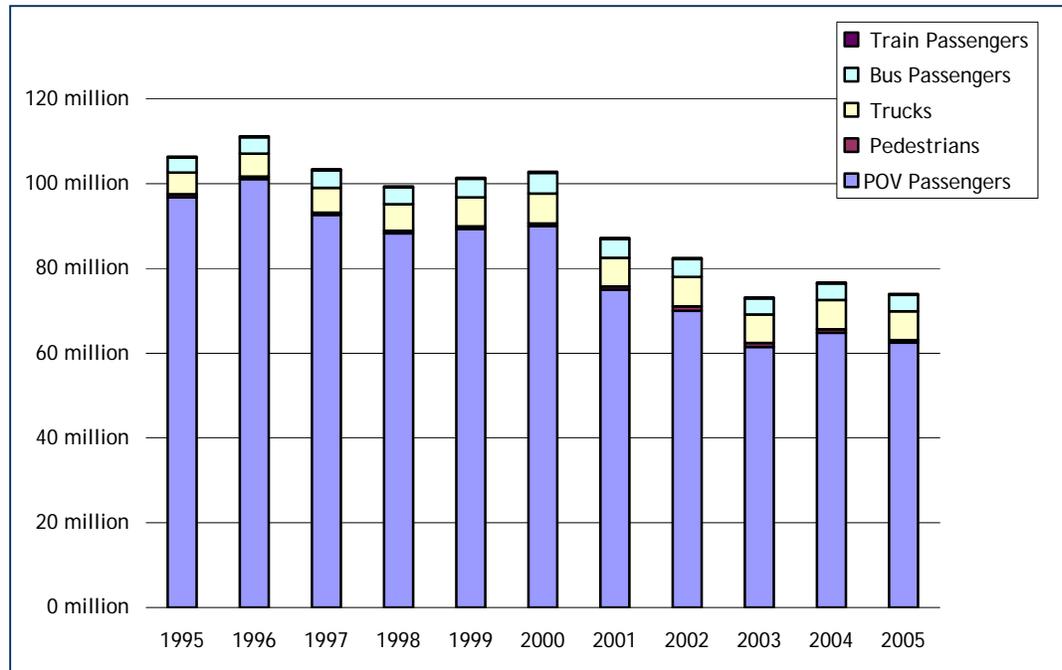
Note: Crossing data through 2005 is presented for a more accurate depiction of recent trends in border crossing; however, 2004 crossing data is used to in this report to represent baseline conditions because IRTPA was enacted in 2004.
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

Exhibit 3-16 presents the distribution of crossings at the U.S.-Canada border by mode of travel in 2004. As shown, passenger cars comprised 85 percent of all border crossings in 2004, followed by trucks at nine percent.

EXHIBIT 3-16   DISTRIBUTION OF INBOUND LAND CROSSINGS AT U.S.-CANADA BORDER BY MODE
OF TRAVEL, 2004

MODE OF TRANSPORT	TOTAL CROSSINGS	PERCENT
POV Passengers	64,848,466	84%
Trucks	6,903,882	9
Bus Passengers	3,800,380	5
Pedestrians	817,977	1
Train Passengers	339,161	0
Pleasure Boats	44,142	0
Total Passengers	76,754,008	100%

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

U.S. TRAVELERS TO CANADA

A 2004 survey revealed that two-thirds of POV passengers return to the United States on the same day they travel to Canada, seven percent stay overnight, and 27 percent stay two or more nights.[112] Statistics Canada publishes an annual International Travel survey that summarizes characteristics of international travel and trends in travel to Canada.[113] The results of the 2003 survey are summarized in Exhibit 3-17. Statistics Canada found that, across Canada, overnight visitors from the U.S. to Canada most commonly reported pleasure, recreation, or holiday as the primary purpose of their trip (more than 60 percent of all overnight visitors). This study also suggests that business travelers make shorter trips (16 percent of all single-night visitors). Conversely, those visiting family make longer trips to Canada. Other Canadian studies have examined wait times at the international borders and potential impacts of changing border policies.[114]

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[112] Statistics Canada, *International Travel Survey: Frontier Counts,* 2004.

[113] Statistics Canada, *International Travel 2003,* "Table 14: Person-trips by residents of the United States entering Canada and staying one or more nights, by selected trip characteristics and purpose of trip, 2002-2003," January 2005, p. 27.

[114] Taylor, J.C., Robideaux, D., and G. Jackson, *The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options,* prepared for the Michigan Department of Transportation, the U.S. Department of Transportation, and the New York State Department of Transportation, May 21, 2003, p. 7-8.

EXHIBIT 3-17   U.S. TRAVELERS TO CANADIAN DESTINATIONS BY TRIP PURPOSE AND LENGTH OF STAY (%), 2003

TRIP PURPOSE	LENGTH OF STAY			
	1 NIGHT	2-6 NIGHTS	7-13 NIGHTS	14 NIGHTS OR OVER
Business, Convention, or Employment	15.6%	14.5%	6.3%	4.4%
Visiting Friends or Relatives	16.9	23.0	22.2	29.8
Other Pleasure, Recreation or Holiday	67.5	62.4	71.5	65.8
Total	100.0%	100.0%	100.0%	100.0%

Source: Statistics Canada, *International Travel 2003,* "Table 14: Person-trips by residents of the United States entering Canada and staying one or more nights, by selected trip characteristics and purpose of trip, 2002-2003," January 2005.

In May 2005, the Ontario Ministry of Tourism and Recreation sponsored a broad telephone survey of American households in regional metropolitan areas (Buffalo, Detroit, Cleveland, and Milwaukee), who could reasonably be expected to consider visiting Ontario in the near future. Similarly to the Statistics Canada study, the Ontario study found that 60 percent of future visitors to Toronto planned to travel for pleasure, 16 percent for business, and that nine percent owned a country home or cottage near the city. Similar statistics were reported for Niagara Falls, although a higher percentage of individuals planned travel for pleasure (66 percent), and fewer planned travel for business (six percent). The Ministry found that, overall, eight percent of survey respondents intended to visit Ontario that summer.[115] Exhibit 3-18 summarizes the survey's results.

EXHIBIT 3-18   U.S. TRAVELERS TO ONTARIO DESTINATIONS BY TRIP PURPOSE

TRIP PURPOSE	TORONTO	NIAGARA FALLS	OTHER ONTARIO
Pleasure	60.4%	66.4%	56.6%
Business	15.5	5.9	6.6
Country Home	9.2	4.2	6.8
Other Reason	15.0	23.6	30.0
Total	100.0%	100.0%	100.0%

Source: Ennamorato, M., *Travel Intentions Study Report: Summer '05 Intentions,* presented to Ontario Ministry of Tourism and Recreation and Ontario Tourism Marketing Partnership Corp., June 29, 2005.

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[115] Information in this paragraph taken from Ennamorato, M. *Travel Intentions Study Report: Summer '05 Intentions,* presented to Ontario Ministry of Tourism and Recreation and Ontario Tourism Marketing Partnership Corp., June 29, 2005, pgs. 21 and 30.

CHARACTERISTICS OF THE HIGHEST VOLUME U.S.-CANADA LAND POES

Sixteen POEs along the U.S.-Canada border, described here, accounted for approximately 82 percent of total inbound crossing from Canada in 2004. Total crossings at each of these 16 POEs were more than one million per POE. Most of these POEs are located in the more densely populated eastern part of the United States and Canada, particularly near Lake Erie and Lake Ontario. In addition, two are located near Puget Sound in Washington, and one is located in Minnesota.

#1. Buffalo-Niagara Falls, New York

The POE at Buffalo-Niagara Falls has the highest volume of crossings on the U.S.-Canada Border, with 16.2 million crossings in 2004. The POE consists of six international bridges over the Niagara River and Niagara Falls: Rainbow Bridge, Whirlpool Bridge, Lewiston-Queenston Bridge, Peace Bridge, and two railroad bridges. Because of its location at Niagara Falls, one of the world's "natural wonders," numerous hotels, casinos, and other tourist venues are common on both the Canadian and U.S. sides of the falls.

The Rainbow Bridge connects the tourist districts of Niagara Falls, New York, with Niagara Falls, Ontario, and no commercial trucks are permitted on this bridge. The Whirlpool Bridge connects the commercial zones and downtown districts of Niagara Falls, New York, with Niagara Falls, Ontario, and is restricted to NEXUS card carriers. The Lewiston-Queenston Bridge connects two heritage communities: the Town and Village of Lewiston, New York, with the Village of Queenston in the Town of Niagara-on-the-Lake, Ontario.[116] The Peace Bridge is located near the center of downtown Buffalo, and Fort Erie, Ontario, where it crosses the Niagara River. Heavy trucks can cross only the Queenston-Lewiston Bridge and the Peace Bridge. Buffalo had the third highest incoming truck traffic of all land border POEs in 2004.

Overall, border crossings into the United States at the Buffalo-Niagara Falls POE are predominantly POV and bus travel, with approximately half a million people entering as pedestrians in 2004. According to a 2000 survey, 70 percent of bridge travelers were American, the majority of whom were from New York. The summary also indicates that Canadian travelers, primarily originating in Ontario, made up the remaining 30 percent of bridge crossings. Of the New York residents surveyed, 80 percent characterized their trip as tourist-oriented.[117] Monthly crossing data shows a seasonal surge in July and August each year, which demonstrates that this POE is frequently used by vacationers.

#2. Detroit, Michigan

The POE at Detroit consists of two crossing points: the Ambassador Bridge and the Detroit-Windsor Tunnel, both of which cross the Detroit River. The Ambassador Bridge

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[116] Niagara Falls Bridge Commission, *Crossing Information – Which Bridge do I Take?*, as viewed at http://www.niagarafallsbridges.com/whichbridge.php3 on February 15, 2006.

[117] Survey information taken from URS Cole Sherman, *2000 Niagara Frontier Traffic Survey: Final Report*, May 2001, p. 56.

is located west of both downtown Detroit and downtown Windsor, Ontario. The Detroit-Windsor tunnel connects downtown Detroit to downtown Windsor. No pedestrian crossings occur at this POE, which is dominated by vehicle traffic and trucks. This POE had the largest volume of truck traffic into the United States in 2005 and the eighth highest volume of POV traffic. Between 2001 and 2005, crossings at Detroit have been markedly lower than crossings between 1996 and 2000.

Peak traffic time on weekdays for this POE is 7 am to 8 am for U.S.-bound traffic, and 5 pm to 6 pm for Canada-bound traffic. This pattern suggests that there is a large commuter population into the United States from Canada, a conclusion that is supported by survey data indicating that work trips are most common for U.S.-bound travel on weekdays (21 to 25 percent of all weekday travel). In addition, more than 55 percent of travelers report that they make the trip daily or once a week. Weekend traffic tends to be heavy in both directions in the afternoon and early evenings, suggesting that shopping, recreation, and entertainment trips are popular at these times. Weekend travel into Canada consists of casino travel (24.7 to 31.8 percent) and recreation/entertainment trips (20.3 to 21.4 percent), while travel into the United States is primarily to return home (over 60 percent). More than 60 percent of both weekday and weekend travel originates and terminates within a seven-county region of Michigan and a one county-region of Canada (Essex).[118]

#3. Blaine, Washington

Blaine, often referred to as "The Gateway to the Pacific Northwest," is next to Boundary Bay at the northernmost point of Interstate 5 in Washington. Interstate 5 serves as a major north-south thoroughfare from Seattle to Vancouver, British Columbia. The Blaine POE, which provides a connection between Blaine and Surrey, British Columbia, consists of two separate border inspection stations. Much of the regional economy consists of trade across the Canadian border, with the eastern side of Blaine playing host to import/export warehouses, freight and courier services, and gas stations serving long-haul cargo trucks.[119] Tourism to Vancouver is likely to increase in 2010 when Vancouver hosts the Winter Olympics.[120]

#4. Port Huron, Michigan

The Port Huron POE is located on the Blue Water Bridge (consisting of two bridges), which provides a connection between Point Edward, Ontario, and Port Huron, Michigan,

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[118] Information in this paragraph is taken from Ontario Ministry of Transportation, Transport Canada, Michigan Department of Transportation, and U.S. Federal Highway Administration, *Ontario-Michigan Border Crossing Traffic Study: Summary Report*, 2001, pp. 4, 19, 23, and 24-26. The Southeast Michigan Council of Governments (SEMCOG) covers Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne counties.

[119] Washington State Business and Project Development, Department of Community, Trade & Economic Development, *Whatcom County Overview,* as viewed at http://www.choosewashington.com/counties/detail.asp?county_id=70, on February 21, 2007.

[120] The Vancouver Organizing Committee for the 2010 Olympic and Paralympic Games, *Vancouver 2010*, as viewed at http://www.vancouver2010.com/en.

across the St. Clair River at the southern end of Lake Huron. The bridge connects Highway 402 in Ontario to Interstates 94 and 69 in Michigan. This crossing provides a short route from Toronto to Michigan and represents one of the four shortest land routes between the midwestern and northeastern United States.[121]

Survey data indicate that about 10 percent of travelers make daily trips across this border. In addition, few travelers report work as the purpose of their travel – less than 10 percent of Canada-bound travel and 13 percent of U.S.-bound travel on weekdays. Conversely, nearly 25 percent of travelers report that they make infrequent trips across the border (one time only or one per year). The most commonly reported purposes of Canada-bound trips were casinos and shopping, while shopping was the most commonly reported purpose of U.S.-bound travel. Over 90 percent of surveyed vehicle plates were from Michigan and Ontario on both weekends and weekdays.[122]

#5. Champlain/Rouses Point, New York

The BTS-recorded POE at Champlain, New York, consists of four separate crossing points: one linking Champlain with Covey Hill, Quebec, and three linking Champlain with Lacolle, Quebec. The most traveled of these three entries is between Interstate 87 in the United States and Highway 15 in Canada. The crossing is located 30 miles north of Plattsburg, 175 miles north of Albany, and 45 miles south of Montreal. It is the only major land crossing between New York and Canada that does not involve a river crossing.[123]

The Champlain crossing is the sixth-busiest truck crossing among Canadian POEs. This crossing accounts for 5.7 percent of cross-border truck traffic. During the 1990s, the annual growth of truck volume was 5.1 percent. The rapid growth of commercial truck traffic has created massive congestion in recent years, leading to several severe accidents on the Canadian side of the border, including the deaths of three truck drivers between 2001-2003. Champlain-Lacolle also has many POV and bus crossings, and ranks fourth among U.S.-Canada POEs in bus crossings and sixth in POV crossings.

#6. Massena, New York

The POE at Massena, New York is a single crossing that connects the main street in Cornwall, Ontario, with New York State Route 37 by way of two bridges across the St. Lawrence River. One bridge connects the U.S. mainland to Cornwall Island and the second connects the island with the Canadian mainland. The crossing is 65 miles

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[121] Michigan Department of Transportation, *Blue Water Bridge*, as viewed at http://www.michigan.gov/mdot/0,1607,7-151-9618_11070---,00.html on June 7, 2006.

[122] Information in this paragraph is taken from Ontario Ministry of Transportation, Transport Canada, Michigan Department of Transportation, and U.S. Federal Highway Administration, *Ontario-Michigan Border Crossing Traffic Study: Summary Report*, 2001, pgs. 28 and 30.

[123] Information in this paragraph is taken from Seaman, M., Goldman, T., and A. de Cerreno, New York University, Rudin Center for Transportation Policy and Management, *Assessing New York's Border Needs*, December 2004, p. 37

southeast of Ottawa and 70 miles southeast of Montreal. A casino lies six miles inside the U.S. border on the St. Regis Mohawk Reservation.[124]

Crossings at Massena are primarily by POV. Massena has the fifth highest number of POV crossings among Canadian POEs. Massena ranks eighth in bus passenger crossings and thirteenth in truck crossings among U.S.-Canada border crossings. No trains cross the border at Massena. Almost one-third of travelers surveyed in 1997 cross the bridge daily, compared to less than 10 percent at the other crossings.[125]

#7. Calais, Maine

The Calais POE is separated from St. Stephen, New Brunswick, by the St. Croix River. The POE is approximately 100 miles northeast of Bangor and about 20 miles northwest of the Atlantic Ocean. There are two distinct border-crossing points at the Calais POE: the Ferry Point Bridge and the Milltown Bridge. A 1991 survey found that 70 percent of total area crossings occurred at the Ferry Point Bridge.[126] The two crossing points comprising the Calais POE handle very few buses and no passenger trains. Crossings are primarily by POV and truck, as well as by pedestrians. Calais ranks ninth overall in highest volume of POV traffic among U.S.-Canada POEs, and ninth highest in volume of truck traffic.

Evidence suggests that the Calais-St. Stephen area functions as a single border community. Approximately 48 percent of the border crossing trips are local trips within the border region (trips to and from nearby towns: in Maine, Calais, Baileyville, Woodland, Baring, Milltown, Robinson, Meddybemps, Princeton; and in New Brunswick, St. Stephen, Oak Bay, Bartlett, Waweig, Union Mills, Milltown, St. Andrews).[127] The intra-region travel is also reflected in the substantial number of pedestrian crossings reported. Calais ranks third highest among all U.S.-Canada border POEs in the number of pedestrian crossings. The number of pedestrian crossings quoted for the POE is likely an underestimate because at the Ferry Point Bridge, POVs can obscure the view of guards and thus pedestrians often are not counted.[128] Residents of the two towns often have close ties, and it is common to have family living across the

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[124] Seaman, M., Goldman, T., and A. de Cerreno, New York University, Rudin Center for Transportation Policy and Management, *Assessing New York's Border Needs,* December 2004, p. 36.

[125] Seaman, M., Goldman, T., and Al. de Cerreno, New York University, Rudin Center for Transportation Policy and Management, *Assessing New York's Border Needs,* December 2004, p. 36.

[126] U.S. Department of Transportation, Federal Highway Administration, *Calais-St. Stephen Area International Border Crossing Study: Draft Environmental Impact Assessment*, 2001, p. I-2.

[127] U.S. Department of Transportation, Federal Highway Administration, *Calais-St. Stephen Area International Border Crossing Study: Draft Environmental Impact Assessment*, 2001, p. I-3, as viewed at http://www.state.me.us/mdot/pubs/pdf/437-449chap1.pdf on February 15, 2007.

[128] U.S. Department of Transportation, Federal Highway Administration, *Calais-St. Stephen Area International Border Crossing Study: Draft Environmental Impact Assessment*, 2001, p. I-2, as viewed at http://www.state.me.us/mdot/pubs/pdf/437-449chap1.pdf on February 15, 2007.

border.[129] Also, Calais does not have a football field, so its high school team plays its games in St. Stephen.[130]

In addition to local activity, the Calais POE is a major route for tourists driving east into Canada and vice versa.[131] The high volume of trucks also suggests significant commercial activity.

#8. Sault Ste. Marie, Michigan

The International Bridge at Sault Ste. Marie is the only vehicular crossing between Ontario and Michigan for a distance of 300 miles. The Bridge connects the twin cities of Sault Ste. Marie, Ontario, and Sault Ste. Marie, Michigan. The communities served by the bridge have populations of 16,000 (Michigan) and 80,000 (Ontario).[132] The bridge is also the site of the Soo Locks, which permit travel by water between Lake Superior and the lower Great Lakes. Sault Ste. Marie, Michigan, claims to be the most popular vacation destination in Michigan's rugged Upper Peninsula.[133] A small percentage (three to six percent) of traffic consists of trucks. No pedestrians cross at this POE.

A summer traffic survey at this POE found that nearly all traffic carried Michigan or Ontario license plates. More specifically, most traffic originated in Sault Ste. Marie, Ontario, and terminated in Sault Ste. Marie, Michigan, or vice versa. Interestingly, Ontario plates made up 75 percent of surveyed traffic on weekdays and 60 percent on weekends, likely due to the larger population on the Ontario side of the border. The percentage of low frequency travel (once per year or once only per traveler) was higher than at other Michigan POEs.[134] This pattern suggests that this remote location is a throughway for infrequent long distance trips.

#9. Alexandria Bay/Cape Vincent, New York

The Alexandria Bay POE, also known as the Thousand Islands Crossing, connects Wellesley Island, New York, with Hill Island, Ontario, by way of the Rift Bridge.[135] The

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[129] Hench, D., "Tougher Crossings Ahead," *Mainetoday.com*, April 5, 2005, as viewed at http://travel.maintoday.com/news/050405passports/shtml on September 9, 2006.

[130] Hench, D., "Tougher Crossings Ahead," *Mainetoday.com*, April 5, 2005, as viewed at http://travel.maintoday.com/news/050405passports/shtml on September 9, 2006.

[131] U.S. Department of Transportation, Federal Highway Administration, *Calais-St. Stephen Area International Border Crossing Study: Draft Environmental Impact Assessment*, 2001, p. I-12, as viewed at http://www.state.me.us/mdot/pubs/pdf/437-449chap1.pdf on February 15, 2007.

[132] Website of Michigan Department of Transportation, as viewed at http://www.michigan.gov/mdot/0,1607,7-151-9618_11032-22039--,00.html on June 7, 2006.

[133] Sault Ste. Marie Convention and Visitors Bureau, *The Gathering Place*, as viewed at http://www.saultstemarie.com/ on June 7, 2006.

[134] Information in this paragraph is taken from Ontario Ministry of Transportation, Transport Canada, Michigan Department of Transportation, and U.S. Federal Highway Administration, *Ontario-Michigan Border Crossing Traffic Study: Summary Report*, 2001, pgs. 36, 40-43.

[135] New York State Department of Transportation, Federal Bridge Corporation (Canada), U.S. Federal Highway Administration, Ministry of Transportation (Canada), Thousand Islands Bridge Authority, *U.S./CANADA*

crossing lies about 93 miles north of Syracuse along Interstate 81 and 95 miles south of Ottawa.

Because there are no pedestrian or train crossings at this POE, all crossings into the United States are via POV, truck, or bus. The POE at Alexandria Bay ranks tenth in bus passenger crossings, tenth in POV passenger crossings, and sixth in truck crossings among Canadian POEs. Commercial vehicle travel stays relatively constant throughout the year, but a large increase in POVs in the summer months suggests tourist usage. The tourists may be returning from a trip in Canada because inbound traffic is highest on Sunday and Monday and decreases throughout the week.[136]

#10. Sumas, Washington

Sumas is a small town with 960 residents (in 2000) across the Canadian border from Abbotsford, British Columbia. The 24-hour border crossing in town is often considered a less-congested alternative to nearby Blaine. The crossing at Sumas provides for a quick connection to Highway 1 in Canada and is centered between Bellingham, Washington, and Vancouver, British Columbia.[137] The Sumas POE experiences the second largest number of pedestrian crossings of all the POEs on the Canadian border.

#11. Point Roberts, Washington

Point Roberts sits on a peninsula of land that extends from mainland Canada and has no land border with the contiguous United States. A four-lane immigration station for motor vehicles, bicycles, and pedestrians extends north into British Columbia. The peninsula, which abuts the Canadian community of Delta, measures only two miles from north to south and three miles from east to west. While physically connected to Canada, the community of Point Roberts is a part of the United States, because it sits below the 49th parallel, the official latitude defining the U.S.-Canada border in that area. With a population of only 1,308 (in 2000), students above the third grade in Point Roberts travel across the border daily to attend school in Blaine, a trip that involves a 40-minute drive, as well as two border crossings. Much of the local Point Roberts economy is affected by recreational and weekend visitors from greater Vancouver.[138]

#12. Derby Line, Vermont

The Derby Line POE has two crossing points leading to either Route 55 or Route 143 in Quebec. Derby Line is approximately 220 miles north of Boston on Interstate 91 and

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International Bridge Feasibility Study: Thousand Islands Crossing, prepared by Stantec Consulting Services, Inc., and McCormick Rankin Corporation, August 2005, p. 2.

[136] New York State Department of Transportation, Federal Bridge Corporation (Canada), U.S. Federal Highway Administration, Ministry of Transportation (Canada), Thousand Islands Bridge Authority, *U.S./CANADA International Bridge Feasibility Study: Thousand Islands Crossing*, prepared by Stantec Consulting Services, Inc., and McCormick Rankin Corporation, August 2005, pp. 34-35.

[137] Experience Washington, *The Official Site of Washington State Tourism, Cities: Sumas*, as viewed at http://www.experiencewashington.com/ on June 30, 2006.

[138] Information on Point Roberts is taken from the website of Point Roberts Chamber of Commerce, as viewed at http://www.pointrobertschamber.com on June 30, 2006.

approximately 100 miles southeast of Montreal. POVs and trucks dominate the traffic at this POE. Monthly crossing data show an annual surge in crossings in July and August, suggesting that tourists use this POE heavily for summer vacations. Derby Line ranks twelfth among U.S.-Canada POEs in terms of POV crossings and eleventh in truck crossings. Among U.S.-Canada border POEs, Derby Line ranks eighth in pedestrian crossings.

#13. International Falls, Minnesota

The only crossing point in International Falls connects U.S. Route 53 with Highway 11 in Fort Frances, Ontario. Major U.S. cities near International Falls include Duluth, Fargo, and Minneapolis. Major Canadian cities near International Falls include Thunder Bay, Ontario, and Winnipeg, Manitoba.[139] POVs and trucks dominate the traffic crossing this POE. International Falls ranks thirteenth amongst U.S.-Canada border POEs in terms of POV crossings and twenty-fourth in truck crossings. A significant number of bus, train, and pedestrian crossings occur at this port as well. Among Canadian POEs, International Falls ranks seventh in train passengers, twenty-seventh in bus passengers, and fourth in pedestrian crossings.

#14. Lynden, Washington

Lynden, a town with population 9,020 (in 2000), sits along the Nooksack River, which empties into nearby Bellingham Bay. Located 15 miles east of Blaine, Lynden is situated on the Guide Meridian Road, a major thoroughfare of traffic traveling between Bellingham and Aldergrove, British Columbia.[140] Crossings at Lynden are predominantly via POVs. Through the mid-1900s, Lynden became home to a number of Dutch immigrants, leading to the spread of Dutch as a second language among many Lynden inhabitants. Due to its unique cultural ties, Lynden bills itself as providing a "day trip to Holland."

#15. Highgate Springs, Vermont

The POE at Highgate Springs is comprised of two crossing points: Alburg, Vermont, and Noyan, Ontario, to the west of Missisquoi Bay, and Highgate Springs, Vermont, and Philipsburg, Ontario, to the east of Missisquoi Bay. This POE is a primary crossing point for anyone traveling between Quebec and Burlington, Vermont (Burlington is about 40 miles due south of Highgate Springs).

The traffic at the Highgate Springs POE is dominated by POVs and trucks. Highgate Springs ranks sixteenth among Canadian POEs in terms of POV crossings and eighth in truck crossings.

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[139] Website of International Falls, MN, *Visitors Information*, as viewed at http://www.ci.international-falls.mn.us/ on June 30, 2006.

[140] Information on Lynden is taken from the website of Lynden, Washington, *Welcome to Lynden, Washington*, as viewed at http://www.lynden.net/ on July 10, 2006 and from the website of the Lynden Chamber of Commerce, as viewed at http://www.lynden.org/ on July 10, 2006.

#16. Madawaska, Maine

The Madawaska POE is located in a small town at the northern tip of Maine, where the Saint John and Madawaska Rivers join. The POE is located in the downtown area of the joint border communities of Madawaska and Edmundston, New Brunswick (populations 4,500 and 17,300, respectively). Fraser Paper Company, a large multinational corporation, straddles the border and dominates the economy of both towns.[141]

U.S. Route 1, which serves as Madawaska's main street, is the main thoroughfare through town.[142] Because U.S. Interstate 95 terminates farther south in Houlton, Maine, U.S. Route 1 carries POV traffic and truck traffic through this portion of Maine. Commercial traffic associated with Fraser Paper Company is also common. Crossings at the Madawaska POE are dominated by POV traffic and truck traffic. There is also considerable pedestrian traffic, and Madawaska ranks tenth in overall pedestrian crossing volume relative to other U.S.-Canada border POEs. No trains cross at Madawaska, and few buses cross here.

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[141] Website of Town of Madawaska, *Local Government*, as viewed at http://www.maine.gov/local/aroostook/madawaska/ on June 6, 2006.

[142] Website of Town of Madawaska, *Local Government*, as viewed at http://www.maine.gov/local/aroostook/madawaska/ on June 6, 2006.

CHAPTER 4 | CALCULATION OF THE NUMBER OF UNIQUE TRAVELERS CROSSING U.S. LAND BORDERS

The previous chapter describes the volume of travelers flowing into the United States from Mexico, Canada, and the Caribbean in 2004. The crossing data presented in that chapter represent counts of *trips* made by individuals into this country, rather than counts of the specific *individuals* making those trips. In this chapter, we present a method for translating crossings, or trips, into individuals; we refer to these individuals in this report as "unique travelers." Furthermore, we identify the nationality and number of unique travelers who currently enter the United States without documentation that is acceptable under the regulatory alternatives. The resulting estimate of U.S. unique travelers represents a snapshot of the population potentially affected in a single year. This cross-section serves as the basis for our estimate of the baseline affected population, presented in Chapter 5, over the ten-year time frame of this analysis. Specifically, this chapter begins with an overview of the methodology used to convert crossings to unique travelers who will be directly affected by the final rule. Next, we describe the data sources relied upon and estimation of travelers entering along the U.S.-Mexico border. A similar discussion follows for travelers crossing the U.S.-Canada border. The chapter concludes with a discussion of the key sources of uncertainty in our analysis.

In support of the rule, we evaluated the following regulatory alternatives:

ALTERNATIVE 1: All U.S. citizens entering the United States via the Mexican or Canadian border must present a traditional passport book.

> ALTERNATIVE 1A: Alternative 1, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.
>
> ALTERNATIVE 1B: Alternative 1, except for U.S. and Canadian children under 16 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 2: All U.S. citizens must present a passport book, a passport card containing a vicinity-read radio frequency identification (RFID) chip, a CBP trusted traveler card (Free and Secure Trade (FAST), NEXUS, Secure Electronic Network for Travelers' Rapid Inspection (SENTRI)), a Department of Homeland Security (DHS)-approved Enhanced Driver's License (EDL), or a Merchant Mariner Document (MMD). In addition, Canadian citizens not enrolled in a CBP trusted traveler program will need to present a Canadian passport. For the purposes of this analysis, we assume that there will be no change in the documentation required of lawful permanent residents (LPRs),

Mexican citizens, Native Americans, members of the U.S. Armed Forces with military identification and traveling on official orders, and NATO military personnel on official duty.[143]

> ALTERNATIVE 2A: Alternative 2, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 2B (chosen alternative): Alternative 2, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 3: Alternative 2, except the passport card and EDLs will not contain a vicinity-read RFID chip.

> ALTERNATIVE 3A: Alternative 3, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 3B: Alternative 3, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

OVERVIEW OF OUR APPROACH FOR ESTIMATING UNIQUE U.S. TRAVELERS WITHOUT PASSPORTS

This chapter estimates the number of unique U.S. travelers who crossed into the United States via land borders in 2004 and who do not hold passport books or other documentation that will be accepted under the Western Hemisphere Travel Initiative (WHTI) regulatory options (hereafter referred to collectively as "acceptable documentation"). Our estimates of this number involve the following analytical steps:

- **Step 1:** Determine the number of total inbound crossings from Mexico and Canada in 2004.

- **Step 2:** Estimate the number of the crossings in Step 1 that are made by U.S. citizens.

- **Step 3:** Estimate the number of *unique* U.S. travelers making the crossings identified in Step 2. This step has two parts: (a) estimate the annual frequency of individuals' cross-border travel at specific ports-of-entry (POEs), and (b) apportion the crossings by the relevant reported travel frequencies to obtain the number of unique travelers that crossed the border at those POEs.

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[143] Mexican nationals must present a valid, unexpired passport and a valid, unexpired visa issued by a U.S. embassy or consulate abroad, or they must present a Border Crossing Card (BCC), also known as a "laser visa." As of September 31, 2001, first-time applicants for BCCs are required to present a valid Mexican passport during the application process. However, individuals who obtained a BCC prior to that date may not currently possess a valid passport.

- **Step 4:** Estimate the number of unique U.S. travelers from Step 3 who do not hold acceptable documentation under WHTI regulatory options.

- **Step 5:** Apportion the number of unique U.S. travelers without acceptable documentation estimated from Step 4 between adults (age 16 and older) and children (under age 16).

- **Step 6:** Estimate the number of travelers from Step 5 that cross borders at multiple POEs. Subtract this number from the total number of travelers estimated in Step 5.

- **Step 7:** Identify the number of unique adult U.S. travelers from Step 6 who participate in the FAST, NEXUS, and SENTRI trusted traveler programs but do not currently hold a passport. Subtract this number from the total in Step 6 (relevant to Alternatives 2 and 3).

U.S.-MEXICO BORDER ANALYSIS

In this section, we estimate the number of unique travelers who crossed the U.S.-Mexico border without acceptable documentation in 2004. First, we discuss existing studies that provide information about crossing frequency and traveler nationality. Then, we follow the steps described above and present our results.

DATA SOURCES FOR U.S.-MEXICO BORDER ANALYSIS

We extensively searched the internet and electronic databases of published social science and business literature for border crossing studies specific to California, Texas, Arizona, and New Mexico. Our initial searches focused primarily on research by local and Federal government agencies and university institutes in the United States and Mexico. These searches yielded important survey-based studies of border travelers. By tracing the references of these studies, we obtained additional survey-based studies conducted for local chambers of commerce and nonprofit organizations. Through personal communication with study authors and the sponsoring organizations, we were able to confirm that the studies obtained are the most accurate and current research available. In the following paragraphs, we review the studies primarily relied upon in this analysis.

General

- **U.S. Department of State:** Under contract to DOS, BearingPoint published in October 2005 *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean* (hereafter called the "DOS BearingPoint" study).[144] The study is based on a survey conducted in July 2005 at thirteen POEs in California, Maine, Michigan, New York, Texas, and Washington. Survey responses were limited to travelers crossing by personal vehicle, bus, and foot. The survey asked travelers about their citizenship, crossing frequency, passport possession,

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[144] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

and current passport use. Travelers were interviewed at each POE between 8 am and 5 pm on two to three different days. To obtain a representative sample of travelers, each survey day was divided into eight periods, and a new traffic lane was selected randomly each period for interviewing. Bus passengers and pedestrians were randomly selected for interviews after passing customs and immigration inspections. We obtained the underlying survey data and performed analysis oriented to the needs of this report. Additional information regarding this study and our analysis of the data are provided in Appendix A.

- **CBP Pleasure Boat Data:** The CBP Office of Field Operations collects data on the number of pleasure boats arriving in the United States each year. In 2005, slightly more than 21,000 pleasure boats entered the United States via southern border ports.[145] Data is available by port; however, listed ports do not always correspond with U.S. Bureau of Transportation Statistics (BTS) POE data. We use these data to estimate the number of incoming pleasure boat travelers to the United States in 2004.

Arizona

- **University of Arizona:** In July 2002, Alberta Charney and Vera Pavlakovich-Kochi of the University of Arizona published a report titled *The Economic Impacts of Mexican Visitors to Arizona: 2001*.[146] The report is based on a survey conducted in 2001 of 2,334 Mexican travelers exiting the United States at the six Arizona POEs. The survey asked questions about the traveler's nationality, length of stay, crossing frequency, trip purpose, and trip spending. All survey respondents were traveling by either privately owned vehicles (POVs) or foot. Although respondents were *exiting* the United States, the sample size at each POE was weighted by the POE's contribution to total *inbound* Arizona crossings. The survey found that only 0.3 percent of Mexican visitors to Arizona enter and exit through different POEs. Therefore, the authors believe that weighting the sample at each POE by inbound, rather than outbound, crossings does not diminish the survey's accuracy.

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[145] For the purpose of this rule, a pleasure boat is defined as any documented vessel with a pleasure license endorsement, as well as any undocumented American pleasure vessel, used exclusively for pleasure and not for the transportation of persons or property for compensation or hire. This includes small pleasure vessels arriving in the United States from an inland waterway connecting to a foreign port or place within 12 miles of the shoreline. Because the CBP data records of pleasure boat entries do not entirely correspond to BTS POE definitions, data for all pleasure boats entering the U.S. via southern border routes is included in these estimates. CBP has indicated that the process for documenting pleasure vessels is currently being restructured to ensure better tracking of pleasure boats and passengers.

U.S. Customs and Border Protection, Office of Field Operations, *Pleasure Boats Information*, as viewed at http://www.cbp.gov/linkhandler/cgov/toolbox/publications/travel/pleasureboats.ctt/pleasureboats.doc on March 15, 2006.

[146] Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

California

- **San Diego Association of Governments:** In January 2006, the San Diego Association of Governments (SANDAG) and California Department of Transportation published a report titled *Economic Impacts of Border Wait Times at the San Diego-Baja California Border.*[147] The report is based on a survey of 3,603 U.S. and Mexican travelers conducted at the San Ysidro, Otay Mesa, and Tecate POEs in late 2004 and early 2005. The survey asked about the traveler's country of residence, trip purpose, crossing frequency, and trip spending. All respondents entered the United States by POV, bus, or foot. POV respondents included both drivers and passengers. The surveys were conducted on weekdays and weekends at peak and off-peak crossing hours. On each survey day, every n^{th} individual was surveyed in order to obtain a random sampling of travelers. SANDAG combined and weighted the data from all survey days according to the proportion of total crossings occurring under the conditions on the survey day.[148] For this analysis, we obtained the raw survey data and developed distributions that show the percentage of crossings attributed to travelers at different crossing frequencies.

- **San Diego Dialogue:** In April 1994, San Diego Dialogue, a public policy center at the University of California, San Diego, published a report titled *Who Crosses the Border: A View of the San Diego/Tijuana Metropolitan Region.*[149] The report is based on a survey of 5,663 U.S. and Mexican travelers conducted at the Otay Mesa and San Ysidro POEs during the summer of 1992. The survey asked questions about the traveler's nationality, trip purpose, crossing frequency, and trip destination. Survey respondents were traveling by either POV or foot. POV respondents included both drivers and passengers. Bus passengers were not surveyed. A random sampling of travelers was obtained by moving interviewers into an adjacent lane after each completed interview. Surveys were conducted at all hours of the day and on all days of the week in order to capture hourly and daily changes in border traffic flows. Results were weighted by the border wait time at the time and date of the survey. Results obtained during longer wait times were weighted more heavily, because longer wait times correspond to greater traffic volume.

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[147] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

[148] For example, if 15 percent of annual northbound crossings occur at Otay Mesa on weekdays at off-peak hours, then the weekday, off-peak hours survey data from Otay Mesa are weighted to constitute only 15 percent of the combined survey data for that POE.

[149] San Diego Dialogue, *Who Crosses the Border: A View of the San Diego/Tijuana Metropolitan Region,* April 1994.

- **University of Texas-Pan American:** Suad Ghaddar, Chad Richardson, and Cynthia Brown of the Center of Border Economic Studies at the University of Texas-Pan American published in May 2004 a report titled *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*.[150] The report is based on a survey conducted in December 2003 of 920 Mexican visitors to three cities in Texas: McAllen, Brownsville, and Weslaco. The survey asked questions about the visitor's length of stay and trip spending. All respondents had crossed the border by POV, bus, or foot. Eighty percent of the surveys were administered in McAllen. Despite the concentration of the survey in a single location, the authors consider their sample representative of Mexican travelers at the five nearest POEs (Brownsville-Matamoros, Hidalgo, Rio Grande City, Progreso, and Roma) because the distribution of respondents by mode of travel approximates the actual distribution at the other POEs.

U.S. UNIQUE TRAVELERS RETURNING FROM MEXICO

Step 1. Determine Annual Inbound Crossings [U.S.-Mexico]

As described in Chapter 3, each year BTS collects data on the number of inbound crossings from Mexico into the United States by POE and by mode of transport. Some POEs in the dataset are a sum of entries at multiple, smaller crossing points.

Exhibit 4-1 presents the number of inbound crossings in 2004 at the 25 Mexican border POEs by all individuals traveling via POV, bus, foot, pleasure boat, ferry, truck, and train.[151] It is important to note that the numbers in Exhibit 4-1 represent total crossings, not unique travelers. In other words, an individual who crosses the border ten times per year appears as ten crossings. The BTS data also includes travelers from all nationalities. That is, BTS data do not distinguish between crossings by U.S. travelers versus crossings by Mexican travelers.

As shown in Exhibit 4-1, in 2004 there were approximately 247 million crossings into the United States through southern border POEs. Fifty percent of these crossings occurred in Texas, 35 percent in California, 14 percent in Arizona, and less than one percent in New Mexico. Commercial trucks accounted for slightly less than two percent of total crossings. The five POEs with the highest annual crossings are: San Ysidro, El Paso, Laredo, Brownsville-Matamoros, and Hidalgo.[152] Laredo has, by a large margin, the highest number of commercial truck crossings.

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[150] Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

[151] BTS reports crossings by passengers for POVs, buses, and trains. However, BTS does not track the number of individuals in each commercial truck entering the United States. We assume one person (the driver) per truck crossing.

[152] U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

EXHIBIT 4-1   INBOUND CROSSINGS FROM MEXICO BY POE FOR ALL NATIONALITIES, 2004

POE	POV, BUS, FOOT, TRAIN	TRUCKS	TOTAL CROSSINGS	PERCENT OF TOTAL
TEXAS				
El Paso	36,817,168	719,545	37,536,713	15.2%
Laredo	20,346,139	1,391,850	21,737,989	8.8
Brownsville - Matamoros	18,337,247	226,289	18,563,536	7.5
Hidalgo	18,176,248	454,351	18,630,599	7.5
Eagle Pass	9,117,400	100,100	9,217,500	3.7
Del Rio	4,413,737	64,061	4,477,798	1.8
Progreso	4,138,426	23,064	4,161,490	1.7
Roma	3,120,057	8,510	3,128,567	1.3
Rio Grande City	2,492,333	40,815	2,533,148	1.0
Presidio	1,747,678	7,433	1,755,111	0.7
Fabens	1,420,971	0	1,420,971	0.6
Texas Total	**120,127,404**	**3,036,018**	**123,163,422**	**49.9%**
CALIFORNIA				
San Ysidro	43,873,444	726,164	44,599,608	18.1
Calexico West	15,482,051	0	15,482,051	6.3
Otay Mesa	13,611,857	0	13,611,857	5.5
Calexico East	6,375,913	312,227	6,688,140	2.7
Andrade	3,600,973	2,697	3,603,670	1.5
Tecate	2,964,325	69,670	3,033,995	1.2
California Total	**85,908,563**	**1,110,758**	**87,019,321**	**35.2%**
ARIZONA				
Nogales East (DeConcini)	16,238,570	247,553	16,486,123	6.7
San Luis	9,674,079	41,184	9,715,263	3.9
Douglas	5,003,427	28,146	5,031,573	2.0
Naco	2,226,748	5,131	2,231,879	0.9
Lukeville	1,263,722	636	1,264,358	0.5
Sasabe	104,282	546	104,828	0.0
Arizona Total	**34,510,828**	**323,196**	**34,834,024**	**14.1%**
NEW MEXICO				
Columbus	1,329,435	4,531	1,333,966	0.5
Santa Teresa	550,234	29,185	579,419	0.2
New Mexico Total	**1,879,669**	**33,716**	**1,913,385**	**0.8%**
MULTIPLE STATES				
Pleasure Boats	-	-	21,040	0.0%
Border Total	**242,426,464**	**4,503,688**	**246,951,192**	**100.0%**

Note: Totals may not sum due to rounding.

Sources: U.S. Department of Transportation, Bureau of Transportation Statistics, *TranStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov/ on October 9, 2006; and personal communication with U.S. Customs and Border Protection on April 6, 2006.

Exhibit 4-2 summarizes how we translated the BTS data provided by travel mode at each POE into the number of total crossings.

EXHIBIT 4-2   TRAVEL MODE TRANSLATION TO CROSSINGS

TRAVEL MODE	CALCULATION FROM BTS DATA
Truck Drivers	Sum of Trucks
Bus Driver	Sum of Buses
Bus Passengers	Sum of Bus Passengers minus Sum of Buses
Train Driver	Sum of Trains
Train Passengers	Sum of Train Passengers minus Sum of Trains
Passenger Vehicle Driver and Passengers	Sum of POV Passengers
Pedestrians	Sum of Pedestrians
Total People Crossings	**Sum of Truck Drivers, Bus Drivers, Bus Passengers, Train Driver, Train Passengers, Passenger Vehicle Driver and Passengers, and Pedestrians**

Sources: IEc Analysis; U.S. Department of Transportation, Bureau of Transportation Statistics, *TranStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov/ on October 9, 2006.

Step 2. Calculate the Number of Crossings by U.S. Travelers [U.S.-Mexico]

To estimate the number of crossings by U.S. travelers, we rely on survey research. The SANDAG survey in California found that U.S. residents comprise 29.3 percent of crossings at San Ysidro, Otay Mesa, and Tecate.[153] This portion of total inbound crossings would include crossings by LPRs in the United States (individuals who are not U.S. citizens). Because there is a large number of Mexican citizens who have gained lawful permanent residence in the United States, using the surveyed percentage of "U.S. residents" to calculate the percent of travelers that are U.S. citizens may overestimate the number of inbound crossings by U.S. citizens.[154] However, the 1994 San Diego Dialogue survey obtained a similar percentage when it asked respondents whether they were U.S. *citizens*, suggesting that the estimate may include few LPRs, and does not significantly overstate citizen crossings.[155] Thus, we assume that 29.3 percent of crossings at California POEs are made by U.S. citizens.

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[153] The SANDAG survey asked, "Do you live in Mexico or the United States or are you visiting from another country?" As a result, it is not possible to determine whether respondents are U.S. citizens or lawful permanent residents (LPRs).

[154] LPRs were not included in the Intelligence Reform and Terrorism Prevention Act (IRTPA); therefore, rules to implement WHTI do not affect LPRs. Thus, these foreign nationals incur no costs as a result of this final rule.

[155] The 1994 San Diego Dialogue survey asked travelers for their country of citizenship, rather than residence, and found that U.S. citizens comprise 29 percent of crossings at Otay Mesa and San Ysidro. As the San Diego Dialogue study reports fewer significant digits, it is not possible to determine a difference between the share of crossings by U.S. residents and the share of crossings by U.S. citizens. Assuming the overall composition of travelers did not change significantly between 1994 and 2004, the similar results suggest the share of crossings by U.S. *residents* and the share of crossings by U.S. *citizens* differ very little.

In Texas, Ghaddar *et al.* cite a CBP estimate that Mexican visa holders account for 43 percent of crossings at the lower Rio Grande Valley POEs, which include Brownsville-Matamoros, Hidalgo, Rio Grande City, Progreso, and Roma (Mexican visa holders include Mexican citizens residing in the United States).[156] Therefore, U.S. citizens and citizens of countries other than Mexico account for the remaining 57 percent of crossings in the lower Rio Grande Valley. The 1994 San Diego Dialogue survey indicates that the number of travelers from countries other than the United States or Mexico is small (two percent). Thus, although a slight overestimate of crossings by U.S. citizens, we assume that U.S. citizens comprise 57 percent of crossings in Texas.

It is not entirely clear why the percentage of U.S. citizens making crossings in Texas is significantly higher than the roughly 30 percent reported for California by SANDAG. The difference may be due to the high concentration of *maquiladora* plants on the Texas border. These plants typically employ U.S. citizens in management and engineering positions. Sixty-three percent of *maquiladora* employment on the Mexican border is located in Mexico across the Texas border, twice the percentage in Mexico near the California border.[157]

Charney and Pavlakovich-Kochi report that Mexican citizens, regardless of their country of residence, constitute between 26.6 percent and 79.8 percent of crossings into Arizona, depending on the POE. Therefore, U.S. citizens and citizens of countries other than Mexico account for the remaining 20.2 percent to 73.5 percent of crossings.[158] These percentages likely overestimate crossings by U.S. citizens. However, as we conclude above, citizens of countries other than Mexico and the United States account for a small percentage of total inbound crossings.

We did not find any surveys of the nationality of travelers crossing at the New Mexico border. Consequently, we use the average U.S. citizen share of crossings across all Arizona POEs to estimate U.S. citizen crossings at the two New Mexico POEs (33.2 percent). The percentage of crossings by U.S. citizens in Arizona is likely similar to the percentage in New Mexico because the border region in the two states is quite similar. Furthermore, total crossings at the Arizona and New Mexico border are small compared to the California and Texas border. Arizona accounts for 14 percent of total inbound crossings along the Mexican border, while New Mexico accounts for less than one percent.[159]

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[156] Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

[157] Instituto Nacional de Estadística, Geografía, e Informática (INEGI), *Estadísticas Económicas: Indústria Maquiladora de Exportación*, as viewed at http://www.inegi.gob.mx/est/default.asp?c=1795 on June 27, 2006.

[158] Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

[159] As total crossings at Columbus and Santa Teresa, New Mexico, are similar in magnitude to Lukeville and Sasabe, Arizona, respectively, we considered making a city-specific transfer. However, we opted against this method, because U.S. travelers account for an unusually high (73 percent) of crossings at Lukeville.

Little data exist to characterize pleasure boat crossings. Thus, we assume that 50 percent of pleasure boat travelers crossing into the United States are U.S. citizens.

Exhibit 4-3 presents our estimates of inbound U.S. crossings by mode of transport using the assumptions described above. We estimate that U.S. travelers accounted for approximately 105.2 million crossings along the entire U.S-Mexico border in 2004, or about 43 percent of total crossings that year. POVs are the dominant mode of travel at U.S.-Mexico POEs. Crossings by foot comprise less than twenty percent of crossings at all southern border POEs except for El Paso, Laredo, Progreso, San Ysidro, Calexico West, Andrade, Nogales East (DeConcini), and San Luis, where crossings by foot are as high as 54 percent of total crossings at the POE. Crossings by bus comprise less than two percent of crossings at all southern border POEs except for Laredo, Hidalgo, and San Ysidro, where crossings by bus are as high as four percent. Crossings by train are minimal along the entire U.S.-Mexico border.[160]

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[160] U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

EXHIBIT 4-3 U.S. TRAVELER INBOUND CROSSINGS FROM MEXICO, 2004

POE	PERCENT U.S. CROSSINGS	CROSSINGS BY U.S. TRAVELERS (THOUSANDS)					
		ALL MODES	POV	FOOT	COMMERCIAL TRUCK	BUS	TRAIN
TEXAS							
El Paso	57%	21,396	16,022	4,812	410	151	1
Laredo	57	12,389	8,569	2,569	793	458	2
Brownsville - Matamoros	57	10,581	8,763	1,656	129	32	1
Hidalgo	57	10,619	8,843	1,147	259	371	0
Eagle Pass	57	5,254	4,785	400	57	8	4
Del Rio	57	2,552	2,459	57	37	0	0
Progreso	57	2,372	1,547	804	13	9	0
Roma	57	1,783	1,611	145	5	22	0
Rio Grande City	57	1,444	1,381	39	23	0	0
Presidio	57	1,000	982	11	4	2	0
Fabens	57	810	799	11	0	0	0
Texas Total		**70,203**	**55,762**	**11,651**	**1,731**	**1,052**	**8**
CALIFORNIA							
San Ysidro	29.3%	13,068	9,781	2,771	213	302	0
Calexico West	29.3	4,536	3,111	1,420	0	5	0
Otay Mesa	29.3	3,988	3,469	445	0	74	0
Calexico East	29.3	1,960	1,864	1	91	3	0
Andrade	29.3	1,056	484	570	1	0	0
Tecate	29.3	889	743	124	20	2	0
California Total		**25,497**	**19,453**	**5,332**	**325**	**385**	**1**
ARIZONA							
Nogales East (DeConcini)	20.2%	3,329	2,010	1,238	50	30	0
San Luis	21.8	2,120	1,605	506	9	0	0
Douglas	39.9	2,006	1,763	216	11	16	0
Naco	20.7	462	439	19	1	3	0
Lukeville	73.5	929	849	76	0	4	0
Sasabe	23.4	25	24	1	0	0	0
Arizona Total		**8,870**	**6,690**	**2,054**	**72**	**53**	**0**
NEW MEXICO							
Columbus	33.2%	443	354	82	2	5	0
Santa Teresa	33.2	193	178	5	10	1	0
New Mexico Total		**636**	**532**	**87**	**11**	**6**	**0**
MULTIPLE STATES							
Pleasure Boats	50%	11	-	-	-	-	-
Border Total		**105,216**	**82,438**	**19,124**	**2,139**	**1,497**	**9**

<u>Exhibit 4-3 Continued</u>:
Note: The percent of crossings by U.S. travelers at POEs in New Mexico is the average of the six Arizona POEs. Crossings may not sum due to rounding.
Sources: IEc calculation using BTS crossing data from U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006, as well as data from the following sources: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report,* prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10; Ghaddar, S., C. Richardson, and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004; and Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

Step 3. Estimate the Number of Unique U.S. Travelers [U.S.-Mexico]

California

In order to estimate the number of *unique* U.S. travelers in 2004 from annual inbound crossings, we must determine how often unique travelers cross into the United States each year. The SANDAG survey in California asked U.S. POV, bus, and pedestrian travelers to specify how often they crossed the border in the previous month.[161] Responses ranged from zero to 50 crossings. As respondents were not asked how many times they crossed the border in the past year, we estimate annual crossings by multiplying the single month's crossings by 12. The resulting estimated annual crossings occur at intervals of 12 over a range of one to 600 crossings per unique traveler. We assume that respondents who crossed zero times in the previous month cross only once in the year.

We then use the responses to calculate the percentage of crossings by U.S. travelers crossing once per year, 12 times per year, 24 times per year and so on through 600 times per year. This estimated range of responses clearly reflects both upward and downward error, although the net bias is unknown. For example, a traveler reporting he crossed once in the previous month may never cross again in the year. His actual annual crossings would be two (the one before and the one when he was surveyed), rather than 12. A second traveler reporting one crossing in the previous month may cross multiple times over the ensuing months and ultimately cross more than 12 times in the year.

In short, it is unrealistic to assume the annual crossing frequencies of unique U.S. travelers occur at intervals of 12. Therefore, we interpolate between data points along our estimated annual distribution of crossings in order to determine the percentage of crossings by U.S. travelers who cross at annual frequencies between the intervals of 12. First, we establish a graph where the *x*-axis indicates individuals' reported monthly crossing frequency multiplied by twelve (e.g., 12 trips per year, 24 trips per year, and so on), and the *y*-axis measures percentage of U.S. crossings accomplished at each frequency. The interpolation involves connecting each of the estimated annual crossing data points along the range of responses with a line. By calculating the slope of these lines we can calculate the percentage of U.S. crossings at every annual crossing

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[161] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

frequency on the *x*-axis. Exhibit 4-4 provides the distribution calculated for POV respondents. We also calculate separate frequency distributions, which are not shown, for bus and pedestrian respondents.

Exhibit 4-3 shows that U.S. POV travelers made 19.5 million inbound crossings at California POEs in 2004. Our interpolated frequency distribution shown in Exhibit 4-4 indicates that U.S. POV travelers, for example, who cross five times per year account for approximately 0.7 percent of U.S. POV crossings in California (136,171 of 19,453,000 crossings). We then divide these crossings by five, because each POV traveler made five crossings in the year. The result is an estimated 27,234 unique U.S. travelers who cross the border into California in a POV five times per year. We repeat this calculation for U.S. POV travelers at all annual crossing frequencies between one and 600 shown in Exhibit 4-4. Summing across frequencies gives an estimate of 683,924 unique U.S. POV travelers in California.

We follow the same algorithm to calculate unique U.S. travelers by the other modes of travel, including bus, foot, train, and commercial truck. For bus and pedestrian crossings, we use the SANDAG frequency data specific to bus and pedestrian travelers. For train and truck crossings, we use the SANDAG frequency data aggregated across all modes of travel, because train and truck travelers were not interviewed.[162]

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[162] The lack of frequency data specific to train travelers does not significantly affect our estimates of unique U.S. travelers. Train crossings occur at only six southern border POEs, and U.S. train crossings represent a few thousandths of a percent to a few hundredths of a percent of U.S. crossings at those POEs.

EXHIBIT 4-4   DISTRIBUTION OF U.S. CROSSINGS INTO CALIFORNIA BY ANNUAL CROSSING FREQUENCY OF UNIQUE U.S. POV
               TRAVELERS
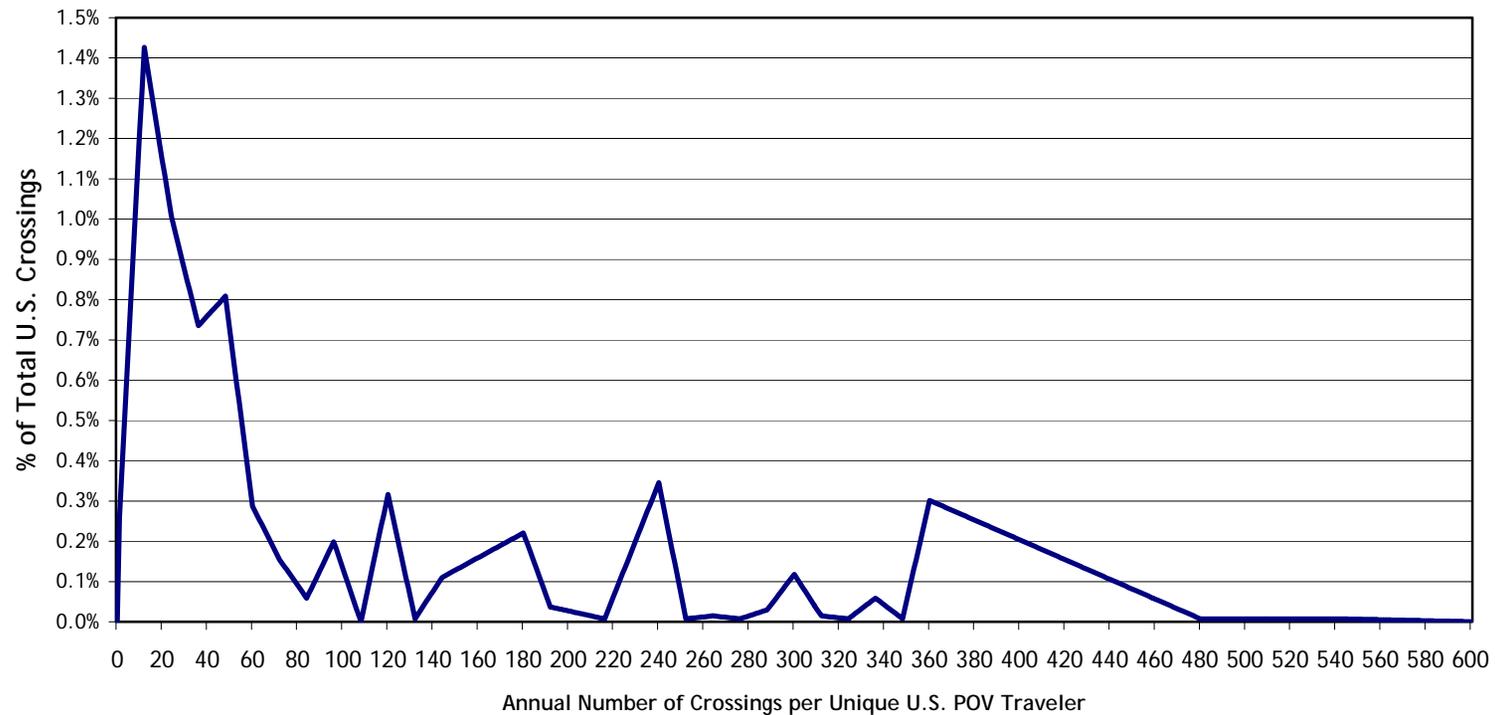
Note: This chart presents the interpolated crossing frequency distribution for SANDAG survey respondents traveling by POV. The SANDAG survey also collected data that allowed IEc to interpolate distinct frequency distributions for pedestrian and bus travelers (not shown).

Source: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006.

Texas

To estimate unique U.S. travelers in Texas, we use crossing frequency data from the DOS BearingPoint survey conducted in July 2005. U.S. POV and pedestrian travelers at El Paso, Eagle Pass, and Hidalgo were asked to select from nine options describing their crossing frequency ranging from every day to "first time." Exhibit 4-5 shows the distribution of crossings at each frequency level for the three surveyed POEs. Due to the limited number of pedestrian respondents, we only calculate a frequency distribution for POV travelers, which we apply to all crossings in Texas regardless of travel mode.

EXHIBIT 4-5   DISTRIBUTION OF U.S. CROSSINGS INTO TEXAS BY ANNUAL CROSSING FREQUENCY OF UNIQUE U.S. TRAVELERS

FREQUENCY	CROSSINGS PER YEAR	PERCENT OF U.S. CROSSINGS			
		EAGLE PASS	EL PASO	HIDALGO	AVERAGE
Every day	240	18%	18%	23%	19%
2-3 times per week	130	18	23	23	22
Once a week	52	10	15	18	15
2-3 times per month	30	13	14	13	13
Once a month	12	19	13	11	13
Once in 6 months	2	12	8	8	9
Once a year	1	5	5	3	5
Once in several years	1	4	3	0	3
First time	1	0	1	1	1
Total		100%	100%	100%	100%

Note: Crossings by frequent travelers are likely underrepresented in the distributions developed from DOS BearingPoint data. The survey was administered each day between 8 am and 5 pm, missing cross-border commuters who leave for work earlier in the day and return later. As a result, these frequency distributions may overestimate the number of unique U.S. travelers in Texas. Also, totals may not sum due to rounding.

Source: U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

Arizona and New Mexico

We use the SANDAG crossing frequency data from California to estimate unique U.S. travelers crossing from Mexico into Arizona and New Mexico, because frequency data specific to U.S. travelers in these states do not exist. The survey in Arizona by Charney and Pavlakovich-Kochi included questions about crossing frequency; however, Mexican travelers, rather than U.S. travelers, were interviewed.

The border region in Arizona and New Mexico is more rural than in California and Texas. Tucson, Arizona, and Las Cruces, New Mexico, the closest U.S. cities to the

border, do not constitute cross-border metropolitan areas with Mexican cities. Nonetheless, both cities are about 60 miles from the border, so relatively frequent travel between the two cities and Mexico is possible. Although the California frequency data is not ideal for the Arizona and New Mexico calculations, the crossing volume for the two states is relatively low (14 percent of total U.S.-Mexico crossings occur in Arizona, while less than one percent occur in New Mexico). Thus, we apply the California frequency data to the Arizona and New Mexico crossings.

Exhibit 4-6 presents the results of our unique traveler estimates. Our best estimate is that approximately 11.6 million U.S. unique travelers crossed the U.S.-Mexico border in 2004.

Pleasure Boats

As shown in Exhibit 4-3, we assume that U.S. citizens at the Mexican border made approximately 11,000 pleasure boat crossings in 2004. With no survey data on pleasure boat travelers to supplement this crossings figure, we make a simplifying assumption to estimate the number of unique U.S. pleasure boat travelers. We assume that each pleasure boat traveler enters the United States once per year. Therefore, we estimate that 11,000 crossings were made by 11,000 unique U.S. travelers.

Sensitivity Test

The annual crossing frequency of U.S. travelers is the primary basis for our unique U.S. traveler calculations. However, both sources of crossing frequency data, the SANDAG and DOS BearingPoint surveys, have limitations. SANDAG conducted a comprehensive survey of travelers crossing the border at all hours of the day; however, frequency data are reported for a single month, rather than on an annual basis. As a result, in order to perform our analysis, we convert crossing frequency to an estimate and then interpolate between data points. Conversely, the BearingPoint survey likely under-represents frequent commuters because interviews were held between 8 am and 5 pm, missing peak rush hours. As a result, travelers with higher annual travel frequencies are not reported, likely resulting in an upwards bias in our estimate of unique travelers. To evaluate the importance of these sources of uncertainty in this analysis, we conduct a sensitivity test of the effects of annual crossing frequency on our unique U.S. traveler estimates.

We calculate a low estimate of unique U.S. travelers at the southern border by increasing annual crossings per unique traveler at each frequency level by 25 percent. Increasing annual crossing frequency results in a lower unique traveler estimate due to the inverse relationship between crossing frequency and unique travelers. If travelers cross more frequently on average, fewer unique travelers are necessary to generate the recorded number of crossings at each POE. Conversely, we calculate a high estimate of unique U.S. travelers at the southern border by decreasing annual crossings per unique traveler at each frequency level by 25 percent. Exhibit 4-6 summarizes our low, high and best estimates of unique U.S. travelers for each POE on the U.S.-Mexico border. We carry this range of estimates through the rest of the calculations in this chapter.

EXHIBIT 4-6   ESTIMATED UNIQUE U.S. TRAVELERS CROSSING THE U.S.-MEXICO BORDER, 2004

POE	UNIQUE U.S. TRAVELERS (2004)		
	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE
TEXAS			
El Paso	2,736,000	3,420,000	4,560,000
Laredo	1,452,000	1,815,000	2,421,000
Brownsville - Matamoros	1,240,000	1,550,000	2,067,000
Hidalgo	895,000	1,119,000	1,492,000
Eagle Pass	737,000	922,000	1,229,000
Del Rio	299,000	374,000	499,000
Progreso	278,000	348,000	463,000
Roma	209,000	261,000	348,000
Rio Grande City	169,000	212,000	282,000
Presidio	117,000	147,000	195,000
Fabens	95,000	119,000	158,000
Texas Total	**8,229,000**	**10,286,000**	**13,715,000**
CALIFORNIA			
San Ysidro	392,000	490,000	653,000
Calexico West	139,000	174,000	232,000
Otay Mesa	116,000	145,000	194,000
Calexico East	55,000	69,000	92,000
Andrade	34,000	43,000	57,000
Tecate	26,000	33,000	43,000
California Total	**763,000**	**953,000**	**1,271,000**
ARIZONA			
Nogales East (DeConcini)	104,000	130,000	173,000
San Luis	64,000	80,000	106,000
Douglas	58,000	73,000	97,000
Lukeville	27,000	33,000	45,000
Naco	13,000	16,000	22,000
Sasabe	1,000	1,000	1,000
Arizona Total	**266,000**	**333,000**	**444,000**
NEW MEXICO			
Columbus	13,000	16,000	22,000
Santa Teresa	5,000	7,000	9,000
New Mexico Total	**19,000**	**23,000**	**31,000**
MULTIPLE STATES			
Pleasure Boats	5,000	5,000	5,000
Border Total	**9,282,000**	**11,601,000**	**15,466,000**

Note: The best estimate relies on crossing frequency estimates obtained from the SANDAG and DOS BearingPoint surveys. The low and high estimates are calculated by increasing and decreasing annual crossing frequencies of all U.S. travelers by 25 percent. Totals may not sum due to rounding.
Source: IEc analysis.

Step 4. Identify the Number of Unique U.S. Travelers without Passport Books [U.S.-Mexico]

Next, we calculate the number of unique U.S. travelers who do not possess passport books. Because CBP does not track the document types individuals use to cross the border, we use the DOS BearingPoint survey data as a basis for estimating the number of travelers without passport books.

The DOS BearingPoint survey, which was administered at four POEs in California and three POEs in Texas, asked U.S. travelers whether they possess a valid U.S. passport.[163] For these seven POEs, we multiply our unique U.S. traveler estimates by the percentage of BearingPoint survey respondents who did not possess a valid U.S. passport. For the remaining POEs in California, we use the average BearingPoint response across the four California survey sites. Similarly, for the remaining POEs in Texas, we use the average BearingPoint response across the three Texas survey sites.

Given Arizona's proximity to California, we assume that U.S. travelers in Arizona hold passport books at the same rate as the California average. The two POEs in New Mexico (Columbus and Santa Teresa) are relatively close to El Paso, Texas (80 miles and 13 miles, respectively). Therefore, we use El Paso's percentage of U.S. travelers without passport books for these POEs.

Exhibit 4-7 presents our estimates of unique U.S. travelers at the southern border who do not possess passport books. Our best estimate is that 8.4 million U.S. unique travelers who crossed the southern border in 2004 did not have passport books. The percentage of U.S. travelers without passport books averages 74 percent in Texas, 59 percent in California and Arizona, and 72 percent in New Mexico.[164] The estimated number of U.S. travelers in Texas without passport books account for 83 percent of travelers without passport books across the entire southern border. Although the largest number of annual crossings occurs at San Ysidro, there are fewer U.S. travelers without passport books at San Ysidro than the five largest Texas POEs. This is partly due to the generally lower rates of passport possession among U.S. travelers in Texas as compared to U.S. travelers in the other southern border states. Also, there is a greater share of crossings attributed to U.S. travelers in Texas compared to U.S. travelers in the other states.

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[163] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

[164] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4*, U.S. Land Border Passport Demand Survey, prepared by BearingPoint, October 5, 2005.

EXHIBIT 4-7   ESTIMATED UNIQUE U.S. TRAVELERS WITHOUT PASSPORT BOOKS

POE	PERCENT OF U.S. TRAVELERS WITHOUT PASSPORT BOOKS	UNIQUE U.S. TRAVELERS WITHOUT PASSPORT BOOKS		
		LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE
TEXAS				
El Paso	71.5%	1,956,000	2,445,000	3,261,000
Laredo	74.1	1,076,000	1,345,000	1,794,000
Brownsville - Matamoros	74.1	919,000	1,149,000	1,532,000
Hidalgo	74.3	665,000	832,000	1,109,000
Eagle Pass	84.2	621,000	776,000	1,035,000
Del Rio	74.1	222,000	277,000	369,000
Progreso	74.1	206,000	258,000	343,000
Roma	74.1	155,000	194,000	258,000
Rio Grande City	74.1	125,000	157,000	209,000
Presidio	74.1	87,000	109,000	145,000
Fabens	74.1	70,000	88,000	117,000
Texas Total		**6,103,000**	**7,629,000**	**10,172,000**
CALIFORNIA				
San Ysidro	55.8%	219,000	273,000	365,000
Calexico West	68.6	95,000	119,000	159,000
Otay Mesa	55.8	65,000	81,000	108,000
Calexico East	61.7	34,000	43,000	57,000
Andrade	59.4	25,000	25,000	34,000
Tecate	59.0	15,000	19,000	26,000
California Total		**454,000**	**561,000**	**748,000**
ARIZONA				
Nogales East (DeConcini)	59.4%	62,000	77,000	103,000
San Luis	59.4	38,000	47,000	63,000
Douglas	59.4	35,000	43,000	58,000
Lukeville	59.4	16,000	20,000	26,000
Naco	59.4	8,000	10,000	13,000
Sasabe	59.4	0	1,000	1,000
Arizona Total		**158,000**	**198,000**	**263,000**
NEW MEXICO				
Columbus	71.5%	9,000	12,000	16,000
Santa Teresa	71.5	4,000	5,000	7,000
New Mexico Total		**13,000**	**17,000**	**22,000**
MULTIPLE STATES				
Pleasure Boats	50.0%	3,000	3,000	3,000
Border Total		**6,731,000**	**8,407,000**	**11,208,000**

Note: Low and high estimates calculated by increasing and decreasing annual crossing frequencies of all U.S. travelers by 25 percent. Estimates may not sum due to rounding.

Source: IEc analysis. As explained in the previous paragraphs, percent of U.S. travelers without passport books obtained from U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

Step 5. Identify the Number of Unique U.S. Travelers without Passport Books who are Adults (Age 16 And Older) and Children (Under Age 16) [U.S.-Mexico]

As the cost of obtaining acceptable documentation, including passport books, differs for adults and children, we separate the number of unique child U.S. travelers (individuals under age 16) from the number of unique adult U.S. travelers. We were unable to find surveys with responses from both children and adults to provide comprehensive data on traveler age. [165] Therefore, we first assume all unique truck, bus, train, and POV drivers are adults. We then assume that the age distribution among the remaining unique U.S. travelers, including passengers and pedestrians, is the same as the age distribution among the population of the state in which the traveler is crossing. The specific age distribution we apply is shown in Exhibit 4-8. Exhibit 4-9 presents our estimates of unique adult and children U.S. travelers. Our best estimate is that 7,147,000 unique adult travelers and 1,259,000 unique child travelers crossed the southern border in 2004 without passport books.

EXHIBIT 4-8   AGE DISTRIBUTION OF STATE POPULATION, 2004

STATE	PERCENT OF POPULATION UNDER 16	PERCENT OF POPULATION 16 AND OVER
Texas	24.9%	75.1%
California	23.9	76.1
Arizona	24.2	75.9
New Mexico	22.8	77.2
Average	23.9	76.1

Note: Percentages may not sum to 100 due to rounding.
Source: U.S. Census Bureau, *American Community Survey*, as viewed at http://www.census.gov/acs/www/ on July 15, 2006.

[165] Recent border crossing surveys do not provide extensive information on the age distribution of U.S. travelers. The SANDAG survey in California asked travelers for their year of birth (San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10). However, no respondents reported an age under 17. The Arizona survey asked for the ages of all travelers in the respondent's party; however, survey respondents only included Mexican travelers (Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002). The survey results indicate that children and adolescents represent between 16.8 and 32.6 percent of Mexican travelers to Arizona, depending on the POE. Across all Arizona POEs, children and adolescents represent on average 26.8 percent of Mexican travelers. Nonetheless, the distribution of children versus adults may not be the same for U.S. and Mexican travelers.

EXHIBIT 4-9   ESTIMATED UNIQUE U.S. CHILD AND ADULT TRAVELERS CROSSING FROM MEXICO INTO THE UNITED STATES IN 2004 WITHOUT PASSPORT BOOKS

POE	ADULTS			CHILDREN		
	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE
TEXAS						
El Paso	1,671,000	2,089,000	2,785,000	285,000	356,000	475,000
Laredo	909,000	1,136,000	1,515,000	167,000	209,000	279,000
Brownsville - Matamoros	782,000	978,000	1,303,000	137,000	171,000	228,000
Hidalgo	568,000	710,000	947,000	97,000	122,000	162,000
Eagle Pass	528,000	660,000	880,000	93,000	116,000	155,000
Del Rio	190,000	238,000	317,000	31,000	39,000	52,000
Progreso	169,000	211,000	281,000	37,000	46,000	62,000
Roma	132,000	164,000	219,000	23,000	29,000	39,000
Rio Grande City	103,000	129,000	172,000	22,000	28,000	37,000
Presidio	74,000	93,000	124,000	13,000	16,000	21,000
Fabens	61,000	76,000	101,000	9,000	12,000	16,000
Texas Total	5,187,000	6,484,000	8,646,000	916,000	1,145,000	1,526,000
CALIFORNIA						
San Ysidro	188,000	235,000	314,000	31,000	38,000	51,000
Calexico West	81,000	101,000	135,000	14,000	18,000	24,000
Otay Mesa	56,000	71,000	94,000	8,000	10,000	14,000
Calexico East	30,000	38,000	50,000	4,000	5,000	7,000
Andrade	21,000	21,000	28,000	5,000	5,000	6,000
Tecate	13,000	16,000	22,000	2,000	3,000	4,000
California Total	390,000	482,000	642,000	64,000	79,000	106,000
ARIZONA						
Nogales East (DeConcini)	50,000	63,000	84,000	11,000	14,000	19,000
San Luis	32,000	40,000	54,000	6,000	7,000	9,000
Douglas	30,000	37,000	50,000	5,000	6,000	8,000
Lukeville	13,000	17,000	22,000	3,000	3,000	4,000
Naco	6,000	8,000	10,000	2,000	2,000	3,000
Sasabe	0	0	1,000	0	0	0
Arizona Total	132,000	165,000	220,000	26,000	33,000	43,000
NEW MEXICO						
Columbus	8,000	10,000	13,000	2,000	2,000	3,000
Santa Teresa	3,000	4,000	6,000	0	1,000	1,000
New Mexico Total	11,000	14,000	19,000	2,000	3,000	3,000
MULTIPLE STATES						
Pleasure Boats	2,000	2,000	2,000	1,000	1,000	1,000
Border Total	5,722,000	7,147,000	9,529,000	1,009,000	1,259,000	1,679,000

Note: Low and high estimates calculated by increasing and decreasing annual crossing frequencies of all U.S. travelers by 25 percent. Estimates may not sum due to rounding.
Source: IEc analysis.

Step 6. Estimate the Number of Travelers from Step 5 who Cross at Multiple POEs [U.S.-Mexico]

Survey data, as well as common sense, indicate that some U.S. travelers cross into the United States through more than one POE during a year. Therefore, to the extent that travelers cross at multiple POEs, our unique traveler estimates are overstated. In this step of the analysis, we account for potential double-counting of travelers who travel through multiple POEs, reducing our overall estimates of unique travelers.

The DOS BearingPoint survey asked U.S. travelers how often they cross the border by land at "other locations."[166] These data provide some insight into the likelihood that a unique traveler crosses at more than one POE. Specifically, 62 percent of surveyed U.S. travelers reported that they cross the U.S.-Mexico border at multiple POEs.

In this analysis, we make several assumptions. First, we assume that if a traveler crosses the border at more than one POE, then he or she crosses at only one other POE. Second, we assume that a traveler uses the second POE at the same frequency as the primary POE. These assumptions are designed to produce a conservative reduction in the number of unique travelers while taking this factor into account.

We do not have data on which specific primary and secondary POEs are used by individual unique travelers. Therefore, we develop the multiple POE adjustment using the DOS BearingPoint study data for surveyed POEs. We then develop a border-wide estimate of double-counted travelers using an average that is weighted by the number of crossings at each of the surveyed POEs. Lastly, we reduce the number of unique travelers at each POE from Step 5 to take into account the double-counted travelers border-wide. For the U.S-Mexico border, we estimate that 32 percent of travelers are double-counted because they use multiple POEs. Exhibit 4-10 shows the result of our adjustment to the range of our unique traveler estimates. We derive a best estimate of 4.8 million unique U.S. adult travelers and 852,000 unique children crossing without passports in 2004.

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[166] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

EXHIBIT 4-10 ESTIMATED UNIQUE U.S. TRAVELERS CROSSING FROM MEXICO INTO THE UNITED STATES
WITHOUT PASSPORTS ACCOUNTING FOR ENTRY THROUGH MULTIPLE POES

POE	ADULTS			CHILDREN		
	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE
TEXAS						
El Paso	1,131,000	1,413,000	1,885,000	193,000	241,000	322,000
Laredo	615,000	769,000	1,025,000	113,000	142,000	189,000
Brownsville - Matamoros	529,000	661,000	882,000	93,000	116,000	154,000
Hidalgo	384,000	480,000	640,000	66,000	82,000	110,000
Eagle Pass	357,000	447,000	596,000	63,000	78,000	105,000
Del Rio	129,000	161,000	215,000	21,000	26,000	35,000
Progreso	114,000	143,000	190,000	25,000	31,000	42,000
Roma	89,000	111,000	148,000	16,000	20,000	26,000
Rio Grande City	70,000	87,000	116,000	15,000	19,000	25,000
Presidio	50,000	63,000	84,000	9,000	11,000	14,000
Fabens	41,000	51,000	69,000	6,000	8,000	11,000
Texas Total	3,510,000	4,387,000	5,850,000	620,000	774,000	1,033,000
CALIFORNIA						
San Ysidro	127,000	159,000	212,000	21,000	26,000	35,000
Calexico West	55,000	68,000	91,000	10,000	12,000	16,000
Otay Mesa	38,000	48,000	64,000	6,000	7,000	9,000
Calexico East	20,000	26,000	34,000	3,000	3,000	4,000
Andrade	14,000	14,000	19,000	3,000	3,000	4,000
Tecate	9,000	11,000	15,000	1,000	2,000	2,000
California Total	264,000	326,000	435,000	44,000	54,000	71,000
ARIZONA						
Nogales East (DeConcini)	34,000	42,000	57,000	8,000	10,000	13,000
San Luis	22,000	27,000	36,000	4,000	5,000	6,000
Douglas	20,000	25,000	34,000	3,000	4,000	5,000
Lukeville	9,000	11,000	15,000	2,000	2,000	3,000
Naco	4,000	5,000	7,000	1,000	1,000	2,000
Sasabe	0	0	0	0	0	0
Arizona Total	89,000	112,000	149,000	18,000	22,000	29,000
NEW MEXICO						
Columbus	5,000	7,000	9,000	1,000	1,000	2,000
Santa Teresa	2,000	3,000	4,000	0	0	1,000
New Mexico Total	8,000	10,000	13,000	1,000	2,000	2,000
MULTIPLE STATES						
Pleasure Boats	1,000	1,000	1,000	0	0	0
Border Total	3,872,000	4,836,000	6,447,000	682,000	852,000	1,136,000

Note: Low and high estimates calculated by increasing and decreasing annual crossing frequencies of all U.S. travelers by 25 percent. Estimates may not sum due to rounding.
Source: IEc analysis.

Step 7. Identify the Number of Unique Adult U.S. Travelers without Acceptable Documentation who are SENTRI or FAST Participants [U.S.-Mexico]

Participants in SENTRI are permitted to use dedicated lanes at San Ysidro, Otay Mesa, Nogales East (DeConcini), and El Paso.[167] Currently, 61 percent of SENTRI participants are U.S. citizens (56,746) and 37 percent are Mexican citizens (36,281).[168] The FAST program allows pre-screened commercial truck drivers expedited security clearance at fourteen POEs on the southern border. In 2006, 9,640 U.S. truck drivers are enrolled in the program (at both borders). Exhibit 4-11 presents the total number of U.S. citizen participants enrolled in SENTRI and the estimated number of FAST participants that are assumed to utilize the U.S-Mexico border.[169] In addition, the exhibit presents the number of current U.S. citizen participants who applied with documents other than valid U.S. passport books, and thus who are assumed not to possess a passport book.

EXHIBIT 4-11   ESTIMATED NUMBER OF TRUSTED TRAVELER PROGRAM PARTICIPANTS FOR U.S.-MEXICO BORDER

POE	U.S. CITIZEN PARTICIPANTS	
	TOTAL	WITHOUT PASSPORT BOOK
SENTRI	56,746	8,620
FAST	1,240	1,052
Total	**56,746**	**9,672**

Note: The FAST program operates at both the U.S.-Mexico and U.S.-Canada borders, while SENTRI only operates on the U.S.-Mexico border. U.S. participants in FAST were allocated to the two borders based on the distribution between Canadian and Mexican participants in the program (87 percent Canadian, 13 percent Mexican). This allocation of U.S. participants to the two borders does not affect costs, which are calculated for the entire United States.
Source: Personal communication with U.S. Customs and Border Protection on July 14, 2006.

Because the SENTRI and FAST cards are acceptable documents under the second and third regulatory alternatives considered in this analysis, we subtract all U.S. SENTRI and FAST participants from unique U.S. adult travelers without passport books. As a result, the number of unique U.S. adults traveling without acceptable identification under Alternatives 2 and 3 decreases to 4,826,000, while the number of unique U.S. children traveling without acceptable identification under any alternative remains unchanged at 852,000.

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[167] U.S. Customs and Border Protection, *SENTRI Program*, as viewed at http://www.cbp.gov/xp/cgov/travel/frequent_traveler/sentri.xml on March 6, 2006. See earlier discussion in Chapter 2.

[168] Testimony of Stewart Verdery, Assistant Secretary for Border and Transportation Security Policy and Planning, Department of Homeland Security, before Senate Committee on Foreign Relations, as viewed at http://usinfo.state.gov/wh/Archive/2004/Sep/13-944658.html on March 23, 2004.

[169] U.S. participants in FAST were allocated to the two borders based on the distribution between Canadian and Mexican participants in the program (87 percent Canadian, 13 percent Mexican). This allocation of U.S. participants to the two borders does not affect costs, which are calculated for the entire United States.

Summary of Mexico Estimates

Exhibit 4-12 summarizes the results of each step we take to estimate of the number of unique U.S. travelers needing passport books or other acceptable documentation (adults and children). The estimates of adult and child unique travelers resulting from the low and high sensitivity test results (see Step 3) are presented at the end of this chapter.

EXHIBIT 4-12   MEXICO SUMMARY (BEST ESTIMATES)

STEP 1: Total Crossings	Annual northbound crossings from Mexico: 246,951,000
STEP 2: U.S. Crossings	Annual crossings by U.S. travelers: 105,216,000
STEP 3: Unique U.S. Travelers	Unique U.S. travelers: 11,601,000
STEPS 4 & 5: Unique U.S. Travelers without Passports	Unique U.S. travelers without passports: 8,407,000
	Children: 1,259,000 — Adults: 7,147,000
STEP 6: Unique U.S. Travelers with Multiple POE Adjustment	Children: 852,000 — Adults: 4,836,000
STEP 7: Unique U.S. Travelers Net of Trusted Travelers	Children: 852,000 — Adults: 4,826,000

U.S.-CANADA BORDER ANALYSIS   In this section, we estimate the number of unique travelers who crossed the U.S.-Canada border without acceptable documentation in 2004. First, we discuss studies that provide information about crossing frequency, traveler nationality, and other characteristics of travelers crossing the border. Then, we follow the steps presented at the beginning of this chapter and present our results.

DATA SOURCES FOR U.S.-CANADA BORDER ANALYSIS

We conducted an extensive search for border crossing studies on the U.S.-Canada border. Our searches focused primarily on research by local and Federal government agencies and university institutes in the United States and Canada. These searches yielded several survey-based studies of cross-border travelers and several large-scale statistical datasets. Personal communication with study authors and the commissioning agencies confirmed

that the studies obtained were the most accurate and current research available. Many of the studies described below guide policymaking related to infrastructure investment and management decisions relating to improve traffic flow at POEs.

General

- **U.S. Department of State:** The 2005 DOS BearingPoint survey is summarized above in the U.S-Mexico border section of this chapter.[170] Further details of our review and analysis of the data are described in Appendix A.

- **CBP Pleasure Boat Data:** The CBP Office of Field Operations collects data on the number of pleasure boats arriving in the U.S. each year. In 2005, slightly more than 44,000 pleasure boats entered the United States via northern border ports.[171] Data are available by port, although the port names do not always correspond with BTS POE data. We use these data to estimate the number of incoming pleasure boat travelers to the United States in 2004.

Canada

- **Statistics Canada:** Statistics Canada publishes an annual International Travel survey that summarizes characteristics of international travel and trends in travel over that year and recent years.[172] In 2003, 51,300 questionnaires were returned from non-resident travelers entering Canada, and 48,200 questionnaires were returned from Canadian residents. In addition, "frontier counts" are tabulated for each POE, including counts of the number of travelers by selected categories and by type of transportation, as well as the number of cars, trucks, motorcycles, snowmobiles, and bicycles passing through the border. These data are summarized in an annual report. Also reported are estimates of length of travel, states or counties of origin and destination, trip purpose, age and sex of travelers, and spending by foreign travelers and Canadians abroad and in Canada.

- **The Conference Board of Canada:** In July 2005, the Conference Board of Canada conducted an assessment of the potential impact of WHTI documentation requirements on Canada's tourism industry for the Canadian Tourism Commission.[173] The study utilized a customized model called Tourism Risk Impact Projection (TRIP) to help assess the impact of external and policy shocks on the tourism industry. The model incorporates the findings of the April 2005 Travel Intentions study conducted by the Conference Board of

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[170] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

[171] Personal communication with U.S. Customs and Border Protection on April 6, 2006.

[172] Statistics Canada, *International Travel Survey*, 2004.

[173] The Conference Board of Canada, *The Potential Impact of a Western Hemisphere Travel Initiative Passport Requirement on Canada's Tourism Industry*, prepared for the Canadian Tourism Commission, July 2005.

Canada. The study reports that the overall passport possession rate for adult Americans and Canadians is 34 percent and 41 percent, respectively; but higher for cross-border travelers. Specifically, the study finds that Canadian cross-border travelers possess passports at rates of 60 to 70 percent for those crossing at land POEs, and 75 percent for air travelers. U.S. resident cross-border travelers possess passports at rates of 44 to 50 percent for those crossing at land POEs, and 67 percent for air travelers.

- **Ontario Ministry of Tourism and Recreation:** In May 2005, the Ontario Ministry of Tourism, in cooperation with the Ontario Tourism Marketing Partnership Corporation, published a study entitled "Travel Intentions Study Report."[174] This study relies on 5,975 telephone interviews conducted with residents of both the United States and Canada. This study estimates that 33 percent of Americans and 42 percent of Canadians believe that a passport is currently required to travel between Canada and the United States by land. It is estimated that an additional 35 percent of Americans and 48 percent of Canadians are aware of pending WHTI passport requirements, and that 37 percent of Americans hold a passport. This study also estimates passport holdings by age for both Americans and Canadians. These data describe those with and without a valid passport as well as the share of the population with a passport expired in the past five years.

- **Ontario Ministry of Tourism and Recreation:** In October 2005, the Ontario Ministry of Tourism published a study that estimates the impacts of WHTI on Ontario Tourism.[175] This study contains some information about passport possession rates among U.S. citizens (37 percent) and residents of Ontario (54 percent) over the age of 18.

Maine

- **Maine Department of Transportation:** The POE at Calais has been the subject of two border crossing studies. The first study, completed in 1991, was conducted by the Maine Department of Transportation in conjunction with the New Brunswick Department of Transportation, and the second, completed in 1999, was conducted by the Maine Department of Transportation.[176] Both analyses were origin-destination studies, and we were not able to obtain the underlying data for either. Instead, we use a summary of the more recent 1999 study provided in a 2001 Draft Environmental Assessment of the Calais-St.

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[174] Ontario Ministry of Tourism, *Travel Intentions Study Report*, developed in cooperation with the Ontario Tourism Marketing Partnership Corporation, June 2005.

[175] Ontario Ministry of Tourism, Tourism Research Unit, *The Impact of the Western Hemisphere Travel Initiative on Travel to/from Ontario*, October 2005.

[176] U.S. Department of Transportation, Federal Highway Administration, *Calais-St. Stephen Area International Border Crossing Study: Draft Environmental Impact Assessment*, 2001.

Stephen Area International Border Crossing Study.[177] The summary is limited to information regarding travel destination (local versus long distance), as well as information on the number of "through" trips that included a stop in the Calais area.

Michigan

- **Ontario Ministry of Transportation/Michigan Department of Transportation.** In August 2000, a number of Canadian and American transportation agencies conducted a bi-national travel survey led by the Ontario Ministry of Transportation and the Michigan Department of Transportation.[178] At four crossing points (Ambassador Bridge, Detroit-Windsor Tunnel, Blue Water Bridge, and International Bridge), a total of 22,300 passenger vehicle drivers crossing the border in both directions were interviewed. The sample analyzed constituted 7.87 percent of all vehicle crossings during the survey period. The 2001 summary report for the study presents daily traffic volumes, peak travel times, license plate distributions, primary trip destinations, average vehicle occupancy, and trip frequencies for each of the four crossings studied.

Montana

- **Alberta Economic Development.** In July 2001, CGT Research International published the results of a telephone survey of visitors to Alberta, Canada, from the United States and Ontario during the summer and fall of 2000 (Alberta borders the United States in Montana).[179] This study surveyed 394 visitors who had stopped at Visitor Information Centers and filled out a form consenting to participate in research.[180] The report provides estimates of the mean length of stay, purpose of visit to Alberta, and demographic information about travelers (including age and income level).

New York

- **Regional Municipality of Niagara/Greater Buffalo-Niagara Regional Transportation Council.** In August 2000, a coalition of transportation agencies undertook an origin-destination survey of passenger vehicles crossing the international bridges on the Niagara Frontier border at four crossing points (Lewiston-Queenston, Whirlpool Rapids, Rainbow, and Peace Bridges).[181] The

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[177] U.S. Department of Transportation, Federal Highway Administration, *Calais-St. Stephen Area International Border Crossing Study: Draft Environmental Impact Assessment*, 2001.

[178] Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports,* August 2001.

[179] Alberta Economic Development, *Alberta Economic Development: Study of Visitors to Alberta from the U.S. and Ontario during Summer/Fall of 2000: Telephone Survey Report*, prepared by Bruce A. Campbell, CGT Research International, July 2001.

[180] The survey had a response rate of 54 percent.

[181] Regional Municipality of Niagara and Greater Buffalo-Niagara Regional Transportation Council, URS, *2000 Niagara Frontier Traffic Survey*, May 2001.

survey updated a 1990 study. It took place over one-and-a-half weeks and involved interviews with 19,508 vehicle drivers. The objective of the study was to develop a database of cross-border passenger vehicle travel characteristics for use by the participating agencies. The study reports citizenship and state of residence of travelers, trip purpose (e.g., work, shopping, casino), peak travel times, average vehicle occupancy, and bridge crossing used.

- New York State Department of Transportation/Federal Bridge Corporation (Canada), et al. A binational team of agencies conducted a feasibility study for the bridge crossing at Thousand Islands (Alexandria Bay/Lansdowne) POE.[182] The primary goal of the study was to evaluate short and long-term requirements at the crossing and to develop a strategy to guide future investment. The study involved a review of user characteristics at the crossing, two public meetings, and a review of recent improvements at the crossing. The user characteristics were primarily developed from a 1997 survey of passenger and commercial vehicles conducted as part of the Northern New York Border Crossing Study. The 1997 survey questioned nearly 3,000 travelers, reflecting almost 80 percent of trips that occurred during the survey period. While the focus of the study is on current and future bridge capacity, it includes estimates of the citizenship of travelers, as well as estimated processing times at the crossing for commercial and passenger vehicles.

- Rudin Center for Transportation Policy and Management. The Rudin Center for Transportation Policy and Management at New York University conducted a study of New York's border needs in December 2004.[183] This study reports the value of international trade across New York borders, commodities traded, costs of delays at borders, as well as border investment and infrastructure needs.

Washington

- Whatcom County Council of Governments. Cambridge Systematics, Inc, in cooperation with TSi Consultants and Transtech Data Services, conducted a study of Washington's primary border crossings in late 2000, with results released in July 2001. This study surveyed individuals crossing at the Blaine, Sumas, and Lynden POEs from August 12 through August 27, 2000, and from October 28 through November 11, 2000. Surveyed individuals included those traveling north into Canada and those traveling south into the United States. Survey questions included place of origin, place of destination, traveler

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[182] Stantec Consulting Services and McCormick Rankin Corporation, *Final Report: U.S./CANADA International Bridge Feasibility Study: Thousand Islands Crossing*, August 2005.

[183] Seaman, M. et al. (Rudin Center for Transportation Policy and Management, New York University), *Assessing New York's Border Needs*, December 2004.

demographics (including household size and income level), trip purpose, and number of trips per year.[184]

U.S. UNIQUE TRAVELERS RETURNING FROM CANADA

Step 1. Determine Annual Inbound Crossings [U.S.-Canada]

As in the U.S.-Mexico border analysis, we first obtained data from BTS for all 2004 land crossing at POEs along the U.S.-Canada border. These data include crossings by POE via truck, train, bus, POV, foot, or other type of transport. Because of the large number of POEs on the Canadian border, our analysis focuses on the 16 POEs that had more than one million crossings during 2004. These 16 POEs account for approximately 83 percent of all land border crossings from Canada into the U.S. We analyze the remaining 64 POEs in aggregate.

Exhibit 4-13 presents the number of inbound crossings in 2004 at the Canadian border POEs. There were 76.8 million crossings into the United States through northern border POEs in 2004, with commercial trucks accounting for approximately nine percent of the total.[185] The five POEs with the highest annual crossings are: Buffalo-Niagara Falls, Detroit, Blaine, Port Huron, and Champlain-Rouses Point.[186] Buffalo-Niagara Falls and Detroit have, by a large margin, the highest number of annual commercial truck crossings.

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[184] Whatcom County Council of Governments, *International Mobility and Trade Corridor, Cross-Border Trade and Travel Study,* September 2001.

[185] There are no data presented for New Hampshire in this and following tables. This is because, although New Hampshire borders Quebec, Canada, its sole POE (U.S. Route 3 and Chartierville, Quebec) is combined for statistical purposes with a POE from Vermont.

[186] U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

EXHIBIT 4-13   INBOUND CROSSINGS FROM CANADA BY STATE FOR ALL NATIONALITIES, 2004

STATE	POV, BUS, FOOT, TRAIN	TRUCKS	TOTAL CROSSINGS	PERCENT OF TOTAL
New York	25,139,490	1,987,117	27,126,607	35.3%
Michigan	17,411,214	2,715,757	20,126,971	26.2
Washington	10,640,651	674,772	11,315,423	14.7
Maine	6,885,232	520,248	7,405,480	9.6
Vermont	2,791,350	334,051	3,125,401	4.1
Minnesota	2,989,211	103,065	3,092,276	4.0
North Dakota	1,655,185	340,862	1,996,047	2.6
Montana	1,399,094	167,678	1,566,772	2.0
Alaska	455,988	11,134	467,122	0.6
Idaho	438,569	49,198	487,767	0.6
Pleasure Boats			44,142	0.1
Border Total	69,805,984	6,903,882	76,754,008	100.0%

Note: A more detailed table, which includes the previous data at the POE level, may be found in Appendix B.
Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransStats: The Intermodal Transportation Database, as viewed at http://www.transtats.bts.gov on October 9, 2006.

Step 2. Calculate the Number of Crossings by U.S. Travelers [U.S.-Canada]

The BTS data do not distinguish between crossings by U.S. citizens versus crossings by Canadian citizens. To estimate crossings by U.S. citizens, we supplement the BTS data with data from Statistics Canada. For each of the U.S.-Canada POEs, we compiled 2004 BTS data for eight data elements:

- Trucks;
- POVs;
- POV Passengers;
- Trains;
- Train Passengers;
- Buses;
- Bus Passengers; and
- Pedestrians.

Then, for each of the top sixteen U.S. POEs, we collected data from Statistics Canada for the counterpart POEs in Canada. Statistics Canada data provides Canadian records of crossings by mode (recorded slightly differently from BTS), identifies travelers as U.S. or Canadian citizens, and provides some data as to the length of stay in Canada. Specifically, we collected from Statistics Canada the following data elements for January

2000 through February 2006 for U.S. residents entering Canada and Canadian residents returning from the United States: [187]

- Crossing by automobile, same day;

- Crossing by automobile, one night;

- Crossing by automobile, two or more nights;

- Crossing by bus, same day;

- Crossing by bus, one or more nights;

- Crossing by train, same day;

- Crossing by train, one or more nights;

- Crossing by other methods, pedestrians, same day; and

- Crossing by other methods, pedestrians, one or more nights.

As summarized in Exhibit 4-14, with these data we compute percentages of U.S. citizens crossing relative to the total U.S. and Canadian citizens for each category of crossing. Specifically, we apply the Statistics Canada percentage of crossings by U.S. residents for each travel mode to the BTS data to determine the number of crossings by U.S. residents. We estimate that 34.7 million U.S. residents crossed the Canadian border into the United States in 2004, or approximately 45.2 percent of the total crossings into the United States that year.

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[187] Statistics Canada also has data on "other" residents making land crossings. These constitute less than one percent of total land crossings, and it is our judgment that they would not have a material impact on the analysis.

EXHIBIT 4-14   SHARE OF INBOUND CROSSINGS FROM CANADA BY U.S. TRAVELERS, 2004

POE NAME	TRUCK	BUS DRIVER	BUS PASSENGER	TRAIN DRIVER	TRAIN PASSENGER	POV DRIVER	POV PASSENGER	PEDESTRIAN
Buffalo-Niagara Falls	30.0%	80.0%	80.0%	70.0%	70.0%	60.0%	60.0%	60.0%
Detroit	30.0	65.7	65.7	70.0	70.0	58.0	58.0	58.0
Blaine	30.0	36.9	36.9	70.0	70.0	45.2	45.2	45.2
Port Huron	30.0	65.7	65.7	70.0	70.0	58.0	58.0	58.0
Champlain-Rouses Pt.	30.0	39.0	39.0	70.0	70.0	60.0	60.0	60.0
Massena	30.0	8.2	8.2	70.0	70.0	34.5	34.5	34.5
Calais	30.0	46.8	46.8	70.0	70.0	24.0	24.0	24.0
Sault Ste. Marie	30.0	53.9	53.9	70.0	70.0	36.2	36.2	36.2
Alexandria Bay/Cape Vincent	30.0	45.0	45.0	70.0	70.0	52.0	52.0	52.0
Point Roberts	30.0	97.0	97.0	70.0	70.0	26.1	26.1	26.1
Sumas	30.0	7.0	7.0	70.0	70.0	36.5	36.5	36.5
Derby Line	30.0	68.0	68.0	70.0	70.0	45.0	45.0	45.0
International Falls	30.0	67.0	67.0	70.0	70.0	53.0	53.0	53.0
Lynden	30.0	68.5	68.5	70.0	70.0	38.3	38.3	38.3
Madawaska	30.0	93.8	93.8	70.0	70.0	38.9	38.9	38.9
Highgate Springs	30.0	62.0	62.0	70.0	70.0	55.4	55.4	55.4
Remaining 64 POEs	30.0	54.0	54.0	70.0	70.0	47.0	47.0	52.0

Source: Statistics Canada, *International Travel Survey*, 2004. Frequencies are specific to POEs for passenger vehicles and bus driver/passengers in Top 16 POEs. Statistics for remaining 64 POEs are derived from Canada-wide statistics.

Step 3. Estimate the Number Of Unique U.S. Travelers [U.S.-Canada]

After determining the number of 2004 crossings by U.S. travelers, we estimate the number of unique travelers. For six of the POEs on the U.S.-Canada border, we have survey data available to estimate the frequencies of crossings. For POEs where survey data were unavailable, we developed a method for applying known data to estimate crossing frequency. We summarize the data from the surveys as well as the method used to develop frequency estimates for POEs without survey data below.

Michigan

The Ontario Ministry of Transportation and the Michigan Department of Transportation conducted a survey of crossing points between Michigan and Ontario in 2000, as described above.[188] At four crossing points (Ambassador Bridge, Detroit-Windsor Tunnel, Blue Water Bridge, and International Bridge), a total of 22,300 interviews were conducted of passenger vehicles crossing the border in both directions. Travelers were asked how often they crossed the border. Their responses are summarized in Exhibit 4-15.

EXHIBIT 4-15   CROSSING FREQUENCIES AT MICHIGAN POES

BORDER CROSSINGS PER YEAR	PERCENT OF RESPONDENTS		
	DETROIT	PORT HURON	SAULT STE. MARIE
Less than one (one time only)	9%	11%	17%
One	8	13	9
Two	6	9	5
Four	8	10	6
Monthly (12)	20	20	19
Weekly (50)	27	24	30
Daily (240)	21	12	13

Source: Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports,* August 2001.

To estimate the number of unique U.S. travelers crossing into Michigan from Canada, we distribute the total U.S. traveler crossings for each of these POEs by the percent of respondents at each frequency, and then divide by the frequency of crossings. The Detroit POE calculations are shown below in Exhibit 4-16. For example, the data indicate that eight percent of the respondents traveled across the border four times per year. Therefore, we assume that these individuals made eight percent of total crossings into Michigan, or about 594,000 crossings. We then divide the 594,000 crossings by four to calculate approximately 148,000 unique travelers. The remainder of the unique travelers for Detroit and the other POEs are similarly calculated.

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[188] Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports,* August 2001.

EXHIBIT 4-16 EXAMPLE CALCULATIONS: DETROIT POE

FREQUENCY OF TRAVEL (PER YEAR)	SHARE OF RESPONDENTS	RESPONDENT SHARE OF CROSSINGS	UNIQUE TRAVELERS
Less than one (one time only)	9%	664,887	664,887
One	8	578,111	578,111
Two	6	467,593	233,796
Four	8	593,851	148,462
Monthly (12)	20	1,437,287	119,773
Weekly (50)	27	1,979,950	39,599
Daily (240)	21	1,522,160	6,342
Refused to be surveyed	1	47,124	612
Total	100%	7,290,966	1,791,585

Note: Individuals who declined to be surveyed are assumed to travel at the weighted average frequency across all respondents.
Source: IEc calculation and Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports,* August 2001.

Washington

The survey in Washington State provides data of crossing frequencies at three POEs: Blaine, Sumas, and Lynden. As in the Michigan survey, travelers were asked how often they crossed the border. Travelers provided a wider range of responses than in the Michigan studies discussed above. Exhibit 4-17 summarizes the responses, detailing the percentage of respondents that reported traveling at each frequency.

EXHIBIT 4-17 CROSSING FREQUENCIES AT BLAINE, SUMAS, AND LYNDEN, WASHINGTON POES

BLAINE		SUMAS		LYNDEN	
BORDER CROSSINGS PER YEAR	PERCENT OF RESPONDENTS	BORDER CROSSINGS PER YEAR	PERCENT OF RESPONDENTS	BORDER CROSSINGS PER YEAR	PERCENT OF RESPONDENTS
1	14.9%	1	13.6%	1	7.5%
2	10.7	2	9.1	2	5.9
3	6.2	3	4.3	3	2.9
4	4.6	4	3.7	4	3.0
5	1.0	5	1.7	5	1.2
6	2.0	6	2.3	6	2.4
7	0.5	8	1.0	10	1.3
8	0.2	12	9.9	12	11.2
10	0.2	20	0.1	18	0.4
12	8.2	24	9.4	24	8.0
15	0.3	25	1.0	30	0.6
20	0.1	36	0.9	36	2.7
24	4.6	48	2.9	48	0.9
30	0.2	52	11.9	52	13.9
36	2.3	60	0.1	60	0.2
40	0.4	104	4.8	104	5.4
48	0.5	156	4.3	120	0.2
50	0.1	208	1.5	144	0.9
52	5.6	209	0.7	156	5.8
72	0.4	260	0.7	208	2.7
96	0.3	261	2.1	209	0.6
104	3.7	364	2.0	260	3.7
120	0.3	365	0.2	261	3.2
144	0.1	728	0.2	312	1.4
156	3.7	730	0.8	364	1.4
208	1.7	2,607	0.1	365	2.5
209	0.6	Total	100%	Total	100%
260	3.5				
261	1.5				
312	0.7				
313	0.3				
364	1.1				
365	0.2				
417	0.1				

EXHIBIT 4-17 (CONTINUED)

BLAINE		SUMAS		LYNDEN	
BORDER CROSSINGS PER YEAR	PERCENT OF RESPONDENTS	BORDER CROSSINGS PER YEAR	PERCENT OF RESPONDENTS	BORDER CROSSINGS PER YEAR	PERCENT OF RESPONDENTS
520	0.2				
521	0.0				
624	0.1				
728	0.1				
1,043	0.1				
Total	100%				

Source: Whatcom County Council of Governments, International Mobility and Trade Corridor, *Cross-Border Trade and Travel Study*, September 2001. Data adjusted to annual basis by IEc.

In a process similar to our analysis of the Michigan data, we first distribute the total U.S. traveler crossings for each of these POEs by the percent of respondents at each frequency, and then divide by the number of crossings per year. We estimate that in 2004, 709,000 unique U.S. travelers crossed at Blaine, 131,000 crossed at Sumas, and 63,000 crossed at Lynden.

New York

To estimate unique U.S. travelers at the Buffalo POE, we use crossing frequency data from the DOS BearingPoint survey conducted in July 2005.[189] U.S. travelers at Buffalo selected from nine choices to describe their crossing frequencies. Exhibit 4-18 shows the distribution of crossings at each frequency level for this POE. As with the other survey data, we first distribute the total U.S. traveler crossing estimates for this POE by the percent of respondents at each frequency, then divide by the number of crossings per year. We estimate that 4,974,000 unique U.S. travelers crossed at Buffalo in 2004.

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[189] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

EXHIBIT 4-18   BEARINGPOINT FREQUENCY DISTRIBUTION FOR BUFFALO

SURVEYED FREQUENCY	SURVEYED PERCENT OF U.S. CROSSINGS	ASSUMED INDIVIDUAL 2004 CROSSINGS
Every day	3%	260
2-3 times per week	5	130
Once a week	3	52
2-3 times per month	9	30
Once a month	7	12
Once in 6 months	16	2
Once a year	18	1
Once in several years	18	1
First time	21	1
Total	100%	

Source: U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

Other U.S.-Canada POEs

We conclude that the Michigan and Washington surveys have limited applicability to other U.S.-Canada POEs due to considerable variations in the characteristics of the Canadian border POEs. For example, the surveyed POEs were predominantly urban in nature, and include some of the highest-traffic POEs on the border. In contrast, most other POEs are small and rural. In addition, these surveys were conducted several years ago and have specific seasonality and survey method constraints. Therefore, for areas where survey data were not available, we developed a separate methodology that builds frequency estimates from estimated frequencies by travel mode. This method involves three steps: (1) classify the POEs into groups of similar characteristics; (2) develop estimated crossing frequencies by mode of travel (e.g., truck, POV, pedestrian) for each POE group; and (3) apply frequency estimates to crossings by travel mode.

First, we assessed the remaining 79 unsurveyed POEs (not including pleasure boats), paying particular attention to the top 16 POEs in terms of crossing numbers. We then classified these POEs into four groups: rural, through-travel, local, and ferry, based on: (1) whether the crossing data for that POE exhibited seasonal trends; (2) whether a POE is located near a large metropolitan area; (3) the size of the primary crossing road; (4) whether a local population exists on either side of the border area; and (5) whether the POE is known to be a ferry crossing. The characteristics of these four groups are summarized in Exhibit 4-19 below.

EXHIBIT 4-19   DECISION MATRIX USED TO DETERMINE POE GROUPS

	RURAL	THROUGH-TRAVEL	LOCAL	FERRY
Seasonality	Yes	Yes	Yes	n/a
Nearby Metro Area	No	Yes	No	n/a
Size of Crossing Road	State Rte/Minor	Interstate/Major	State Rte/Minor	n/a
Local Population	No	No	Yes	n/a
Ferry	n/a	n/a	n/a	Yes

More specifically, the four POE classifications are characterized as follows:

- **Rural**: This category of crossing is primarily defined by its lack of major roads or nearby population centers. Some seasonality is apparent at these POEs. A large number of POEs fall into this category. Frequencies of POVs and pedestrian crossings are moderate to low. For example, same-day POV frequencies are assumed to average once every week (52 per year). Individual pedestrian crossings are assumed to average once quarterly (4 per year). As displayed in Exhibit 4-20, examples of rural POEs include Opheim, Montana; Scobey, Montana; and Whitetail, Montana.

EXHIBIT 4-20   EXAMPLE RURAL POE

- **Through-Travel**: This category of POE is defined by its location along a major highway, typically an interstate, or its relative nearness to a large metropolitan area. Some seasonality is also apparent at these POEs. We assume overnight POV and pedestrian travelers at through-travel POEs cross more frequently than their counterparts at rural POEs. For example, Toronto's proximity to Port Huron, Michigan, a through-travel POE shown in Exhibit 4-21, allows U.S. travelers to easily make multiple overnight trips in a year.[190] By

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[190] Port Huron, Michigan was surveyed as part of the Michigan travel survey. Thus, it is not classified with the "other" U.S.-Canada border POEs.

contrast, the isolation of Opheim, Montana, a rural POE, likely leads U.S. travelers to make relatively fewer overnight trips in a year, because there are no nearby destinations to motivate such a trip.

EXHIBIT 4-21 EXAMPLE THROUGH-TRAVEL POE

- **Local**: These POEs have populations that reside immediately on one or both sides of the border and are known to share cross-border resources, such as shopping areas and school facilities. Seasonality is least pronounced at these POEs. Three POEs are classified as local: Point Roberts, Washington; Calais, Maine; and Madawaska, Maine. For these POEs, a high frequency of same-day POV and pedestrian traffic is assumed. Overnight, 2-day, and bus passenger frequencies are assumed to be higher than for through-travel and rural POEs. Exhibit 4-22 shows the geographic situation of Point Roberts, Washington.

- **Ferry**: BTS identifies six POEs as predominantly having crossings from ferry travel in 2004. Several of these POEs are located at seaports not directly located on the U.S-Canada border, such as Port Angeles, Washington. All modes of travel are assumed to be relatively infrequent for this type of POE.

EXHIBIT 4-22   EXAMPLE LOCAL POE

The results of the POE classification scheme are presented in Exhibit 4-23. Fifty-six POEs are classified in the rural category, 14 in the through-travel category, three as local, and six as ferry POEs.

Applying information from existing studies, surveys, and published articles and using our judgment, we assume a set of frequencies for each POE group. Exhibit 4-24 presents the assumed crossing frequencies for each group of POEs.

EXHIBIT 4-23   UNSURVEYED POES CLASSIFIED BY POE GROUP

RURAL		THROUGH-TRAVEL	LOCAL	FERRY
Alcan, AK	Noonan, ND	Alexandria Bay, NY*	Calais, ME*	Anacortes, WA
Ambrose, ND	Northgate, ND	Champlain, NY*	Madawaska, ME*	Bar Harbor, ME
Antler, ND	Norton, VT	Derby Line, VT*	Point Roberts, WA*	Friday Harbor, WA
Baudette, MN	Ogdensburg, NY	Eastport, ID		Ketchikan, AK
Beecher Falls, VT	Opheim, MT	Highgate Springs-Alburg, VT*		Port Angeles, WA
Boundary, WA	Oroville, WA	Houlton, ME		Portland, ME
Bridgewater, ME	Piegan, MT	International Falls, MN*		
Carbury, ND	Pinecreek, MN	Laurier, WA		
Dalton Cache, AK	Portal, ND	Massena, NY		
Danville, WA	Porthill, ID	Neche, ND		
Del Bonita, MT	Raymond, MT	Noyes, MN		
Dunseith, ND	Roosville, MT	Pembina, ND		
Eastport, ME	Roseau, MN	Richford, VT		
Ferry, WA	Sarles, ND	Sweetgrass, MT		
Fort Fairfield, ME	Scobey, MT			
Fort Kent, ME	Sherwood, ND			
Fortuna, ND	Skagway, AK			
Fronter, WA	St. John, ND			
Grand Portage, MN	Trout River/Fort Covington, NY			
Hannah, ND	Turner, MT			
Hansboro, ND	Van Buren, ME			
Jackman, ME	Vanceboro, ME			
Lancaster, MN	Walhalla, ND			
Limestone, ME	Warroad, MN			
Maida, ND	Westhope, ND			
Metaline Falls, WA	Whitetail, MT			
Morgan, MT	Whitlash, MT			
Nighthawk, WA	Wildhorse, MT			

* Denotes Top-16 POEs nation-wide. Note that this exhibit does not include POEs for which survey data were available.

EXHIBIT 4-24   ESTIMATED CROSSING FREQUENCIES

TRAVELER CATEGORY	NUMBER OF CROSSINGS PER YEAR			
	RURAL	THROUGH-TRAVEL	LOCAL	FERRY
POV Driver and Passenger - Same Day	52	26	250	2
POV Driver and Passenger - Overnight	4	6	12	6
POV Driver and Passenger - Two + Days	6	6	8	6
Pedestrians	4	6	250	6
Bus Passengers	2	4	12	4
Train Passengers	2	4	12	1
Truck Drivers	150	150	150	52
Train Drivers	100	100	100	1
Bus Drivers	100	100	100	12

Note: Truck travel frequencies are based on estimates from the Maine Department of Transportation, *Calais/St. Stephen Area International Border Crossing Study*, September 2002. Low and high unique U.S. traveler estimates were developed by adjusting the number of crossings per year 25 percent upward and downward.

Pleasure Boats

As stated above, the CBP Office of Field Operations collects data on the number of pleasure boats arriving in the United States each year. The data do not indicate the number of individuals traveling in each pleasure boat nor their nationality. In 2004,CBP recorded 44,142 pleasure boats arriving at northern border U.S. ports. As with the analysis for the U.S.-Mexico border, we make two simplifying assumptions to estimate the number of unique U.S. pleasure boat travelers: (1) we assume that U.S. travelers account for 50 percent of pleasure boat crossings; and (2) we assume that each pleasure boat traveler enters the United States once per year.

Sensitivity Test

The annual crossing frequency of U.S. travelers is the most important variable affecting our unique U.S. traveler calculations. However, for many of the POEs on the U.S.-Canada border, traveler surveys with data on annual crossing frequency are not available. As a result, we developed assumptions regarding crossing frequency in order to estimate unique U.S. travelers at these POEs. Furthermore, the DOS BearingPoint survey, our source of crossing frequency data for the Buffalo-Niagara POE, likely includes too few frequent U.S. travelers. This is because the interviews were held between 8 am and 5 pm, missing peak rush hours. Due to this uncertainty, we test the sensitivity of annual crossing frequency assumptions on our unique U.S. traveler estimates.

Similarly to the U.S.-Mexico border analysis, we calculate a low estimate of unique U.S. travelers by increasing annual crossings at each frequency level by 25 percent. Increasing annual crossing frequency results in a lower estimate due to the inverse relationship

between crossing frequency and unique travelers. If unique travelers are crossing more frequently during the year, fewer unique travelers are necessary to generate the recorded number of crossings at each POE. Conversely, we calculate a high estimate of unique U.S. travelers by decreasing annual crossings at each frequency level by 25 percent. We make these upward and downward adjustments to traveler crossing frequency at every POE on the U.S.-Canada border. Exhibit 4-25 includes our low and high unique U.S. traveler estimates. Our best estimate is that 9.9 million unique U.S. travelers crossed into the United States from Canada in 2004, bounded by an estimated range of 7.9 million to 13.2 million.

EXHIBIT 4-25   ESTIMATED UNIQUE U.S. TRAVELERS CROSSING THE U.S.-CANADA BORDER, 2004

STATE	UNIQUE U.S. TRAVELERS (2004)		
	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE
New York	4,271,000	5,339,000	7,118,000
Michigan	2,321,000	2,901,000	3,868,000
Washington	776,000	970,000	1,294,000
Maine	138,000	173,000	231,000
Minnesota	127,000	159,000	212,000
Vermont	125,000	156,000	208,000
North Dakota	59,000	74,000	99,000
Alaska	52,000	65,000	87,000
Montana	46,000	58,000	77,000
Idaho	23,000	28,000	38,000
Pleasure Boats	11,000	11,000	11,000
Border Total	**7,949,000**	**9,933,000**	**13,241,000**

Note: Low and high estimates calculated by increasing and decreasing annual crossing frequencies of all U.S. travelers by 25 percent. Estimates may not sum due to rounding.

Step 4. Identify the Number of Unique U.S. Travelers without Passport Books [U.S.-Canada]

As discussed in the U.S.-Mexico border section of this report, CBP does not maintain data on the types of documents people use to cross the border. However, the DOS BearingPoint survey gathered data on the percent of border travelers who held a passport book at each of the POEs surveyed.[191] In order to apply the limited survey data to all POEs across the U.S.-Canada borders, we first assign each state to the surveyed POE that, in our judgment, best reflects the characteristics of the state's travelers. Then, as summarized in Exhibit 4-26, we apply the passport book holding rate of the assigned POE to all POEs located within each state.[192]

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[191] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

[192] As on the U.S.-Mexico border, data on the travel documents used by pleasure boat travelers is unavailable. Thus, we assume 50 percent of pleasure boats have acceptable documentation. This roughly corresponds to the border-wide average of 51.6 percent.

EXHIBIT 4-26 PERCENTAGE OF U.S. TRAVELERS WITHOUT PASSPORT BOOKS

STATE	PERCENTAGE OF U.S. TRAVELERS WITHOUT PASSPORT BOOKS	BEARINGPOINT POE REFERENCE
Alaska	72.1%	Fort Kent, ME
Maine	72.1	Fort Kent, ME
Montana	72.1	Fort Kent, ME
North Dakota	72.1	Fort Kent, ME
Vermont	72.1	Fort Kent, ME
Michigan	54.8	Port Huron, MI / Sault Ste. Marie, MI
Minnesota	54.8	Port Huron, MI / Sault Ste. Marie, MI
New York	50.1	Buffalo, NY / Lewiston, NY
Idaho	28.3	Blaine, WA
Washington	28.3	Blaine, WA
Pleasure boats	50.0	N/A

Source: U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

Using the above estimates for the percent of unique travelers who do not have passport books, we multiply this percentage by the number of unique travelers by state. The results of this calculation are presented in Exhibit 4-27. Our best estimate is that 5.2 million U.S. citizens that crossed the border in 2004 did not have passport books. We note that, as of 2004, approximately 0.3 million Canadians were LPRs of the United States (of 11.6 million total LPRs in the United States). Because LPRs may be counted in U.S. resident crossing estimates, our analysis may slightly overstate the number of U.S. travelers without passport books.

Step 5. Identify the Number Of Unique U.S. Travelers without Passport Books who are Adults (Age 16 And Older) and Children (Under Age 16) [U.S.-Canada]

To estimate the number of unique adult travelers, we "back out" the percentage of crossings that must be adults (because they are vehicle drivers), remove an additional set of "likely" adults from the remaining set (passengers and pedestrians) based on demographics, then apply this "percent of adults" to the total unique traveler estimates.

Specifically, we assume that crossings attributed to truck drivers, bus drivers, train operators, and POV drivers are made entirely by adults. We further assume, as shown in Exhibit 4-28, that the remaining crossings, including passengers and pedestrians, are distributed in the same pattern that is found in the general population at the state level. The resulting estimates of unique adult and children U.S. travelers are presented in Exhibit 4-29. We estimate that 4.6 million unique adult travelers and 583,000 unique children travelers without passport books crossed the U.S.-Canada border in 2004.

EXHIBIT 4-27 ESTIMATED UNIQUE U.S. TRAVELERS WITHOUT PASSPORT BOOKS

STATE	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE
New York	2,218,000	2,773,000	3,697,000
Michigan	1,315,000	1,643,000	2,191,000
Washington	228,000	285,000	380,000
Maine	100,000	124,000	166,000
Vermont	90,000	112,000	149,000
Minnesota	72,000	90,000	120,000
North Dakota	43,000	53,000	71,000
Alaska	37,000	47,000	62,000
Montana	33,000	42,000	55,000
Idaho	7,000	8,000	11,000
Pleasure Boats	6,000	6,000	6,000
Border Total	**4,147,000**	**5,183,000**	**6,909,000**

Note: Low and high estimates calculated by increasing and decreasing annual crossing frequencies of all U.S. travelers by 25 percent. Estimates may not sum due to rounding. Source: IEc calculations.

EXHIBIT 4-28 AGE DISTRIBUTION OF STATE POPULATION, 2004

STATE	PERCENT OF POPULATION UNDER 16	PERCENT OF POPULATION 16 AND OLDER
Alaska	25.3%	74.7%
Idaho	23.7	76.3
Michigan	22.1	77.9
Minnesota	21.4	78.6
New York	21.1	78.9
Washington	21.1	78.9
Montana	19.5	80.5
North Dakota	19.0	81.0
Vermont	18.7	81.3
Maine	18.6	81.4

Source: U.S. Census Bureau, *American Community Survey*, as viewed at http://www.census.gov/acs/www/ on July 16, 2006.

EXHIBIT 4-29   ESTIMATED UNIQUE U.S. CHILD AND ADULT TRAVELERS WITHOUT PASSPORT
                 BOOKS

STATE	ADULTS			CHILDREN		
	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE
New York	1,952,000	2,440,000	3,253,000	266,000	333,000	444,000
Michigan	1,184,000	1,480,000	1,973,000	131,000	163,000	218,000
Washington	204,000	255,000	340,000	24,000	30,000	40,000
Maine	91,000	113,000	151,000	9,000	11,000	15,000
Vermont	82,000	102,000	136,000	8,000	10,000	13,000
Minnesota	62,000	78,000	104,000	10,000	12,000	16,000
North Dakota	38,000	47,000	63,000	5,000	6,000	8,000
Alaska	30,000	37,000	50,000	8,000	9,000	13,000
Montana	29,000	36,000	49,000	4,000	5,000	7,000
Idaho	5,000	7,000	9,000	1,000	2,000	2,000
Pleasure Boats	4,000	4,000	4,000	1,000	1,000	1,000
Border Total	3,681,000	4,600,000	6,131,000	467,000	583,000	777,000

Note: Low and high estimates calculated by increasing and decreasing annual crossing frequencies of all U.S.
travelers by 25 percent. Estimates may not sum due to rounding.
Source: IEc calculations.

Step 6. Estimate the Number of Travelers from Step 5 who Cross at Multiple POEs [U.S.-Canada]

As described in the U.S.-Mexico border section, to avoid double-counting unique
travelers, we account for travelers crossing at multiple POEs. The DOS BearingPoint
survey asked cross-border travelers how often they cross the border by land at "other
locations."[193] These data provide insight into the likelihood that a unique traveler crosses
at more than one POE. For example, the survey results indicate that 73 percent of
travelers who reported that they cross the U.S.-Canada border every day at the surveyed
location utilized multiple POEs.

To complete this analysis, we make several assumptions. First, we assume that if a
traveler crosses the border at more than one POE, then he or she crosses at only two
POEs. Second, we assume that a traveler uses the second POE at the same frequency as
the primary POE. As noted earlier in the Mexican section of this chapter, these
assumptions will produce a conservative reduction in the number of unique travelers.

We do not have data on which specific primary and secondary POEs are used by
individual unique travelers. Thus, we develop the multiple POE adjustment using the
DOS BearingPoint study data for surveyed POEs. We then develop a border-wide
estimate of double-counted travelers using an average that is weighted by the number of
crossings at each of the surveyed POEs. Finally, we reduce the number of unique

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[193] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual
Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean:
Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

travelers at each POE from Step 5 by the border-wide estimate of double-counted travelers. For the U.S-Canada border, we estimate that 30 percent of travelers are double-counted because they use multiple POEs. Exhibit 4-30 shows the result of our adjustment to the range of our unique traveler estimates. Our best estimate is that there are 3.2 million unique U.S. adults and 400,000 children crossing from Canada to the United States without a passport, taking crossings at multiple POEs into account.

EXHIBIT 4-30   ESTIMATED UNIQUE U.S. TRAVELERS CROSSING FROM CANADA INTO THE UNITED STATES WITHOUT PASSPORT BOOKS, ACCOUNTING FOR ENTRY AT MULTIPLE POES

STATE	ADULTS			CHILDREN		
	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE	LOW ESTIMATE	BEST ESTIMATE	HIGH ESTIMATE
New York	1,356,000	1,695,000	2,260,000	308,000	231,000	185,000
Michigan	823,000	1,028,000	1,371,000	151,000	114,000	91,000
Washington	142,000	177,000	236,000	28,000	21,000	17,000
Maine	63,000	79,000	105,000	10,000	8,000	6,000
Vermont	57,000	71,000	95,000	9,000	7,000	5,000
Minnesota	43,000	54,000	72,000	11,000	9,000	7,000
North Dakota	26,000	33,000	44,000	6,000	4,000	4,000
Alaska	21,000	26,000	35,000	9,000	7,000	5,000
Montana	20,000	25,000	34,000	5,000	4,000	3,000
Idaho	4,000	5,000	6,000	2,000	1,000	1,000
Pleasure Boats	3,000	3,000	3,000	1,000	1,000	1,000
Border Total	2,557,000	3,196,000	4,260,000	324,000	405,000	540,000

Source: IEc calculations.

Step 7. Identify the Number of Unique Adult U.S. Travelers without Passport Books who are NEXUS or FAST Participants [U.S.-Canada]

Using the estimates of those U.S. unique travelers that do not have a passport book, we determine how many of these travelers currently have a CBP trusted traveler card that would meet the requirements of Alternatives 2 and 3. Exhibit 4-31 presents the total number of participants enrolled in NEXUS and the number of FAST participants that are assumed to utilize the U.S.-Canada border. The exhibit also presents the number of current U.S. citizen participants that applied with documents other than valid U.S. passports, and thus who are assumed not to possess a passport book. As of July 2006, 98,000 participants had enrolled in the NEXUS program, which is only active on the U.S-Canada border. An estimated 35,000 of the NEXUS participants enrolled without a passport book.[194] In addition, approximately 8,400 members of FAST utilize the U.S.-

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[194] Personal communication with U.S. Customs and Border Protection on July 14, 2006.

Canada border. Approximately 7,100 of these FAST participants enrolled without a passport book.[195]

EXHIBIT 4-31   ESTIMATED NUMBER OF TRUSTED TRAVELER PROGRAM PARTICIPANTS FOR U.S.-CANADA BORDER

POE	U.S. CITIZEN PARTICIPANTS	
	TOTAL	WITHOUT PASSPORT BOOKS
NEXUS	98,000	35,000
FAST	8,400	7,100
Total	106,400	42,100

Note: Without information on the nationality of NEXUS participants, we assume all participants are U.S. citizens.
Source: Personal communication with U.S. Customs and Border Protection on July 14, 2006.

Because the NEXUS and FAST identification cards may be accepted under Alternatives 2 and 3, we subtract these participants from unique U.S. adult travelers without acceptable documentation. As a result, the number of unique U.S. children traveling without acceptable identification under any alternative remains unchanged at 405,000, while unique U.S. adults traveling without acceptable identification under the third regulatory alternative decreases to 3,154,000.

Summary Of Canada Estimates

Exhibit 4-32 summarizes the results of each step we take to estimate the number of unique U.S. travelers needing acceptable documentation (adults and children).

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[195] The FAST program operates at both the Mexican and Canadian borders. U.S. participants in FAST were allocated to the two borders based on the distribution between Canadian and Mexican participants in the program (87 percent Canadian, 13 percent Mexican). This allocation of U.S. FAST participants to the two borders does not affect the overall costs of this proposed regulation, which are calculated for the entire U.S.

EXHIBIT 4-32 CANADA SUMMARY (BEST ESTIMATES)

STEP 1: Total Crossings	Annual southbound crossings from Canada: 76,754,000
STEP 2: U.S. Crossings	Annual crossings by U.S. travelers: 34,690,000
STEP 3: Unique U.S. Travelers	Unique U.S. travelers: 9,933,000
STEPS 4 & 5: Unique U.S. Travelers without Passports	Unique U.S. traveler's without passports: 5,183,000
	Children: 583,000 — Adults: 4,600,000
STEP 6: Unique U.S. Travelers with Multiple POE Adjustment	Children: 405,000 — Adults: 3,196,000
STEP 7: Unique U.S. Travelers Net of Trusted Travelers	Children: 405,000 — Adults: 3,154,000

Exhibit 4-33 summarizes for both borders our estimates of unique child and adult U.S. travelers who did not possess acceptable documentation in 2004 (either a passport book or CBP trusted traveler card) under the alternatives being considered to implement WHTI. Our best estimate is that a total of 9.2 million U.S. travelers in 2004 did not have acceptable documentation.

EXHIBIT 4-33 SUMMARY OF UNIQUE U.S. TRAVELERS WITHOUT ACCEPTABLE DOCUMENTATION

SCENARIO	TRAVELING TO CANADA		TRAVELING TO MEXICO		TOTAL		
	ADULTS	CHILDREN	ADULTS	CHILDREN	ADULTS	CHILDREN	ALL
Low Estimate	2,515,000	324,000	3,862,000	682,000	6,377,000	1,007,000	7,384,000
Best Estimate	3,154,000	405,000	4,826,000	852,000	7,980,000	1,257,000	9,237,000
High Estimate	4,218,000	540,000	6,437,000	1,136,000	10,655,000	1,676,000	12,331,000

Source: IEc calculations.

Our low and high estimates, shown in Exhibit 4-33, reflect the impact of an increase or decrease of 25 percent in travel frequency. A 25 percent decrease in travel frequency results in 33 percent more unique travelers. Conversely, a 25 percent increase in travel frequency results in 20 percent fewer unique travelers. The impact of changes in travel frequency on estimates of direct costs is examined in more detail in Appendix C.

Our analysis leads us to the following important conclusion regarding the relationship between unique U.S. travelers and U.S. crossings. Frequent U.S. travelers account for a large proportion of total U.S. crossings, yet constitute a small proportion of unique U.S. travelers. On the other hand, infrequent U.S. travelers account for a small proportion of total crossings, yet constitute a large proportion of unique U.S. travelers.

This relationship is especially pronounced on the U.S.-Mexico border, as shown in Exhibits 4-34 and 4-35. U.S. travelers who cross the U.S.-Mexico border at least 53 times per year, in other words more than once per week, account for 45 percent of U.S. crossings, but represent only two percent of unique U.S. travelers. By contrast, U.S. travelers who cross one or fewer times per year account for six percent of U.S. crossings, but 53 percent of unique U.S. travelers. We derive these figures by combining the results of the SANDAG and DOS BearingPoint surveys of U.S. travelers on the U.S.-Mexico border.[196] The surveys asked differently worded questions and were conducted at different times of the year and different times of day. Therefore, the results presented in Exhibits 4-34 and 4-35 must be viewed as rough estimates.

[196] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10. and U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

EXHIBIT 4-34   DISTRIBUTION OF CROSSINGS FROM MEXICO INTO U.S. BY CROSSING FREQUENCY
OF U.S. TRAVELER
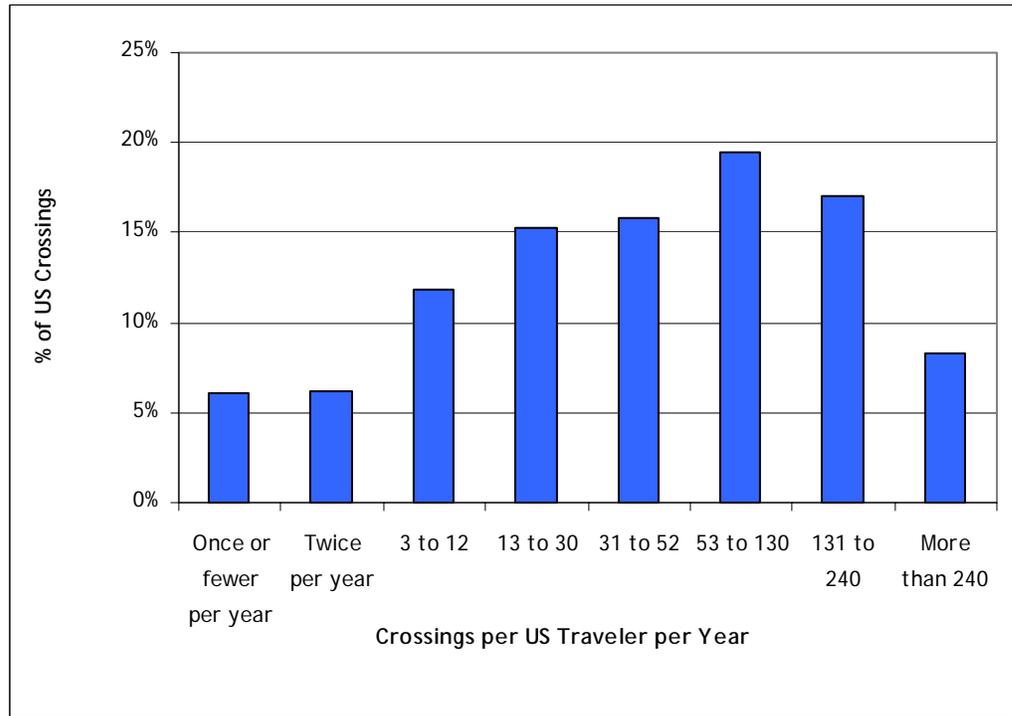
Sources: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10, and U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

EXHIBIT 4-35   DISTRIBUTION OF UNIQUE U.S. TRAVELERS BY CROSSING FREQUENCY OF U.S.
                TRAVELER (U.S.-MEXICO BORDER)
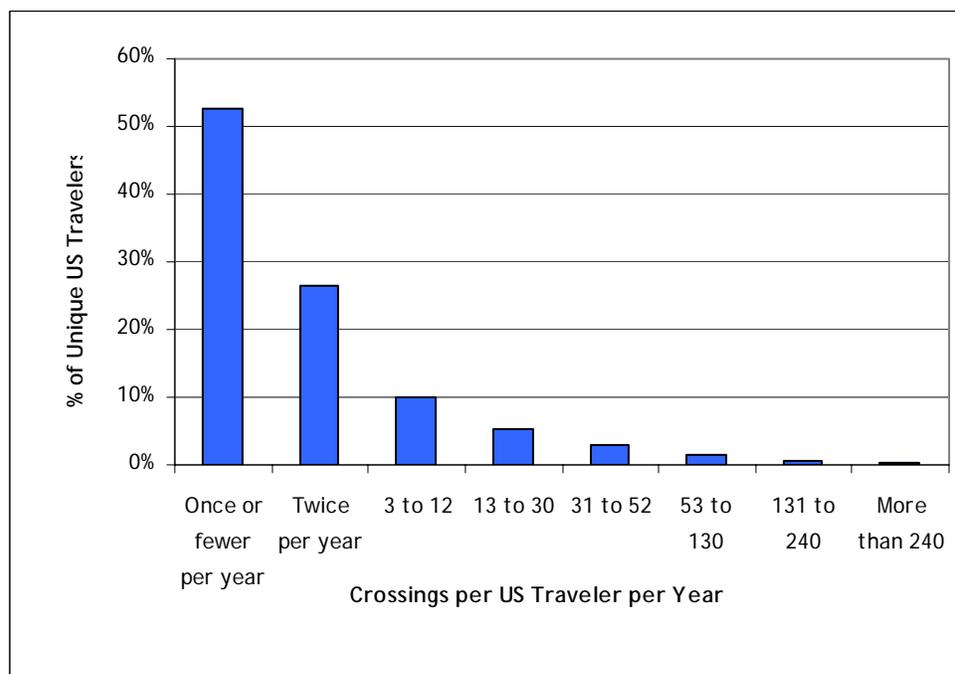
Sources: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10, and U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

This relationship between unique travelers and crossings holds true on the U.S.-Canada border, although it is not as pronounced. As shown in Exhibits 4-36 and 4-37, U.S. travelers who cross the U.S.-Canada border at least 53 times per year, or more than once per week, account for 17 percent of U.S. crossings, but represent less than a quarter of one percent of unique U.S. travelers. In contrast, U.S. travelers who cross the U.S.-Canada border one or fewer times per year account for 32 percent of U.S. crossings, but represent 79 percent of unique U.S. travelers. We derive these figures by combining the results of three distinct surveys of U.S. travelers: DOS BearingPoint, Ontario-Michigan, and Whatcom County.[197] As explained earlier, the hybrid results we present must be viewed as rough estimates.

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[197] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005; Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports*, August 2001; and Whatcom County Council of Governments, *International Mobility and Trade Corridor, Cross-Border Trade and Travel Study*, September 2001.

EXHIBIT 4-36   DISTRIBUTION OF CROSSINGS FROM CANADA INTO U.S. BY CROSSING FREQUENCY
OF U.S. TRAVELER
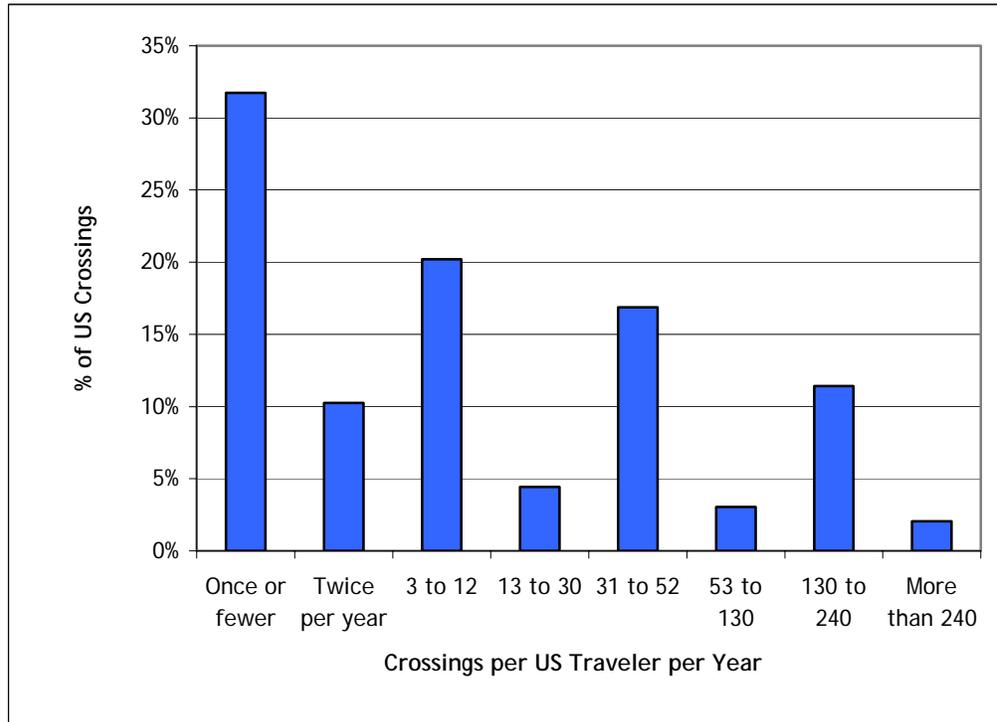
Sources: U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005; Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports*, August 2001; and Whatcom County Council of Governments, *International Mobility and Trade Corridor, Cross-Border Trade and Travel Study*, September 2001.

EXHIBIT 4-37   DISTRIBUTION OF UNIQUE U.S. TRAVELERS BY CROSSING FREQUENCY OF U.S.
TRAVELER (U.S.-CANADA BORDER)
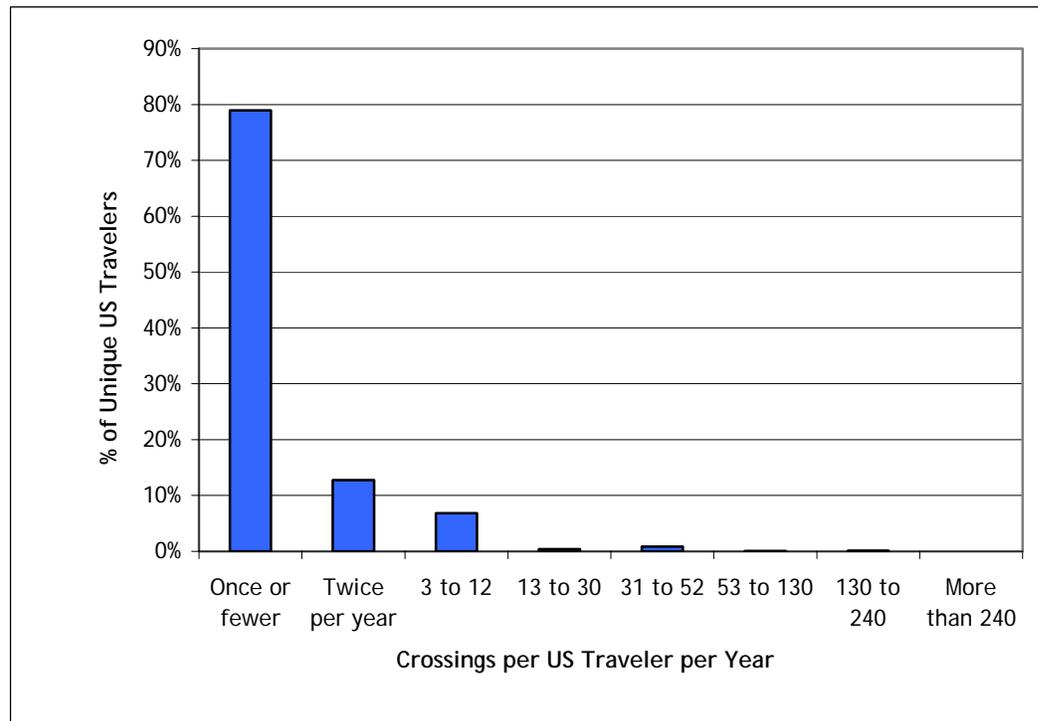
Sources: U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005; Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports*, August 2001; and Whatcom County Council of Governments, *International Mobility and Trade Corridor, Cross-Border Trade and Travel Study*, September 2001.

Frequent U.S. travelers on the U.S.-Canada border account for a smaller percent of U.S. crossings and a smaller percent of U.S. travelers than their counterparts on the U.S.-Mexico border. Conversely, infrequent U.S. travelers on the U.S.-Canada border account for a larger percent of U.S. crossings and a larger percent of U.S. travelers than their counterparts on the U.S.-Mexico border. This difference, which is summarized in Exhibit 4-38, owes to the fact that U.S. travelers on the U.S.-Canada border generally cross less frequently than U.S. travelers on the U.S.-Mexico border. The average crossing frequency of U.S. travelers on the U.S.-Canada border is 4.4 times per year, while U.S. travelers on the U.S.-Mexico border cross on average 13.4 times per year.

EXHIBIT 4-38   U.S. CROSSINGS VERSUS UNIQUE U.S. TRAVELERS

CROSSING FREQUENCY	% TOTAL U.S. CROSSINGS		% TOTAL U.S. UNIQUE TRAVELERS	
	U.S.-MEXICO	U.S.-CANADA	U.S.-MEXICO	U.S.-CANADA
More than 53 times per year	45%	17%	2%	0.2%
Once or fewer times per year	6	32	53	79

Source: IEc calculations.

The differences in traveler crossing frequency highlighted in Exhibit 4-38 suggest that the nature of travel at the two borders is different. Sixty-six percent of U.S. crossings on the U.S.-Canada border are for pleasure, recreation, or holiday, which are typically infrequent trips.[198] On the U.S.-Mexico border, only nine percent of U.S. crossings are for recreation or entertainment, typically infrequent trips. Seventy-eight percent are for visiting friends and family, shopping and running errands, and going to work and school, all of which can be broadly considered more frequent trips.[199]

KEY SOURCES OF UNCERTAINTY

Certain steps in our methodology for estimating unique adult and child U.S. travelers without acceptable documentation are subject to uncertainty due to data limitations. The most important variables subject to incomplete data include traveler crossing frequency, traveler age, traveler crossings at multiple POEs, and crossings by LPRs. In addition, data do not exist to identify Native American travelers, who are an important subpopulation that must be considered in the rule. We discuss these areas of uncertainty affecting our estimates below. Appendix C presents the results of a more detailed, quantitative analysis of uncertainty.

FREQUENCY OF TRAVEL

Studies documenting the frequency of annual crossings by unique travelers do not exist for all of the POEs along the U.S.-Mexico and U.S.-Canada borders. Furthermore, limitations related to the question format in the SANDAG survey and the sampling frame in the DOS BearingPoint survey increase uncertainty. As a result, we use available data to make judgments regarding travel frequency. Below, we discuss implications for our analysis.

- **Incomplete survey of all POEs.** For the U.S-Mexico border, we transfer the SANDAG travel frequency data from California to Arizona and New Mexico. Therefore, we implicitly assume that U.S. travelers in Arizona and New Mexico cross the border at the same frequencies as U.S. travelers in California. However, U.S. travelers in these states may cross at different frequencies than

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[198] Statistics Canada. *International Travel*, 2003.

[199] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

U.S. travelers in California, particularly because Arizona and New Mexico lack a large border metropolitan area like San Diego-Tijuana. If a metropolitan area contains more frequent travelers, which is likely the case, the use of California frequency data would underestimate the number of unique U.S. travelers in Arizona and New Mexico. Without evidence to support this conjecture, the effect of using California data to estimate unique U.S. travelers in Arizona and New Mexico remains unclear.

For the U.S.-Canada border, survey data including frequency of travel were available for Michigan, Washington, and Buffalo POEs. In those locations, we used survey data to determine unique travelers at relevant POEs.[200] These data included four of the top five U.S.-Canada POEs in terms of overall crossing numbers in 2004. We determined that the Michigan and Washington surveys have limited transferability to other U.S.-Canada POEs due to considerable variability in traffic among the northern border POEs. The surveyed POEs were predominantly urban in nature, and only included some of the highest-traffic POEs on the border. In contrast, many other POEs are small and rurally located. Thus, we developed separate frequency estimates using likely annual frequencies of crossing by travel mode and by POE type based on the nature (e.g., distance to nearest large city) of the specific POEs. This approach could over- or under-estimate the number of unique travelers to the degree that our estimates are not correct.

- **Limitations of Existing Surveys:** Two primary sources of frequency estimates are the SANDAG study and the DOS/BearingPoint survey. As discussed earlier in this chapter, both studies have limitations in the context of this regulatory analysis. For example, SANDAG surveyed travelers during both peak and off-peak crossing hours over a 16-week period, capturing both commuters and leisure travelers. However, it asked travelers how often they traveled in a single month, as opposed to monthly or annually. Converting a one-month frequency to an annual frequency may bias the unique traveler estimate upwards or downwards. Conversely, the DOS BearingPoint study asked travelers how often they traveled on an annual basis, a question more similar to the purposes of this analysis. However, the team only surveyed travelers between 8 am and 5 pm over a two-week period in July. As a result, the study does not capture commuters and may overstate vacationers, thus biasing travel frequencies.

Given the uncertainty surrounding our travel frequency data, our unique U.S. traveler estimates are imprecise. We attempt to reflect this uncertainty by testing the sensitivity of our estimates to changes in traveler crossing frequency. As explained in the U.S.-Mexico and U.S.-Canada border analyses, we calculate both low and high estimates of unique U.S. travelers by varying annual crossings per traveler by 25 percent at each

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[200] Although the studies only surveyed passenger cars, crossing frequencies across all travel modes were assumed to be constant.

crossing frequency level. As described above, a 25 percent decrease in travel frequency results in 33 percent more unique travelers. Conversely, a 25 percent increase in travel frequency results in 20 percent fewer unique travelers.

TRAVELER AGE

After removing vehicle drivers, who are known to be adults, we apply the percent of state population under and over age 16 to the remaining travelers in order to estimate unique U.S. child and adult travelers without acceptable documentation. The ratio of children to adults among U.S. border travelers may be different than the statewide ratio, but we have no data to support an alternative estimate. On the other hand, U.S. land border travelers are more likely to come from border states than the U.S. as a whole.

DOS has data on passport book issuances. In 2005, DOS estimated the agency processed 6.6 million Form DS-11 (first time applicant) passport applications and 2.9 million Form DS-82 (renewal applications), for a total of 9.5 million applications.[201] Eighteen percent of passports issued via Form DS-11 were issued to children. However, it is likely that the age distribution of the population crossing land borders differs from the age distribution found in annual U.S. passport issuances.

CROSSINGS BY U.S. TRAVELERS AT MULTIPLE POES

We adjust our unique U.S. traveler estimates to account for the fact that some U.S. travelers cross the border at multiple POEs in a given year. Without this adjustment, a U.S. traveler crossing at more than one POE would be counted as a unique traveler at each POE the individual used. The adjustment we make assumes that U.S. travelers who cross at multiple POEs use only two POEs and cross each POE the same number of times in a year. These two assumptions do not necessarily describe all U.S. travelers who use multiple POEs, yet the available survey data do not permit a more sophisticated adjustment.

For example, the second assumption in our analysis implies that a traveler who crosses every day at one POE also crosses every day at a second POE, which is likely unrealistic. To the extent that travelers cross fewer times at the second POE, our adjustment would excessively reduce the number of crossings, thereby underestimating unique U.S. travelers. However, the opposite could also be true. For example, a traveler indicating a first time crossing at the surveyed POE may actually cross every day at another POE. Our POE adjustment, which assumes the traveler crosses with the same frequency at both POEs, would insufficiently reduce the number of crossings, thereby overestimating unique U.S. travelers. We have no evidence to identify which of these opposite effects dominates the other. Consequently, the direction of bias on our unique traveler estimate is unknown.

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[201] U.S. Department of State, Bureau of Consular Affairs, Passport Services, Office of Field Operations, Field Coordination Division, *Notice of Information Collection Under Emergency Review: Form DS-82, Application for a U.S. Passport by Mail*, OMB Control Number1405-0020, Federal Register: Vol. 70, No. 53, March 21, 2005, as viewed at http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/05-5588.htm on November 17, 2006.

CROSSINGS BY LAWFUL PERMANENT RESIDENTS

Our analysis makes no specific adjustment for Mexican and Canadian LPRs in the United States, who may be included in our estimates of unique U.S. travelers. LPRs are not covered by the rule, and, in any case, should already possess a valid passport from their country of citizenship. We did not have data for LPR crossings at all POEs sufficient to provide a basis for reducing our estimate of unique travelers to take LPRs into account.

Information available for Texas and Arizona permitted an estimate of crossings attributable solely to U.S. citizens. Therefore, the unique U.S. traveler estimates for these states do not include LPRs. However, the survey data available for California provided estimated crossings attributable to U.S. residents, a group that includes LPRs. As explained in Step 2 of the U.S.-Mexico border analysis, the difference between U.S. citizen and U.S. resident crossings for California should not be significant. A 1994 survey by San Diego Dialogue suggests that the share of crossings by U.S. citizens and U.S. residents differs by only a few tenths of a percent.[202]

Canadian LPRs residing in the U.S. were counted by Statistics Canada as U.S. residents, thereby artificially increasing the share of crossings attributable to U.S. citizens and the number of unique U.S. travelers without acceptable documentation. No data are available to determine how many crossings are attributable to LPRs each year. However, available data indicate there were an estimated 300,000 Canadian LPRs in 2004 throughout the entire United States.[203] Therefore, we believe that the number of Canadian LPRs is likely small compared to our unique U.S. traveler estimates for the U.S.-Canada border.

CROSSINGS BY NATIVE AMERICANS AND ALASKA NATIVES

Our analysis makes no specific adjustment for Native Americans or Alaska Natives in the United States, who may be included in our estimates of unique U.S. travelers. The U.S Census Bureau estimates that as of 2000, there were about 33,000 Native American and Alaska Native individuals living on lands abutting international borders.[204] Exhibit 4-36 summarizes U.S. Census data regarding these groups living in the United States.

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[202] San Diego Dialogue, *Who Crosses the Border: A View of the San Diego/Tijuana Metropolitan Region,* April 1994.

[203] Rytina, N.F., Office of Immigration Statistics, Policy Directorate, U.S. Department of Homeland Security, *Estimates of the Legal Permanent Resident Population and Population Eligible to Naturalize in 2004*, February 2006.

[204] U.S. Census Bureau, *Summary of Tribal Populations, United States, 2000* as viewed at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_lang=en on March 16, 2006.

EXHIBIT 4-36   NATIVE AMERICANS AND ALASKA NATIVES (2000)

LEVEL OF ORGANIZATION	BEST ESTIMATE
Nationwide	5,493,421
Border States	948,205
Tribal Lands Abutting International Borders	33,070

Note: The estimate for "Tribal Lands Abutting International Borders" does not include estimates from the State of Alaska. As of 2000, there were 181,312 "Alaska Natives" in Alaska, but it is unknown how many live in communities directly abutting the U.S.-Canada border.
Source: U.S. Census Bureau, *Summary of Tribal Populations, United States, 2000,* as viewed at http://factfinder.census.gov/servlet/DatasetMainPageServlet?_lang=en on March 16, 2006.

Crossing activity by native populations is almost certainly included in our estimates of unique U.S. travelers, as their crossings would be recorded as any other individual's crossings are recorded. However, due to the dearth of data for these individuals, we cannot estimate the economic impacts of the rule on these subpopulations specifically. To the extent that we have captured their numbers in the crossing data and calculations of unique travelers, we have accounted for the impacts in the nation-wide estimates. Based on the provisions of the rule, these individuals may already be compliant with the requirements.

CHAPTER 5 | DIRECT COSTS

Executive Order 12866 directs Federal agencies to assess the costs of regulatory alternatives, focusing on the benefits and costs to citizens of the United States.[205] This chapter estimates the direct costs of the Western Hemisphere Travel Initiative (WHTI) regulation: welfare losses to U.S. citizens of obtaining the required travel document; welfare losses to individuals that choose not to purchase new identification; and costs to U.S. Customs and Border Protection (CBP) and U.S. Department of State (DOS) of implementing the program. Chapter 6 estimates the indirect costs of the rule: net costs associated with reduced spending in the United States by foreign travelers. Chapter 7 considers whether specific border communities are likely to be disproportionately affected by the regulation.

As described in Chapter 1, CBP and DOS have considered the following three regulatory alternatives:

ALTERNATIVE 1: All U.S. citizens entering the United States via the Mexican or Canadian border must present a traditional passport book.

> ALTERNATIVE 1A: Alternative 1, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 1B: Alternative 1, except for U.S. and Canadian children under 16 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 2: All U.S. citizens must present a passport book, a passport card containing a vicinity-read radio frequency identification (RFID) chip, a CBP trusted traveler card (Free and Secure Trade (FAST), NEXUS, Secure Electronic Network for Travelers' Rapid Inspection (SENTRI)), a Department of Homeland Security (DHS)-approved Enhanced Driver's License (EDL), or a Merchant Mariner Document (MMD). In addition, Canadian citizens not enrolled in a CBP trusted traveler program will need to present a Canadian passport. For the purposes of this analysis, we assume that there will be no change in the documentation required of lawful permanent residents (LPRs), Mexican citizens, Native Americans, members of the U.S. Armed Forces with military

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[205] Executive Order 12866, *Regulatory Planning and Review*, September 30, 1993, and U.S. Office of Management and Budget, *Regulatory Analysis (Circular A-4)*, September 2003, p. 15.

identification and traveling on official orders, and NATO military personnel on official duty.[206]

> ALTERNATIVE 2A: Alternative 2, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 2B (chosen alternative): Alternative 2, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 3: Alternative 2, except the passport card and EDLs will not contain a vicinity-read RFID chip.

> ALTERNATIVE 3A: Alternative 3, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 3B: Alternative 3, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

This chapter focuses on the welfare losses travelers will experience under each of the alternatives and the costs to the government associated with implementing each of the alternatives. We begin with a discussion of the theoretical framework for estimating the direct costs presented in the Chapter. Next we describe the unit cost of obtaining the travel documents (e.g., a passport book or passport card) acceptable under each regulatory alternative. We follow by summarizing the incremental number of U.S. citizens traveling to Mexico and Canada who will be required to obtain new travel documentation. Then, we combine the unit cost information with the number of travelers to estimate welfare losses to travelers. After quantifying the welfare losses to travelers, we discuss the associated government implementation costs. We conclude with a summary of the total direct costs of each regulatory alternative and a discussion of key sources of uncertainty in the analysis.

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[206] Mexican nationals must present a valid, unexpired passport and a valid, unexpired visa issued by a U.S. embassy or consulate abroad, or they must present a Border Crossing Card (BCC), also known as a "laser visa." As of September 31, 2001, first-time applicants for BCCs are required to present a valid Mexican passport during the application process. However, individuals who obtained a BCC prior to that date may not currently possess a valid passport.

The framework for measuring costs of the WHTI regulation is based on the theory of welfare economics. Specifically, two categories of cost are considered in this chapter: social welfare losses and government regulatory costs.

SOCIAL WELFARE LOSSES TO TRAVELERS

In its guidance to Federal agencies for conducting regulatory analyses, the Office of Management and Budget (OMB) states that the "'[o]pportunity cost' is the appropriate concept for valuing both benefits and costs."[207] The opportunity cost approach recognizes that, because resources are limited, any decisions to use resources for one purpose means that they cannot be used for other purposes. Hence the value of the resource can be determined based on the value of its next best use.[208]

Willingness to pay is an approach commonly used to measure opportunity costs in the context of regulatory analysis. OMB notes that "[t]he principle of 'willingness to pay' (WTP) captures the notion of opportunity cost by measuring what individuals are willing to forego [*sic*] to enjoy a particular benefit."[209] Individual willingness to pay represents the maximum amount of money an individual would voluntarily exchange to obtain a good or service, such as access to Mexico and Canada.

Willingness to pay is a different concept than cost or price. *Cost* generally refers to the resources needed to produce a good or service; it may not measure the full value of the good or service to consumers. *Price* is determined by the interactions of suppliers and consumers in the marketplace. An individual's willingness to pay may exceed the current price, in which case he or she benefits from the fact that the market price is less than he or she is willing to pay. If price instead exceeds willingness to pay, the individual would presumably choose to not purchase the good. The amount by which willingness to pay exceeds price is referred to as consumer surplus.[210]

The regulation increases the price of access to Mexico and Canada by requiring travelers who enter the United States from these countries at land ports-of-entry (POEs) to present a valid passport or other approved documentation in circumstances where travel was previously permitted without such documentation. At this point we exclude from our discussion those travelers who, absent of regulation, already possess a passport or CBP trusted traveler card. We exclude this category of travelers, because they will incur no additional cost to purchase required documentation.

If a traveler's willingness to pay for access to these countries exceeds the post-regulation price of documentation, then he or she will decide to purchase the necessary document

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[207] U.S. Office of Management and Budget, *Regulatory Analysis (Circular A-4)*, September 2003, p.18.

[208] U.S. Environmental Protection Agency, Office of Water, *Valuing Time Losses due to Illness: Under the 1996 Amendments to the Safe Drinking Water Act*, prepared by Industrial Economics, Incorporated, January 2005, p. 1-2 to 1-3.

[209] U.S. Office of Management and Budget, *Regulatory Analysis (Circular A-4)*, September 2003, p.18.

[210] This paragraph uses text from U.S. Environmental Protection Agency, Office of Water, *Valuing Time Losses due to Illness: Under the 1996 Amendments to the Safe Drinking Water Act*, prepared by Industrial Economics, Incorporated, January 2005, p. 1-2 to 1-3.

and will continue to travel to Mexico or Canada. In this case, the traveler's consumer surplus is reduced by an amount equal to the cost of obtaining the required document. In other words, the price of the travel document represents his or her opportunity cost.

If a traveler's willingness to pay is less than the post-regulation price of access, then he or she will choose not to travel to Canada or Mexico. The welfare loss equals the consumer surplus that would have been gained from taking trips prior to implementation of WHTI. The size of this loss will vary depending on the difference between a traveler's willingness to pay and baseline travel costs. However, the loss will never be larger than the cost of obtaining the required document (including fees, time spent applying, and other expenses), otherwise he or she would continue to travel.

Exhibit 5-1 shows an illustration of the measurement of consumer surplus losses experienced by unique travelers affected by the regulation. Exhibit 5-1a represents the baseline demand curve for access to Mexico and Canada.[211] The current cost of access is equal to C (i.e., current travel costs associated with walking or driving across the border). The number of individuals without the documentation specified in the regulation accessing Mexico and Canada is equal to T. These travelers currently benefit at the amount quantified by the area within the triangle CXY, which represents their consumer surplus. In other words, at any point along the demand curve XY, these unique travelers' willingness to pay for access to Mexico and Canada exceeds their costs.

Exhibit 5-1b modifies Exhibit 5-1a by assuming that the cost of access to Mexico and Canada has increased from C to C_1 as a result of the need to obtain a passport or other approved travel document specified by WHTI. At this new cost of access (C_1), the number of unique travelers choosing to continue to travel to Mexico and Canada declines from T to T_1. Those travelers who choose not to travel ($T - T_1$) do so because their willingness to pay for access to Mexico and Canada (shown as demand between points Z and Y) is less than the cost of the necessary documentation (C_1). As a result, these travelers lose consumer surplus equal to the area of the triangle WYZ. If we assume that the demand curve is linear, then the formula used to calculate this loss is:

> Consumer surplus loss experienced by individuals who discontinue travel to Mexico and Canada = 1/2 * number of individuals who stop traveling ($T - T_1$) * cost of acceptable travel documents ($C_1 - C$)

Unique travelers who continue to travel to Mexico and Canada after the rule goes into effect equal T_1. Their willingness to pay for access to these countries (shown along the demand curve XZ) is greater than the cost of access (C_1). Their consumer surplus is reduced by the amount denoted by the rectangle CC_1ZW (i.e., the area of this rectangle represents their welfare loss or opportunity cost). The formula used to calculate this loss is:

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[211] In fact, we do not know the specific demand curve and willingness to pay for access to Canada and Mexico. The demand curve may vary for each border, or even specific border areas.

Consumer surplus loss experienced by individuals who continue traveling to Mexico and Canada = number of travelers who continue traveling (T_1) * cost of acceptable travel documents (C_1 - C)

Total consumer surplus loss to all affected unique travelers is the area of trapezoid CC_1ZY, which equals the sum of the two surplus loss estimates above. In other words, this sum represents the opportunity costs to all unique travelers affected by the regulation.

EXHIBIT 5-1   CONSUMER SURPLUS LOSSES TO TRAVELERS
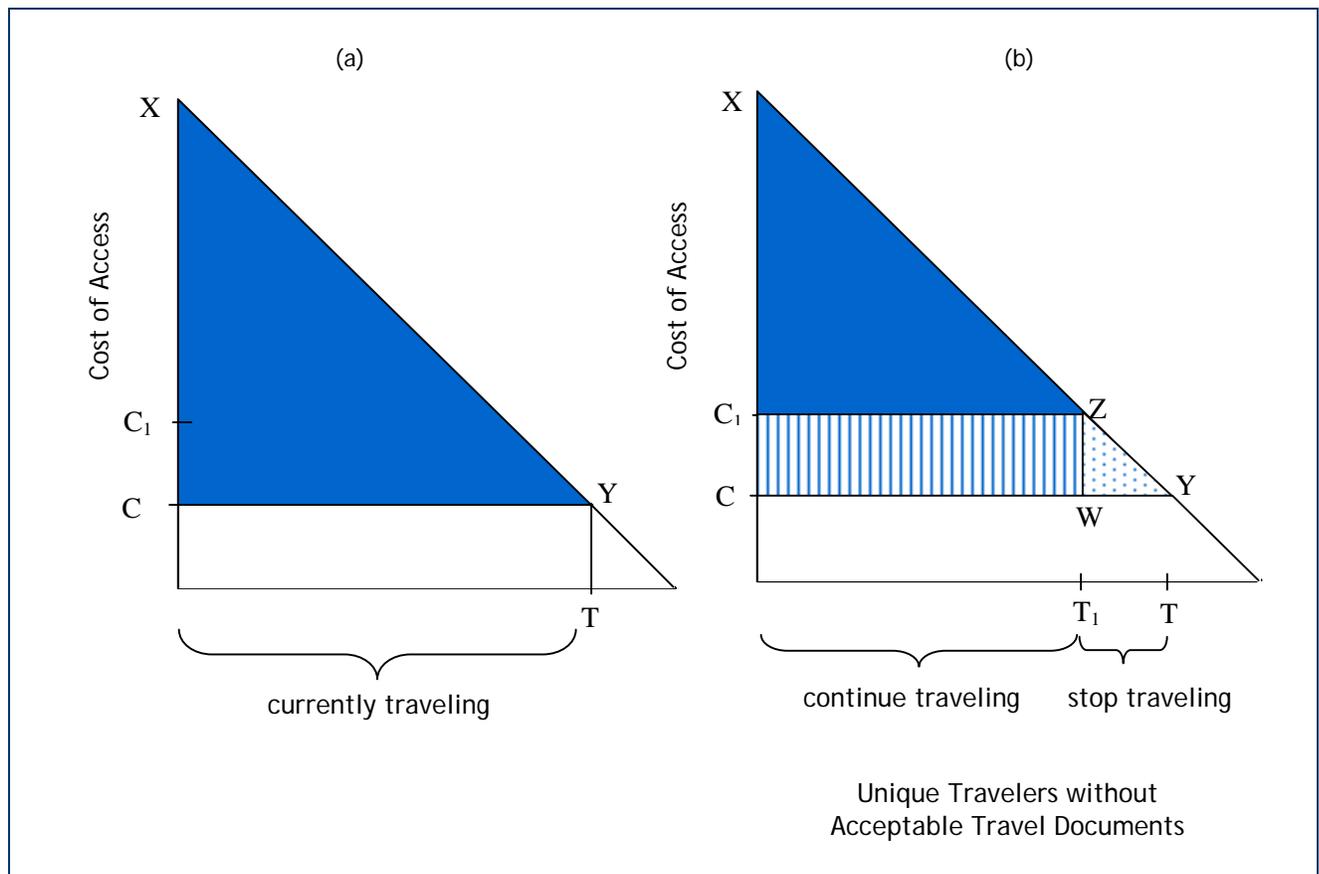
GOVERNMENT REGULATORY COSTS

Government regulatory costs include the costs to CBP and DOS of implementing the regulation. Specifically, as travelers apply for passport books or passport cards as a result of WHTI, DOS must purchase the card stock and technology for these new documents, adjudicate each application, print biographic information on the book or card, and return the passport to the applicant.[212] These services and materials are accounted for in the passport application fee paid by applicants and thus are captured in the estimate of social welfare losses to travelers described in the previous section. Therefore, it is not anticipated that DOS will incur any incremental costs with the finalization of this rule.

Under Alternative 2, CBP will incur costs to install and operate passport card technology at land POEs. Cost categories include installing radio frequency identification (RFID) tag readers at the POEs, developing and upgrading software for processing the passport cards at the border, testing the new procedures at pilot sites, enhancing data storage capabilities, and contracting with specialists to maintain the system. Furthermore, under all regulatory alternatives, CBP anticipates hiring additional personnel to handle the increase in secondary inspections resulting from implementation of the regulation as well as upgrading equipment and software used to process machine-readable passport books and cards.

Specifically, secondary inspection is required when an individual fails to convince the CBP official of his or her citizenship when arriving at a POE. The initial screening of an individual by a CBP officer is known as primary screening. When WHTI is fully implemented, a condition to pass the primary screening will be the documentation required under the regulation; individuals who do not have the required documentation will be sent to secondary screening. Thus, because it is likely there will be some initial confusion regarding the need to present a passport book or card upon re-entry into the United States, it is likely that more people may undergo a secondary screening in order to prove to CBP that they indeed have a right to enter the United States.[213] Specific estimates of CBP estimates of start-up and ongoing operations and maintenance costs associated with implementation of the passport card technology, increased secondary inspections, and other equipment and software upgrades are summarized later in this chapter.

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[212] U.S. Department of State, "Card Format Passport; Changes to Passport Fee Schedule, Final Rule," 72 FR 74169.

[213] U.S. Customs and Border Protection, Investment Management Team, *Implementation Plan for Land Border Western Hemisphere Travel Initiative (WHTI)*, provided to IEc via email from U.S. Customs and Border Protection, Office of Regulations and Rulings, on July 31, 2006; and personal communication with Automation Programs Office, Border Security & Facilitation, Office of Field Operations, U.S. Customs and Border Protection, on August 28, 2006.

In this section, we describe our calculation of social welfare losses experienced by travelers who, in the baseline scenario, will visit Mexico or Canada and do not currently possess travel documents required by the regulation. First, we discuss the unit cost of obtaining a passport book or passport card.[214] Next, we estimate the number of travelers who will experience a welfare loss. Finally, we combine this information to estimate consumer surplus losses experienced by the affected population.

UNIT COST OF OBTAINING A PASSPORT BOOK OR PASSPORT CARD

U.S. citizens obtaining a passport book for the first time are required to appear in person at one of 9,000 passport acceptance facilities in the United States to present and sign form *DS-11: Application for Passport*.[215] Government offices serving as acceptance facilities include: Federal, state, and probate courts; post offices, public libraries; and county and municipal offices.[216] U.S. citizens must display a valid form of photo identification (such as a driver's license), have proof of U.S. citizenship (such as a birth certificate), make the required payment, and submit two identical passport-sized photographs. The application process for the passport card will be comparable to that of a traditional passport book.[217]

Citizens who currently hold a valid passport, or held a valid passport in the recent past, may qualify as renewal applicants. To qualify as a renewal applicant: (1) a citizen must have obtained a passport within the past 15 years, (2) the old passport must be undamaged and available to submit, (3) and the citizen must have been 16 years or older when the prior passport was issued and still have the same name or have documentation of a name change.[218] Adults who renew a passport are not required to appear in person at an acceptance facility. Instead, individuals can submit, via mail, form *DS-82: Application for Passport by Mail* along with their recent passport, a required payment, and two identical passport-sized photos.[219]

The application process for minors (children under the age of 14) and young adults (ages 14 and 15) is slightly different. A fee is still required, as is the required submittal of passport photos and proof of U.S. citizenship. For young adults ages 14 and 15, a valid

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[214] Note that because the application process for NEXUS, SENTRI, or FAST generally requires in-person interviews, and renewals are required more frequently, these programs are more expensive than obtaining a passport book or passport card. Because we estimate welfare losses based on a traveler's minimum cost to maintain access to Mexico and Canada, the cost of participation in these programs is not applied in this analysis (as discussed later in this Chapter).

[215] U.S. Department of State, *Application for a US Passport*, as viewed at http://travel.state.gov/ pdf/DS-0011.pdf on June 19, 2006.

[216] U.S. Department of State, *Application for a US Passport*, as viewed at http://travel.state.gov/ pdf/DS-0011.pdf on June 19, 2006.

[217] U.S. Department of State, "Card Format Passport; Changes to Passport Fee Schedule, Final Rule," 72 FR 74169.

[218] U.S. Department of State, Bureau of Consular Affairs, *Passports*, as viewed at http://travel.state.gov/passport/passport_1738.html on June 19, 2006.

[219] U.S. Department of State, Bureau of Consular Affairs, *How to Apply for a Passport Renewal*, as viewed at http://travel.state.gov/passport/get/renew/renew_833.html on July 4, 2006.

form of photo identification also must be presented. Minors under the age of 14 are not required to provide a valid form of photo identification. However, a minor's parents must provide evidence of the minor's relationship to the parents or guardian(s), and each parent must provide photo identification. In addition, both parents must appear at the passport acceptance facility with the minor to sign *Form DS-3053: Statement of Consent - Issuance of a Passport to a Minor Under Age 14*, or one parent must appear and bring a notarized copy of the form with the other parent's signature.[220] Finally, minors and young adults are not eligible to submit form *DS-82*.[221]

Processing time for a passport application can take up to 12 weeks.[222] However, applicants may request expedited service for an additional fee, guaranteeing that their application will be processed more quickly.[223] DOS estimates that approximately 22 percent of passport applicants request expedited service.[224]

Fees, Cost of Photos, and Amount of Time Spent Applying

The cost of obtaining a passport includes three components: (1) an application fee, (2) the cost of photographs, and (3) the opportunity cost of time spent filling out the application and delivering it to an acceptance facility. Exhibit 5-2 summarizes the costs or amount of time associated with each component for passport books and passport cards. Below we describe each element in detail.

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[220] U.S. Department of State, Bureau of Consular Affairs, *Special Requirements for Children Under Age 14 Minor Children Must Apply In Person*, as viewed at http://travel.state.gov/passport/get/minors/minors_834.html on July 4, 2006.

[221] This paragraph describes the passport application procedures currently in place at the time of the writing of this report. However, for cost purposes, this report assumes that DOS's proposed age change (from under 14 to under 16) for requiring both parents' consent to apply for a passport will take effect beginning in 2008 (U.S. Department of State, "Passports," 72 FR 10095).

[222] U.S. Department of State, *How Long Will It Take To Process a Passport Application?*, as viewed at http://www.travel.state.gov/passport/get/processing/processing_1740.html on August 17, 2007.

[223] U.S. Department of State, *How Long Will It Take To Process a Passport Application?*, as viewed at http://www.travel.state.gov/ passport/get/processing/processing_1740.html on August 17, 2007.

[224] U.S. Department of State, Bureau of Consular Affairs, Passport Services, *Paperwork Reduction Act Submission: Application for a U.S. Passport: OMB Control # 1405-0004 (DS-11)*, provided to IEc on February 23, 2006; and U.S. Department of State, Bureau of Consular Affairs, Passport Services, *Paperwork Reduction Act Submission: Application for a U.S. Passport By Mail: OMB Control # 1405-0020 (Form DS-82)*, provided to IEc on July 3, 2006.

EXHIBIT 5-2   PASSPORT FEES, PHOTO COSTS, AND TIME SPENT APPLYING IN 2008
(2005-2007 VALUES IN PARENTHESES)

APPLICATION ELEMENT	ADULTS		CHILDREN	
	DS-11 (FIRST-TIME)	DS-82 (RENEWAL)	DS-11 & DS-3035 (AGE 14-15)	DS-11 & DS-3035 (AGE 0-13)
PASSPORT BOOK				
Fee	$100 ($97)	$75 ($67)	$85 ($82)	$85 ($82)
Photo	$11	$11	$11	$11
Postage	$0	$0.85	$0	$0
Time	85 minutes	40 minutes	170 (140) minutes	170 minutes
Validity	10 years	10 years	5 years	5 years
Expedited service (fee plus overnight delivery)	$67	$74	$67	$67
PASSPORT CARD				
Fee	$45	$20	$35	$35
Photo	$11	$11	$11	$11
Postage	$0	$0.85	$0	$0
Time	85 minutes	40 minutes	170 minutes	170 minutes
Validity	10 years	10 years	5 years	5 years
Expedited service (fee plus overnight delivery)	$67	$74	$67	$67

Sources:

1. U.S. Department of State, Bureau of Consular Affairs, Passport Services, *Paperwork Reduction Act Submission: Application for a U.S. Passport: OMB Control # 1405-0004 (DS-11)*, provided to IEc on February 23, 2006.

2. U.S. Department of State, Bureau of Consular Affairs, Passport Services, *Paperwork Reduction Act Submission: Application for a U.S. Passport By Mail: OMB Control # 1405-0020 (Form DS-82)*, provided to IEc on July 3, 2006.

3. U.S. Department of State, "Schedule of Fees," 22 CFR 22.1 (2007).

4. U.S. Department of State, "Schedule of Fees for Consular Services, Department of State and Overseas Embassies and Consulates, Interim Final Rule," 73 FR 5087.

5. U.S. Department of State, "Card Format Passport; Changes to Passport Fee Schedule, Final Rule," 72 FR 74169.

6. U.S. Department of State, "Passports," 72 FR 10095.

7. Expedited service cost includes a $60 fee plus standard, overnight delivery ($7 one way or $14 both ways, depending on whether the applicant must appear in person to submit his or her application), based on a weighted average of FedEx and U.S. Postal Service (USPS) standard overnight service and USPS two to three day priority service. (U.S. Department of State, *How to Get Your Passport in a Hurry*, as viewed at http://travel.state.gov/passport/get/first/first_831.html on September 8, 2006; FedEx, *FedEx Retail Counter Rates by Service, Effective January 2, 2006*, obtained from http://www.fedex.com/ratetools/ RateToolsMain.do?link=2 on September 8, 2006; and U.S. Post Office, *Shipping Products and Services*, as viewed at http://www.usps.com/business/shippingtools/shippingproducts.htm?from=home&page=shippingproductsservices on September 8, 2006).

The traditional passport book application fee for adult, first-time applicants (i.e., 16 years of age or older) was $97 from 2005 to 2007.[225] Beginning in 2008, the State Department increased this fee to $100.[226] The fee for children was $82.[227] This fee has similarly been increased by $3 to $85, beginning in 2008.[228] For passport cards, the first-time application fee is $45 for adults and $35 for children under age 16.[229] For purposes of this analysis, we assume that the passport card fee is the same regardless of whether the card contains an RFID chip.[230] For adults, the cost to renew a passport book is less than the cost of a first time application, with a standard processing cost of $67.[231] This renewal fee increased by $8 to $75, beginning in 2008.[232] Similarly, adults renewing a passport card pay a reduced renewal fee of $20.[233] For expedited service of a first-time or renewal application, an additional fee of $60 plus the cost of overnight shipping applies.[234] We assume that the cost of overnight shipping is $7 one-way or $14 round trip.[235]

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[225] U.S. Department of State, "Schedule of Fees," 22 CFR 22.1 (2007).

[226] U.S. Department of State, "Schedule of Fees for Consular Services, Department of State and Overseas Embassies and Consulates, Interim Final Rule," 73 FR 5087.

[227] U.S. Department of State, "Schedule of Fees," 22 CFR 22.1 (2007).

[228] U.S. Department of State, "Schedule of Fees for Consular Services, Department of State and Overseas Embassies and Consulates, Interim Final Rule," 73 FR 5087.

[229] U.S. Department of State, "Card Format Passport; Changes to Passport Fee Schedule, Final Rule," 72 FR 74169.

[230] The cost of the RFID component of the passport card is approximately 50 cents per card. However, because this amount is likely to be within the error bounds of DOS's cost recovery analysis, it is unlikely DOS would amend the fee charged absent this component. Costs of RFID component provided to IEc in email via U.S. Customs and Border Protection, Office of Regulations and Rulings, on July 24, 2007.

[231] U.S. Department of State, "Schedule of Fees," 22 CFR 22.1 (2007). Adults are eligible to renew a passport if that passport expired within the last five years (U.S. Department of State, *How to Apply for Passport Renewal*, as viewed at http://travel.state.gov/ passport/get/renew/renew_833.html on September 10, 2006). Therefore, some travelers currently without valid passports may be eligible to renew expired passports.

[232] U.S. Department of State, "Schedule of Fees for Consular Services, Department of State and Overseas Embassies and Consulates, Interim Final Rule," 73 FR 5087.

[233] U.S. Department of State, "Card Format Passport; Changes to Passport Fee Schedule, Final Rule," 72 FR 74169.

[234] We assume that first time applicants, who must appear in person to submit their application, pay for overnight shipping for the return of their passport after the application has been processed. We assume that renewal applicants pay overnight shipping charges both for submitting their application and returning the valid passport to the applicant. (U.S. Department of State, *How Long Will It Take To Process a Passport Application?*, as viewed at http://www.travel.state.gov/ passport/get/processing/processing_1740.html on September 10, 2006.)

[235] Overnight delivery fees based on a weighted average of FedEx and US Postal Service (USPS) standard overnight service and USPS two to three day priority service. (FedEx, *FedEx Retail Counter Rates by Service, Effective January 2, 2006*, obtained from http://www.fedex.com/ratetools/ RateToolsMain.do?link=2 on September 8, 2006; and U.S. Post Office, *Shipping Products and Services*, as viewed at http://www.usps.com/business/shippingtools/ shippingproducts.htm?from=home&page=shippingproductsservices on September 8, 2006)

DOS estimates that, on average, a set of two passport photos costs $11.[236] It also estimates that, on average, an applicant spends one hour and 25 minutes to "search existing data sources, gather the necessary information, provide the information required, review the final collection, and submit the collection to Passport Services for processing."[237]

For children under 14 years of age, both parents must go with the child to the passport acceptance facility or one adult must sign a notarized consent form. We assume that of the one hour and 25 minutes estimated by DOS to complete the application process, 30 minutes are spent by a parent collecting the necessary paperwork, 25 minutes are spent by a parent and the child getting a passport photo, and 30 minutes are spent by the child and both parents going to the passport acceptance facility. Therefore, the total time spent by all three individuals involved in obtaining a child passport is 170 minutes (30 + 50 + 90).

Prior to 2008, a child between the ages of 14 and 15 did not need both parents' consent to apply for a passport. We assume, however, that most children will have one parent accompany him or her to obtain photos and visit the passport acceptance facility. Therefore, the time spent by these two individuals is 140 minutes (30+50+60). Beginning in 2008, children in this age group need both parents' consent to apply for a passport.[238] Therefore, our analysis assumes the total time for these individuals will match the time required for children under 14 from 2008 forward (170 minutes).

Value of Time

As presented in Exhibit 5-2, a component of the unit cost of obtaining a passport book or card is the opportunity cost associated with time spent completing the application process. This section provides a brief summary of the methodology used to estimate the value of time spent by individuals to obtain valid documentation. It also presents the time values applied in the analysis. For a detailed discussion of the theoretical basis for these values, see Appendix D of this report.

Because we are unaware of any studies specifically valuing the opportunity cost of time spent applying for a passport, we use a benefits transfer approach. Benefits transfer involves adapting research conducted to estimate economic values under one set of circumstances to address a new policy question. In this manner, existing valuation research is combined with policy-specific information to develop a "transferred" estimate. Best practices in the conduct of benefits transfer generally involve five steps:

- **Describe conditions to be valued:** Identify and describe in detail the valuation scenario. In this case, the scenario involves time spent reviewing passport

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[236] U.S. Department of State, Bureau of Consular Affairs, Passport Services, *Paperwork Reduction Act Submission: Application for a U.S. Passport: OMB Control # 1405-0004 (DS-11)*, provided to IEc on February 23, 2006.

[237] U.S. Department of State, Bureau of Consular Affairs, Passport Services, *Paperwork Reduction Act Submission: Application for a U.S. Passport: OMB Control # 1405-0004 (DS-11)*, provided to IEc on February 23, 2006.

[238] U.S. Department of State, "Passports," 72 FR 10095.

application requirements, gathering necessary proof of citizenship such as a birth certificate, filling in the application, driving to a photographer and potentially waiting in line for the passport photo, and driving to a post office or passport office and potentially waiting in line to submit an application, all with the goal of facilitating travel.

- **Identify relevant research:** Conduct a detailed search for relevant research in the economics literature.

- **Review research for quality and applicability.** Review relevant research carefully for quality and specific applicability.

- **Transfer economic values:** Apply valuation information identified to the conditions being valued; in this case, to estimated changes in welfare associated with time spent applying for a passport.

- **Address uncertainty:** Evaluate assumptions made in the process of transferring economic values and the sensitivity of final estimates to such assumptions.[239]

A review of the economics literature reveals that time has been valued in monetary terms in a number of different contexts, such as when measuring productivity losses associated with illness, the travel costs associated with different recreational opportunities, and the impacts of various transportation programs.[240] In general, the transportation literature is the most relevant to the current policy question; it directly addresses time spent in travel-related activities and includes a well-developed and extensive research base. This literature often divides travel time into several subcomponents, such as in-vehicle time versus wait time.

Reductions in wait time are often highly valued, because such time is generally not productive or enjoyable.[241] We focus on values of wait time, because it is similar in many respects to the type of time use that is the focus of this analysis. Both are generally viewed as undesirable uses of time that preclude the pursuit of more enjoyable or productive activities and may be uncertain in duration. For a detailed discussion of the literature review and research quality and applicability, see Appendix D.

To obtain an economic value of wait time that can be transferred to this analysis, we rely on a review of the transportation literature by Wardman that finds a mean value of

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[239] Adapted from U.S. Office of Management and Budget, *Regulatory Analysis (Circular A-4)*, September 17, 2003, pp. 24-26; and U.S. Environmental Protection Agency (EPA), *Guidelines for Preparing Economic Analyses*, EPA 240-R-00-003, September 2000, pp. 86-87.

[240] Text in this paragraph is taken from Robinson, L., *Valuing Travelers' Time for Border Crossings and Related Activities: Final Report*, prepared for CBP, under subcontract to IEc, February 15, 2007, pp. iii-iv, provided in Appendix D.

[241] Text in this paragraph is taken from Robinson, L., *Valuing Travelers' Time for Border Crossings and Related Activities: Final Report*, prepared for U.S. Customs and Border Protection, under subcontract to IEc, February 15, 2007, pp. iii-iv, provided in Appendix D.

averting wait time of 1.47 times the value of in-vehicle time.[242] We apply this factor to an estimate of the value of in-vehicle time derived from guidance provided by the U.S. Department of Transportation (DOT).[243] The guidance suggests that personal travel time should be valued as a percentage of pre-tax wages, and that benefits should be added to pre-tax wage to estimate the value of time spent on business travel. Applying DOT's recommended weights, we update its recommended values of in-vehicle time using 2005 wage rate and compensation data. Then, we multiply these values of in-vehicle time by 1.47 for estimates of the value of wait time. Exhibit 5-3 presents our results based on this approach. The best estimate of the value of wait time for personal travel is $12.48 per person-hour and for business travel is $29.59 per person-hour.

EXHIBIT 5-3   VALUES FOR WAIT TIME (2005 DOLLARS)

TRAVEL PURPOSE	VALUE PER PERSON-HOUR
Personal	$12.48
Business	29.59

Source: Robinson, L., *Valuing Travelers' Time for Border Crossings and Related Activities: Final Report*, prepared for CBP, under subcontract to IEc, February 7, 2007, p. 33. Study included in Appendix D.

To obtain a single estimate of the value of wait time that can be applied in this analysis, we use data on trip purpose among U.S. travelers to weight the personal and business travel values. Surveys conducted by the San Diego Association of Governments (SANDAG) at land POEs in California suggest that 9.1 percent of trips made by U.S. citizens traveling to Mexico are for business purposes.[244] A survey conducted by Statistics Canada of U.S. travelers suggests that only 5.1 percent of trips to Canada are for business purposes.[245] When we weight these percentages by the number of crossings at each border, the average value of wait time for all cross-border travelers is $13.87 per person-hour, as presented in Exhibit 5-4.

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[242] Wardman, M., "A Review of British Evidence on Time and Service Quality Valuations," *Transportation Research, Part E*, Vol. 37, 2001, pp. 107-128.

[243] U.S. Department of Transportation, *Revised Departmental Guidance, Valuation of Travel Time in Economic Analysis* (Memorandum from E.H. Frankel), February 2003.

[244] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006.

[245] Statistics Canada, *International Travel,* 2003.

EXHIBIT 5-4   VALUE OF WAIT TIME FOR ALL TYPES OF U.S. TRAVELERS (2005 DOLLARS)

BORDER	PERCENTAGE CROSSINGS MADE FOR BUSINESS	TOTAL NUMBER OF CROSSINGS MADE BY U.S. CITIZENS	PERCENTAGE OF CROSSINGS MADE AT EACH BORDER
U.S.-Mexico	9.1%	105,216,000	75.2%
U.S.-Canada	5.1	34,690,000	24.8
Weighted Average Percentage of Crossings Made for Business	(0.091 * 0.752) + (0.051 * 0.248) = 0.081		
Weighted Average Value of Time for All Travel	($29.59 * 0.081) + ($12.48 * 0.919) = **$13.87 per person-hour**		

Source: Total crossings derived from IEc calculations presented in Chapter 4. Percentage of crossings made for business derived from San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006; and Statistics Canada, *International Travel*, 2003.

A significant source of uncertainty in this transfer is the applicability of the national median wage information to travelers making crossings at land POEs. Ideally, we would use wage rates for the specific individuals affected by the regulation; however, this rule is broadly applicable to a large portion of the U.S. population. Also, we use median, rather than mean, data, because U.S. income distribution is highly skewed due to a small number of people who are very highly compensated. For these reasons, we believe the best estimate of the wage rate for the subset of the population affected by the regulation is best reflected by national median wage information.

Furthermore, the Wardman analysis covers only British studies, and the wait time values appear somewhat lower than the conventional approach in that country and others of valuing wait time at twice the value of in-vehicle time.[246] Note that DOT recommends valuing wait time at 100 percent of the value of in-vehicle time, so the Wardman value provides a central estimate within the range of possible values.[247] The effect of varying assumptions of the value of wait time is addressed in Appendix D.

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[246] Wardman, M., "A Review of British Evidence on Time and Service Quality Valuations," *Transportation Research, Part E*, Vol. 37, 2001.

[247] U.S. Department of Transportation, *Revised Departmental Guidance, Valuation of Travel Time in Economic Analysis* (Memorandum from E.H. Frankel), February 2003.

Summary of Unit Passport Book and Card Costs

To estimate the unit costs of obtaining a passport book or card, we multiply the value of wait time by the average time loss associated with obtaining each type of document. We add these losses to the other unit costs (fees and other expenses) presented in Exhibit 5-2. The results are summarized below, in Exhibit 5-5.

EXHIBIT 5-5   PER PERSON PASSPORT BOOK AND CARD COSTS IN 2008, 2005 DOLLARS
(2005-2007 UNIT COSTS IN PARENTHESES)

DOCUMENT	PER PERSON APPLICATION COST	
	STANDARD PROCESSING	EXPEDITED PROCESSING
PASSPORT BOOK		
DS-11 (Adult)	$130.65 ($127.65)	$197.65 ($194.65)
DS-82 (Adult)	96.10 (88.10)	169.25 (161.25)
DS-11 & DS-3053 (Age 14-15)	135.30 (125.36)	202.30 (192.36)
DS-11 & DS-3053 (Age 0-13)	135.30 (132.30)	202.30 (199.30)
PASSPORT CARD		
DS-11 (Adult)	$75.65	$142.65
DS-82 (Adult)	41.10	114.25
DS-11 & DS-3053 (Child)	85.30	152.30

Source: IEc calculation from information provided in Exhibits 5-2 and 5-4.

ANNUAL INCREMENTAL NUMBER OF UNIQUE TRAVELERS AFFECTED

The unit cost estimates presented in the previous section represent the change in costs of access to Mexico and Canada (C_1 - C as described at the beginning of the chapter). In order to estimate the incremental costs of the rule, we also require estimates of the change in traveler behavior generated by the rule (T_1 - T). This section compares traveler activity absent the regulation (i.e., the world without WHTI, also referred to as the "baseline" scenario, or T) to the travelers' behavior since December 2004 (T_1), when the President signed the Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA).

Specifically, to estimate baseline travel by unique individuals who currently do not possess a valid passport, we take the following steps:

- **Step 1:** Identify the number of U.S. travelers to Mexico and Canada in 2004 (estimated in Chapter 4) who do not currently possess acceptable travel documents under the WHTI regulatory alternatives, and determine whether they are likely to travel frequently, infrequently, or rarely.

- **Step 2:** Forecast the annual number of new travel documents required by unique travelers in each year of the analysis (2005–2017) based on travel frequency, traveler turnover rates, and anticipated passport expiration (i.e., passports will expire within the time frame of this analysis).

Then, to estimate the incremental change in travel activity resulting from each of the regulatory alternatives, we complete two additional steps:

- **Step 3:** Estimate the least costly type of document (e.g., new passport book or card, renewal passport book or card) available under each alternative for each affected unique traveler in each year.

- **Step 4:** Estimate the number of unique travelers who decide to obtain approved travel documents and those who decide to forgo future access to Mexico and Canada.

Step 1 - Identify Frequent, Infrequent, and Rare Travelers

To estimate the number of U.S. citizens who travel to Mexico or Canada each year and who do not have a valid passport, we begin with the baseline unique traveler information presented in Chapter 4. As shown in Exhibit 5-6, we estimate that in 2004 approximately 8.0 million unique U.S. adult travelers who did not possess a valid passport entered the United States from Mexico or Canada. In the same year, approximately 1.3 million U.S. children entered the United States from these countries. In total, we estimate that approximately 9.3 million unique U.S. travelers who did not possess a valid passport traveled to Mexico and Canada in 2004. Note that we assume different groups of individuals visit Mexico and Canada; therefore, the estimates of unique travelers visiting these countries are assumed to be additive. This assumption may result in an overestimate of the number of unique travelers affected if some travelers visit both countries.[248]

EXHIBIT 5-6   2004 U.S. TRAVELERS WITHOUT VALID PASSPORTS

AGE GROUP	U.S. UNIQUE TRAVELERS
Adults	8,032,000
Children	1,257,000
Total	9,289,000

Note: Total may not sum due to rounding.
Source: IEc calculations presented in Chapter 4.

Under Alternative 1, assuming no children are exempt from the final rule, all of these individuals are affected by the rule (i.e., in order to continue to be able to return to the United States when traveling to Mexico and Canada, they will be required to obtain a traditional passport book). Alternatives 2 and 3 reduce the number of affected adult travelers, because CBP trusted traveler cards will be sufficient documentation to ensure reentry into the United States. Exhibit 5-7 presents the number of adult travelers in 2004 without passports, net of individuals participating in CBP's FAST, NEXUS, and SENTRI

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[248] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005. The study estimates that approximately two percent of U.S. citizens cross both borders.

programs. These alternatives reduce the number of affected adults by approximately 52,000 unique travelers.

EXHIBIT 5-7   2004 ADULT TRAVELERS AFFECTED UNDER ALTERNATIVES 2 & 3

CATEGORY	U.S UNIQUE TRAVELERS
Total adults	8,032,000
FAST, NEXUS, and SENTRI members without passports	52,000
Adults net of members of CBP trusted traveler programs	7,980,000

Note: Total may not sum due to rounding.
Source: IEc calculations relying on data presented in Chapter 4.

The number of unique travelers presented in Exhibits 5-6 and 5-7 represents the total number of U.S. citizens who would have been affected under each alternative (assuming no exemptions for children), had the alternative been in effect in 2004. These estimates are based on a single year (2004) of crossing data reported by the Bureau of Transportation Statistics (BTS).[249] Many of these individuals crossed the border frequently (i.e., at least one time per year). These travelers are likely to apply for a passport immediately, so that they are able to continue crossing the border in 2008 when the regulation is scheduled to take effect.

The rest of the travelers captured in the 2004 crossing data crossed the border less frequently than one time per year. These individuals may cross into Mexico or Canada once every few years or once in a lifetime. The BTS data capture the less frequent travelers who happened to make a trip in 2004. The data do not capture other individuals in the United States who might travel to Mexico or Canada once in a future year, but did not in 2004. For example, Joe and Mary both plan to travel to Montreal for vacation. Joe visited in 2004 and was counted in that year's BTS data. Mary visited in 2005, so she was counted by BTS in 2005. In each year, only one unique traveler crossed the border; however, two individuals will require a passport book or card if they travel to Montreal again in the future.

To identify the number of new, unique travelers in each year of the analysis that currently do not possess approved travel documents, we make several simplifying assumptions based on an estimated frequency at which those travelers will make trips. The survey data described in detail in Chapter 4 allow us to easily identify frequent travelers making one or more trips per year. However, information describing travel frequency for individuals traveling less than one time per year, referred to in this analysis as infrequent and rare travelers, is more limited. Below, we describe the data used to characterize travel frequency for these categories of individuals.

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[249] For a detailed discussion of the BTS crossing data, see Chapter 3.

- **U.S.-Mexico border:** In July 2005, DOS hired BearingPoint, Inc. to conduct a survey of travelers crossing the border at seven POEs in California and Texas (referred to as the DOS BearingPoint study).[250] Researchers asked U.S. travelers to describe their crossing frequency by selecting from nine multiple-choice options.[251] Approximately 4.1 percent of respondents selected the option indicating that they traveled across the U.S.-Mexico border at this location "once in several years." We refer to this group as "infrequent" travelers and assume that they typically cross the border once every three years. Approximately 2.2 percent of respondents selected the option indicating that this was the "first time" that they traveled across the U.S.-Mexico border at this location. We refer to this group as "rare" travelers, and assume that they will cross the border once during the 10-year validity period of an adult passport. Thus, we assume that 4.1 percent of crossings at the U.S.-Mexico border are made by infrequent travelers, and 2.2 percent are made by rare travelers.[252]

- **U.S.-Canada border:** On the U.S.-Canada border, several Canadian and American transportation agencies, led by the Ontario Ministry of Transportation and the Michigan Department of Transportation, conducted a bi-national survey of 22,300 travelers in August 2000.[253] Choosing from a selection of possible answers, approximately 10 percent of survey respondents stated they crossed the border "less than once a year." We assume that these Michigan estimates are representative of all U.S.-Canada POEs, because representative data specific to other locations along the border are not available.[254] To assign this ten percent of travelers to our "infrequent" and "rare" categories, we use the DOS BearingPoint study, which surveyed travelers at five POEs in New York, Maine, Michigan, and Washington. Across these northern border POEs, 47 percent of respondents to the DOS BearingPoint study who traveled less than once a year stated that they crossed at the surveyed location "once in several years." As in the U.S.-Mexico border analysis, we refer to these individuals as "infrequent travelers" and assume

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[250] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

[251] The SANDAG survey of U.S. travelers in California used in Chapter 4 to convert crossings to unique travelers does not permit an estimation of crossing frequency for infrequent or rare travelers. In that effort, respondents were asked how many times they had crossed the border in the previous month, rather than how many times they crossed in a year or several years.

[252] These averages of 4.1 percent and 2.2 percent were weighted by the number of inbound crossings at each survey site.

[253] Ontario Ministry of Transportation and Michigan Department of Transportation, "Ontario-Michigan Border Crossing Traffic Study: Technical Report," August 2001; and Ontario Ministry of Transportation and Michigan Department of Transportation, "Ontario-Michigan Border Crossing Traffic Study: Summary Report," August 2001.

[254] The DOS BearingPoint study surveyed other locations along the U.S.-Canada border; however, sampling occurred during non-commuting hours. We believe the Michigan survey, which was conducted via mail, provides a better estimate of the relative proportion travelers who visit Canada less than one time per year.

that they will cross the border once every three years. Fifty-three percent of respondents traveling less than once a year stated that they this was their "first time" crossing at this location. We assume that these "rare" travelers cross the U.S.-Canada border once every 10 years. Thus, we assume that 4.7 percent of crossings at the U.S.-Canada border are made by infrequent travelers, and 5.3 percent are made by rare travelers.

Exhibit 5-8 presents our estimates of the number of frequent, infrequent, and rare travelers that visited Mexico and Canada in 2004 without acceptable travel documents under the WHTI regulatory alternatives. We estimate that a group of 5.3 million unique travelers crossed the border frequently (e.g., multiple times every year). In addition, we estimate that in 2004, 4.0 million additional unique travelers, who may only cross the border as infrequently as once a decade, took a trip to Mexico or Canada.

EXHIBIT 5-8   2004 FREQUENT, INFREQUENT, AND RARE UNIQUE TRAVELERS

AGE GROUP	U.S. UNIQUE TRAVELERS
FREQUENT TRAVELERS (AT LEAST ONE TRIP PER YEAR) - ALTERNATIVE 1	
Adults	4,570,000
Children (under 16)	732,000
Total	5,301,000
FREQUENT TRAVELERS (AT LEAST ONE TRIP PER YEAR) – ALTERNATIVES 2 & 3	
Adults	4,518,000
Children (under 16)	732,000
Total	5,250,000
INFREQUENT TRAVELERS (ONE TRIP EVERY THREE YEARS)	
Adults	1,986,000
Children (under 16)	309,000
Total	2,295,000
RARE TRAVELERS (ONE TRIP PER DECADE)	
Adults	1,476,000
Children (under 16)	217,000
Total	1,693,000

Note: Totals may not sum due to rounding. For alternatives where children under 14 are exempt, we assume an even distribution of children across all ages (i.e. the number of children under 14 is equal to 7/8 times the number of children under 16).
Source: IEc calculations using data presented in Chapter 4.

Step 2 - Forecast Baseline Travel by Unique Travelers for the Time Period 2005 - 2018

Next, we project the incremental number of unique travelers who will require a passport book or passport card each year based on our estimate of the number of frequent, infrequent, or rare travelers in 2004. We begin by selecting 2004 as the base year from which to build our projections, because it represents the most recent year of BTS data that we know with certainty was not affected by the impending WHTI regulation. When the IRTPA was signed into law in December 2004, the provision that is the focus of WHTI received widespread attention in the press. Baseline passport issuance data suggest that U.S. citizens began applying for passports in anticipation of the requirements and as a result of confusion regarding when the requirements would go into effect, multiple proposed rules predicting multiple implementation dates for different modes of travel, and the temporary travel flexibility granted in June 2007 for air travelers in the Western Hemisphere.[255] Specifically, we observe evidence of this behavior in an analysis of historical passport issuance data.

In Chapter 2, we summarize the trend in total passport issuance from 1974 through 2004. Using these data, we conducted a multivariate regression analysis to determine the factors that explain the historical rate of passport issuance. Our analysis examined a variety of factors that might have affected historical per capita passport issuance, including the unemployment rate, gasoline prices, military spending, stock market performance, disposable income, and gross domestic product (GDP). Our goal was to select variables that were good predictors of passport issuance without being highly correlated. To allow us to project future baseline passport issuance, it was also important that projections of the trends in these variables be available.[256]

We conclude that, for our purposes, disposable income and percent change in nominal GDP are the best predictors of per capita passport issuance. These variables explain approximately 85 percent of the variation in annual per capita passport issuance. Exhibit 5-9 compares passport issuance based on the regression to actual issuance data reported by DOS for 1974 through 2005. This comparison suggests that the number of passports issued in 2005 was higher than anticipated by approximately 1.2 million individuals. It is

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[255] On January 23, 2007, WHTI regulation went into effect in the air environment. Note that on August 11, 2006, CBP made available for public comment its *Regulatory Assessment for the Notice of Proposed Rulemaking: Documents Requiring Travel Within the Western Hemisphere: The Western Hemisphere Travel Initiative Implemented in the Air and Sea Environments* (71 *FR* 46155-46174). At the direction of Congress, CBP must implement WHTI in the sea environment concurrently with the land environment. No effort is made in this analysis to avoid potential double counting of unique travelers who may obtain approved travel documents for air or sea travel in the Western Hemisphere.

Temporary travel flexibility in the air environment was granted on June 8, 2007, and expired on September 30, 2007. This flexibility was granted in response to the large backlog of passport applications DOS experienced following publication of WHTI in the air environment (71 FR 68412). See http://www.state.gov/r/pa/prs/ps/2007/jun/86206.htm, viewed on September 28, 2007.

[256] For this reason we use disposable personal income, rather than total consumer expenditure, as an explanatory variable.

reasonable to assume that at least part of this difference results from travelers applying for passports in anticipation of the WHTI regulation.

EXHIBIT 5-9   EXPECTED VERSUS ACTUAL PASSPORT ISSUANCE, 1974 - 2005
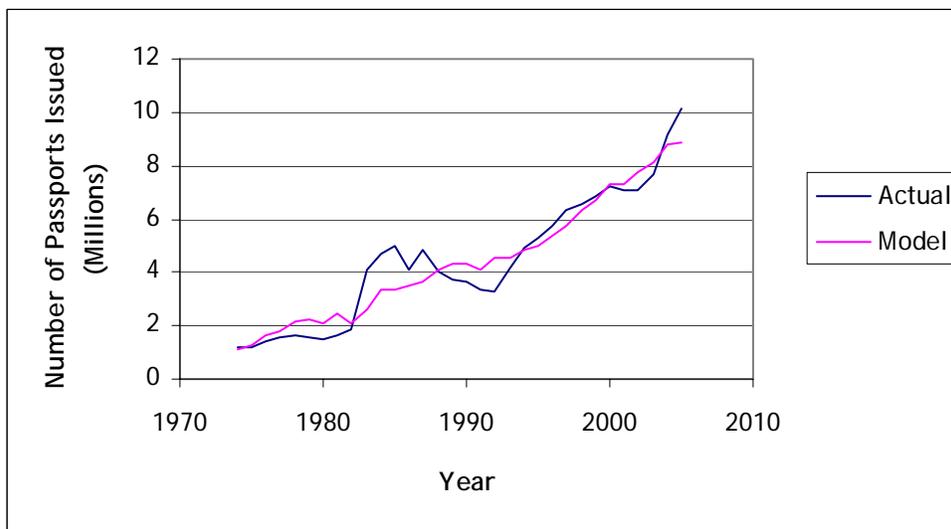
Source: IEc analysis of DOS passport issuance data.

As a result, our analysis begins in 2005, and we forecast future travel over a 14-year time frame to cover 10 years from the date the rule will take effect. We limit the analysis to this period because predicting future demand for travel to Mexico and Canada is difficult. We were unable to identify variables that are reasonable predictors of travel patterns and that are reasonably forecasted (e.g., exchange rates affect travel decisions, but are difficult to forecast). Therefore, we limit the time frame for the analysis to the period over which adult passports obtained after the rule takes effect are valid.

To address this key source of uncertainty, we forecast three separate scenarios. First, we assume that the number of unique travelers visiting these countries each year will be the same as in 2004. In other words, we assume travel volume remains constant. Second, we assume that the number of unique travelers desiring access to Mexico and Canada will grow each year. Because data forecasting possible growth in travel demand are not readily available, we assume that demand increases at the rate of U.S. population growth (0.91 percent per year).[257] Third, we assume that the number of unique travelers changes at the annual historical change in crossings at each border. As shown in Chapter 3, since 2000, crossings have been decreasing at POEs along the U.S.-Mexico border at a rate of 2.8 percent annually. During the same time period, crossings at the U.S.-Canada border decreased by 3.9 percent annually. We apply these rates to generate a low estimate of future unique travelers in each year from 2005 through 2018. We have no information about which scenario (decreasing travel demand, steady-state travel demand, or

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[257] U.S. Central Intelligence Agency, *World Factbook*, as viewed at https://www.cia.gov/cia/publications/factbook/geos/us.html on September 9, 2006.

increasing travel demand) is most likely; therefore, we present the results of each scenario separately.

Using these projected annual unique traveler totals, we estimate the number of new individuals who will make trips each year and at what point in time they will need to obtain travel documents required by the regulation. In other words, after understanding how many unique travelers will make trips in each year going forward, we then must determine whether these travelers are the same people from year to year or different people. We make this determination based on the traveler frequency categories developed in Step 2.

Frequent Travelers

First, we assume that because frequent travelers, by definition, visit Mexico or Canada every year, they must obtain a passport before implementation of the rule (expected to take effect in 2009) in order to continue their regular, cross-border travel (depending on the alternative selected, children may be exempt). Therefore, we assume that each individual in this group, approximately 4.6 million to 5.3 million frequent travelers in the steady-state scenario (see Exhibit 5-8), applied for a passport sometime in 2005 through 2008. Based on DOS BearingPoint survey data, we assume that 65 percent of the frequent unique travelers applied for a passport in 2005, 18 percent applied in 2006, 8 percent applied in 2007, and 8 percent will apply in 2008.[258] After 2008, none of the adults in this original cohort will require new travel documents to cross until 2016.

Infrequent Travelers

We assume that infrequent travelers (i.e., people who travel every three years) buy a passport book or passport card only for planned travel to occur after WHTI has taken effect. These individuals travel to Mexico and Canada so infrequently that they are likely to continue using their existing, currently acceptable documentation until the final rule is implemented. However, after the rule is fully implemented these individuals must use WHTI-compliant travel documents. We make the simplifying assumption that in years 2009 through 2011, the number of infrequent unique travelers that will require approved travel documents ranges from 2.0 million to 2.3 million in the steady-state scenario, depending on whether children are exempt from the regulation (see Exhibit 5-8). After 2011, no additional documents will be required for this group, because all of the individuals taking trips will have obtained a passport in 2009 through 2011.[259]

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[258] Question D5 of the survey asked "The law [WHTI] requiring a passport to travel across this border will be in effect January 2008, about 3 years from now. When would you apply for a passport?" Responses ranged from "within a year from today" to "more than 5 years from today." To account for the delayed implementation of the rule relative to the expected date of implementation when BearingPoint conducted the survey, we spread the travelers who responded that they would obtain their passport in 2007 evenly across 2007 and 2008.

[259] We assume one-half of the infrequent travelers in 2009 will obtain documentation in 2008 in anticipation of the rule taking effect. In each subsequent year, we assume half the expected infrequent travelers apply for a passport that year, and the other half apply for a passport in the preceding year. In practice, some infrequent travelers in 2009 will travel before the implementation of the rule, and therefore they will not

Rare Travelers

We follow similar logic for the rare unique travelers with regard to when they are likely to apply for a passport book or passport card (i.e., they will not purchase a document before the rule goes into effect).[260] However, because by definition these individuals only make one trip in a decade, we assume that each year from 2009 through 2018, a new set of rare travelers (ranging from 1.5 million to 1.7 million unique travelers, depending on whether children are exempt) will require approved travel documents (see Exhibit 5-8).

We consider several other factors when estimating the number of frequent, infrequent, and rare travelers requiring travel documents. First, we assume that new unique travelers arising from the growth in demand for cross-border travel modeled in the increasing travel demand scenario must apply for a passport book or passport card. Likewise, we assume that some travelers will drop out of the ranks of travelers, and, therefore, will not need to renew their passports under the decreasing travel demand scenario. Second, new unique travelers will join each category of traveler under any scenario as older travelers pass away and new travelers are born. Finally, under the assumption that children are exempt from the regulation, additional new unique travelers will apply for passports each year as they reach age 14 or 16, depending on the alternative considered.

Exhibit 5-10 summarizes the number of new individuals anticipated to be affected by Alternative 1 in each year between 2005 and 2018 under each travel demand scenario. Over the 14-year time period of 2005 through 2018, we anticipate that between 31.2 million and 44.5 million unique travelers who do not currently have a valid passport will visit Mexico or Canada. All of these travelers will suffer a welfare loss under Alternative 1 as a result of the regulation (if children are exempt, there is no welfare loss associated with these individuals).

Note that the reduction in the number of affected individuals under Alternatives 2 and 3, when we subtract current participants in CBP trusted traveler programs, is essentially indiscernible from Alternative 1. Of the approximately 163,000 U.S. citizens who are members of FAST, NEXUS, or SENTRI, only 52,000 do not currently possess a valid passport. As a result, comparison of Exhibits 5-10 and Exhibit 5-11 shows that our estimates of unique travelers requiring new travel documents under Alternatives 1, 2, and 3 are virtually the same (i.e., the number of CBP trusted traveler members affected under Alternative 1 is less than a tenth of one percent of affected travelers).

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obtain documentation until their next trip several years hence. Because this detail results in a *de minimis* change in the welfare loss calculations, we ignore it in our analysis.

[260] As with infrequent travelers, we assume that half the rare travelers planning a trip in 2009 will apply for a passport in the latter half of 2008 and continue this pattern through the remaining years of the analysis.

EXHIBIT 5-10 INCREMENTAL UNIQUE TRAVELERS REQUIRING APPROPRIATE TRAVEL DOCUMENTS (ALTERNATIVE 1)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL
NO CHILDREN EXEMPTION									
2005	2,884,000	462,000	3,346,000	2,977,000	477,000	3,453,000	3,004,000	481,000	3,485,000
2006	783,000	136,000	919,000	835,000	145,000	979,000	878,000	152,000	1,030,000
2007	344,000	93,000	437,000	379,000	102,000	481,000	426,000	109,000	535,000
2008	4,100,000	671,000	4,771,000	4,737,000	769,000	5,506,000	5,032,000	809,000	5,840,000
2009	2,928,000	615,000	3,543,000	3,536,000	735,000	4,272,000	3,769,000	767,000	4,536,000
2010	2,376,000	573,000	2,950,000	2,982,000	705,000	3,686,000	3,214,000	738,000	3,952,000
2011	1,468,000	358,000	1,825,000	1,923,000	457,000	2,380,000	2,145,000	489,000	2,634,000
2012	1,127,000	362,000	1,489,000	1,528,000	478,000	2,007,000	1,769,000	513,000	2,282,000
2013	1,132,000	440,000	1,572,000	1,591,000	598,000	2,189,000	1,852,000	636,000	2,489,000
2014	2,101,000	545,000	2,646,000	3,052,000	765,000	3,816,000	3,349,000	808,000	4,157,000
2015	2,336,000	572,000	2,908,000	3,467,000	829,000	4,296,000	3,773,000	875,000	4,649,000
2016	1,408,000	483,000	1,891,000	2,196,000	727,000	2,923,000	2,493,000	774,000	3,267,000
2017	1,155,000	425,000	1,580,000	1,885,000	661,000	2,546,000	2,224,000	707,000	2,931,000
2018	968,000	392,000	1,360,000	1,649,000	629,000	2,277,000	2,067,000	676,000	2,743,000
Total	25,111,000	6,127,000	31,239,000	32,738,000	8,074,000	40,812,000	35,996,000	8,534,000	44,530,000

EXHIBIT 5-10 INCREMENTAL UNIQUE TRAVELERS REQUIRING APPROPRIATE TRAVEL DOCUMENTS (ALTERNATIVE 1) (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL
CHILDREN EXEMPTION (UNDER 14)									
2005	2,884,000	58,000	2,941,000	2,977,000	60,000	3,036,000	3,004,000	60,000	3,064,000
2006	783,000	26,000	809,000	835,000	28,000	863,000	878,000	29,000	907,000
2007	344,000	44,000	389,000	379,000	49,000	428,000	429,000	50,000	479,000
2008	4,100,000	138,000	4,238,000	4,737,000	158,000	4,895,000	5,024,000	165,000	5,189,000
2009	2,891,000	93,000	2,985,000	3,492,000	111,000	3,603,000	3,724,000	118,000	3,842,000
2010	2,339,000	91,000	2,429,000	2,936,000	111,000	3,048,000	3,168,000	119,000	3,287,000
2011	1,486,000	88,000	1,574,000	1,947,000	111,000	2,059,000	2,169,000	120,000	2,289,000
2012	1,153,000	86,000	1,239,000	1,562,000	113,000	1,675,000	1,802,000	122,000	1,925,000
2013	1,130,000	83,000	1,213,000	1,586,000	113,000	1,699,000	1,848,000	123,000	1,971,000
2014	2,020,000	80,000	2,100,000	2,938,000	111,000	3,049,000	3,233,000	123,000	3,356,000
2015	2,233,000	77,000	2,310,000	3,319,000	111,000	3,430,000	3,656,000	124,000	3,780,000
2016	1,379,000	75,000	1,454,000	2,151,000	111,000	2,262,000	2,521,000	125,000	2,646,000
2017	1,187,000	72,000	1,260,000	1,933,000	111,000	2,044,000	2,354,000	126,000	2,480,000
2018	1,029,000	70,000	1,100,000	1,746,000	111,000	1,857,000	2,222,000	127,000	2,349,000
Total	24,959,000	1,081,000	26,040,000	32,537,000	1,411,000	33,949,000	36,032,000	1,532,000	37,564,000

EXHIBIT 5-10 INCREMENTAL UNIQUE TRAVELERS REQUIRING APPROPRIATE TRAVEL DOCUMENTS (ALTERNATIVE 1) (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL
CHILDREN EXEMPTION (UNDER 16)									
2005	2,884,000	0	2,884,000	2,977,000	0	2,977,000	3,004,000	0	3,004,000
2006	793,000	0	793,000	846,000	0	846,000	890,000	0	890,000
2007	382,000	0	382,000	420,000	0	420,000	470,000	0	470,000
2008	4,157,000	0	4,157,000	4,802,000	0	4,802,000	5,091,000	0	5,091,000
2009	2,905,000	0	2,905,000	3,508,000	0	3,508,000	3,742,000	0	3,742,000
2010	2,351,000	0	2,351,000	2,951,000	0	2,951,000	3,185,000	0	3,185,000
2011	1,518,000	0	1,518,000	1,987,000	0	1,987,000	2,212,000	0	2,212,000
2012	1,167,000	0	1,167,000	1,579,000	0	1,579,000	1,823,000	0	1,823,000
2013	1,124,000	0	1,124,000	1,579,000	0	1,579,000	1,844,000	0	1,844,000
2014	1,933,000	0	1,933,000	2,917,000	0	2,917,000	3,216,000	0	3,216,000
2015	2,124,000	0	2,124,000	3,297,000	0	3,297,000	3,639,000	0	3,639,000
2016	1,346,000	0	1,346,000	2,147,000	0	2,147,000	2,522,000	0	2,522,000
2017	1,180,000	0	1,180,000	1,953,000	0	1,953,000	2,380,000	0	2,380,000
2018	1,040,000	0	1,040,000	1,782,000	0	1,782,000	2,263,000	0	2,263,000
Total	24,902,000	0	24,902,000	32,745,000	0	32,745,000	36,280,000	0	36,280,000

Note: Totals may not sum due to rounding.
Source: IEc calculations.

EXHIBIT 5-11   INCREMENTAL UNIQUE TRAVELERS REQUIRING APPROPRIATE TRAVEL DOCUMENTS (ALTERNATIVES 2 & 3)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL
NO CHILDREN EXEMPTION									
2005	2,851,000	462,000	3,313,000	2,943,000	477,000	3,420,000	2,970,000	481,000	3,451,000
2006	774,000	136,000	910,000	825,000	145,000	970,000	868,000	152,000	1,020,000
2007	341,000	93,000	433,000	375,000	102,000	477,000	422,000	109,000	531,000
2008	4,096,000	671,000	4,767,000	4,733,000	769,000	5,502,000	5,026,000	809,000	5,835,000
2009	2,928,000	615,000	3,543,000	3,536,000	735,000	4,272,000	3,769,000	767,000	4,535,000
2010	2,376,000	573,000	2,950,000	2,982,000	705,000	3,686,000	3,213,000	738,000	3,951,000
2011	1,468,000	358,000	1,825,000	1,923,000	457,000	2,380,000	2,145,000	489,000	2,634,000
2012	1,127,000	362,000	1,489,000	1,528,000	478,000	2,007,000	1,768,000	513,000	2,281,000
2013	1,132,000	440,000	1,572,000	1,591,000	598,000	2,189,000	1,852,000	636,000	2,488,000
2014	2,090,000	545,000	2,635,000	3,035,000	765,000	3,800,000	3,332,000	808,000	4,140,000
2015	2,322,000	572,000	2,894,000	3,445,000	829,000	4,274,000	3,751,000	875,000	4,626,000
2016	1,404,000	483,000	1,887,000	2,189,000	727,000	2,916,000	2,485,000	774,000	3,259,000
2017	1,152,000	425,000	1,577,000	1,881,000	661,000	2,542,000	2,219,000	707,000	2,926,000
2018	967,000	392,000	1,359,000	1,647,000	629,000	2,275,000	2,064,000	676,000	2,740,000
Total	25,029,000	6,127,000	31,156,000	32,634,000	8,074,000	40,708,000	35,883,000	8,534,000	44,417,000

EXHIBIT 5-11   INCREMENTAL UNIQUE TRAVELERS REQUIRING APPROPRIATE TRAVEL DOCUMENTS (ALTERNATIVES 2 & 3) (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL
CHILDREN EXEMPTION (UNDER 14)									
2005	2,851,000	58,000	2,909,000	2,943,000	60,000	3,003,000	2,970,000	60,000	3,030,000
2006	774,000	26,000	800,000	825,000	28,000	853,000	868,000	29,000	897,000
2007	341,000	44,000	385,000	375,000	49,000	423,000	424,000	50,000	474,000
2008	4,096,000	138,000	4,234,000	4,733,000	158,000	4,890,000	5,019,000	165,000	5,184,000
2009	2,891,000	93,000	2,985,000	3,492,000	111,000	3,603,000	3,723,000	118,000	3,841,000
2010	2,339,000	91,000	2,429,000	2,936,000	111,000	3,048,000	3,168,000	119,000	3,286,000
2011	1,486,000	88,000	1,574,000	1,947,000	111,000	2,059,000	2,169,000	120,000	2,288,000
2012	1,153,000	86,000	1,239,000	1,562,000	113,000	1,675,000	1,802,000	122,000	1,924,000
2013	1,130,000	83,000	1,213,000	1,586,000	113,000	1,699,000	1,847,000	123,000	1,970,000
2014	2,009,000	80,000	2,089,000	2,921,000	111,000	3,032,000	3,215,000	123,000	3,338,000
2015	2,219,000	77,000	2,296,000	3,297,000	111,000	3,409,000	3,634,000	124,000	3,758,000
2016	1,375,000	75,000	1,450,000	2,144,000	111,000	2,256,000	2,513,000	125,000	2,638,000
2017	1,184,000	72,000	1,257,000	1,928,000	111,000	2,040,000	2,349,000	126,000	2,475,000
2018	1,028,000	70,000	1,098,000	1,744,000	111,000	1,855,000	2,218,000	127,000	2,346,000
Total	24,876,000	1,081,000	25,958,000	32,434,000	1,411,000	33,845,000	35,919,000	1,532,000	37,451,000

EXHIBIT 5-11   INCREMENTAL UNIQUE TRAVELERS REQUIRING APPROPRIATE TRAVEL DOCUMENTS (ALTERNATIVES 2 & 3) (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL	ADULTS	CHILDREN	ALL
CHILDREN EXEMPTION (UNDER 16) (CHOSEN ALTERNATIVE)									
2005	2,851,000	0	2,851,000	2,943,000	0	2,943,000	2,970,000	0	2,970,000
2006	784,000	0	784,000	836,000	0	836,000	880,000	0	880,000
2007	378,000	0	378,000	416,000	0	416,000	466,000	0	466,000
2008	4,153,000	0	4,153,000	4,798,000	0	4,798,000	5,086,000	0	5,086,000
2009	2,905,000	0	2,905,000	3,508,000	0	3,508,000	3,741,000	0	3,741,000
2010	2,351,000	0	2,351,000	2,951,000	0	2,951,000	3,184,000	0	3,184,000
2011	1,518,000	0	1,518,000	1,987,000	0	1,987,000	2,211,000	0	2,211,000
2012	1,167,000	0	1,167,000	1,579,000	0	1,579,000	1,823,000	0	1,823,000
2013	1,124,000	0	1,124,000	1,579,000	0	1,579,000	1,843,000	0	1,843,000
2014	1,922,000	0	1,922,000	2,900,000	0	2,900,000	3,198,000	0	3,198,000
2015	2,110,000	0	2,110,000	3,275,000	0	3,275,000	3,616,000	0	3,616,000
2016	1,342,000	0	1,342,000	2,140,000	0	2,140,000	2,514,000	0	2,514,000
2017	1,177,000	0	1,177,000	1,949,000	0	1,949,000	2,375,000	0	2,375,000
2018	1,039,000	0	1,039,000	1,780,000	0	1,780,000	2,260,000	0	2,260,000
Total	24,820,000	0	24,820,000	32,642,000	0	32,642,000	36,167,000	0	36,167,000

Note: Totals may not sum due to rounding.
Source: IEc calculations.

If children are exempt from the final rule, the number of affected individuals under Alternative 1 ranges from 26.0 million to 37.6 million (under age 14 exempt) or 24.9 million to 36.3 million (under age 16 exempt). Affected individuals under Alternatives 2 and 3 are slightly lower due to the small number of adult travelers who do not possess passports but are members of CBP trusted traveler programs. The number of children exempt is unchanged under each alternative, because we make the simplifying assumption that none of the current CBP trusted traveler program participants are under age 16.

Step 3 - Type of Documentation Obtained

Unique travelers affected by the regulation have the option of obtaining a passport book, a passport card, or participating in a CBP trusted traveler program, depending on the regulatory alternative under consideration.[261] Throughout the analysis, we assume that each traveler will choose the lowest cost option available, depending on the regulatory alternative considered.[262] For example, under Alternatives 2 and 3, a passport card is less expensive than a passport book. Therefore, we assume that everyone who has the choice will obtain a passport card once it becomes available. Passport books and passport cards are less expensive than participating in CBP trusted traveler programs, which require more frequent renewal and in-person interviews, so no new enrollment in these programs resulting from WHTI is anticipated *for the purposes of this analysis*.[263]

Under Alternative 1, obtaining a passport is the only option for travelers. However, a subpopulation of the affected adults likely had a passport that expired in the last five years. Therefore, these individuals are likely to renew their expired passport, rather than

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[261] Other acceptable documents may include Tribal documents, military identification, and EDLs issued through a DHS-approved state program. The populations potentially using Tribal and military documents are not available from the BTS crossing data or the border surveys cited throughout this analysis and are assumed to be so small as to be considered *de minimis* from the sole perspective of estimating annual costs of the rule. At the writing of this report, only one state, Washington, had completed the necessary consultation with DHS to develop, test, and issue EDLs. Washington began to issue these licenses to voluntary participants in 2008. This analysis does not account for EDL programs in Washington or any other state. Depending on the fee structure for these documents, the frequency of renewal, and the level of effort it would require applicants to receive these documents, it is not clear they would be less costly than a passport card. Our analysis, therefore, most likely reflects the lowest-cost option available for the U.S. traveler—the passport card.

[262] Note that the minimum cost of complying with the rule represents the threshold used to determine whether individuals will obtain approved travel documents or forgo travel to Mexico and Canada. In reality, certain individuals may choose a more expensive option (e.g., a passport book rather than the less expensive passport card), because it provides ancillary benefits (e.g., access rights unaffected by WHTI, such as access to Europe). These individuals presumably choose the more expensive document because the expected value of the ancillary benefits (e.g., the probability that they will visit Europe in the next ten years multiplied by the value of access to Europe) will exceed the difference in price between the two passport options. Under such circumstances, the net benefits of the additional expenditures are positive.

[263] A traveler may choose to enroll in a trusted traveler program in order to comply with WHTI because he or she obtains an ancillary benefit (i.e., reduced wait time at the border), and therefore the net benefit of obtaining the more expensive document is positive. Chapter 9 considers the implications of changes in wait time on the total costs and benefits of this rule.

obtain a new one, because renewing an expired passport is less costly ($96 per applicant rather than $131).

No data are available describing the portion of travelers affected by WHTI with expired passports. DOS reports that approximately 27 to 30 percent of passport applications are renewals. Many of these renewals are likely to be requested by current holders of valid passports that replace their passports before the expiration date; therefore, this proportion of people seeking renewals may not reflect the population affected by WHTI.

Lacking more specific information, we assume that the renewal rate for travelers affected by WHTI is likely to be half the historic rate. In other words, in each year, 15 percent of adult passport applications resulting from WHTI will be DS-82 renewal requests.[264] The percentage of renewals increases significantly in the later years of our analysis, as the frequent travelers renew the passports they obtained between 2005 and 2007 (adult passports expire after 10 years of issuance date). Exhibits 5-12 and 5-13 show that approximately 6.9 million to 10.9 million adults are estimated to be eligible to renew expired passports. Furthermore, we assume that 22 percent of applicants request expedited service based on the historic request rate.[265]

In summary, under Alternative 1, 25.1 million to 36.0 million total adult unique travelers who wish to continue traveling to Mexico or Canada must apply for a passport book over the 14-year time period of this analysis, including approximately 7.1 million to 10.8 million adults who will be eligible to renew expired passports (see Exhibit 5-12). The total number of adults affected under the possible exemption scenarios for children varies slightly, because the analysis assumes that as exempt children cross the threshold into adult status, they will also require a passport. Under the exemption scenarios, the number of adults eligible to renew expired passports ranges from 6.9 million to 10.9 million.

Under Alternatives 2 and 3, we assume that unique travelers applying for documentation in 2005 through 2007 have obtained or will obtain a passport book, and travelers applying in 2008 through 2018 will obtain a passport card.[266] Individuals applying for a passport card will also be able to use the renewal application if they obtained their passport book within the last 15 years. Under this alternative, the total number of adults

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[264] Evidence from a study of cross-border travelers conducted by the Ontario Ministry of Tourism and Recreation suggests that 15 percent is reasonable. The researchers found that, of Americans who do not currently have a valid passport, approximately 11 percent had one in the past five years (and thus would be eligible for passport renewal) (Ennamorato, M., *Travel Intentions Study Report: Summer '05 Intentions*, TNS Canadian Facts, presented to the Ontario Ministry of Tourism and Recreation, Ontario Tourism Marketing Partnership Corp., June 29, 2005.)

[265] U.S. Department of State, Bureau of Consular Affairs, Passport Services, *Paperwork Reduction Act Submission: Application for a U.S. Passport: OMB Control # 1405-0004 (DS-11)*, provided to IEc on February 23, 2006 and U.S. Department of State, Bureau of Consular Affairs, Passport Services, *Paperwork Reduction Act Submission: Application for a U.S. Passport by Mail: OMB Control # 1405-0020 (Form DS-82)*, provided to IEc on July 3, 2006.

[266] Note that this analysis assumes that the passport card will become available in 2008. Therefore, travelers who obtain documentation prior to 2008 are assumed to apply for a traditional passport book.

who will be eligible for renewal is only slightly lower than under Alternative 1, approximately 7.1 million to 10.8 million (see Exhibit 5-13). Under the exemption scenarios, the number of adults eligible to renew passports ranges from 6.9 to 10.9 million.

EXHIBIT 5-12 ADULT PASSPORT RENEWALS UNDER ALTERNATIVE 1

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS
NO CHILDREN EXEMPTION									
2005	2,451,000	433,000	2,884,000	2,530,000	447,000	2,977,000	2,554,000	451,000	3,004,000
2006	665,000	117,000	783,000	709,000	125,000	835,000	746,000	132,000	878,000
2007	293,000	52,000	344,000	322,000	57,000	379,000	362,000	64,000	426,000
2008	3,485,000	615,000	4,100,000	4,026,000	711,000	4,737,000	4,277,000	755,000	5,032,000
2009	2,489,000	439,000	2,928,000	3,006,000	530,000	3,536,000	3,204,000	565,000	3,769,000
2010	2,020,000	356,000	2,376,000	2,534,000	447,000	2,982,000	2,732,000	482,000	3,214,000
2011	1,247,000	220,000	1,468,000	1,635,000	289,000	1,923,000	1,823,000	322,000	2,145,000
2012	958,000	169,000	1,127,000	1,299,000	229,000	1,528,000	1,504,000	265,000	1,769,000
2013	962,000	170,000	1,132,000	1,352,000	239,000	1,591,000	1,574,000	278,000	1,852,000
2014	1,002,000	1,100,000	2,101,000	1,457,000	1,595,000	3,052,000	1,698,000	1,651,000	3,349,000
2015	989,000	1,347,000	2,336,000	1,491,000	1,976,000	3,467,000	1,721,000	2,052,000	3,773,000
2016	892,000	516,000	1,408,000	1,404,000	792,000	2,196,000	1,618,000	875,000	2,493,000
2017	464,000	691,000	1,155,000	747,000	1,139,000	1,885,000	967,000	1,257,000	2,224,000
2018	76,000	892,000	968,000	123,000	1,526,000	1,649,000	382,000	1,685,000	2,067,000
Total	17,995,000	7,117,000	25,111,000	22,637,000	10,101,000	32,738,000	25,162,000	10,834,000	35,996,000

EXHIBIT 5-12 ADULT PASSPORT RENEWALS UNDER ALTERNATIVE 1 (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS
CHILDREN EXEMPTION (UNDER 14)									
2005	2,451,000	433,000	2,884,000	2,530,000	447,000	2,977,000	2,554,000	451,000	3,004,000
2006	665,000	117,000	783,000	709,000	125,000	835,000	746,000	132,000	878,000
2007	293,000	52,000	344,000	322,000	57,000	379,000	364,000	64,000	429,000
2008	3,485,000	615,000	4,100,000	4,026,000	711,000	4,737,000	4,271,000	754,000	5,024,000
2009	2,458,000	434,000	2,891,000	2,968,000	524,000	3,492,000	3,165,000	559,000	3,724,000
2010	1,988,000	351,000	2,339,000	2,496,000	440,000	2,936,000	2,693,000	475,000	3,168,000
2011	1,263,000	223,000	1,486,000	1,655,000	292,000	1,947,000	1,844,000	325,000	2,169,000
2012	980,000	173,000	1,153,000	1,327,000	234,000	1,562,000	1,532,000	270,000	1,802,000
2013	960,000	169,000	1,130,000	1,349,000	238,000	1,586,000	1,570,000	277,000	1,848,000
2014	933,000	1,088,000	2,020,000	1,360,000	1,578,000	2,938,000	1,599,000	1,634,000	3,233,000
2015	902,000	1,332,000	2,233,000	1,365,000	1,953,000	3,319,000	1,622,000	2,034,000	3,656,000
2016	868,000	511,000	1,379,000	1,365,000	786,000	2,151,000	1,640,000	881,000	2,521,000
2017	492,000	696,000	1,187,000	787,000	1,146,000	1,933,000	1,079,000	1,275,000	2,354,000
2018	128,000	901,000	1,029,000	206,000	1,540,000	1,746,000	516,000	1,705,000	2,222,000
Total	17,865,000	7,094,000	24,959,000	22,467,000	10,071,000	32,537,000	25,196,000	10,836,000	36,032,000

EXHIBIT 5-12 ADULT PASSPORT RENEWALS UNDER ALTERNATIVE 1 (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS
CHILDREN EXEMPTION (UNDER 16)									
2005	2,451,000	433,000	2,884,000	2,530,000	447,000	2,977,000	2,554,000	451,000	3,004,000
2006	674,000	119,000	793,000	719,000	127,000	846,000	756,000	133,000	890,000
2007	324,000	57,000	382,000	357,000	63,000	420,000	400,000	71,000	470,000
2008	3,533,000	624,000	4,157,000	4,082,000	720,000	4,802,000	4,327,000	764,000	5,091,000
2009	2,469,000	436,000	2,905,000	2,982,000	526,000	3,508,000	3,180,000	561,000	3,742,000
2010	1,998,000	353,000	2,351,000	2,508,000	443,000	2,951,000	2,707,000	478,000	3,185,000
2011	1,290,000	228,000	1,518,000	1,689,000	298,000	1,987,000	1,880,000	332,000	2,212,000
2012	992,000	175,000	1,167,000	1,342,000	237,000	1,579,000	1,550,000	273,000	1,823,000
2013	955,000	169,000	1,124,000	1,342,000	237,000	1,579,000	1,567,000	277,000	1,844,000
2014	920,000	1,012,000	1,933,000	1,342,000	1,575,000	2,917,000	1,585,000	1,631,000	3,216,000
2015	886,000	1,238,000	2,124,000	1,342,000	1,955,000	3,297,000	1,603,000	2,036,000	3,639,000
2016	853,000	493,000	1,346,000	1,342,000	805,000	2,147,000	1,621,000	901,000	2,522,000
2017	482,000	697,000	1,180,000	773,000	1,181,000	1,953,000	1,070,000	1,311,000	2,380,000
2018	127,000	914,000	1,040,000	203,000	1,579,000	1,782,000	517,000	1,746,000	2,263,000
Total	17,956,000	6,947,000	24,902,000	22,554,000	10,191,000	32,745,000	25,316,000	10,965,000	36,280,000

Note: Totals may not sum due to rounding.
Source: IEc calculations.

EXHIBIT 5-13 ADULT PASSPORT RENEWALS UNDER ALTERNATIVES 2 & 3

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS
NO CHILDREN EXEMPTION									
2005	2,423,000	428,000	2,851,000	2,502,000	441,000	2,943,000	2,525,000	446,000	2,970,000
2006	658,000	116,000	774,000	701,000	124,000	825,000	738,000	130,000	868,000
2007	289,000	51,000	341,000	319,000	56,000	375,000	358,000	63,000	422,000
2008	3,482,000	614,000	4,096,000	4,023,000	710,000	4,733,000	4,272,000	754,000	5,026,000
2009	2,489,000	439,000	2,928,000	3,006,000	530,000	3,536,000	3,203,000	565,000	3,769,000
2010	2,020,000	356,000	2,376,000	2,534,000	447,000	2,982,000	2,731,000	482,000	3,213,000
2011	1,247,000	220,000	1,468,000	1,635,000	289,000	1,923,000	1,823,000	322,000	2,145,000
2012	958,000	169,000	1,127,000	1,299,000	229,000	1,528,000	1,503,000	265,000	1,768,000
2013	962,000	170,000	1,132,000	1,352,000	239,000	1,591,000	1,574,000	278,000	1,852,000
2014	1,002,000	1,089,000	2,090,000	1,457,000	1,578,000	3,035,000	1,697,000	1,634,000	3,332,000
2015	989,000	1,333,000	2,322,000	1,491,000	1,954,000	3,445,000	1,721,000	2,030,000	3,751,000
2016	892,000	511,000	1,404,000	1,404,000	786,000	2,189,000	1,617,000	868,000	2,485,000
2017	464,000	688,000	1,152,000	747,000	1,135,000	1,881,000	966,000	1,252,000	2,219,000
2018	76,000	891,000	967,000	123,000	1,523,000	1,647,000	381,000	1,683,000	2,064,000
Total	17,953,000	7,076,000	25,029,000	22,593,000	10,041,000	32,634,000	25,111,000	10,772,000	35,883,000

EXHIBIT 5-13 ADULT PASSPORT RENEWALS UNDER ALTERNATIVES 2 & 3(CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS
CHILDREN EXEMPTION (UNDER 14)									
2005	2,423,000	428,000	2,851,000	2,502,000	441,000	2,943,000	2,525,000	446,000	2,970,000
2006	658,000	116,000	774,000	701,000	124,000	825,000	738,000	130,000	868,000
2007	289,000	51,000	341,000	319,000	56,000	375,000	360,000	64,000	424,000
2008	3,482,000	614,000	4,096,000	4,023,000	710,000	4,733,000	4,266,000	753,000	5,019,000
2009	2,458,000	434,000	2,891,000	2,968,000	524,000	3,492,000	3,165,000	559,000	3,723,000
2010	1,988,000	351,000	2,339,000	2,496,000	440,000	2,936,000	2,693,000	475,000	3,168,000
2011	1,263,000	223,000	1,486,000	1,655,000	292,000	1,947,000	1,843,000	325,000	2,169,000
2012	980,000	173,000	1,153,000	1,327,000	234,000	1,562,000	1,532,000	270,000	1,802,000
2013	960,000	169,000	1,130,000	1,349,000	238,000	1,586,000	1,570,000	277,000	1,847,000
2014	933,000	1,077,000	2,009,000	1,360,000	1,561,000	2,921,000	1,599,000	1,617,000	3,215,000
2015	902,000	1,317,000	2,219,000	1,365,000	1,932,000	3,297,000	1,622,000	2,012,000	3,634,000
2016	868,000	507,000	1,375,000	1,365,000	779,000	2,144,000	1,640,000	873,000	2,513,000
2017	492,000	693,000	1,184,000	787,000	1,142,000	1,928,000	1,079,000	1,270,000	2,349,000
2018	128,000	900,000	1,028,000	206,000	1,538,000	1,744,000	516,000	1,703,000	2,218,000
Total	17,824,000	7,053,000	24,876,000	22,423,000	10,011,000	32,434,000	25,146,000	10,773,000	35,919,000

EXHIBIT 5-13 ADULT PASSPORT RENEWALS UNDER ALTERNATIVES 2 & 3(CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO			STEADY-STATE TRAVEL DEMAND SCENARIO			INCREASING TRAVEL DEMAND SCENARIO		
	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS	DS-11	DS-82	ALL ADULTS
CHILDREN EXEMPTION (UNDER 16) (CHOSEN ALTERNATIVE)									
2005	2,423,000	428,000	2,851,000	2,502,000	441,000	2,943,000	2,525,000	446,000	2,970,000
2006	667,000	118,000	784,000	711,000	125,000	836,000	748,000	132,000	880,000
2007	321,000	57,000	378,000	353,000	62,000	416,000	396,000	70,000	466,000
2008	3,530,000	623,000	4,153,000	4,078,000	720,000	4,798,000	4,323,000	763,000	5,086,000
2009	2,469,000	436,000	2,905,000	2,982,000	526,000	3,508,000	3,180,000	561,000	3,741,000
2010	1,998,000	353,000	2,351,000	2,508,000	443,000	2,951,000	2,707,000	478,000	3,184,000
2011	1,290,000	228,000	1,518,000	1,689,000	298,000	1,987,000	1,879,000	332,000	2,211,000
2012	992,000	175,000	1,167,000	1,342,000	237,000	1,579,000	1,549,000	273,000	1,823,000
2013	955,000	169,000	1,124,000	1,342,000	237,000	1,579,000	1,567,000	276,000	1,843,000
2014	920,000	1,001,000	1,922,000	1,342,000	1,558,000	2,900,000	1,584,000	1,614,000	3,198,000
2015	886,000	1,224,000	2,110,000	1,342,000	1,933,000	3,275,000	1,602,000	2,014,000	3,616,000
2016	853,000	489,000	1,342,000	1,342,000	798,000	2,140,000	1,620,000	894,000	2,514,000
2017	482,000	695,000	1,177,000	773,000	1,176,000	1,949,000	1,069,000	1,306,000	2,375,000
2018	127,000	912,000	1,039,000	203,000	1,577,000	1,780,000	517,000	1,743,000	2,260,000
Total	17,914,000	6,906,000	24,820,000	22,510,000	10,131,000	32,642,000	25,266,000	10,902,000	36,167,000

Note: Totals may not sum due to rounding.
Source: IEc calculations.

Step 4 - Estimate the Number of Unique Travelers That Apply for Passports and the Number That Forgo Future Travel

In the final step of this section, we predict the response of the affected unique travelers to the regulation. Under Alternative 1, we rely on survey information to estimate the change in the number of people who will continue to travel to Mexico and Canada after the rule goes into effect. In 2005, the DOS BearingPoint survey of travelers asked the following question:[267]

> *The new Intelligence Reform and Terrorism Prevention Act will require all U.S. citizens to have a valid passport for travel to Canada, Mexico and countries in the Caribbean. Will you apply for a passport so that you can travel to those destinations?*

At the time, respondents were unaware of the potential for the less expensive passport card option, so we assume that they answered the question with the cost of obtaining a traditional passport book in mind. At the POEs on the U.S.-Mexico border, 9.1 percent of frequent travelers who did not currently possess a valid passport responded "no." Furthermore, 10.2 percent of infrequent travelers and 24.9 percent of rare travelers said that they would not obtain a passport, thereby forgoing future travel. At the U.S.-Canada border, 5.2 percent, 15.0 percent, and 15.2 percent of frequent, infrequent, and rare travelers, respectively, stated that they would not obtain a passport. We apply the border-specific percentages to adults and children in each frequency category and in each year to estimate the number of unique travelers who decide not to purchase a passport book. The implied value of access to these countries for these individuals is less than the cost of the passport book (see Exhibit 5-1).

To estimate the number of unique travelers who will not obtain a passport book or passport card under Alternatives 2 or 3, we use the information described in the previous paragraphs to calculate the slope of the demand curve for access to Mexico and Canada. Under Alternative 1, where passports are the only acceptable document, the slope equals the change in the cost of access, divided by the change in the number of people with access (see the following formula).

$$\text{slope} = (C_1 - C) / (T_1 - T)$$

Under Alternative 1, the change in the price of access $(C_1 - C)$ is simply the cost of obtaining a traditional passport book. Because this price varies depending on whether the applicant is an adult or child, the applicant is applying for the first time or renewing an expired passport, or expediting a passport application, we use a weighted average estimate across all these groups of approximately \$137.[268] $(T_1 - T)$ is the number of people who

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[267] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

[268] The weighted average costs of the passport book and passport card vary based on the regulatory alternative analyzed. As a result, the estimated rate of travelers forgoing travel also varies based on the alternative. The weighted average cost of the passport book between 2005 and 2007 ranges from \$137 to \$139. The

decide not to purchase a passport, described above. The result is a demand curve with a fairly flat slope (i.e., close to zero).

To estimate T_1 under Alternatives 2 and 3, we simply resolve the above equation as follows, where the weighted average cost of a passport card is approximately $87:

$$T_1 = (C_1 - C)/ \text{slope} + T$$

As a result, we assume that once the passport card becomes available in 2009, the number of unique travelers to Mexico will decrease by 5.7 percent, 6.4 percent, or 15.7 percent, depending on whether the traveler crosses the border frequently, infrequently, or rarely, respectively. Likewise, the number of travelers visiting Canada will decrease by 3.3 percent, 9.5 percent, and 9.6 percent for frequent, infrequent, and rare travelers, respectively. For unique travelers deciding to forgo future visits, their implied value for access to these countries is less than the cost of obtaining a passport card.

We perform a similar calculation to estimate the effect of the increase in the passport book cost in 2008. The weighted average cost of a passport book after 2008 will be $141. As a result, under Alternative 1, we forecast slightly higher opt-out rates for travelers obtaining a passport book from 2008 onward than for travelers obtaining a passport book between 2005 and 2007. The number of unique travelers to Mexico will decrease by 9.3 percent, 10.5 percent, or 25.6 percent, depending on whether the traveler crosses the border frequently, infrequently, or rarely, respectively. The number of travelers visiting Canada will decrease by 5.4 percent, 15.4 percent, and 15.7 percent for frequent, infrequent, and rare travelers, respectively.

Exhibits 5-14 and 5-15 presents the number of unique travelers choosing to obtain the travel documents required under each regulatory alternative, and the number choosing to forgo future travel to these countries. Under Alternative 1, between 27.1 million and 38.7 million affected travelers will continue to visit Mexico and Canada. Their welfare loss is equal to the cost of purchasing a passport book. The remaining 4.1 million to 5.9 million unique travelers will decide not to purchase acceptable documentation, thereby forgoing future access to these countries. As a group, assuming the demand curve is linear in the area of interest, these travelers suffer a welfare loss equal to one-half the cost of the documents that they choose not to purchase (recall Exhibit 5-1). If children are exempt from the final rule, then the number of unique travelers deciding to forgo future travel to Mexico and Canada ranges from 3.2 million to 4.8 million.

Under Alternatives 2 and 3, between 28.4 million and 40.6 million affected unique travelers will obtain acceptable documentation, either a passport book or passport card, depending on the timing of their travel. Approximately 2.7 million to 3.8 million unique travelers will discontinue visits to Mexico and Canada as a result of the rule. This number is lower than under Alternative 1 because the increase in the cost of access to these countries is not as great once the passport card becomes available. If children are exempt

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weighted average cost of the passport book from 2008 forward ranges from $140 to $143. The weighted average cost of the passport card ranges from $85 to $89. The rates at which travelers forgo future travel range by several tenths of a percent from what is reported in this section.

from the final rule, then the number of unique travelers forgoing future trips to these countries ranges from 2.1 million to 3.1 million.

Comparison to Passport Demand Estimated by The Gallup Organization

In late 2007, the Gallup Organization (Gallup), under subcontract to BearingPoint and the U.S. Department of State (DOS), completed a study incorporating a nationwide survey of individuals crossing land borders. Based on the survey results, Gallup estimates that approximately 5.57 million passport applications will be submitted in fiscal year 2008 as a result of the implementation of WHTI at the land borders, approximately 28 percent more applications than predicted by our model (Alternative 2/3, children under 16 exempt, steady-state travel demand scenario). We note that the sensitivity analysis of our baseline unique traveler estimate presented in Chapter 4 suggests that a "high" estimate of travel frequency may lead to an estimated 33 percent increase in the number of unique travelers, all other things equal. Applying this alternate assumption results in an estimate of passport applications more similar to the Gallup figure, and the implication of this higher unique traveler scenario on costs is analyzed in greater detail in Appendix C. We note that because the Gallup survey assumed that WHTI would take effect in 2008, rather than 2009, its estimate of applications in 2008 may be overstated. Furthermore, Gallup only estimates applications for a single year (fiscal year 2008), making it difficult to interpret its results in the context of this multi-year analysis (e.g., we cannot know whether the difference in 2008 applications is due to a fundamental difference in the total number of individuals affected or simply a shift in the timing of passport applications across the years of our analysis). For these reasons, we have not changed our central estimate of the impact of this rule. Our analysis of uncertainty presented in Appendix C, however, encompasses a range of uncertain variables, including an increase in demand similar to that estimated by Gallup.

(*The Gallup Organization, Executive Report: Consolidated Summary of National Surveys of Passport Demand, prepared for U.S. Department of State under subcontract to BearingPoint, January 7, 2008*.)

EXHIBIT 5-14 INCREMENTAL UNIQUE TRAVELERS ESTIMATED TO OBTAIN APPROVED DOCUMENTS
AND THOSE DECIDING TO FORGO FUTURE TRAVEL (ALTERNATIVE 1)

YEAR	DECREASING TRAVEL DEMAND SCENARIO		STEADY-STATE TRAVEL DEMAND SCENARIO		INCREASING TRAVEL DEMAND SCENARIO	
	CONTINUE TRAVELING	FORGO TRAVEL	CONTINUE TRAVELING	FORGO TRAVEL	CONTINUE TRAVELING	FORGO TRAVEL
NO CHILDREN EXEMPTION						
2005	3,083,000	263,000	3,183,000	271,000	3,212,000	273,000
2006	847,000	72,000	903,000	77,000	949,000	81,000
2007	403,000	35,000	443,000	38,000	493,000	42,000
2008	4,056,000	715,000	4,681,000	825,000	4,970,000	871,000
2009	3,007,000	536,000	3,626,000	646,000	3,853,000	683,000
2010	2,483,000	467,000	3,103,000	583,000	3,330,000	621,000
2011	1,495,000	330,000	1,952,000	428,000	2,168,000	466,000
2012	1,207,000	283,000	1,629,000	377,000	1,862,000	419,000
2013	1,276,000	296,000	1,781,000	408,000	2,034,000	454,000
2014	2,339,000	307,000	3,378,000	438,000	3,669,000	489,000
2015	2,604,000	305,000	3,845,000	450,000	4,152,000	497,000
2016	1,610,000	281,000	2,491,000	432,000	2,795,000	472,000
2017	1,403,000	177,000	2,269,000	277,000	2,613,000	318,000
2018	1,279,000	82,000	2,147,000	130,000	2,561,000	182,000
Total	27,092,000	4,147,000	35,432,000	5,380,000	38,661,000	5,869,000
CHILDREN EXEMPTION (UNDER 14)						
2005	2,711,000	230,000	2,799,000	237,000	2,825,000	239,000
2006	746,000	63,000	795,000	67,000	836,000	71,000
2007	358,000	31,000	394,000	34,000	441,000	38,000
2008	3,603,000	634,000	4,162,000	733,000	4,416,000	773,000
2009	2,523,000	462,000	3,045,000	558,000	3,250,000	591,000
2010	2,031,000	398,000	2,549,000	499,000	2,753,000	534,000
2011	1,285,000	289,000	1,684,000	375,000	1,879,000	410,000
2012	1,003,000	236,000	1,359,000	316,000	1,571,000	354,000
2013	983,000	230,000	1,380,000	320,000	1,609,000	362,000
2014	1,877,000	223,000	2,728,000	321,000	2,989,000	367,000
2015	2,094,000	216,000	3,108,000	322,000	3,408,000	372,000
2016	1,246,000	208,000	1,940,000	322,000	2,270,000	376,000
2017	1,140,000	119,000	1,856,000	188,000	2,234,000	246,000
2018	1,066,000	33,000	1,804,000	53,000	2,234,000	115,000
Total	22,666,000	3,374,000	29,603,000	4,345,000	32,715,000	4,849,000

EXHIBIT 5-14   INCREMENTAL UNIQUE TRAVELERS ESTIMATED TO OBTAIN APPROVED DOCUMENTS
AND THOSE DECIDING TO FORGO FUTURE TRAVEL (ALTERNATIVE 1) (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO		STEADY-STATE TRAVEL DEMAND SCENARIO		INCREASING TRAVEL DEMAND SCENARIO	
	CONTINUE TRAVELING	FORGO TRAVEL	CONTINUE TRAVELING	FORGO TRAVEL	CONTINUE TRAVELING	FORGO TRAVEL
CHILDREN EXEMPTION (UNDER 16)						
2005	2,658,000	225,000	2,744,000	232,000	2,770,000	235,000
2006	731,000	62,000	780,000	66,000	820,000	69,000
2007	352,000	30,000	387,000	33,000	434,000	37,000
2008	3,536,000	621,000	4,085,000	717,000	4,334,000	757,000
2009	2,455,000	450,000	2,964,000	544,000	3,165,000	577,000
2010	1,963,000	387,000	2,465,000	486,000	2,665,000	520,000
2011	1,237,000	281,000	1,622,000	365,000	1,813,000	399,000
2012	941,000	225,000	1,277,000	302,000	1,484,000	339,000
2013	907,000	217,000	1,277,000	302,000	1,501,000	343,000
2014	1,723,000	209,000	2,615,000	302,000	2,869,000	347,000
2015	1,922,000	202,000	2,995,000	302,000	3,288,000	351,000
2016	1,151,000	194,000	1,845,000	302,000	2,167,000	355,000
2017	1,072,000	108,000	1,783,000	170,000	2,153,000	227,000
2018	1,016,000	24,000	1,743,000	39,000	2,164,000	99,000
Total	21,666,000	3,237,000	28,585,000	4,161,000	31,627,000	4,653,000

Note: Totals may not sum due to rounding.
Source: IEc calculations.

EXHIBIT 5-15 INCREMENTAL UNIQUE TRAVELERS ESTIMATED TO OBTAIN APPROVED DOCUMENTS AND THOSE DECIDING TO FORGO FUTURE TRAVEL (ALTERNATIVES 2 & 3)

YEAR	DECREASING TRAVEL DEMAND SCENARIO		STEADY-STATE TRAVEL DEMAND SCENARIO		INCREASING TRAVEL DEMAND SCENARIO	
	CONTINUE TRAVELING	FORGO TRAVEL	CONTINUE TRAVELING	FORGO TRAVEL	CONTINUE TRAVELING	FORGO TRAVEL
NO CHILDREN EXEMPTION						
2005	3,052,000	261,000	3,151,000	269,000	3,180,000	271,000
2006	838,000	72,000	894,000	76,000	940,000	80,000
2007	399,000	34,000	439,000	38,000	489,000	42,000
2008	4,322,000	445,000	4,987,000	514,000	5,293,000	542,000
2009	3,209,000	334,000	3,869,000	403,000	4,110,000	425,000
2010	2,659,000	291,000	3,323,000	364,000	3,564,000	387,000
2011	1,619,000	206,000	2,113,000	267,000	2,344,000	290,000
2012	1,313,000	176,000	1,772,000	235,000	2,020,000	261,000
2013	1,388,000	184,000	1,934,000	254,000	2,205,000	283,000
2014	2,444,000	191,000	3,526,000	273,000	3,835,000	304,000
2015	2,704,000	190,000	3,993,000	281,000	4,317,000	309,000
2016	1,712,000	175,000	2,647,000	269,000	2,965,000	294,000
2017	1,467,000	110,000	2,369,000	173,000	2,728,000	198,000
2018	1,308,000	51,000	2,194,000	81,000	2,626,000	114,000
Total	28,436,000	2,720,000	37,212,000	3,496,000	40,616,000	3,801,000
CHILDREN EXEMPTION (UNDER 14)						
2005	2,681,000	228,000	2,767,000	235,000	2,793,000	237,000
2006	737,000	63,000	786,000	67,000	827,000	70,000
2007	354,000	30,000	390,000	33,000	437,000	37,000
2008	3,846,000	388,000	4,442,000	448,000	4,711,000	473,000
2009	2,702,000	283,000	3,262,000	341,000	3,479,000	362,000
2010	2,185,000	244,000	2,743,000	305,000	2,960,000	327,000
2011	1,397,000	177,000	1,829,000	229,000	2,038,000	251,000
2012	1,095,000	144,000	1,482,000	193,000	1,708,000	216,000
2013	1,072,000	141,000	1,504,000	195,000	1,749,000	221,000
2014	1,952,000	137,000	2,836,000	196,000	3,114,000	225,000
2015	2,164,000	132,000	3,212,000	197,000	3,530,000	228,000
2016	1,322,000	127,000	2,058,000	197,000	2,408,000	230,000
2017	1,184,000	73,000	1,925,000	115,000	2,325,000	150,000
2018	1,078,000	20,000	1,823,000	32,000	2,275,000	71,000
Total	23,771,000	2,186,000	31,059,000	2,786,000	34,354,000	3,097,000

EXHIBIT 5-15   INCREMENTAL UNIQUE TRAVELERS ESTIMATED TO OBTAIN APPROVED DOCUMENTS AND THOSE DECIDING TO FORGO FUTURE TRAVEL (ALTERNATIVES 2 & 3) (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO		STEADY-STATE TRAVEL DEMAND SCENARIO		INCREASING TRAVEL DEMAND SCENARIO	
	CONTINUE TRAVELING	FORGO TRAVEL	CONTINUE TRAVELING	FORGO TRAVEL	CONTINUE TRAVELING	FORGO TRAVEL
CHILDREN EXEMPTION (UNDER 16) (CHOSEN ALTERNATIVE)						
2005	2,628,000	223,000	2,713,000	230,000	2,738,000	233,000
2006	723,000	61,000	771,000	65,000	811,000	69,000
2007	348,000	30,000	383,000	33,000	429,000	37,000
2008	3,776,000	377,000	4,361,000	436,000	4,626,000	460,000
2009	2,631,000	274,000	3,177,000	331,000	3,390,000	351,000
2010	2,115,000	236,000	2,656,000	295,000	2,868,000	316,000
2011	1,347,000	171,000	1,765,000	222,000	1,969,000	242,000
2012	1,030,000	137,000	1,396,000	184,000	1,616,000	206,000
2013	992,000	132,000	1,396,000	184,000	1,634,000	209,000
2014	1,794,000	127,000	2,717,000	184,000	2,987,000	211,000
2015	1,988,000	123,000	3,092,000	184,000	3,403,000	213,000
2016	1,223,000	118,000	1,957,000	184,000	2,298,000	216,000
2017	1,112,000	66,000	1,846,000	104,000	2,237,000	138,000
2018	1,024,000	15,000	1,756,000	24,000	2,200,000	60,000
Total	22,730,000	2,090,000	29,984,000	2,658,000	33,207,000	2,961,000

Note: Totals may not sum due to rounding.
Source: IEc calculations.

TRAVELERS' WELFARE LOSS ESTIMATE

We calculate the welfare losses to travelers in two steps. First, for the groups presented in Exhibits 5-14 and 5-15 that decide to apply for and obtain the necessary documentation, we multiply those individuals by the cost of the document (provided in Exhibit 5-5). For the group that decides not to travel, we conduct the same calculation, multiplying it by 0.5 (see the framework discussion at the beginning of this chapter and Exhibit 5-1).

We calculate the welfare losses in each year that they occur. Then, we estimate the present value costs in each year, applying discount rates of three and seven percent, and sum the annual costs for an estimate of the total, 13-year, present value costs of the regulation.[269] Below, we present estimated welfare losses for each alternative.[270]

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[269] OMB requires Federal agencies to estimate present value costs and benefits of regulations applying discount rates of three and seven percent (U.S. Office of Management and Budget, *Regulatory Analysis* (*Circular A-4)*, September 17, 2003, page 34).

Alternative 1: Traditional Passport Book Only

Under Alternative 1, U.S. citizens entering the United States from Mexico or Canada will be required to present only a traditional passport book. As shown in Exhibit 5-16, we estimate that undiscounted annual welfare losses will range from $60 million to $770 million, depending on the estimated growth rate of U.S. unique travelers and the year in which application costs are incurred. If children are exempt from the final rule, then undiscounted annual welfare losses will range from $50 million to $680 million, depending on the age cut-off. In general, losses are high at first as all the frequent and infrequent travelers obtain passport books. Then, losses decline until 2013, as new applicants tend to be limited to rare travelers and children renewing passports that expire after five years. The impacts rise again in 2014 as frequent travelers who obtained a passport in 2005 prepare for the expiration of their document in 2015.

As shown in Exhibit 5-17, total present value welfare losses are estimated to range from $2.8 billion to $4.7 billion, depending on the discount rate applied. If children are exempt from the final rule, costs range from $2.2 billion to $3.9 billion, depending on the age cut-off and the discount rate applied. Annualized impacts range from $300 million to $431 million, depending on the discount rate, or $237 million to $361 million if children are exempt (see Exhibit 5-18).

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[270] As noted in the Executive Summary, groups of children traveling with public or private school groups, religious groups, social or cultural organizations, or teams associated with youth sport organizations would be permitted to present a birth certificate, when the groups are under the supervision of an adult affiliated with the organization and when all children have parental or legal guardian consent to travel. The group will be required to provide pertinent information to CBP prior to arriving at the U.S. POE. CBP anticipates that it will receive approximately 6,500 such submittals annually once the rule goes into affect, and that the average time required to complete such a submittal is 15 minutes. (Information provided to IEc by CBP, Office of Regulations and Rulings, on April 13, 2007.) As a result, the total annual hours burden of this process is 1,625 hours. When multiplied by a value of time of $13.87 per person-hour (Exhibit 5-4), annual welfare losses are approximately $22,500. Given the uncertainty associated with these estimates, we do not include the value of this time in our estimate of travelers' welfare losses. However, given the relatively small number of hours lost, the impact on our total welfare loss estimate is negligible.

EXHIBIT 5-16   ALTERNATIVE 1: UNDISCOUNTED WELFARE LOSSES (MILLION DOLLARS)

YEAR	DECREASING TRAVEL DEMAND SCENARIO	STEADY-STATE TRAVEL DEMAND SCENARIO	INCREASING TRAVEL DEMAND SCENARIO
NO CHILDREN EXEMPTION			
2005	$440	$460	$460
2006	120	130	140
2007	60	60	70
2008	630	720	770
2009	470	560	600
2010	390	480	520
2011	240	310	340
2012	190	260	300
2013	200	280	320
2014	330	470	520
2015	360	530	580
2016	240	370	420
2017	200	320	360
2018	160	270	330
CHILDREN EXEMPTION (UNDER 14)			
2005	$390	$400	$400
2006	110	110	120
2007	50	60	60
2008	550	640	680
2009	390	470	500
2010	310	390	430
2011	200	260	290
2012	160	210	250
2013	150	220	250
2014	250	370	410
2015	280	410	460
2016	180	280	330
2017	150	250	300
2018	130	220	280

EXHIBIT 5-16   ALTERNATIVE 1: UNDISCOUNTED WELFARE LOSSES (MILLION DOLLARS)
(CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO	STEADY-STATE TRAVEL DEMAND SCENARIO	INCREASING TRAVEL DEMAND SCENARIO
CHILDREN EXEMPTION (UNDER 16)			
2005	$380	$390	$390
2006	100	110	120
2007	50	60	60
2008	540	620	660
2009	380	450	480
2010	300	380	410
2011	190	250	280
2012	150	200	230
2013	140	200	230
2014	230	350	390
2015	250	390	440
2016	170	260	310
2017	140	230	290
2018	120	200	260

Source: IEc calculations.

EXHIBIT 5-17   ALTERNATIVE 1: TOTAL WELFARE LOSSES (2005 – 2018, BILLION DOLLARS)

DISCOUNT RATE	DECREASING TRAVEL DEMAND SCENARIO	STEADY-STATE TRAVEL DEMAND SCENARIO	INCREASING TRAVEL DEMAND SCENARIO
NO CHILDREN EXEMPTION			
Three percent	$3.4	$4.3	$4.7
Seven percent	2.8	3.5	3.8
CHILDREN EXEMPTION (UNDER 14)			
Three percent	$2.8	$3.6	$3.9
Seven percent	2.3	2.9	3.2
CHILDREN EXEMPTION (UNDER 16)			
Three percent	$2.7	$3.4	$3.8
Seven percent	2.2	2.8	3.0

Source: IEc calculations.

EXHIBIT 5-18   ALTERNATIVE 1: ANNUALIZED WELFARE LOSSES (2005 – 2018, MILLION DOLLARS)

DISCOUNT RATE	DECREASING TRAVEL DEMAND SCENARIO	STEADY-STATE TRAVEL DEMAND SCENARIO	INCREASING TRAVEL DEMAND SCENARIO
NO CHILDREN EXEMPTION			
Three percent	$300	$384	$419
Seven percent	317	399	431
CHILDREN EXEMPTION (UNDER 14)			
Three percent	$248	$317	$349
Seven percent	264	330	361
CHILDREN EXEMPTION (UNDER 16)			
Three percent	$237	$305	$336
Seven percent	253	318	349

Source: IEc calculations.

Alternatives 2 and 3: Traditional Passport Book, Passport Card, or CBP Trusted Traveler Program

Under Alternatives 2 and 3, U.S. citizens entering the United States from Mexico or Canada will be required to present a traditional passport book, a passport card, or a CBP trusted traveler document (FAST, NEXUS, SENTRI). As noted earlier, the per-person costs of enrolling in a CBP trusted traveler program are more expensive than obtaining a passport book or passport card. Therefore in this analysis, we assume that all of the affected unique travelers will choose the lowest cost option, a passport book or card, depending on which option is available in the year they obtain documentation.

Exhibit 5-19 presents undiscounted annual welfare losses for each year of the analysis. Annual impacts range from $60 million to $490 million depending on the estimated growth rate of U.S. unique travelers and the application year. If children are exempt from the final rule, undiscounted annual welfare losses will range from $50 million to $420 million, depending on the age cut-off. In general, losses are high at first as all the frequent and infrequent travelers obtain passport books. Then, losses decline until 2013, as new applicants tend to be limited to rare travelers and children renewing passports that expire after five years. The impacts rise again in 2014 as frequent travelers who obtained a passport in 2005 prepare for the expiration of their document in 2015.

As shown in Exhibit 5-20, total present value welfare losses are estimated to range from $2.0 billion to $3.2 billion, depending on the discount rate applied. If children are exempt from the final rule, welfare losses range from $1.6 billion to $2.6 billion, depending on the age cut-off and the discount rate applied. Annualized impacts range from $208 million to $298 million, depending on the discount rate, or $163 million to $247 million if children are exempt (see Exhibit 5-21).

Total welfare losses to U.S. travelers will be lower under Alternatives 2 and 3 than Alternative 1 by approximately $810 million to $1.5 billion, depending on the discount rate applied. If children are exempt from the final rule, the savings from choosing Alternatives 2 or 3 are slightly lower, ranging from $660 million to $1.3 billion.

EXHIBIT 5-19   ALTERNATIVES 2 AND 3: UNDISCOUNTED WELFARE LOSSES (MILLION DOLLARS)

YEAR	DECREASING TRAVEL DEMAND SCENARIO	STEADY-STATE TRAVEL DEMAND SCENARIO	INCREASING TRAVEL DEMAND SCENARIO
NO CHILDREN EXEMPTION			
2005	$440	$450	$460
2006	120	130	140
2007	60	60	70
2008	400	460	490
2009	300	360	380
2010	250	310	330
2011	150	200	220
2012	120	170	190
2013	130	180	210
2014	200	290	310
2015	210	320	350
2016	150	230	260
2017	120	190	220
2018	90	160	190
CHILDREN EXEMPTION (UNDER 14)			
2005	$380	$390	$400
2006	110	110	120
2007	50	60	60
2008	350	400	420
2009	240	290	310
2010	200	250	270
2011	130	170	190
2012	100	140	160
2013	100	140	160
2014	150	210	240
2015	160	240	260
2016	110	170	200
2017	90	140	180
2018	70	120	150

EXHIBIT 5-19   ALTERNATIVES 2 AND 3: UNDISCOUNTED WELFARE LOSSES (MILLION DOLLARS) (CONTINUED)

YEAR	DECREASING TRAVEL DEMAND SCENARIO	STEADY-STATE TRAVEL DEMAND SCENARIO	INCREASING TRAVEL DEMAND SCENARIO
CHILDREN EXEMPTION (UNDER 16) (CHOSEN ALTERNATIVE)			
2005	$370	$390	$390
2006	100	110	120
2007	50	50	60
2008	340	390	410
2009	240	290	300
2010	190	240	260
2011	120	160	180
2012	90	130	150
2013	90	130	150
2014	140	200	230
2015	140	220	250
2016	100	160	190
2017	80	130	170
2018	60	110	140

Source: IEc calculations.

EXHIBIT 5-20   ALTERNATIVES 2 AND 3: TOTAL WELFARE LOSSES (2005 – 2018, BILLION DOLLARS)

DISCOUNT RATE	DECREASING TRAVEL DEMAND SCENARIO	STEADY-STATE TRAVEL DEMAND SCENARIO	INCREASING TRAVEL DEMAND SCENARIO
NO CHILDREN EXEMPTION			
Three percent	$2.4	$3.0	$3.2
Seven percent	2.0	2.4	2.6
CHILDREN EXEMPTION (UNDER 14)			
Three percent	$1.9	$2.4	$2.6
Seven percent	1.6	2.0	2.2
CHILDREN EXEMPTION (UNDER 16) (CHOSEN ALTERNATIVE)			
Three percent	$1.8	$2.3	$2.5
Seven percent	1.6	1.9	2.1

Source: IEc calculations.

EXHIBIT 5-21   ALTERNATIVES 2 AND 3: ANNUALIZED WELFARE LOSSES
(2005 – 2018, MILLION DOLLARS)

DISCOUNT RATE	DECREASING TRAVEL DEMAND SCENARIO	STEADY-STATE TRAVEL DEMAND SCENARIO	INCREASING TRAVEL DEMAND SCENARIO
NO CHILDREN EXEMPTION			
Three percent	$208	$262	$283
Seven percent	225	277	298
CHILDREN EXEMPTION (UNDER 14)			
Three percent	$170	$213	$233
Seven percent	186	227	247
CHILDREN EXEMPTION (UNDER 16) (CHOSEN ALTERNATIVE)			
Three percent	$163	$204	$224
Seven percent	178	218	237

Source: IEc calculations.

CBP IMPLEMENTATION COST ESTIMATE

As discussed at the beginning of this Chapter, CBP anticipates that it will incur costs under Alternative 2 to install and operate passport card technology at land POEs. Furthermore, under all three alternatives, CBP anticipates hiring personnel to handle additional secondary inspections resulting from increased primary screening of individuals crossing the border and initial confusion regarding the need to present a passport book or card upon re-entry into the United States.[271]

In preparation for implementation of WHTI at the land POEs, CBP prepared an internal analysis of program costs and an implementation schedule. This analysis is documented in the *WHTI Cost-Benefit Analysis (CBA), Version 2.0*, prepared for CBP, October 23, 2007.[272] The CBA references numerous internal CBP documents prepared by the WHTI Passenger Systems Program Office.[273] From these documents, the CBA compiles and identifies the costs of three technical alternatives for implementing WHTI at land POEs, including: (1) standardizing information in a limited number of travel documents: (2) requiring the standardized documents to have a machine-readable zone (MRZ); and (3) adding RFID technology to specific travel documents. To obtain the implementation costs of the regulatory alternatives considered in this regulatory assessment, we use the component costs of the technical alternatives that most closely match the regulatory alternatives. All of the costs outlined in this section are cited exactly as presented by the CBA.

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[271] U.S. Customs and Border Protection, *Implementation Plan for Land Border Western Hemisphere Travel Initiative (WHTI)*, provided to IEc via email from U.S. Customs and Border Protection, Office of Regulations and Rulings, on July 31, 2006; and personal communication with Automation Programs Office, Border Security & Facilitation, Office of Field Operations, U.S. Customs and Border Protection, on August 28, 2006.

[272] *WHTI CBA*, prepared for U.S. Customs and Border Protection, October 23, 2007.

[273] *WHTI CBA*, prepared for U.S. Customs and Border Protection, October 23, 2007.

We begin with an overview of the current process for checking travel documents at land POEs and follow with a discussion of how the process will be altered by the implementation of passport card RFID technology in Alternative 2B (the chosen alternative). Next, we provide detailed information describing the types of activities CBP will undertake to run the program and the unit costs of each element. We conclude with a summary of total implementation costs, including costs also incurred under Alternatives 1 and 3.

We note that these implementation costs are preliminary and may change based on the WHTI implementation timeline, project funding, the technology embedded in the passport card, and the technology installed at the border. The cost estimates for CBP to implement WHTI presented in this chapter, therefore, are based on the most recent estimates available at the time of writing this report.[274]

OVERVIEW OF CURRENT OPERATIONS AT U.S. POEs

CBP officers inspect travelers entering the United States in a passenger vehicle in one of two ways. Most travelers physically hand over documentation such as a driver's license and birth certificate, or a passport book, to prove their identity and citizenship. The officer then visually inspects the documentation, the passengers, and the vehicle, before allowing the travelers to pass through. This process takes, on average, 30 seconds to 40 seconds, assuming those travelers are not pulled aside for secondary processing.[275]

Members of the FAST, NEXUS, and SENTRI trusted traveler programs, however, do not hand documentation to a CBP officer. NEXUS cards, which contain an RFID tag, are held up to a scanner in front of the inspection booth.[276] The scanner emits a magnetic field that activates a computer chip inside the NEXUS card, which then broadcasts an identification number back to the scanner. The scanner sends the identification number to the CBP officer's computer in his booth, which looks up the number in a CBP-controlled database and brings up the traveler's information on his screen. The officer then checks to see that the person in the vehicle is the same person shown on his screen and waves the traveler on. This entire process averages 10 seconds per vehicle.[277] SENTRI and FAST cards are used in a similar fashion; however, SENTRI program members also have an RFID tag in a windshield decal to further protect against misuse of SENTRI documentation. Reading these tags requires scanners built into the pavement, similar to automatic toll collection programs used throughout the United States.

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[274] At the writing of the cost benefit analysis, analysts assumed that WHTI would go into effect at the land borders in 2008. The shift in the implementation date may cause a shift in the timing of some of CBP's technology and staffing upgrades. Lacking the necessary data, we do not attempt to make adjustments to the government implementation costs to account for the shift in the rule implementation date.

[275] U.S. Customs and Border Protection, *Secure Electronic Network for Travelers Rapid Inspection (SENTRI)*, as viewed at http://www.cbp.gov/ xp/cgov/travel/frequent_traveler/sentri.xml on September 9, 2006.

[276] Intermec, *NEXUS: Life in the Fast Lane*, as viewed at http://www.intermec.com/eprise/main/Intermec/ Content/About/getCaseStudy?ArticleID=981 on September 9, 2006.

[277] Intermec, *NEXUS: Life in the Fast Lane*, as viewed at http://www.intermec.com/eprise/main/Intermec/ Content/About/getCaseStudy?ArticleID=981 on September 9, 2006.

INSPECTION OF PASSPORT CARDS

Under Alternative 2, CBP expects the passport card to operate in a similar fashion to the current CBP trusted traveler cards, although they intend to use vicinity read (Gen-2) RFID technology. This technology will allow the RFID scanner to read the data on the cards from a greater distance in addition to reading the data from many cards simultaneously.[278] CBP hopes to expand the use of vicinity RFID to accelerate the inspection process, particularly in situations with multiple passengers per vehicle, affording CBP officers more time to carefully inspect suspicious travelers. Up to eight cards can be read simultaneously by the vicinity RFID scanners.[279]

In addition to allowing for the inspection of travelers' passports without physically handing a document to a CBP official, the RFID technology also makes it feasible to check all travelers' identification against the Department of State's passport database as well as the two major crime enforcement databases, the Treasury Enforcement Communications System (TECS) and the National Crime Information Center (NCIC). The Department of Treasury maintains the TECS database, which contains information on individuals suspected of violations of federal law.[280] NCIC is a cooperative database between the Federal Bureau of Investigation (FBI) and state criminal justice organizations and contains information on wanted criminals, missing persons, immigration violators, sex offenders, and several other categories of criminals.[281] The NCIC also provides connectivity to the Terrorism Screening Database (TSDB), colloquially known as the "Terrorist Watchlist."[282]

CBP proposes to install vicinity RFID technology at the 39 busiest land POEs under Alternative 2, which in 2005 accounted for more than 95 percent of crossings into the United States.[283] CBP proposes to implement the passport card vicinity RFID technology at these land POEs in the following three phases:[284]

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[278] U.S. Customs and Border Protection, Office of Field Operations, *Western Hemisphere Travel Initiative PROPOSED Technology for PASSport Card*, provided to IEc via email by U.S. Customs and Border Protection, Office of Regulations and Rulings on July 31, 2006.

[279] U.S. Customs and Border Protection, Office of Field OperationsPolicy, *Western Hemisphere Travel Initiative PROPOSED Technology for PASSport Card*, provided to IEc via email by U.S. Customs and Border Protection, Office of Regulations and Rulings on July 31, 2006.

[280] Internal Revenue Service, *Part 9. Criminal Investigation - Chapter 10. Administrative Databases and Software - Section 2. Treasury Enforcement and Communication System and International Fugitive Notices*, as viewed at http://www.irs.gov/irm/part9/ch10s02.html on September 11, 2006.

[281] Federal Bureau of Investigation, *National Crime Information Center*, as viewed at http://www.fbi.gov/hq/cjisd/ncic_brochure.htm on September 11, 2006.

[282] Federal Bureau of Investigation, *Counterterrorism - Terrorist Screening Center*, as viewed at http://www.fbi.gov/terrorinfo/counterrorism/faqs.htm on September 4, 2007.

[283] U.S. Customs and Border Protection, *Implementation Plan for Land Border Western Hemisphere Travel Initiative (WHTI)*, provided to IEc via email by U.S. Customs and Border Protection, Office of Regulations and Rulings on July 31, 2006. Ranking of POEs based on 2005 personally operated privately-owned vehicle (POV) passengers, as specified in CBP, *WHTI Ports*, provided to IEc via email by U.S. Customs and Border Protection, Office of Regulations and Rulings on July 31, 2006.

[280] *WHTI CBA*, prepared for U.S. Customs and Border Protection, October 23, 2007.

- *Phase 1:Initial Sites-* Implementation occurs at two POEs in fiscal year 2008. Implementation at these initial sites is intended to achieve the basic understanding of the actual installation and operating requirement needed to expedite and optimize remaining implementations.

- *Phase II: High Volume Sites -* Implementation occurs at the 11 highest-volume POEs. This rollout also takes place in fiscal year 2008.

Phase III: Remaining Sites - Rollout to remaining POEs begins in fiscal year 2008 and concludes in fiscal year 2009.[285]

TYPES OF IMPLEMENTATION COSTS ANTICIPATED

Different CBP implementation costs are expected for each of the three alternatives. The costs to CBP of implementing WHTI can be classified into nine broad categories: RFID/license plate reader construction and support, vehicle primary client application, data center upgrades, passport database, enhanced drivers' licenses database, secondary workstations, centralized support services, personnel, and the Global Enrollment System (GES). Exhibit 5-22 provides an overview of the categories. Up-front and operations and maintenance costs for each category are discussed in greater detail below.

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[285] Note that at the writing of this report, funding for all three phases is pending. We rely on the dates outlined in the CBA because it represents the best available data. If these phases are delayed due to funding constraints, present value costs presented in this report are overstated.

EXHIBIT 5-22   OVERVIEW OF IMPLEMENTATION COST ELEMENTS

CATEGORY	COST ELEMENTS
RFID/License Plate Reader Construction and Support	• Install or upgrade physical infrastructure at POEs to allow installation and operation of RFID readers in vehicle lanes
Vehicle Primary Client	• Develop common Vehicle Primary Processing application for all land POEs
Data Center Upgrades	• Hardware and software investment to support upgrades
Passport Database	• Passport data storage upgrades and investments
Enhanced Drivers' Licenses	• Investment costs in interfacing with driver databases and accommodating driver data.
Secondary Workstations	• Secondary processing workstations to support additional workload
Centralized Support Services	• Program management, security support, help desk, communications and outreach.
Personnel	• Hire new CBP officers for anticipated increase in secondary inspections • Train and support CBP officers in use of new technology
Global Enrollment System	• Investment costs to support enrollment in the CBP trusted traveler programs.

Source: *WHTI CBA*, prepared for U.S. Customs and Border Protection, October 23, 2007.

Alternative 2 includes costs associated with all of the above categories; however, Alternatives 1 and 3 includes costs associated with a subset of them. Exhibit 5-23 outlines which elements are included in the cost calculations for each alternative. Alternative 3 analyzes the option where the passport card is available but does not have the RFID technology.

EXHIBIT 5-23   ALLOCATION OF IMPLEMENTATION COST ELEMENTS AMONG ALTERNATIVES

CATEGORY	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
RFID/License Plate Reader Construction and Support		✓	
Vehicle Primary Client	✓	✓	✓
Data Center Upgrades	✓	✓	✓
Passport Database		✓	✓
Enhanced Drivers' Licenses		✓	✓
Secondary Workstations	✓	✓	✓
Centralized Support Services	✓	✓	✓
Personnel	✓	✓	✓
Global Enrollment System		✓	✓

Source: IEc analysis.

Below we describe each category of costs, and summarize their total costs in Exhibit 5-25, as presented in Appendices D and E: "Detailed Cost Notes" of the CBA. [286]

RFID Construction and Support Costs

CBP plans to outfit 360 lanes with the new RFID technology to process passport card holders.[287] Of these lanes, 299 are considered primary lanes, and the remaining 61 lanes are dedicated commuter lanes (trusted traveler lanes). CBP estimates the cost of modifications to the primary (non-trusted traveler) lanes to be $250,000 per lane. The remaining 61 lanes that already have vicinity RFID readers (trusted traveler lanes) will not require the same extensive construction as the other lanes; rather, CBP estimates construction costs of $75,000 per lane.[288]

Vehicle Primary Client

The Vehicle Primary Client cost grouping includes investment and operating costs related to developing and deploying the application that supports inspection processing. The application will support manual document input, machine-readable documents, and RFID-enabled documents.

Data Center Upgrades

The computing systems required to check hundreds of millions of documents each year are significant. CBP will upgrade the Data Center support by installing additional hardware and software. This cost includes the investment costs related to hardware and software supporting the vehicle primary application, TECS primary and NCIC queries, crossing histories, network upgrades for the largest 50 POEs, production support, and configuration management. The CBA estimates different data center upgrades costs for Alternative 1 and Alternatives 2 and 3.

Passport Database

CBP also must invest in databases to hold passport data provided by DOS, as passport books and passport cards will be the only form of identification used by the vast majority of border crossers. The passport database cost grouping includes investments costs related to storing passport data from DOS for validation use at vehicle primary processing, pedestrian primary processing, secondary processing, and CBP trusted traveler enrollment.[289]

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[286] *WHTI CBA*, prepared for U.S. Customs and Border Protection, October 23, 2007.

[287] POV lane counts are cited as specified in the CBA. Note that the CBA does not specify the number of lanes at each POE. In Chapter 3 of this report, we present exhibits listing the number of lanes at each POE from an alternate source, but the totals do not match the totals specified in the CBA. As of the writing of this report, we have been unable to resolve the slight discrepancy.

[288] In the draft version of this report, FAST lanes were included in the analysis. The CBA does not include any cost estimates for these lanes, so they have been removed from the final analysis.

[289] For unknown reasons, the CBA does not estimate passport database costs for Alternative 1.

Enhanced Drivers' Licenses

In order to validate the traveler information contained in state or province issued enhanced drivers' licenses, CBP must establish communications and software interfaces to the underlying EDL data. This cost group includes investment costs related to interfacing with driver databases and accommodating driver data. Because enhanced drivers' licenses are not acceptable under Alternative 1, their associated cost is not included in this alternative.

Secondary Workstations

In addition, in the first few years of implementation, CBP expects that due to unfamiliarity with the change in regulations, a number of U.S. citizens will attempt to return to the United States without acceptable travel documents. As a result, these individuals, who would normally pass through primary inspection with documents such as driver's licenses and birth certificates, may be sent to secondary inspection, where their non-WHTI-compliant documents will be closely examined in order to verify their citizenship.[290] The increase in workload at secondary processing as a result of WHTI will require additional purchases and installations of workstations.

Centralized Support Services

Centralized support services include management and oversight at the Office of Information Technology (OIT), management and oversight at the Office of Field Operations (OFO), and development of education and outreach materials. There are also several smaller expenses associated with implementing the new technology, including a help desk for answering CBP officers' questions, security support for the new computing systems, and communication and outreach programs. The CBA estimates different data center upgrades costs for Alternative 1 and Alternatives 2 and 3.

Personnel

A major category of costs related to the implementation of RFID passport cards is personnel and support. Most U.S. border crossers' documents are not currently checked against any enforcement databases, and many travelers' identification is not closely inspected. With the new passport card, CBP officers will be able to check the identification of all travelers, which will result in an estimated 15 percent increase in required secondary inspections. In addition, the expected increase in enrollment in CBP trusted traveler programs will require additional staff to process applications, conduct interviews, and execute background investigations. CBP estimates that this increase in inspections and support for additional trusted traveler enrollment necessitates the hiring of 205 additional officers in the first year and 89 the year after that.[291]

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[290] Personal communication with U.S. Customs and Border Protection, Automation Programs Office, Border Security & Facilitation, Office of Field Operations, on August 28, 2006.

[291] The CBA reports the cost of hiring CBP officers; however, it is unclear if this estimate refers to incremental officers required as a result of WHTI or total CBP officers. We assume the estimate refers to incremental hires. For unknown reasons, the CBA estimates equivalent personnel costs for each alternative.

Global Enrollment System

The GES cost grouping includes investment costs supporting enrollment in CBP trusted traveler programs. These costs include RFID tags, additional workstations, upgrades to existing workstations, IT costs for mobile enrollment centers, GES application enhancements, and servers and licenses. Because trusted traveler cards are not acceptable under Alternative 1, their associated GES cost is not included in this alternative.

Summary of Capital and Operations and Maintenance Costs

Exhibit 5-25 provides a summary of each cost category, over the span of the project (11 years – 2008-2018). Included are the total operations and maintenance costs for each category.

Baseline Costs

Baseline costs were reported by CBP describing current land border operations into the future, absent the implementation of WHTI. Under the baseline scenario, the WHTI requirement for travelers to present a passport or other acceptable document does not apply, there is no standard set of acceptable documentation, and CBP officers will continue to accept a variety of document types.[292] Exhibit 5-24 outlines the baseline costs that we subtract to obtain the final summary of direct costs presented in Exhibit 5-25.

EXHIBIT 5-24   BASELINE COSTS – TOTAL AND ONGOING (2007 DOLLARS)

COST ITEM	TOTAL COST (FIRST YEARS)	TOTAL MAINTENANCE AND OPERATIONS COST
ALTERNATIVES 1, 2, AND 3		
Centralized Support Services	$3,500,000	$8,375,000
Vehicle Primary Client	19,414,000	47,409,000
ALTERNATIVES 2 AND 3		
Global Enrollment System		112,300,000

Note: The Vehicle Primary Client was amortized assuming a useful life of 6 years.
Source: *WHTI CBA*, October 23, 2007, Appendix B.

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[292] *WHTI CBA*, October 23, 2007, p. B-1.

EXHIBIT 5-25   TOTAL COST ESTIMATES (2007 DOLLARS)

COST CATEGORY	ALTERNATIVE 1		ALTERNATIVE 2		ALTERNATIVE 3	
	TOTAL CAPITAL COST (IN FIRST YEARS)	RECURRING O&M COST, TOTAL	TOTAL CAPITAL COST (IN FIRST YEARS)	RECURRING O&M COST, TOTAL	TOTAL CAPITAL COST (IN FIRST YEARS)	RECURRING O&M COST, TOTAL
RFID/License Plate Reader Construction and Support	NA	NA	$178,840,740	$528,029,350	NA	NA
Vehicle Primary Client	$0	$0	0	4,813,000	$0	$4,813,000
Data Center Upgrades	27,000,000	69,500,000	34,000,000	95,000,000	34,000,000	95,000,000
Passport Database	NA	NA	7,200,000	12,106,217	7,200,000	12,106,217
Enhanced Drivers' Licenses	NA	NA	1,650,000	3,200,000	1,650,000	3,200,000
Secondary Workstations	1,000,000	2,385,000	1,000,000	2,385,000	1,000,000	2,385,000
Centralized Support Services	11,126,000	22,046,000	16,000,000	33,975,000	16,000,000	33,975,000
Personnel	12,028,000	32,034,000	12,028,000	32,034,000	12,028,000	32,034,000
Global Enrollment System	NA	NA	9,675,000	52,500	9,675,000	52,500
Total	$51,154,000	$125,965,000	$260,393,740	$711,595,067	$65,569,000	$236,013,217

Note: Operations and maintenance costs vary from 0.25% of total costs to 100%. Guidance provided by the Passengers Systems Program Office was used to calculate the appropriate operations and maintenance estimates.
Note: Baseline capital and O&M costs have been subtracted from the total capital costs and recurring O&M costs.
Source: *WHTI CBA*, prepared for U.S. Customs and Border Protection, October 23, 2007, Appendices D and E.
NA: cost element not applicable to alternative.

SUMMARY OF CBP IMPLEMENTATION COSTS (2005 - 2018)

The facility and RFID installation capital costs of implementing WHTI will be spread across two years (2008 and 2009), based on the phased implementation plan outlined above. No implementation costs are incurred in 2005-2007. The CBA outlines the timing of costs in fiscal years 2008 through 2017. We rely on the dates in that document to assign costs to the relevant years, although we do not distinguish between fiscal years and calendar years. The CBA reports that most operations and maintenance costs begin in 2009. We extended the operations and maintenance costs one more year, to 2018.

Capital costs are annualized using a capital recovery factor (CRF).[293] Exhibit 5-26 lists the capital investment items, their useful lives, and the CRF based on interest rates of three and seven percent. A useful life of 20 years was chosen for the facility construction and a useful life of six years was chosen for the information technology (IT) costs based on the Internal Revenue Service (IRS) defined class lives.[294] A useful life of four years was chosen for the passport database because the CBA explicitly identifies capital replacement costs on a four-year cycle.[295]

Exhibit 5-27 illustrates the assignment of undiscounted costs to specific years.[296] Please see Exhibit 5-23 for a description of which cost categories are included in each alternative.

EXHIBIT 5-26 ANNUALIZED CAPITAL INVESTMENT COSTS (MILLION 2007 DOLLARS)

CAPITAL INVESTMENT	USEFUL LIFE	ANNUALIZED COST (3 PERCENT)	ANNUALIZED COST (7 PERCENT)
RFID Construction	20 years	$5.3	$7.5
RFID IT (Equipment and Hardware)	6 years	16.2	18.4
Vehicle Primary Client	6 years	2.8	3.2
Data Center Upgrades	6 years	5.4	6.3
DOS Passport Database	4 years	2.2	2.4
Secondary Processing Workstations	6 years	0.2	0.2
Global Enrollment System	6 years	0.7	0.7

Source: IEc calculations; Internal Revenue Service, *Publication 946*, 2006; *WHTI CBA*, October 23, 2007, p. E-18.

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[293] CRF = [$i(1+i)^n$] / [$1+i$]^n – 1], where i is the interest rate and n is the useful life of the asset.

[294] Internal Revenue Service, *Publication 946*, 2006.

[295] *WHTI CBA*, October 23, 2007, p. E-18.

[296] In Exhibits 5-24 through 5-26, we present costs in real 2007 dollars so that they can be easily compared with the estimates presented in the CBA. For consistency with the rest of this regulatory analysis, we present the undiscounted stream of costs shown in Exhibit 5-27 and present value impacts shown in Exhibit 5-28 in real 2005 dollars adjusted using the Consumer Price Index – All Urban Consumers to adjust for inflation (U.S. Bureau of Labor Statistics, "Consumer Price Indexes," as viewed at http://www.bls.gov/cpi/home.htm on September 23, 2007).

EXHIBIT 5-27   UNDISCOUNTED CBP IMPLEMENTATION COSTS (MILLION 2005 DOLLARS)

YEAR	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
2005	$0	$0	$0
2006	0	0	0
2007	0	0	0
2008	18.3	73.0	43.6
2009	32.8	133.6	63.1
2010	33.0	101.6	31.3
2011	14.0	97.9	27.6
2012	12.6	95.1	24.9
2013	11.8	94.5	24.3
2014	10.3	72.6	18.0
2015	8.8	74.5	19.8
2016	8.9	74.8	20.1
2017	8.9	75.0	20.4
2018	8.9	75.3	20.6

Note: Capital costs are annualized using an interest rate of three percent.
Source: IEc calculations.

As shown in Exhibit 5-28, we estimate total present value implementation costs of Alternative 1 to be $139 million from 2008 through 2018, applying a discount rate of three percent. Assuming a discount rate of seven percent, present value costs are approximately $111 million. Annualized impacts are $12 million with a discount rate of three percent and $13 million with a discount rate of seven percent.

Total present value implementation costs of Alternative 2 are estimated to be $776 million between 2005 and 2018, assuming a three percent discount rate. If a seven percent discount rate is applied, costs are lower, approximately $617 million. Annualized costs over the period of analysis range from $69 million to $71 million, depending on the discount rate applied.

Total present value implementation costs of Alternative 3 are estimated to be $257 million from 2005 through 2018, applying a discount rate of three percent. Assuming a discount rate of seven percent, present value costs are approximately $206 million. Annualized impacts are $23 million with a discount rate of three percent, and $24 million with a discount rate of seven percent.

EXHIBIT 5-28 TOTAL PRESENT VALUE CBP IMPLEMENTATION COSTS
(2005 – 2018, MILLION 2005 DOLLARS)

DISCOUNT RATE	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
PRESENT VALUE COST			
Three percent	$139	$776	$257
Seven percent	111	617	206
ANNUALIZED COST			
Three percent	$12	$69	$23
Seven percent	13	71	24

Source: IEc calculations.

SUMMARY OF DIRECT COSTS The total direct costs of WHTI are summarized in Exhibit 5-29. Under Alternative 1, the steady-state travel demand scenario combined with government implementation costs results in present value impacts ranging from $3.6 billion to $4.5 billion over 11 years depending on the discount rate applied. Under the Alternative 2, total impacts under the same travel demand scenario range from $3.0 billion to $3.7 billion. Although government implementation costs are approximately $500 million to $700 million higher under Alternative 2, welfare losses are approximately $1.1 million to $1.3 million lower. Under Alternative 3, the lower welfare losses associated with the passport card option are combined with the lower non-RFID government costs to yield total impacts of $2.6 billion to $3.2 billion.

If children are exempt from the final rule, total impacts under Alternative 1, the steady-state travel demand scenario, range from $2.9 billion to $3.7 billion over 11 years. Again, the smaller welfare loss under Alternative 2 leads to lower overall present value impacts ($2.5 billion to $3.2 billion), while the lower government costs under Alternative 3 yield lower overall present value impacts ($2.1 billion to $2.7 billion).

EXHIBIT 5-29   TOTAL PRESENT VALUE DIRECT COSTS (2005 – 2018, BILLION DOLLARS)

	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
NO CHILDREN EXEMPTION			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$4.3 (3.4 to 4.7)	$3.0 (2.4 to 3.2)	$3.0 (2.4 to 3.2)
Government implementation costs	0.1	0.8	0.3
Total	4.5 (3.5 to 4.9)	3.7 (3.1 to 4.0)	3.2 (2.6 to 3.5)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	3.5 (2.8 to 3.8)	2.4 (2.0 to 2.6)	2.4 (2.0 to 2.6)
Government implementation costs	0.1	0.6	0.2
Total	3.6 (2.9 to 3.9)	3.0 (2.6 to 3.2)	2.6 (2.2 to 2.8)
CHILDREN EXEMPTION (UNDER 14)			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$3.6 (2.8 to 3.9)	$2.4 (1.9 to 2.6)	$2.4 (1.9 to 2.6)
Government implementation costs	0.1	0.8	0.3
Total	3.7 (2.9 to 4.1)	3.2 (2.7 to 3.4)	2.7 (2.2 to 2.9)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	2.9 (2.3 to 3.2)	2.0 (1.6 to 2.2)	2.0 (1.6 to 2.2)
Government implementation costs	0.1	0.6	0.2
Total	3.0 (2.4 to 3.3)	2.6 (2.2 to 2.8)	2.2 (1.8 to 2.4)
CHILDREN EXEMPTION (UNDER 16)			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$3.4 (2.7 to 3.8)	$2.3 (1.8 to 2.5)	$2.3 (1.8 to 2.5)
Government implementation costs	0.1	0.8	0.3
Total	3.6 (2.8 to 3.9)	3.1 (2.6 to 3.3)	2.6 (2.1 to 2.8)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	2.8 (2.2 to 3.0)	1.9 (1.6 to 2.1)	1.9 (1.6 to 2.1)
Government implementation costs	0.1	0.6	0.2
Total	2.9 (2.3 to 3.2)	2.5 (2.2 to 2.7)	2.1 (1.8 to 2.3)

Note: Totals may not sum due to rounding. The central estimate in each cell represents the steady-state travel demand scenario. The range represents the decreasing travel demand and increasing travel demand scenarios.
Source: IEc calculation.

Exhibit 5-30 presents the total annualized direct costs for the 14-year period. The same pattern holds true for annualized impacts, which range from $400 million to $410 million for the steady-state travel demand scenario under Alternative 1 (no child exemption), depending on the discount rate applied. Annualized impacts are lower under Alternative 2 (no child exemption), ranging from $330 million to $350 million. Finally, annualized impacts are lowest under Alternative 3 (no child exemption), ranging from $280 million to $300 million. If children are exempt from the final rule, annualized costs range from $240 million to $330 million, under the steady-state scenario, depending on the discount rate and the alternative. The chosen regulatory alternative is shaded.

KEY SOURCES OF UNCERTAINTY

Our estimates of the total welfare losses to U.S. travelers are subject to substantial uncertainty due to various assumptions about the number of travelers affected and their willingness to pay for access to Mexico and Canada. Key issues include the translation of affected 2004 unique travelers to future annual affected individuals, whether these individuals decide to continue traveling across the border, the amount and value of time spent applying for a passport book or passport card, and the potential effect of changes in wait time at the POEs. Below, we discuss the key assumptions affecting the welfare loss estimates. Appendix C presents a more detailed, quantitative analysis of uncertainty.

FUTURE ANNUAL AFFECTED INDIVIDUALS

The number of individuals affected each year is derived from the estimate of unique travelers who currently do not possess a valid passport, estimated in Chapter 4. This estimate is obtained from one year of data (2004); in other words it represents the travelers who would have been affected in 2004 had the regulation been in effect then. In order to convert this estimate to an estimate of the annual number of people affected over the next 14 years, we make several assumptions, discussed below.

- **Future demand for cross-border travel.** Data projecting future demand for access to Mexico and Canada are not readily available. Therefore, we assume that the population of travelers affected by the regulation in 2004 is indicative of the groups affected in each subsequent year. To test the sensitivity of this assumption, we model two additional projections.

- **Timing of passport or passport card applications.** We assume that all frequent unique travelers will apply for a passport before the final rule goes into effect. To the extent that these travelers delay obtaining documentation until after the rule goes into effect in 2009, present value welfare losses are overstated. Conversely, we assume that infrequent travelers will not obtain documentation until absolutely necessary, (i.e., farther out in the future). If infrequent travelers apply for passports prior to 2009, then present value welfare losses are understated.

EXHIBIT 5-30 TOTAL ANNUALIZED DIRECT COSTS (2005 - 2018) (MILLION DOLLARS)

	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
NO CHILDREN EXEMPTION			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$380 (300 to 420)	$260 (210 to 280)	$260 (210 to 280)
Government implementation costs	12	69	23
Total	400 (310 to 430)	330 (280 to 350)	280 (230 to 310)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	400 (320 to 430)	280 (220 to 300)	280 (220 to 300)
Government implementation costs	13	71	24
Total	410 (330 to 440)	350 (300 to 370)	300 (250 to 320)
CHILDREN EXEMPTION (UNDER 14)			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$320 (250 to 350)	$210 (170 to 230)	$210 (170 to 230)
Government implementation costs	12	69	23
Total	330 (260 to 360)	280 (240 to 300)	240 (190 to 260)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	330 (260 to 360)	230 (190 to 250)	230 (190 to 250)
Government implementation costs	13	71	24
Total	340 (280 to 370)	300 (260 to 320)	250 (210 to 270)
CHILDREN EXEMPTION (UNDER 16)			
THREE PERCENT DISCOUNT RATE			
Travelers' welfare loss	$300 (240 to 340)	$200 (160 to 220)	$200 (160 to 220)
Government implementation costs	12	69	23
Total	320 (250 to 350)	270 (230 to 290)	230 (190 to 250)
SEVEN PERCENT DISCOUNT RATE			
Travelers' welfare loss	320 (250 to 350)	220 (180 to 240)	220 (180 to 240)
Government implementation costs	13	71	24
Total	330 (270 to 360)	290 (250 to 310)	240 (200 to 260)

Note: Totals may not sum due to rounding. The central estimate in each cell represents the steady-state travel demand scenario. The range represents the decreasing travel demand and increasing travel demand scenarios.
Source: IEc calculation.

THE DECISION TO CONTINUE TRAVELING TO MEXICO AND CANADA

We base our estimate of the number of unique travelers who decide to forgo future travel to Mexico and Canada on responses to the DOS BearingPoint survey of current travelers conducted at land POEs in 2005. When asked whether he or she will obtain a passport in response to the proposed regulation, a portion of the sample population stated "no." In certain cases, this response may in effect be a protest to the proposed regulation that does not provide accurate information about the respondent's willingness to pay for access to these countries.[297] For example, approximately eight percent of respondents who stated they would not obtain a passport also reported crossing the border every day. Their assertion that they will not obtain a passport may be an effort to object to the policy, rather than an indication that their willingness to pay for access is less than the cost of the passport. Absent sufficient debriefing questions or the ability to identify protesters with other questions limits our ability to identify protest votes. To the extent that these individuals' willingness to pay for access to these countries is greater than the cost of obtaining a passport, this analysis understates total welfare losses.

AMOUNT AND VALUE OF TIME SPENT APPLYING FOR DOCUMENTATION

The amount of time individuals spend applying for a passport or passport card is provided to us by DOS, and we have no data on the error bounds on these estimates. To the extent that the actual time required to go through the application process varies, the unit cost of obtaining documentation may be overstated or understated. While the effect of the error is likely to be relatively small for an individual applicant, when multiplied across the total estimated affected population over 14 years, the implications are more significant. Similarly, we assume individuals use nonmarket work time to complete the application process, and this time is valued at the median, post-tax hourly wage rate for the United States. Relatively small changes in the wage rate (e.g., using a replacement cost approach to valuing nonmarket time, rather than forgone wages) have the potential for significant effects on estimated total welfare losses, particularly if the amount of time required to complete an application also changes. Appendix D discusses the uncertainties associated with the method for assigning a value to nonmarket work time.

EFFECT OF CHANGES IN WAIT TIME

A qualitative analysis describing potential changes in wait times at POEs was developed as part of the Programmatic Environmental Assessment to comply with the National Environmental Policy Act (NEPA), and a quantitative analysis of the effect of alternative POE processing technology investments is included in the WHTI cost-benefit analysis (CBA). While the CBA provides guidance as to the effect of this rule on wait times, we

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[297] Freeman notes that "[p]rotest zeros occur when respondents reject some aspect of the constructed market scenario by reporting a zero value even though they place a positive value on the amenity or resource being valued." For example, respondents may believe that they should not have to pay for the good in question, in this case access to Mexico and Canada. (Freeman, A.M. III, *The Measurement of Environmental and Resource Values*, 2nd Ed., Resources for the Future: Washington, D.C., pp. 165-166.)

are unable to directly apply the results of that analysis in order to consider the effect of longer or shorter wait times on individuals' decision about whether or not to travel to Mexico or Canada or what type of document to obtain (increased wait times may create incentives to join the more expensive CBP trusted traveler programs). Impacts on wait times are discussed in greater detail in Chapter 9 of this report.

GOVERNMENT IMPLEMENTATION COST ESTIMATES

Estimates of government implementation costs were obtained from the CBA prepared by for CBP; government costs may be lower or higher than those estimated in this report.

CHAPTER 6 | INDIRECT EFFECTS

The purpose of this chapter is to estimate the indirect effects of the Western Hemisphere Travel Initiative (WHTI) on travel expenditures in the United States.[298] This chapter focuses on measuring incremental changes in expenditure flows between the United States and Mexico and the United States and Canada resulting from the final regulation. WHTI could change the level of spending in the United States through two competing effects. First, we estimate that some percentage of U.S. travelers will not cross the border because they choose not to acquire acceptable documentation. We assume that the money these U.S. travelers would have spent in Mexico or Canada will remain in the United States. Also, we estimate that some Mexican and Canadian travelers will decide not to acquire acceptable documentation. We assume that the money these travelers would have spent in the United States remains in Mexico or Canada.[299] Exhibit 6-1 classifies each change in spending relative to its impact on spending in the United States.[300]

EXHIBIT 6-1   POTENTIAL CHANGES IN CROSS-BORDER EXPENDITURES

TYPE OF SPENDING AFFECTED BY RULE	IMPACT ON SPENDING IN THE UNITED STATES
U.S. travelers no longer visiting Mexico	Positive
Mexican travelers no longer visiting the United States	Negative
U.S. travelers no longer visiting Canada	Positive
Canadian travelers no longer visiting the United States	Negative

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[298] The Western Hemisphere Travel Initiative (WHTI) has a proposed implementation date of June 1, 2009. As a result, crossings that occur in the first 151 days of 2009 may still occur with hindrance. This analysis makes the assumption that crossings are distributed uniformly over each year. Therefore, the ratio (214/365) is applied to the number of crossings in 2009 to determine the number of crossings that are forgone.

[299] The assumption that money that would have been spent on foreign travel remains in the country of origin as a result of WHTI is a reasonable simplifying assumption for the purposes of this analysis. We do not attempt to determine the portion of forgone travel-related expenditures that might be used instead for purchasing goods from foreign entities via mail order or the internet. Furthermore, this analysis focuses on lost sales revenues, rather than an assessment of the loss of the proportion of the value of goods sold that is derived from inputs produced in the affected country. Such analysis is beyond the scope of this report.

[300] Note that spending within particular regions of the United States may be reduced as individuals spend funds to obtain acceptable documentation. However, the net effect of this change to the U.S. economy as a whole is zero, because these funds are transferred to the U.S. government in the form of fees. Impacts to specific border regions associated with this spending are estimated in Chapter 7.

This chapter examines these competing effects. The analysis focuses on changes in cross-border spending due to WHTI, but does not calculate indirect welfare impacts. These changes in spending are not welfare losses or gains and, therefore, are not combined with the direct costs estimated in Chapter 5. Estimation of welfare impacts to consumers and producers in each of the industries affected by spending changes requires models of industry-specific supply and demand curves across both the southern and northern borders. This type of detailed industry-by-industry analysis is beyond the scope of this report. The impact of these changes in expenditures on specific, local communities, as examined in a series of case studies, is presented in Chapter 7.

U.S.-MEXICO BORDER ANALYSIS: U.S. TRAVELER EXPENDITURES

This section estimates expenditures that U.S. travelers would have spent in Mexico but for the document requirements of the rule. Because these U.S. travelers decide not to obtain acceptable documentation, they are no longer able to travel to Mexico. As a result, we assume that the money they would have spent in Mexico stays in the United States.

Our estimates of spending by U.S. travelers involve the following steps:

- **Step 1:** Estimate number of crossings by U.S. travelers who decide not to obtain acceptable documentation.

- **Step 2:** Calculate weighted average spending per trip by U.S. travelers.

- **Step 3:** Multiply crossings from Step 1 by weighted average spending per trip from Step 2.

DATA SOURCES FOR ESTIMATING U.S. EXPENDITURES

We estimate U.S. travelers' expenditures using the same survey data relied upon in Chapter 4 to estimate unique U.S. travelers. The 2004–2005 survey at the San Ysidro, Otay Mesa, and Tecate ports-of-entry (POEs) commissioned by the San Diego Association of Governments (SANDAG) provides information on how much money U.S. travelers spend per crossing in Mexico.[301] We were unable to find comparable surveys of U.S. travelers crossing at POEs in other states. As a result, we apply the SANDAG expenditure data to trips made by U.S. travelers crossing at all POEs along the U.S.-Mexico border.

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[301] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006.

FORGONE U.S. SPENDING IN MEXICO

Step 1. Estimate crossings by U.S. travelers who decide not to obtain acceptable documentation

In Chapter 5 we estimate the total number of new, unique U.S. travelers each year that will be required to obtain acceptable documentation in order to travel to Mexico. We also estimate the subset of this group who decide not to travel to Mexico, based on the costs of obtaining a passport book (Alternative 1) or passport card (Alternatives 2 and 3). Our estimates of the individuals forgoing travel to Mexico are presented in Exhibit 6-2.[302] We estimate that under Alternative 1 approximately 562,000 to 661,000 unique U.S. travelers will forgo travel to Mexico in any given year. Under Alternatives 2 and 3 the number of individuals forgoing travel is lower because we assume that the less expensive passport cards are available for purchase in 2008. Because the passport card is less expensive, we project that fewer individuals will opt out of traveling across the border. Also, the traveler estimates for Alternatives 2 and 3 are less than that for Alternative 1 because of the acceptability of CBP trusted traveler cards (NEXUS, Secure Electronic Network for Travelers' Rapid Inspection (SENTRI), and Free and Secure Trade (FAST)).

The estimates presented in Exhibit 6-2 are based on the steady-state scenario presented in Chapter 5. This scenario assumes the number of unique U.S. travelers making trips to Mexico remains constant over time. In fact, total crossings along the southern border declined by 19 percent between 1999 and 2004.[303] If crossings at the U.S.-Mexico border continue to decline in the future, the spending estimates presented in this chapter will overstate WHTI's actual impacts.

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[302] To estimate direct welfare losses to U.S. travelers, the timing of when a passport is obtained is important. In Chapter 5, we assume infrequent and rare travelers apply for a passport during the year prior to making a trip across the border. Therefore, in any given year, we assign half of these travelers and their passport costs to the year prior to the year in which they are anticipated to travel. However, in this chapter we are concerned not with the timing of passport applications, but rather the timing of travel, and therefore the number of unique U.S. travelers, both new and repeat (i.e. frequent travelers), who forgo travel in each year. As a result, we must first adjust our model to count infrequent and rare travelers in the year they are anticipated to make a trip. Due to this six-month shift, our Chapter 5 annual estimates of U.S. travelers choosing not to obtain acceptable documentation therefore cannot be directly compared with the annual estimates of travelers forgoing trips to Mexico presented in Exhibit 6-2.

[303] U.S. Department of Transportation, Bureau of Transportation Statistics, *TranStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov/ on October 9, 2006.

EXHIBIT 6-2   UNIQUE U.S. TRAVELERS FORGOING TRAVEL TO MEXICO

YEAR	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009	388,000	337,000	329,000	241,000	206,000	200,000
2010	661,000	575,000	562,000	412,000	351,000	341,000
2011	661,000	575,000	562,000	412,000	351,000	341,000
2012	661,000	575,000	562,000	412,000	351,000	341,000
2013	661,000	575,000	562,000	412,000	351,000	341,000
2014	661,000	575,000	562,000	412,000	351,000	341,000
2015	661,000	575,000	562,000	412,000	351,000	341,000
2016	661,000	575,000	562,000	412,000	351,000	341,000
2017	661,000	575,000	562,000	412,000	351,000	341,000
2018	661,000	575,000	562,000	412,000	351,000	341,000
Total	6,337,000	5,516,000	5,384,000	3,945,000	3,369,000	3,270,000

Source: IEc analysis.

To calculate annual forgone crossings by U.S. individuals choosing not to obtain acceptable documentation, we multiply each traveler by an estimate of their annual crossing frequency. Infrequent and rare travelers cross the border only once during the year in which they travel. Accordingly, we multiply the infrequent and rare travelers in each year by one to estimate their annual forgone crossings. Frequent U.S. travelers are defined as crossing at least once per year. On average, we estimate that these individuals cross approximately 20.5 times per year, calculated as the ratio of annual crossings by frequent U.S. travelers to the number of frequent U.S. travelers.[304] We multiply frequent travelers in each year by 20.5 to estimate total annual forgone crossings for this category of traveler.

Exhibit 6-3 presents our estimates of annual forgone U.S. crossings to Mexico. Between 2009 and 2018, forgone U.S. crossings to Mexico are anticipated to total 35.7 million to 69.3 million, depending on the regulatory alternative chosen. Forgone U.S. crossings in any year over this period are between 3.5 and 6.9 percent of total crossings by U.S. travelers in 2004, depending on the alternative.[305]

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[304] 102,367,000 crossings by frequent U.S. travelers in 2004 ÷ 5,000,000 unique frequent U.S. travelers in 2004 = 20.5 crossings per unique frequent U.S. traveler.

[305] This analysis makes no attempt to adjust crossings by parents based on whether children are exempt or not exempt.

EXHIBIT 6-3   FORGONE U.S. CROSSINGS TO MEXICO

YEAR	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009	4,240,000	3,690,000	3,602,000	2,636,000	2,251,000	2,184,000
2010	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
2011	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
2012	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
2013	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
2014	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
2015	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
2016	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
2017	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
2018	7,231,000	6,294,000	6,144,000	4,497,000	3,839,000	3,726,000
Total	69,321,000	60,338,000	58,894,000	43,107,000	36,798,000	35,717,000

Source: IEc analysis.

Step 2. Calculate weighted average spending per trip by U.S. travelers in Mexico
We base our estimate of the spending of U.S. travelers in Mexico on the SANDAG survey, which asked U.S. travelers returning to the United States how much they spent in Mexico on food, shopping, recreation, and lodging. It is unlikely respondents divided shared expenditures, such as restaurant, hotel, and grocery bills, by the number of individuals in their traveling party while responding to the survey. Therefore, we assume that the expenditures represent spending by the respondent's entire crossing party.[306] The SANDAG survey recorded the crossing party size for privately owned vehicle (POV) travelers, but not for bus and pedestrian travelers. The average number of individuals per vehicle, weighted by trip purpose, is 2.1 individuals per trip.[307] Without data for bus and pedestrian travelers, we assume a crossing party also is comprised of 2.1 individuals for

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[306] SANDAG cannot determine whether the responses reflect individual traveler or crossing party expenditures. The determination ultimately lies in each respondent's interpretation of the survey question. Some respondents may have provided only their personal expenditures, while others provided their entire crossing party or family's expenditures. Personal communication with Elisa Arias, Principal Regional Planner at SANDAG, on November 15, 2006.

[307] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

these modes. Accordingly, we divide all SANDAG spending figures by 2.1 to convert spending per U.S. crossing party to spending per U.S. traveler.

The SANDAG survey results reveal that spending by U.S. travelers in Mexico depends on the purpose of their trip. For example, U.S. travelers crossing to Mexico for work spend on average $34 per trip across all modes, while those traveling to shop spend $76 per trip.[308] U.S. travelers crossing for recreation and tourism spend $148 per trip.[309] Exhibit 6-4 shows average spending per U.S. traveler per trip, by trip purpose.

EXHIBIT 6-4   U.S. SPENDING IN MEXICO BY TRIP PURPOSE

TRIP PURPOSE	AVERAGE SPENDING PER TRIP	PERCENT OF RESPONDENTS
Work/Business	$34.43	9.1%
Shopping/Errands	75.87	12.7
Visit friends/family	71.07	55.7
School	14.73	0.6
Recreation/Entertainment/Vacation	148.25	8.9
Medical	74.13	8.5
Other	57.92	4.4

Note: Spending per crossing by trip purpose and mode of travel has already been weighted by the frequency of survey responses.
Average spending per trip costs were divided by 2.1 to convert per party costs to per traveler costs.
Source: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

The average expenditures by mode of travel are shown in Exhibit 6-5. We average these figures, weighted by the share of U.S. crossings attributed to each mode.

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[308] Throughout this Chapter, our estimates of forgone crossings include crossings made by ferry and pleasure boat passengers. At the writing of this report, expenditure data for these types of travelers is not readily available. Therefore, we apply the more general estimates developed for land modes of travel.

[309] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

EXHIBIT 6-5   U.S. SPENDING IN MEXICO BY MODE OF TRAVEL

MODE OF TRAVEL	AVERAGE SPENDING PER TRIP	MODE OF TRAVEL WEIGHTS
POV	$75.42	80.0%
Pedestrian	68.21	18.0
Bus	70.78	1.9
Weighted Average	**$74.03**	**100.0%**

Source: Spending data from San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10. Mode of travel weights derived from U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

The resulting average spending per trip weighted by both mode of travel and trip purpose is $74. In other words, accounting for all crossing frequencies and all trip purposes, we calculate that a U.S. traveler spends on average $74 in Mexico each time he or she crosses the border.

Step 3. Multiply forgone U.S. crossings into Mexico by weighted average spending per trip

We calculate the increased annual spending in the United States by multiplying forgone U.S. crossings from Exhibit 6-3 by $74 per trip. Exhibit 6-6 presents our undiscounted estimates of forgone U.S. spending in Mexico for each year between 2009 and 2018.

EXHIBIT 6-6   FORGONE U.S. TRAVELER EXPENDITURES IN MEXICO (MILLION DOLLARS)

YEAR	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009	$310	$270	$270	$200	$170	$160
2010	540	470	450	330	280	280
2011	540	470	450	330	280	280
2012	540	470	450	330	280	280
2013	540	470	450	330	280	280
2014	540	470	450	330	280	280
2015	540	470	450	330	280	280
2016	540	470	450	330	280	280
2017	540	470	450	330	280	280
2018	540	470	450	330	280	280

Source: IEc analysis.

In Exhibit 6-7 we calculate the present value of these impacts applying discount rates of three and seven percent. Depending on the regulatory alternative chosen, total spending by U.S. travelers forgoing travel to Mexico in 2009 to 2018 is estimated to range from $2.1 billion to $4.0 billion, assuming a discount rate of three percent, and $1.5 billion to $2.9 billion, assuming a discount rate of seven percent.

EXHIBIT 6-7   TOTAL PRESENT VALUE OF FORGONE U.S. TRAVELER EXPENDITURES IN MEXICO (2005 – 2018, BILLION DOLLARS)

DISCOUNT RATE	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
Three Percent	$4.0	$3.5	$3.4	$2.5	$2.1	$2.1
Seven Percent	2.9	2.5	2.5	1.8	1.5	1.5

Source: IEc analysis.

This section estimates the expenditures that Mexican travelers would spend in the United States but for the rule. Because certain Mexican travelers decide not to obtain acceptable documentation, we assume that they no longer travel to the United States. As a result, we assume that the money they would have spent inside the United States is spent in Mexico or another country.

Our estimates of forgone spending by Mexican travelers involve the following steps:

- **Step 1:** Estimate the number of Mexican travelers who decide not to purchase acceptable documentation.

- **Step 2:** Determine annual forgone crossings to the United States by the Mexican travelers from Step 1.

- **Step 3:** Estimate how much a Mexican traveler spends in the United States per trip.

- **Step 4:** Multiply annual forgone crossings from Step 2 by spending per trip from Step 3.

DATA SOURCES FOR ESTIMATING MEXICAN SPENDING

Our estimates of Mexican spending rely upon surveys of Mexican travelers conducted in California, Arizona, and Texas. The SANDAG survey, described earlier in this chapter, provides information on the crossing frequency and spending patterns of Mexican travelers to California. Similarly, *The Economic Impacts of Mexican Visitors to Arizona: 2001*, a survey-based study discussed in Chapter 4, provides information describing the spending patterns of Mexican travelers in Arizona.[310]

For Texas, we rely on an overview of survey research presented in January 2006 at a Dallas Federal Reserve conference on cross-border shopping.[311] This overview summarizes results of a survey designed to determine the crossing frequency of Mexican travelers to Texas. In addition, survey data collected by researchers at the University of Texas Pan-American describe Mexican spending patterns in Texas.[312] These researchers only interviewed Mexican shoppers, who tend to spend more in the United States than Mexican travelers crossing for other reasons, such as work or social visits. Therefore, when applied to all Mexican travelers to Texas, these survey data likely overestimate Mexican spending in Texas.

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[310] Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

[311] Ghaddar, S. and C.J. Brown (University of Texas-Pan American), *A Profile of the Cross-Border Mexican Shopper and the Shoppers' Impact on the Valley Economy*, presented at the Dallas Federal Reserve Conference on Cross-Border Shopping Activity on January 13, 2006.

[312] Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

FORGONE MEXICAN SPENDING IN THE UNITED STATES

We only estimate forgone Mexican spending for Alternative 1. Under Alternative 1, passport books are the only acceptable form of documentation for entering the United States. Under Alternatives 2 and 3, passport books as well as CBP trusted traveler cards and the Border Crossing Card (BCC)/laser visa, are acceptable. At present, Mexican travelers must have a passport book and visa or a BCC to enter the United States. Because Alternatives 2 and 3 impose no new requirements on Mexican travelers, we conclude that there would no change in the number of Mexican trips to the United States. Therefore, the focus of our analysis is on potential forgone Mexican spending in the United States under the more restrictive Alternative 1.

Step 1. Estimate number of Mexican travelers who decide not to obtain acceptable documentation

Currently, Mexican travelers must present a passport book and visa or a BCC to enter the United States.[313] Mexican travelers originally did not need a passport book to obtain a BCC. On April 1, 1998, the U.S. Citizenship and Immigration Services (formerly the Immigration and Naturalization Service), at the direction of Congress, began issuing machine-readable biometric BCCs known as laser visas. The older, non-biometric BCCs expired on September 30, 2001. Mexican travelers with the old BCCs were not required to present a Mexican passport to acquire the new laser visa.[314] Because Mexicans traveling frequently to the United States generally have BCCs, we assume that all Mexican travelers with old BCCs acquired laser visas prior to the BCCs expiration on September 30, 2001.

According to the U.S. Department of State (DOS), four million laser visas were issued to Mexican travelers between April 1, 1998 and August 21, 2001 – roughly the time span allowed for replacing the old BCCs. Slightly fewer than half of these issuances were to Mexican travelers with old BCCs, who, unlike first-time applicants, did not need a passport book to get the laser visa.[315] Therefore, the approximately two million Mexican travelers who renewed their BCCs represent the subset of Mexican travelers who *may* not have passport books. Undoubtedly, some Mexican travelers with older BCCs already had passport books, so two million Mexican travelers represents an upper bound estimate of Mexican travelers affected by Alternative 1.

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[313] The Border Crossing Card is described in more detail in Chapter 2.

[314] U.S. Department of State, Bureau of Consular Affairs, *Border Crossing Card (BCC) Page*, as viewed at http://travel.state.gov/visa/temp/types/types_1266.html on March 10, 2006.

[315] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

Step 2: Estimate the annual forgone crossings by Mexican travelers who decide not to obtain acceptable documentation

There are no survey data available to estimate the number of Mexican travelers who might forgo travel as a result of this regulation. The DOS BearingPoint survey has responses on U.S. travelers who indicate that they will forgo travel to Mexico if they have to obtain a passport book.[316] Specifically, the DOS BearingPoint survey finds that nine to ten percent of U.S. travelers, depending on their crossing frequency, will choose to forgo travel to Mexico. The average opt-out rate for U.S. travelers weighted by crossing frequency is ten percent. For purposes of this analysis, we assume that ten percent of Mexican travelers without passport books will also decide to forgo travel, recognizing that there are numerous reasons why U.S. and Mexican travelers would differently weigh the trade-off between the cost of a passport and future travel.

The assumption of a ten percent opt-out rate for Mexican travelers is conservative for two reasons. First, as mentioned earlier, the two million Mexicans renewing BCCs likely includes travelers who already own passport books. Second, BCC cardholders have already demonstrated a willingness to expend time and money to gain access to the United States. Mexican travelers must participate in an in-person interview with CBP officials to obtain the BCC, and the renewal of the BCC for the new laser visa costs $100, not including the value of time spent applying.[317] By contrast, a Mexican passport costs approximately $150, not including the value of time spent obtaining the document.[318] With time included, the costs of the two types of documentation are likely to be similar. Finally, our estimates of forgone Mexican spending are directly scalable by the opt-out rate. For example, if five percent, rather than ten percent, of Mexican travelers without passport books decide to forgo travel, our current forgone spending estimates decrease by a factor of two.

At a ten percent opt-out rate, we project that 200,000 Mexican travelers (10 percent of two million) will forgo travel to the United States in Alternative 1. We then determine the annual crossing frequency of these individuals in order to estimate annual forgone Mexican crossings. Average annual crossing frequency is calculated as the ratio of annual crossings by Mexican travelers to the number of unique Mexican travelers. We estimate unique Mexican travelers using the same method described in Chapter 4 to estimate unique U.S. travelers. Crossings are apportioned by annual crossing frequency and then divided by the associated number of crossings per year.

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[316] Note that we do not use the exact numbers reported in the DOS BearingPoint survey in our earlier calculation in this chapter. Instead, we use the estimate presented in Chapter 5, which is derived, in part, from the responses to the survey (see discussion in Chapter 5).

[317] U.S. Department of State, Bureau of Consular Affairs, *Border Crossing Card (BCC) Page*, as viewed at http://travel.state.gov/visa/temp/types/types_1266.html on March 10, 2006.

[318] Website of Government of Guadalajara, Mexico, Office of Exterior Relations, as viewed at http://www.Guadalajara.gob.mx/gtransparenteServicios/relExt/sre.html on September 19, 2006.

Exhibit 6-8 shows the distribution of Mexican POV crossings in California by the crossing frequency of Mexican POV travelers. This distribution, derived from the SANDAG survey data, is presented as a graph due to the large range of annual crossing frequencies given by survey respondents.[319]

Exhibit 6-9 presents the distribution of all Mexican crossings in Texas by the crossing frequency of all Mexican travelers. The Texas survey offered respondents a limited range of crossing frequencies.

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[319] The SANDAG survey asked respondents how many times they crossed the border in the previous month. Chapter 4 contains a discussion of how we converted the distribution of monthly crossing frequencies into a distribution of annual crossing frequencies.

EXHIBIT 6-8   DISTRIBUTION OF MEXICAN CROSSINGS INTO CALIFORNIA BY ANNUAL CROSSING FREQUENCY OF UNIQUE MEXICAN POV
TRAVELERS
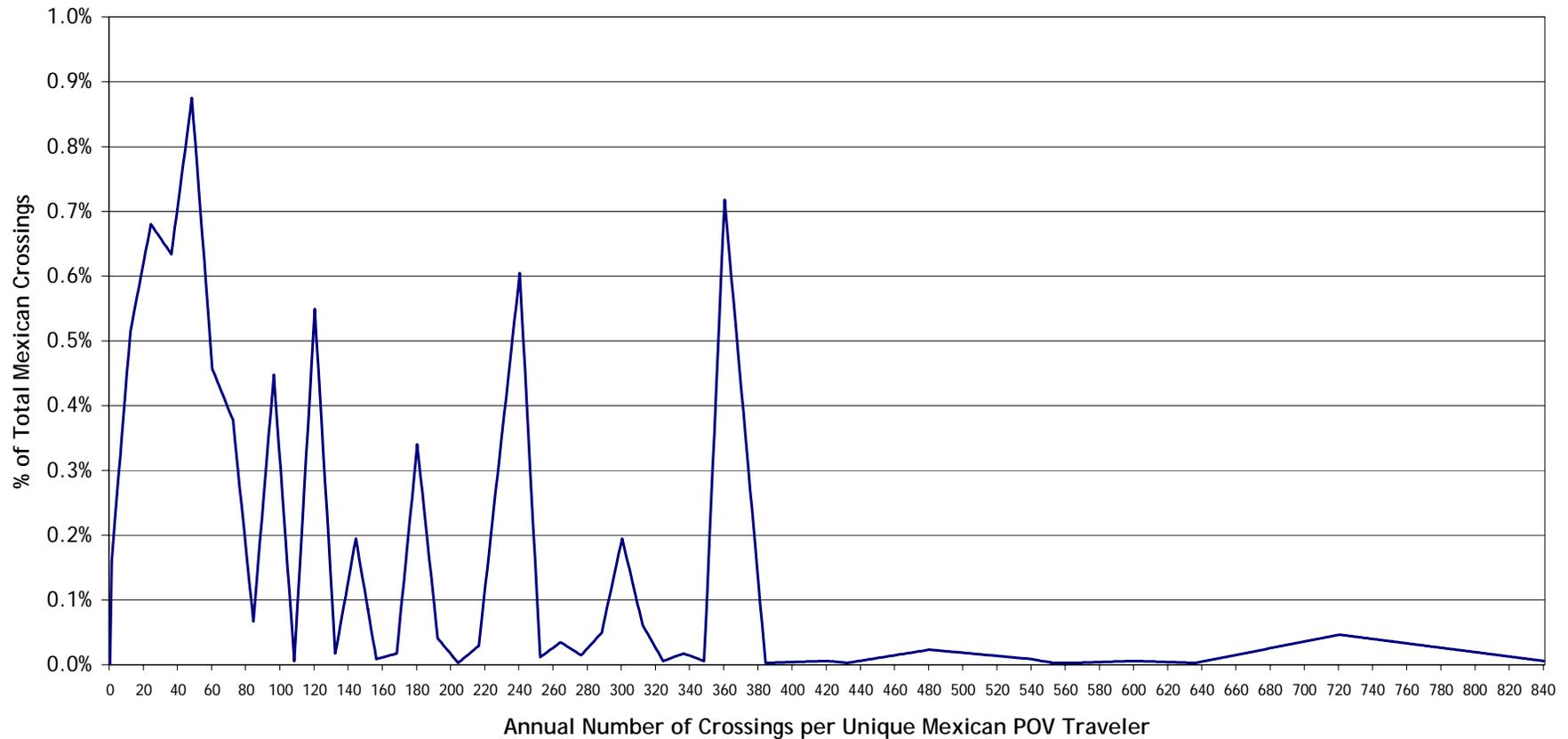
Note: This chart presents the interpolated crossing frequency distribution for SANDAG survey respondents traveling by POV. The SANDAG survey also collected data that allowed IEc to interpolate distinct frequency distributions for pedestrian and bus travelers (not shown).
Source: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

EXHIBIT 6-9   CROSSING FREQUENCY OF MEXICAN TRAVELERS IN TEXAS

FREQUENCY	CROSSINGS PER YEAR	PERCENT OF MEXICAN CROSSINGS		
		POV	BUS	PEDESTRIAN
Daily/Almost Daily	260	4%	2%	12%
1-2 times per week	78	9	2	16
Several times per month	36	33	33	46
Several times per year	12	49	48	26
Once per year	1	5	16	0
Total	N/A	100%	100%	100%

Source: Ghaddar, S. and C.J. Brown (University of Texas-Pan American), *A Profile of the Cross-Border Mexican Shopper and the Shoppers' Impact on the Valley Economy*, presented at the Dallas Federal Reserve Conference on Cross-Border Shopping Activity on January 13, 2006.

To calculate crossings by Mexicans choosing not to travel to the United States, we use SANDAG crossing frequency data (Exhibit 6-8) for POEs in California, Arizona, and New Mexico. We use the crossing frequency data from the University of Texas-Pan American study (Exhibit 6-9) for POEs in Texas. Applying these frequency distributions to the 141.7 million Mexican crossings produces an estimate of 6.9 million unique Mexican travelers entering the United States. Dividing 141.7 million Mexican crossings by 6.9 million unique Mexican travelers results in an average of 21 crossings per Mexican traveler. Therefore, as summarized in Exhibit 6-10, the 200,000 Mexican travelers opting not to obtain acceptable documentation will annually forgo approximately 4.1 million crossings to the United States. For Alternative 1, we estimate WHTI would result in a 2.9 percent reduction in annual Mexican crossings. Under Alternatives 2 and 3, we assume there is no change to Mexican crossings to the United States because Mexican travelers already possess acceptable forms of documentation under these alternatives.

EXHIBIT 6-10   FORGONE MEXICAN CROSSINGS INTO THE UNITED STATES

YEAR	ALTERNATIVE 1	ALTERNATIVES 2 & 3 (CHOSEN ALTERNATIVE)
2009	2,240,000	0
2010	4,120,000	0
2011	4,120,000	0
2012	4,120,000	0
2013	4,120,000	0
2014	4,120,000	0
2015	4,120,000	0
2016	4,120,000	0
2017	4,120,000	0
2018	4,120,000	0
Total	39,320,000	0

Source: IEc analysis.

Step 3: Estimate per trip spending by Mexican travelers in the United States

For Mexican trips to California, we rely on information on Mexican spending in the United States collected as part of the SANDAG survey. As explained earlier, it is unlikely respondents divided shared expenditures, such as restaurant, hotel, and grocery bills, by the number of individuals in their traveling party while responding to the survey. Therefore, we assume that the expenditures represent spending by the respondent's entire crossing party.[320] The SANDAG survey recorded the crossing party size for Mexican POV travelers, however, not for bus and pedestrian travelers. The average number of individuals per vehicle weighted by trip purpose is 1.9 individuals per trip.[321] Without data for bus and pedestrian travelers, we assume a crossing party also is comprised of 1.9 individuals for these modes. Accordingly, we divide all SANDAG spending figures by 1.9 to convert spending per Mexican crossing party to spending per Mexican traveler.

As with U.S. travelers, Mexican traveler spending depends on the purpose of trip. The SANDAG survey results show that Mexican travelers crossing into the United States for work spend an average of $36 per trip across all modes. Mexican travelers crossing for shopping spend $95 per trip, while those crossing to visit friends and family spend $50

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[320] SANDAG is unable to determine whether the responses reflect individual traveler or crossing party expenditures. The determination ultimately lies in each respondent's interpretation of the survey question. Some respondents may have provided only their personal expenditures, while others provided their entire crossing party or family's expenditures. Personal communication with Elisa Arias, Principal Regional Planner at SANDAG, on November 15, 2006.

[321] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

per trip. [322] Exhibit 6-11 presents average Mexican spending in the United States by trip purpose.

EXHIBIT 6-11   MEXICAN SPENDING IN CALIFORNIA BY TRIP PURPOSE

TRIP PURPOSE	AVERAGE SPENDING PER TRIP	PERCENT OF RESPONDENTS
Work/Business	$36.47	17.1%
Shopping/Errands	95.49	63.2
Visit friends/family	49.56	12.4
School	13.88	2.6
Recreation/Entertainment/Vacation	101.83	1.9
Medical	25.16	0.9
Other	26.34	1.9

Note: Average spending per trip costs were divided by 1.9 to convert per party costs to per traveler costs.
Source: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

The weighted average expenditures by mode of travel are shown in Exhibit 6-12. The average spending per trip weighted by mode of travel is $79.

EXHIBIT 6-12   MEXICAN SPENDING IN CALIFORNIA BY MODE OF TRAVEL

MODE OF TRAVEL	AVERAGE SPENDING PER TRIP	MODE OF TRAVEL WEIGHTS
POV	$84.57	80.0%
Pedestrian	$3.82	18.0
Bus	94.08	1.9
Weighted Average	**$79.21**	**100.0%**

Sources: San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10. Mode of travel weights derived from Bureau of Transportation Statistics data. U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

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[322] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

For trips to Arizona, we perform the same calculations using data from the Arizona survey by Charney and Pavlakovich-Kochi. The survey data reflect per-party expenditures. We divide these expenditures by 2.25, the weighted average of Mexican travelers per party across Arizona POEs. Exhibit 6-13 shows the spending calculated per Mexican traveler in Arizona by mode of travel.

EXHIBIT 6-13 MEXICAN SPENDING IN ARIZONA BY TRIP PURPOSE

TRIP PURPOSE	AVERAGE SPENDING PER TRIP (POV)	PERCENT OF POV RESPONDENTS	AVERAGE SPENDING PER TRIP (PEDESTRIANS)	PERCENT OF PEDESTRIAN RESPONDENTS
Visit Family	$34.49	8.5%	$24.79	5.3%
Vacation	49.90	2.5	13.51	2.2
Shop	56.06	68.4	20.33	83.4
Medical	71.24	0.3	-	-
Business	63.06	1.7	6.39	0.6
Personal	18.15	0.9	9.83	0.0
Work	33.66	17.0	10.95	8.4
Other	20.33	0.8	0.00	0.0

Note: Average spending per trip costs were divided by 2.25 to convert per party costs to per traveler costs.
Source: Spending data from Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

Exhibit 6-14 presents the travel mode weighted average per-trip expenditures for Mexican travelers. The weighted average spending per trip for Mexican travelers to Arizona is $41.

EXHIBIT 6-14 MEXICAN SPENDING IN ARIZONA BY MODE OF TRAVEL

MODE OF TRAVEL	AVERAGE SPENDING PER TRIP	MODE OF TRAVEL WEIGHTS
POV	$49.80	72.1%
Pedestrian	19.54	27.9
Weighted Average	**$41.36**	**100.0%**

Source: IEc Analysis. Mode of travel weights derived from Bureau of Transportation Statistics data. U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

For Mexican travelers to Texas, we estimate an average spending per trip of $39. Exhibit 6-15 shows the calculations based on the Texas survey of Mexican shoppers.[323] The Texas figure is weighted only by mode, as all Mexican travelers surveyed were crossing for shopping. Although lower than the spending figures in the other states, the Texas data may be biased upward, because all survey respondents were Mexican shoppers. The SANDAG survey results in California indicate that Mexican travelers crossing for shopping typically spend more than Mexican travelers crossing for other reasons (see Exhibit 6-11). On the other hand, the Texas survey data yield a weighted average party size of 4.2 individuals, approximately twice as large as the party sizes in California and Arizona. The larger party size results in the relatively small per-trip expenditures per Mexican traveler shown in Exhibit 6-15. The Texas survey effort may have sampled larger parties on average, because it was conducted only at shopping malls, which may, for example, draw larger groups on all-day outings with friends and family.

EXHIBIT 6-15 MEXICAN SPENDING IN TEXAS BY MODE OF TRAVEL

MODE OF TRAVEL	AVERAGE SPENDING PER TRIP	MODE OF TRAVEL WEIGHTS
POV	$46	81.4%
Bus	20	1.5
Pedestrian	5	17.0
Weighted Average	**$39**	**100.0%**

Source: Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004. Mode of travel weights derived from Bureau of Transportation Statistics data and U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006.

We were unable to find a survey of Mexican travelers to New Mexico. To calculate forgone Mexican spending in New Mexico we use an average of the per-trip Mexican expenditures for California ($79), Arizona ($41), and Texas ($39) weighted by the share of Mexican crossings in each state. The weighted average is $57 per trip.

Step 4: Multiply forgone Mexican crossings into the United States by average spending per trip

In order to calculate the total forgone U.S. spending by Mexican travelers choosing not to obtain acceptable documentation, we multiply forgone Mexican crossings from Exhibit 6-10 by the weighted average spending per trip corresponding to each state. The resulting estimates of reduced spending in the United States by Mexican citizens are presented in Exhibit 6-16. Under Alternative 1, we estimate that total reduced Mexican spending

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[323] Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

along the entire U.S.-Mexico border is approximately $230 million annually. Under Alternatives 2 and 3, there is no change in spending because all Mexican travelers already possess WHTI-compliant documentation.

EXHIBIT 6-16   ANNUAL FORGONE MEXICAN TRAVELER EXPENDITURES IN THE UNITED STATES (MILLION DOLLARS)

YEAR	ALTERNATIVE 1	ALTERNATIVES 2 & 3 (CHOSEN ALTERNATIVE)
2009	$120	$0
2010	230	0
2011	230	0
2012	230	0
2013	230	0
2014	230	0
2015	230	0
2016	230	0
2017	230	0
2018	230	0

Source: IEc analysis.

By applying per-trip Mexican spending to the 141.7 million Mexican crossings in 2004, we estimate that Mexican travelers spent approximately $7.7 billion in the United States in 2004. Accordingly, annual reduced Mexican spending under Alternative 1 is approximately three percent of total annual spending in the United States by Mexican travelers.

In Exhibit 6-17 we calculate the present value of the forgone Mexican travel applying discount rates of three and seven percent. For Alternative 1, the present value of total decreased Mexican spending from 2009 to 2018 is estimated to be $1.7 billion at a three percent discount rate and $1.2 billion at a seven percent discount rate. Alternatives 2 and 3 show no impact.

EXHIBIT 6-17   TOTAL PRESENT VALUE OF FORGONE MEXICAN TRAVELER EXPENDITURES IN THE UNITED STATES (2005 - 2018, BILLION DOLLARS)

DISCOUNT RATE	ALTERNATIVE 1	ALTERNATIVES 2 & 3 (CHOSEN ALTERNATIVE)
Three Percent	1.7	$0
Seven Percent	1.2	0

Source: IEc analysis.

This section estimates the expenditures that U. S. travelers would have spent in Canada but for document requirements of the rule. Because these U.S. travelers decide not to obtain acceptable documentation, they are no longer able to travel to Canada. As a result, we assume the money they would have spent in Canada stays in the United States.

Our estimates of spending by U.S. travelers follow the same steps as those enumerated in the U.S.-Mexico border analysis.

- **Step 1:** Estimate the number of crossings by U.S. travelers who decide not to obtain acceptable documentation.

- **Step 2:** Calculate weighted average spending per trip by U.S. travelers.

- **Step 3:** Multiply crossings from Step 1 by weighted average spending per trip from Step 2.

DATA SOURCES FOR ESTIMATING U.S. EXPENDITURES

We estimate forgone U.S. expenditures using 2003 data from Statistics Canada's *International Travel* survey.[324] The survey provides information on how much U.S. travelers spend per trip in Canada.

FORGONE U.S. SPENDING IN CANADA

Step 1. Estimate crossings by U.S. travelers who decide not to obtain acceptable documentation

In Chapter 5 we estimate the total number of new, unique U.S. travelers each year that will be required to obtain acceptable documentation in order to travel to Canada. We also estimate the subset of this group who decide not to travel to Canada, based on the costs of obtaining required documentation. Our estimates of the individuals forgoing travel to Canada are presented in Exhibit 6-18.[325]

Our estimates are based on the steady-state scenario presented in Chapter 5. This scenario assumes the number of unique U.S. travelers making trips to Canada remains constant over time. We choose the steady-state scenario despite the fact that total crossings by U.S. and Canadian citizens declined by 25 percent between 2000 and

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[324] Statistics Canada, *International Travel 2003*, January 2005.

[325] To estimate direct welfare losses to U.S. travelers, the timing of when a passport is obtained is important. In Chapter 5, we assume infrequent and rare travelers apply for a passport during the year prior to making a trip across the border. Therefore, in any given year, we assign half of these travelers and their passport costs to the year prior to the year in which they are anticipated to travel. However, in this chapter we are concerned not with the timing of passport applications, but rather the timing of travel, and therefore the number of unique U.S. travelers, both new and repeat (i.e., frequent travelers), who forgo travel in each year. As a result, we must first adjust our model to count infrequent and rare travelers in the year they are anticipated to make a trip. Due to this six-month shift, our Chapter 5 annual estimates of U.S. travelers choosing not to obtain acceptable documentation therefore cannot be directly compared with the annual estimates of travelers forgoing trips to Canada presented in Exhibit 6-18.

2004.[326] If crossings at the U.S.-Canada border continue to decline in the future, the forgone spending estimates presented will overstate WHTI's actual impacts.

EXHIBIT 6-18   UNIQUE U.S. TRAVELERS FORGOING TRAVEL TO CANADA

YEAR	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009	228,000	206,000	202,000	141,000	125,000	122,000
2010	389,000	351,000	345,000	241,000	214,000	208,000
2011	389,000	351,000	345,000	241,000	214,000	208,000
2012	389,000	351,000	345,000	241,000	214,000	208,000
2013	389,000	351,000	345,000	241,000	214,000	208,000
2014	389,000	351,000	345,000	241,000	214,000	208,000
2015	389,000	351,000	345,000	241,000	214,000	208,000
2016	389,000	351,000	345,000	241,000	214,000	208,000
2017	389,000	351,000	345,000	241,000	214,000	208,000
2018	389,000	351,000	345,000	241,000	214,000	208,000
Total	3,729,000	3,368,000	3,307,000	2,312,000	2,047,000	1,999,000

Source: IEc analysis.

To calculate annual forgone crossings by U.S. travelers opting not to obtain acceptable documentation, we multiply each traveler by an estimate of their annual crossing frequency. Infrequent and rare travelers cross the border only once during the year in which they travel. Accordingly, we multiply the infrequent and rare travelers in each year by one to estimate their annual forgone crossings. Frequent U.S. travelers are defined as crossing at least once per year. On average, these individuals cross into Canada approximately 4 times per year, calculated as the ratio of annual crossings by frequent U.S. travelers to the number of frequent U.S. travelers.[327] We multiply frequent travelers in each year by that amount to estimate their annual forgone crossings.[328]

Exhibit 6-19 presents our estimates of annual forgone U.S. crossings to Canada. Between 2009 and 2018, forgone U.S. crossings to Canada are projected to total 3.5 million to 6.6 million, depending on the regulatory alternative and the exemption of child travelers.

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[326] Department of Transportation, Bureau of Transportation Statistics, *TranStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov/ on October 9, 2006.

[327] 14,067,000 crossings by frequent U.S. travelers in 2004 ÷ 3,216,000 unique frequent U.S. travelers in 2004 = 4 crossings per unique frequent U.S. traveler.

[328] This analysis makes no attempt to adjust crossings by parents based on whether children are exempt or not exempt.

These annual forgone U.S. crossings represent between 1.1 and 2.0 percent of total U.S. crossings to Canada in 2004.

EXHIBIT 6-19   FORGONE U.S. CROSSINGS TO CANADA

YEAR	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009	406,000	367,000	360,000	250,000	221,000	216,000
2010	693,000	626,000	614,000	426,000	377,000	368,000
2011	693,000	626,000	614,000	426,000	377,000	368,000
2012	693,000	626,000	614,000	426,000	377,000	368,000
2013	693,000	626,000	614,000	426,000	377,000	368,000
2014	693,000	626,000	614,000	426,000	377,000	368,000
2015	693,000	626,000	614,000	426,000	377,000	368,000
2016	693,000	626,000	614,000	426,000	377,000	368,000
2017	693,000	626,000	614,000	426,000	377,000	368,000
2018	693,000	626,000	614,000	426,000	377,000	368,000
Total	6,641,000	5,998,000	5,890,000	4,081,000	3,611,000	3,525,000

Source: IEc analysis.

Step 2. Calculate weighted average spending per trip by U.S. travelers in Canada
Next, we calculate a weighted average spending per trip. In 2005, Statistics Canada published the results of its 2003 *International Travel* survey, which describes a variety of traveler characteristics, including mode of travel, purpose of trip, and per-trip spending.[329] The survey data allow us to determine average spending by purpose of trip, including the following:

> • Business, convention, or employment;

> • Visiting friends or relatives;

> • Other pleasure, recreation, or holiday; and

> • Other.

The survey asked U.S. crossing parties to report how much the entire party spent in Canada. Statistics Canada then divided total party spending by the number of U.S. travelers in the party. Consequently, the data reflect spending per unique U.S. traveler. The original data set includes trips by automobile, plane, bus, as well as other travel modes. We remove data on air travelers and calculate average spending for each trip purpose weighted by the percent of crossings attributed to each travel mode. Then, we

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[329] Statistics Canada, *International Travel 2003*, January 2005.

calculate average spending per trip weighted by the percent of crossings attributed to each trip purpose. Exhibit 6-20 presents the percent of crossings attributed to each trip purpose and average spending per trip weighted by travel mode. Average spending per U.S. traveler crossing into Canada weighted by mode of travel and trip purpose is $292.

EXHIBIT 6-20   U.S. SPENDING IN CANADA BY TRIP PURPOSE

TRIP PURPOSE	AVERAGE SPENDING PER TRIP	PERCENT OF RESPONDENTS
Business, convention, or employment	$294	5%
Visiting friends or relatives	290	19
Other pleasure, recreation, or holiday	292	66
Other	294	10
Weighted Average	**$292**	**100%**

Source: Statistics Canada, *International Travel 2003*, January 2005.

Step 3. Multiply forgone U.S. crossings into Canada by weighted average spending per trip

We calculate the increased annual spending in the United States by multiplying the forgone U.S. crossings from Exhibit 6-19 by $292 per trip. Exhibit 6-21 presents our undiscounted estimates of forgone U.S. spending in Canada for each year between 2009 and 2018.

EXHIBIT 6-21   FORGONE U.S. TRAVELER EXPENDITURES IN CANADA (MILLION DOLLARS)

YEAR	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009	$120	$110	$110	$70	$60	$60
2010	200	180	180	120	110	110
2011	200	180	180	120	110	110
2012	200	180	180	120	110	110
2013	200	180	180	120	110	110
2014	200	180	180	120	110	110
2015	200	180	180	120	110	110
2016	200	180	180	120	110	110
2017	200	180	180	120	110	110
2018	200	180	180	120	110	110

Source: IEc analysis.

In Exhibit 6-22, we calculate the present value of these impacts applying discount rates of three and seven percent. Depending on the regulatory alternative chosen, total spending by U.S. travelers forgoing travel to Canada between 2009 and 2018 is estimated to range from $800 million to $1.5 billion assuming a discount rate of three percent, and $600 million to $1.1 billion assuming a seven percent discount rate.

EXHIBIT 6-22 TOTAL PRESENT VALUE FORGONE OF U.S. TRAVELER EXPENDITURES IN CANADA (2005 – 2018, BILLION DOLLARS)

DISCOUNT RATE	ALTERNATIVE 1			ALTERNATIVE 2		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
Three Percent	$1.5	$1.4	$1.3	$0.9	$0.8	$0.8
Seven Percent	1.1	1.0	1.0	0.7	0.6	0.6

Source: IEc analysis.

U.S.-CANADA BORDER ANALYSIS: CANADIAN TRAVELER EXPENDITURES

This section estimates the expenditures that Canadian travelers would have spent in the United States but for the rule. Because these individuals decide not to obtain acceptable documentation, they no longer travel to the United States. As a result, we assume that the money they would have spent inside the United States likely is spent in Canada or another country instead.

Our estimates of forgone spending by Canadian travelers involve the following steps:

- **Step 1:** Estimate crossings by Canadian travelers who decide not to obtain acceptable documentation
- **Step 2:** Calculate weighted average spending per trip by Canadian travelers.
- **Step 3:** Multiply crossings from Step 1 by weighted average spending per trip from Step 2.

DATA SOURCES FOR ESTIMATING FORGONE CANADIAN EXPENDITURES

We estimate Canadian expenditures using the survey data published by Statistics Canada for 2003 cited previously.[330] The survey provides information on how much Canadian travelers spend per trip into the United States.

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[330] Statistics Canada, *International Travel 2003*, January 2005.

FORGONE CANADIAN SPENDING IN THE UNITED STATES

Step 1. Estimate crossings by Canadian travelers who decide not to obtain acceptable documentation

We rely on the U.S. Department of Transportation's Bureau of Transportation Statistics (BTS) for data reporting total crossings at northern POEs.[331] As described in Chapter 4, we combine that information with data from Statistics Canada to estimate the proportion of crossings made by Canadian residents. We eliminate crossings completed by truck drivers, bus drivers, and train drivers, because these individuals are likely to obtain appropriate documentation in order to continue with employment that requires travel over the U.S.-Canada border. In Exhibit 6-23, we calculate that 37.2 million crossings are accomplished by Canadian travelers other than truck, bus, and train drivers.

EXHIBIT 6-23   ADJUSTMENT OF 2004 CANADIAN CROSSINGS TO REMOVE TRUCK, BUS, AND TRAIN DRIVERS

STATE	TOTAL CROSSINGS	TRUCK, BUS, AND TRAIN DRIVER CROSSINGS	ADJUSTED CROSSINGS
New York	15,410,000	1,418,000	13,993,000
Michigan	9,494,000	1,927,000	7,567,000
Washington	6,804,000	484,000	6,319,000
Maine	4,681,000	365,000	4,316,000
Minnesota	1,572,000	77,000	1,496,000
Vermont	1,634,000	236,000	1,398,000
North Dakota	1,113,000	240,000	873,000
Montana	856,000	118,000	738,000
Alaska	227,000	13,000	215,000
Idaho	250,000	35,000	215,000
Pleasure Boats	22,000	0	22,000
Total	42,063,000	4,913,000	37,152,000

Source: IEc analysis.

In August, 2006, the Conference Board of Canada published a report, *An Update on the Potential Impact of the Western Hemisphere Travel Initiative on Canada's Tourism Industry*, estimating the reduction in the number of trips Canadians will take to the United States as a result of WHTI.[332] They estimate a peak reduction of 5.9 percent in trips to the United States in 2008, with steadily decreasing rates of trips lost in future years as

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[331] U.S. Department of Transportation, Bureau of Transportation Statistics, *TranStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov/ on October 9, 2006.

[332] The Conference Board of Canada, *An Update on the Potential Impact of the Western Hemisphere Travel Initiative on Canada's Tourism Industry*, August 2006.

Canadians adapt to the new regulations.[333] The figures published in their report include all tourism travel lost due to WHTI, including trips by air travelers. Therefore, we contacted the Conference Board of Canada to obtain the disaggregation of travel forecasts by mode of travel. From these figures, which are presented in Exhibit 6-24, we calculate the estimated percentage of trips lost due to WHTI in the land environment. In 2008, the first year in which many travelers across the land border will require additional documentation, the Conference Board of Canada predicts approximately 6.8 percent of forecasted trips to the United States will not occur. They predict this percentage will decrease to approximately 4.5 percent in 2009 and 3.3 percent in 2010. CBP's proposed WHTI implementation date was changed from 2008 to 2009 following the release of the Conference Board of Canada's research. This analysis assumes that predictions compiled by the Conference Board of Canada remain accurate when applied relative to the start date. The application is achieved by shifting estimates by the Conference Board of Canada one year forward. That shift is defined in Exhibit 6-24.

EXHIBIT 6-24   ESTIMATES OF CANADIAN TRIPS TO THE UNITED STATES

YEAR	FORECAST BASELINE CROSSINGS	FORECAST CROSSINGS WITH WHTI	PERCENT REDUCTION
2009 (2008 according to CBOC)	34,812,000	32,448,000	6.79%
2010 (2009 according to CBOC)	34,649,000	33,105,000	4.45
2011 (2010 according to CBOC)	34,817,000	33,660,000	3.32

Sources: Data from The Conference Board of Canada, *An Update on the Potential Impact of the Western Hemisphere Travel Initiative on Canada's Tourism Industry*, August 2006, sent to IEc by Greg Hermus, Associate Director, Canadian Tourism Research Institute, The Conference Board of Canada, on September 5, 2007; IEc analysis.

Due to the uncertainty inherent in forecasting travel behavior in the future, their analysis ends at 2010 (2011 for our purposes). We assume the percentage of trips lost in 2011 represent a permanent change in travel behavior, and we use this percentage to estimate lost trips through 2018. The Conference Board of Canada believes this represents an

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[333] The Conference Board of Canada analyzes the change in travel behavior as a result of WHTI using a different methodology than we do in Chapter 5. We rely on survey data to calculate the rate at which U.S. travelers opt out of obtaining WHTI-compliant documentation. Lacking further information about future behavior, we assume travelers make the decision once and do not change their mind in future years. Therefore, our opt-out rate is constant through the fourteen years of our analysis. The Conference Board of Canada accounts for two additional factors that we do not attempt to model: First, the baseline passport possession rate absent WHTI is increasing. Therefore, the number of travelers with acceptable documentation is increasing over time. Second, they account for the availability of substitutes for different types of trips. For example, a Canadian family planning a ski vacation to the United States will be able to find a suitable domestic alternative. In a subsequent year, however, they may want to take a beach vacation to Florida or California, for which there are no comparable domestic options. At that time, then, they will choose to obtain passports. (Personal communication with Greg Hermus, Associate Director, Canadian Tourism Research Institute, The Conference Board of Canada, on September 14, 2007.)

upper bound on reduction in travel and, therefore, likely overstates lost expenditures in the United States.[334]

We apply these percentages to our estimates of Canadian crossings into the United States (Exhibit 6-23), which results in a higher estimate of lost trips than presented in *An Update on the Potential Impact of the Western Hemisphere Travel Initiative on Canada's Tourism Industry* (Exhibit 6-24). The discrepancy is due to the fact that Statistics Canada, the source of crossing statistics for the Conference Board of Canada's report, and BTS, which is our source of crossing statistics, estimate different numbers of annual crossings at each POE. In almost every case, BTS reports a higher figure. Therefore, if Statistics Canada's estimates of crossings are more accurate than those of BTS, our analysis overstates the lost expenditures due to WHTI. The results of our calculation of forgone Canadian trips to the United States are presented in Exhibit 6-25. Depending on year and the regulatory alternative, between 1.0 million and 1.7 million potential trips by Canadians to the United States will not occur as a result of the requirements of WHTI.

In order to estimate the number of Canadian children exempted under each of the relevant regulatory alternatives, we rely on the Canadian census to determine the proportion of children under the ages of 14 and 16. We apply this value to the number of trips undertaken by Canadians other than truck, bus, and train drivers. Lacking better data, we assume Canadian children travel to the United States in proportion to the number of children in the Canadian population. If the traveling population is not representative of the Canadian population as a whole in this regard, we may have overstated or understated costs under the regulatory alternatives with exemptions for children.

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[334] Personal communication with Greg Hermus, Associate Director, Canadian Tourism Research Institute, The Conference Board of Canada, on September 14, 2007.

EXHIBIT 6-25   ANNUAL FORGONE CANADIAN CROSSINGS INTO THE UNITED STATES

YEAR	ALTERNATIVES 1, 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009	1,479,000	1,238,000	1,201,000
2010	1,653,000	1,383,000	1,343,000
2011	1,233,000	1,032,000	1,002,000
2012	1,233,000	1,032,000	1,002,000
2013	1,233,000	1,032,000	1,002,000
2014	1,233,000	1,032,000	1,002,000
2015	1,233,000	1,032,000	1,002,000
2016	1,233,000	1,032,000	1,002,000
2017	1,233,000	1,032,000	1,002,000
2018	1,233,000	1,032,000	1,002,000
Total	13,000,000	10,879,000	10,559,000

Source: IEc analysis; Statistics Canada, "Age (123) and Sex (3) for the Population of Canada, Provinces, Territories, Census Metropolitan Areas and Census Agglomerations, 2001 and 2006 Censuses - 100% Data," as viewed at http://www12.statcan.ca/english/census06/data/topics/RetrieveProductTable.cfm?Temporal=2006&APATH=3&PID=88984&THEME=66&PTYPE=88971&VID=0&GK=NA&GC=99&FL=0&RL=0&FREE=0&METH=0&S=1 on September 27, 2007.

Step 2. Calculate weighted average spending per crossing by Canadian travelers

Data gathered from the Statistics Canada publication *International Travel* do not allow us to distribute the calculated forgone crossings by Canadian travelers by purpose of trip.[335] Instead, for our calculations, we use the percentages reported for American travelers to distribute the forgone crossings by Canadian travelers across four categories of trips, including the following:

- Business, convention, or employment;

- Visiting friends or relatives;

- Other pleasure, recreation, or holiday; and

- Other.

The *International Travel* survey asked Canadian crossing parties to report how much the entire party spent in the United States. Statistics Canada then divided total party spending by the number of Canadian travelers in each party. Consequently, the data already reflect spending per unique Canadian traveler. The original data set includes trips by automobile, plane, bus, as well as other travel modes. We remove data on plane travel

[335] Statistics Canada, *International Travel 2003*, January 2005.

and calculate average spending for each trip purpose weighted by the percent of crossings attributed to each travel mode. We then calculate average spending per trip weighted by the percent of crossings attributed to each trip purpose. Exhibit 6-26 presents the percent of crossings attributed to each mode of travel.

EXHIBIT 6-26   CANADIAN CROSSINGS INTO THE UNITED STATES BY MODE OF TRAVEL

MODE OF TRAVEL	PERCENT OF CROSSINGS
Automobile	64%
Plane	25
Bus	3
Other	8
Weighted Average	**100%**

Source: Statistics Canada, *International Travel 2003*, January 2005.

Exhibit 6-27 presents the percent of crossings attributed to each trip purpose and average spending per trip weighted by travel mode. We estimate that a Canadian visiting the United States spends an average of $330 per trip, weighted by both mode of travel and trip purpose.

EXHIBIT 6-27   CANADIAN SPENDING IN THE UNITED STATES BY TRIP PURPOSE

PURPOSE OF TRIP	AVERAGE PER TRIP EXPENDITURE	PERCENT OF CROSSINGS
Business, convention, or employment	$338	5%
Visiting friends or relatives	331	19
Other pleasure, recreation, or holiday	329	66
Other	330	10
Weighted Average	**$330**	**100%**

Note: Average per trip expenditures already weighted by mode of travel.
Source: Statistics Canada, *International Travel 2003*, January 2005.

Step 3. Multiply forgone Canadian crossings into the United States by average spending per trip

We multiply our estimates of per-trip spending by forgone crossings estimated in Step 1 to calculate a total value of Canadian expenditures in the United States potentially lost as a result of the rule. Exhibit 6-28 presents the annual impacts in undiscounted 2005 dollars. Canadian expenditures by travelers forgoing trips to the United States range from $330 million to $550 million, depending on the year and regulatory alternative chosen.

EXHIBIT 6-28 ANNUAL FORGONE CANADIAN TRAVELER EXPENDITURES IN THE UNITED STATES
(MILLION DOLLARS)

YEAR	ALTERNATIVES 1, 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009	$490	$410	$400
2010	550	460	440
2011	410	340	330
2012	410	340	330
2013	410	340	330
2014	410	340	330
2015	410	340	330
2016	410	340	330
2017	410	340	330
2018	410	340	330

Source: IEc analysis.

In Exhibit 6-29 we calculate the present value of these impacts applying discount rates of three and seven percent. Depending on the regulatory alternative chosen, Canadian spending in the U.S. may decline by $2.7 billion to $3.4 billion, assuming a three percent discount rate, or $2.0 billion to $2.5 billion, assuming a seven percent discount rate.

EXHIBIT 6-29 TOTAL PRESENT VALUE OF FORGONE CANADIAN TRAVELER EXPENDITURES IN THE
UNITED STATES (2005 – 2018, BILLION DOLLARS)

DISCOUNT RATE	ALTERNATIVES 1, 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
Three Percent	$3.4	$2.8	$2.7
Seven Percent	2.5	2.1	2.0

Source: IEc analysis.

NET IMPACT NATIONWIDE
Finally, we evaluate the net change in expenditure flows resulting from the regulatory alternatives from the perspective of the United States as a whole. As shown previously in Exhibit 6-1, Mexican and Canadian forgone travel has a negative effect on expenditure flows. Forgone travel by U.S. citizens has a countervailing positive effect.

Exhibit 6-30 presents a summary of the net expenditures by year. Exhibit 6-30 shows the four components of the changes in expenditures predicted for each alternative analyzed. For example, in 2009 under Alternative 2 with children under 16 exempt (the chosen

alternative), we project that expenditures within the United States by U.S. travelers choosing not to obtain documentation will increase by $220 million: $160 million for those that would have traveled to Mexico and $60 million for those that would have traveled to Canada. At the same time, Mexican expenditures within the United States are unchanged while Canadians are projected to spend $400 million less in the United States. For the chosen alternative, we find that 2008 expenditures in the United States would therefore result in a loss of $180 million.

EXHIBIT 6-30   ANNUAL NET EXPENDITURE IMPACT TO THE UNITED STATES (MILLION DOLLARS)

TRAVELING GROUP	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
2009						
U.S. travelers to Mexico	$310	$270	$270	$200	$170	$160
Mexican travelers to U.S.	-120	-120	-120	0	0	0
U.S. travelers to Canada	120	110	110	70	60	60
Canadian travelers to U.S.	-490	-410	-400	-490	-410	-400
Net Impact	**-$180**	**-$150**	**-$140**	**-$220**	**-$180**	**-$180**
2010						
U.S. travelers to Mexico	$540	$470	$450	$330	$280	$280
Mexican travelers to U.S.	-230	-230	-230	0	0	0
U.S. travelers to Canada	200	180	180	120	110	110
Canadian travelers to U.S.	-550	-460	-440	-550	-460	-440
Net Impact	**-$40**	**-$40**	**-$40**	**-$100**	**-$70**	**-$50**
ANNUAL IMPACTS IN SUBSEQUENT YEARS						
U.S. travelers to Mexico	$540	$470	$450	$330	$280	$280
Mexican travelers to U.S.	-230	-230	-230	0	0	0
U.S. travelers to Canada	200	180	180	120	110	110
Canadian travelers to U.S.	-410	-340	-330	-410	-340	-330
Net Impact	**$100**	**$80**	**$70**	**$40**	**$50**	**$60**

Source: IEc analysis.

We estimate that net travel expenditure losses would be greater under Alternatives 2 and 3 than Alternative 1. Under Alternatives 2 and 3, Mexican travelers are unaffected by the WHTI document requirements and will continue to travel to and spend money in the United States. However, the availability of the passport card under Alternatives 2 and 3 more than offsets this positive impact by lowering the barrier for U.S. citizens to travel to and spend money in Mexico and Canada.

Additionally, if children are exempt from the document requirement, net travel expenditures in the United States are likely to be less than if children are also required to

possess passport books or passport cards. The child exemption applies to U.S. and Canadian children, but not Mexican children, though Mexican children already have BCCs, which are acceptable under Alternatives 2 and 3. Under the alternatives where children are exempt, travelers forgo fewer trips, resulting in smaller overall changes from current conditions.

Exhibit 6-31 presents the net present value of changes in annual expenditures from the rule over the timeframe of this analysis (2005 through 2018). Depending on the discount rate applied, the net expenditure impact under Alternative 1 ranges from $160 million to $410 million. Under Alternatives 2 and 3, the net expenditure impact ranges from -$70 million to $160 million.

EXHIBIT 6-31   PRESENT VALUE NET CHANGE IN EXPENDITURES IN THE UNITED STATES (2005 – 2018, MILLION DOLLARS)

DISCOUNT RATE	ALTERNATIVE 1			ALTERNATIVES 2 & 3		
	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT	CHILDREN NOT EXEMPT	CHILDREN UNDER 14 EXEMPT	CHILDREN UNDER 16 EXEMPT (CHOSEN ALTERNATIVE)
Three Percent	$410	$320	$260	-$40	$80	$160
Seven Percent	260	200	160	-70	30	80

Source: IEc analysis.

Our estimates of the net change in travel-related expenditures in the United States are subject to uncertainty due to various assumptions and data limitations. Key issues include assumptions regarding the estimation of lost trips, assumptions about average spending per lost trip, assumptions about where and how individuals choose to spend their money absent the ability to take trips to foreign locations, and the effect of changes in wait times at the POEs on travel decisions. Below, we discuss these issues in greater detail.

ESTIMATION OF LOST TRIPS

We make several assumptions to estimate the number of trips that travelers will forgo as a result of the rule, with various implications.

U.S. travelers. As discussed in Chapter 5, to estimate the number of U.S. citizens who decide not to obtain acceptable documentation, we rely on responses to the DOS-BearingPoint survey.[336] That survey was conducted during non-commuting hours;

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[336] U.S. Department of State, Bureau of Consular Affairs, *A Study to Determine the Inaugural and Annual Demand for U.S. Passports by U.S. Citizens Living in and Traveling to Canada, Mexico, and the Caribbean: Phase 4, U.S. Land Border Passport Demand Survey*, prepared by BearingPoint, October 5, 2005.

therefore, commuters are likely under-represented in the results. To the extent that frequent travelers, such as commuters, are more likely to obtain acceptable documentation than infrequent or rare travelers, the percentage of unique travelers opting not to travel may be overstated.

In addition, to estimate lost trips, we multiply the number of unique travelers forgoing travel by a weighted average number of annual crossings per traveler. If the travel frequency of the group of individuals who decide not to obtain acceptable documentation is significantly different than the travel frequencies of the entire group currently crossing the border, the estimate of lost trips may be overstated or understated. We believe it is more likely that we overestimate lost trips, because travelers deciding not to obtain acceptable documentation are likely to travel infrequently or rarely.[337]

Mexican travelers. Under Alternative 1, we assume that none of the individuals obtaining a BCC between April 1, 1998, and August 21, 2001, currently possesses a valid passport, and that 10 percent of these individuals will decide to discontinue travel to the United States as a result of the rule. These assumptions are likely to overstate the number of individuals forgoing travel because some of these travelers may already possess a passport. Furthermore, by going through the process of applying for a BCC, these individuals have demonstrated a high willingness to pay for access to the United States. If the number of Mexican individuals forgoing travel is overstated, then lost expenditures in the United States are likely to be overstated, and the resulting net indirect effect of WHTI is likely to be more similar to the effects under Alternatives 2 and 3, where no Mexican travelers are adversely affected by the rule.

In addition, as with U.S. travelers, we multiply the number of unique travelers forgoing trips across the border by a weighted average number of annual crossings per traveler. For the same reasons stated above regarding U.S. travelers, the effect of this assumption is unknown; however, we believe it likely overstates lost trips, thus overstating the loss of spending in the United States by Mexicans who choose not to travel.

Canadian travelers. We rely on the research of the Conference Board of Canada to determine the percentage of baseline trips by Canadian travelers to the United States that will not occur due to WHTI. The Conference Board of Canada relies on proprietary survey data and a custom modeling tool, which makes it difficult for us to understand the sources of uncertainty in their analysis. Most of the uncertainties in their projections will carry through to our analysis. We do know, however, that we use the BTS' higher estimate of total trips across the border, which may cause us to overstate lost trips if Statistics Canada's lower estimate is more accurate.

AVERAGE SPENDING PER LOST TRIP
For travelers from each country, we calculate a weighted average spending per trip based on information about mode of travel and trip purpose. To the extent that travelers

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[337] Recall that infrequent travelers account for few crossings while frequent travelers account for a significant number of crossings. We expect that frequent travelers will be more likely to obtain acceptable documentation given their need to engage in cross border travel.

deciding to forgo future trips are not representative of the average spending by all travelers, spending per lost trip may be overstated or understated. The impacts on our estimates of the net indirect effects of the rule are uncertain.

REDUCED SPENDING TO OFFSET DOCUMENTATION COSTS

In this analysis, we assume that travelers who obtain acceptable documentation and continue traveling reduce spending *at home*, rather than for travel-related expenditures at their *destination country*, by a commensurate amount. In other words, we assume that U.S. citizens reduce spending in their local community (and not in Mexico or Canada) equal to the cost of applying for a passport book or card, and, for consistency sake, we make the same assumption for Mexican and Canadian citizens. As a result, this assumption results in a net indirect effect of zero for these travelers to the U.S. economy.

If, however, travelers, instead reduce their spending at their *destination country* rather than *at home* to offset their documentation costs, our results may be overstated or understated. We cannot estimate this impact because we do not have the data to estimate the number of unique Canadian travelers continuing to make trips to the United States and to what extent their reduced travel-related spending in the United States would offset the "net increase" in U.S. spending (as passport fees transferred to the United States government) by U.S. travelers continuing to travel to Canada or Mexico.

OTHER TRADE ACROSS BORDERS

The analysis in this chapter assumes that forgone travel both to and from of the United States results in a complete loss, or gain, of relevant travel-related expenditures. However, data describing how individuals might spend that money if their travel is limited by WHTI are not available. For example, U.S. citizens forgoing travel to Canada may purchase Canadian goods via the internet, rather then spending that money in the United States. The effect of this data limitation on our results is uncertain.

SPENDING VERSUS SAVING

When U.S. citizens forgo travel and remain in the United States, little information is available regarding what they do with the money not spent on travel outside of the United States. For example, in the SANDAG study of the impact of increased wait times at the Mexico-California border, 20 percent of U.S. survey respondents stated that if they decided not to travel to Mexico, they would save their money rather than spending it elsewhere.[338] The choice to put money into a bank or other investments rather than spending it locally may have important consequences. The distributional effects of changes in travel resulting for WHTI are explored in detail in Chapter 7 of this report.

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[338] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, p. 85.

EFFECT OF WAIT TIME ON CHANGES IN THE NUMBER OF CROSSINGS

As discussed in greater detail in Chapter 9, the quantified effect of WHTI on wait times at land POEs is unknown. To the extent that wait times may decrease, more individuals may make trips across the border, and our estimates of forgone trips may be overstated. Likewise, if the selected regulatory alternative increases wait times at the border, the number of affected trips may be understated.

CHAPTER 7 | DISTRIBUTIONAL EFFECTS

The purpose of this chapter is to examine the potential economic impacts of the Western Hemisphere Travel Initiative (WHTI) land rule on selected U.S. border communities. The impacts presented are changes in economic output and employment due to changes in U.S., Canadian, and Mexican travel-related and household spending projected to occur as a result of WHTI. The output changes presented are not welfare losses or gains; thus, they cannot be added to the direct costs estimated in Chapter 5.

As described in Chapter 6, U.S. citizens without acceptable documentation may forgo trips to Mexico and Canada, and, therefore, may spend more money in the United States. Conversely, Mexican and Canadian citizens without acceptable documentation may no longer make trips to the United States, potentially impacting business and other economic activity in the United States. In addition, U.S. citizens who purchase acceptable documentation in order to continue traveling may spend less on other goods and services at home.[339] We use a static input-output model to estimate the net effects of these spending changes on economic output and employment in selected regional study areas. First, we explain the mechanics of the input-output model employed in our analysis. Then, we explain our choice of ports-of-entry (POEs) for analysis, define the regional study areas around each POE, describe our model inputs, and present the model results for each regional study area.

REGIONAL ECONOMIC MODELING
Our analysis relies on standard and commonly used regional economic modeling techniques. Specifically, we use a software package called IMPLAN, which state and Federal agencies often use for policy planning and evaluation purposes. The model employs data from several Federal and state agencies, such as the Bureau of Economic Analysis and the Bureau of Labor Statistics.[340] The IMPLAN software models the economy of a specified area using a set of industries defined by the North American Industry Classification System (NAICS). We use survey data on U.S., Mexican, and Canadian spending patterns to apportion spending changes across the industries.

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[339] For consistency, we also assume that Canadian and Mexican travelers purchasing acceptable documentation offset document costs by purchasing less at home. This reduction in spending affects communities outside of the United States and therefore is not included in this analysis.

[340] Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com. Information in this section is compiled in part from Olson, Doug and Scott Lindall, "IMPLAN Professional Software, Analysis, and Data Guide"; Minnesota IMPLAN Group, Inc., 1725 Tower Drive West, Suite 140, Stillwater, MN 55082, www.implan.com.

In performing this analysis, we can, for example, specify reduced Mexican spending at U.S. clothing stores as an impact to the retail clothing industry. The IMPLAN model then traces the effect of this forgone spending on the many industries that supply the retail clothing industry, such as clothing and fabric manufacturers, cotton growers, and leather tanners. Thus, if the retail clothing industry in the United States loses Mexican spending, the industry will buy less from clothing manufacturers, who in turn will buy less from fabric manufacturers, who in turn will buy less from cotton growers. The model uses data specific to each study area to estimate these multiplier effects through the economy within the study area. If the study area has no cotton industry, for instance, impacts on the cotton industry are zero. In any IMPLAN analysis, as we move along the supply chain, not all firms will be located within the regional study area. Therefore, some of the impacts of the spending changes will "leak" outside of our regional study areas, reducing reported impacts.

Carrying our Mexican spending example further, reduced Mexican spending on clothing in the United States also causes the model to predict reductions in U.S. employment because less labor is needed to supply the reduced demand for clothing. Specifically, clothing retailers, clothing and fabric manufacturers, and cotton growers will employ fewer people or employ the same number for fewer hours because demand for clothing, fabric, and cotton has declined. The IMPLAN model assumes that individuals in these affected industries who lose their jobs or work fewer hours will earn less, and therefore spend less.[341] IMPLAN uses average household expenditures across a range of goods and services to trace the impacts of this reduced household spending on U.S. industries.

IMPLAN results are defined as direct, indirect, or induced effects on output and employment in the study area:

- **First-order effects,** termed "direct effects" by IMPLAN, are the net changes in Mexican, Canadian, and U.S. spending within the study area, before including the multiplier effects on related industries (note that these effects differ from the direct effects of the final rule, specifically traveler welfare losses and government implementation costs, estimated in Chapter 5).

- **Indirect effects** are the output reductions or increases in industries that supply the directly affected industries.

- **Induced effects** are the reductions or increases in household consumption due to the employment losses or gains caused by the direct and indirect effects.

There are three important issues to consider when interpreting IMPLAN results. First, IMPLAN is a static model—it only measures the impacts resulting from a discrete change in demand at a single point in time. The model does not account for future adjustments in the economy, such as the re-employment of U.S. workers who IMPLAN may project to be displaced. Consequently, the long-run effects on output and employment in the study

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[341] One of the limitations of using the IMPLAN model is that IMPLAN does not take into account the possibility that individuals might become fully employed again.

area are likely less than the IMPLAN estimates presented in this chapter. In other words, the changes in output and employment presented in this chapter are not annual impacts. Rather, the changes reflect a jolt to the economy and are likely to become smaller over time as the regional economy continues to grow and adjusts to the changes in Mexican, Canadian, and U.S. spending.

Second, IMPLAN uses 2004 data on the input/output relationships among industries.[342] If large changes in the structure of the study area economy have occurred since 2004, they are not reflected in our IMPLAN results.

Third, despite multiplier effects on related industries, IMPLAN's estimate of the final change in economic output in each regional study area is generally less than the initial net change in U.S., Mexican, and Canadian spending. This occurs because IMPLAN accounts for the fact that not all goods purchased in the regional study area are produced in the regional study area. For example, if a Mexican traveler purchases a television from a retailer in San Diego County, the retailer benefits from only a portion of the television's price. This is because the retailer's income is the difference between the cost of the television and the selling price. The remainder of the price paid by the Mexican traveler accrues to businesses likely outside of San Diego County, such as a foreign-based manufacturer that sold the television to the retailer and the shipping companies that imported and transported the television.

The allocation of the sale price of a good across the supply-chain is necessary because the IMPLAN model data are denominated in producer prices, which are the prices of goods purchased directly from the factory. By contrast, the spending changes in each regional study area are measured in the prices consumers pay for goods. The IMPLAN model uses what are referred to as "household margins" to apportion the purchaser price across each industry in the supply chain. The margins are basically the price mark-ups added to the initial factory price along each step in the supply chain. IMPLAN uses margins specific to each industry. Exhibit 7-1 provides example household margins for a lawnmower.

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[342] The 2004 data on the input/output relationships among industries are the most recent available. Creating such data at the county level is a time-intensive effort; thus, more recent data are not yet available from the Minnesota IMPLAN Group, Inc.

EXHIBIT 7-1   IMPLAN HOUSEHOLD MARGINS FOR A LAWNMOWER

LINK IN SUPPLY-CHAIN	MARGIN
Manufacturer (Producer Price)	$175
Transportation	15
Wholesaler	100
Transportation	15
Retailer	100
Purchaser Price	$405

Source: Olson, Doug and Scott Lindall, "IMPLAN Professional Software, Analysis, and Data Guide"; Minnesota IMPLAN Group, Inc., 1725 Tower Drive West, Suite 140, Stillwater, MN 55082, www.implan.com, p. 110.

IMPLAN uses margins when analyzing spending on goods, but not when analyzing spending on services. The service provider charges the producer price for the service. In other words, they set the price of the service and do not charge a mark-up on something produced elsewhere.

SCOPE OF ANALYSIS

This chapter examines the potential impacts of changes in Mexican, Canadian, and U.S. spending on regional study areas. As described in Chapter 6, some Mexican and Canadian travelers may choose not to obtain acceptable documentation, and thus will be unable to travel and spend money in the United States. In addition, U.S. travelers who opt not to purchase acceptable documentation remain in the United States to make purchases they would otherwise have made in Mexico or Canada. These potential increases in U.S. spending may offset the decreased spending from Mexican and Canadian travelers. Finally, U.S. travelers who choose to obtain WHTI-compliant documentation will reduce their spending at home to afford applicable document fees. These reductions in U.S. spending will exacerbate decreased spending from Mexican and Canadian travelers.

Changes in U.S. Spending

Estimating changes in U.S. spending within the regional study areas is complicated. First, it is unclear how much U.S. travelers will spend in the regional study area if they forgo travel to Mexico and Canada. These individuals may choose to save some or all of the funds they would have spent in Mexico or Canada, rather than spend the money in the United States. Second, of the amount these U.S. travelers choose to spend, it is not clear what types of goods and services they will purchase in their home region. For example, data from Statistics Canada indicate that U.S. travelers to Canada spend a large portion of their travel budget on hotels and restaurants.[343] However, after forgoing a trip to Canada,

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[343] Data obtained via email from Statistics Canada, Culture, Tourism and the Centre for Education Statistics, on November 7, 2006.

these U.S. travelers may spend their money on a variety of goods and services, or they may choose another travel destination within the United States and spend on hotels and restaurants outside of the regional study area. Also, the travelers we identify forgoing a trip through a particular POE may not even reside within the regional study area, in which case any added expenditures at home will not benefit the regional study area.

For these reasons, we must make some simplifying assumptions in order to estimate increases in U.S. spending within the regional study areas resulting from forgone travel. First, we assume that only a subset of the U.S. travelers who choose not to obtain documentation and stay in the United States—the "opt-outs"—spend in the regional study area what they would have spent in Mexico or Canada.[344] We assume that this subset of U.S. opt-outs consists solely of U.S. travelers who visit Mexico or Canada for reasons other than recreation or vacation, such as work, school, visiting friends and family, and shopping. In other words, we assume U.S. travelers visiting Mexico and Canada for tourist reasons will substitute their forgone trip abroad with a trip within the United States outside of the regional study area. Finally, we assume that non-recreation U.S. opt-outs spend in the regional study area all of the money they would have spent in Mexico or Canada and do not save any of the funds.

On the U.S.-Mexico border, we estimate that 8.9 percent of U.S. crossings are for tourism and recreation, based on the SANDAG study cited throughout this analysis.[345] Without trip purpose information specific to forgone U.S. crossings, we assume that the trip purpose distributions for forgone U.S. crossings are the same as for total U.S. crossings. Therefore, we assume that the remaining 91.1 percent of forgone U.S. crossings are non-tourist and that spending related to these forgone U.S. crossings will occur within the regional study areas. On the U.S.-Canada border, we estimate that 66 percent of U.S. crossings are for tourism and recreation, based on data from Statistics Canada.[346] Therefore, we assume that the remaining 34 percent of forgone U.S. crossings are non-tourist and that spending on these forgone U.S. crossings will occur within the regional study areas.

Regarding U.S., Mexican, and Canadian travelers who obtain WHTI-compliant documentation and continue to make trips across the border, we consider whether their costs of obtaining the documentation would be offset by reduced spending on the trip itself, or whether the traveler would reduce household spending at home by a commensurate amount. A review of the travel economics literature was inconclusive but suggests that travelers often do not stick to a budget while on a trip, particularly vacations. Also, we were unable to identify literature predicting whether travelers would

[344] U.S. opt-outs are U.S. travelers who choose not to obtain acceptable documentation after WHTI takes effect.

[345] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

[346] Statistics Canada, *International Travel 2003*, January 2005.

amortize documentation costs across all the trips taken in a decade, or whether they might reduce spending on the first trip taken after obtaining acceptable documentation to offset documentation costs. For these reasons, we believe it is most appropriate to assume that individuals who continue traveling after the implementation of WHTI will not spend less on cross-border trips. Rather, the costs of obtaining acceptable documentation will result in reduced household spending in the travelers' home communities.

To measure this effect, we assume that U.S. travelers obtaining WHTI-compliant documentation reduce household spending in the regional study area by an amount equal to the cost of the document. We also assume that all U.S. travelers using a given POE live in that regional study area. As a result, our analysis likely overstates reduced household spending in the study area because many travelers crossing at particular POEs may live outside the regional economic community that is home to that POE.

Finally, we apply consistent assumptions regarding changes in spending by Mexican and Canadian travelers visiting the United States. In other words, for those foreign travelers choosing to obtain WHTI-compliant documentation and continuing to make trips to the United States, we assume that their amount of travel-relating spending in the United States is unchanged and any reduction in spending to offset documentation costs are made in their home country. Further, we assume that all the spending by these individuals occurs within the regional study area that includes the POE where the crossing is made. For travelers opting to forgo travel because of WHTI, we assume that the entire amount of money these travelers would have spent on their trip is lost from the regional study area where the crossing would have been made.

Regulatory Alternatives Analyzed

We analyze two regulatory alternatives for each of the regional study areas. First, we analyze Alternative 1 with no children exempt from the WHTI passport requirement, regardless of age or citizenship. This represents the "worst-case" impact scenario for border communities because the greatest numbers of Mexican and Canadian travelers are projected to stop traveling to the United States and lost spending associated with U.S. travelers obtaining WHTI compliant documents is greatest. We also analyze Alternative 2B (the chosen alternative), which considers U.S. and Canadian children under 16 exempt from documentation requirements.[347] This regulatory alternative represents the "best-case" impact scenario for border communities. Specifically, all Mexican travelers continue to visit the United States with their border crossing cards (BCCs) or CBP trusted traveler cards, and all Canadian children continue to travel. Furthermore, lost spending at home by U.S. travelers obtaining WHTI-compliant documents is lower than under Alternative 1, because the passport card is less expensive than the passport book. Detailed output tables for each study area and the two alternatives are provided in

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[347] Note that none of the regulatory alternatives exempt Mexican children, and that we assume that Alternative 3B will have identical impacts as Alternative 2B (the chosen alternative) on the traveling and spending patterns of the affected population. Therefore, the remainder of this chapter refers to Alternatives 2B and 3B as a single scenario.

Appendix G. All forgone spending and impact estimates presented in this chapter and Appendix G are in 2005 dollars. WHTI's documentation requirements, however, are projected to take effect during 2009, and trip estimates for the first full year of implementation (June of 2009 through May of 2010) are used to model these distributional effects.

SELECTION OF POEs FOR IMPLAN ANALYSIS

Due to the large number of POEs along the northern and southern borders, we could not individually analyze the potential impact of WHTI on every affected community. Instead, we select a representative sample of geographic regions and estimate the impacts to each of these regions to illustrate how the rule may affect different types of communities. When selecting POEs for IMPLAN analysis, we considered the following four criteria.

- **Large expenditure impact:** We selected the POE clusters with the largest net loss in spending.

- **Numerous public comments:** We selected the POEs most frequently mentioned in public comments and press.

- **Geographic diversity:** We selected POEs in urban and rural settings, POEs in multiple states, and POEs along major highway crossings or state or local road crossings.

- **Local survey data:** We selected POEs with local survey information on the spending patterns of travelers.

Exhibit 7-2 shows the four POE clusters on the U.S.-Mexico border and the four on the U.S.-Canada border we select for IMPLAN analysis. Later we discuss each of the POE groupings individually and explain which of the above criteria underlie the selection of each POE.

EXHIBIT 7-2   POE REGIONS SELECTED FOR IMPLAN ANALYSIS

U.S.-MEXICO BORDER	U.S.-CANADA BORDER
San Ysidro, Otay Mesa, and Tecate, California	Buffalo - Niagara, New York
Lukeville, Sasabe, Nogales East (DeConcini), Arizona	Calais, Maine
Brownsville-Matamoros, Texas	Detroit, Michigan
Presidio, Texas	Blaine, Sumas, Lynden, and Point Roberts, Washington

Exhibit 7-3 shows the full set of potential POE clusters on the U.S.-Mexico border. The exhibit ranks the potential clusters by the net change in spending under Alternative 1. Although the net spending changes differ in magnitude under Alternatives 2B and 3B, the rankings of the POE clusters do not change.

EXHIBIT 7-3   RANKING OF U.S.-MEXICO POE GROUPINGS BY NET SPENDING CHANGE (ALTERNATIVE 1)

POE GROUPINGS	FORGONE MEXICAN SPENDING (FORGONE TRAVEL)	GAINED U.S. SPENDING (FORGONE TRAVEL)	FORGONE U.S. SPENDING (PASSPORT)	TOTAL	COUNTIES INCLUDED
San Ysidro, Otay Mesa, Tecate (CA)	-$100,100,000	$83,100,000	-$28,500,000	-$45,500,000	San Diego
Calexico East, Calexico West, Andrade (CA)	-36,200,000	35,000,000	-12,000,000	-13,200,000	Imperial
San Luis (AZ)	-9,200,000	9,800,000	-3,400,000	-2,800,000	Yuma
Columbus (NM)	-1,500,000	2,100,000	-700,000	-100,000	Luna
Lukeville, Nogales East, Sasabe (AZ)	-16,400,000	19,800,000	-6,800,000	-3,400,000	Pima and Santa Cruz
Presidio (TX)	-860,000	4,600,000	-1,600,000	2,140,000	Presidio
Naco, Douglas (AZ)	-5,800,000	11,100,000	-3,900,000	1,400,000	Cochise
Roma, Rio Grande City (TX)	-2,800,000	14,400,000	-5,100,000	6,500,000	Starr
Del Rio, Eagle Pass (TX)	-6,700,000	36,200,000	-12,400,000	17,100,000	Maverick and Val Verde
Laredo (TX)	-10,000,000	57,400,000	-19,600,000	27,800,000	Webb
Santa Teresa (NM), El Paso, Fabens (TX)	-19,500,000	103,800,000	-35,500,000	48,800,000	Dona Ana and El Paso
Brownsville-Matamoros, Hidalgo, Progreso (TX)	-20,000,000	109,200,000	-37,400,000	51,800,000	Hidalgo and Cameron
Total	-$235,000,000	$487,500,000	-$166,800,000	$90,540,000	

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding.
Source: Forgone Mexican spending and gained U.S. spending associated with forgone trips to Mexico for the entire U.S.-Mexico border are derived in Chapter 6. We assign spending changes to each POE based on the distribution of Mexican or U.S. crossings across POEs. Forgone U.S. spending locally associated with purchasing WHTI-compliant documentation is calculated as the cost of the all fees minus the opportunity cost of time (see Chapter5), multiplied by unique travelers obtaining documents in 2008, and is assigned to specific POEs based on the distribution of U.S. crossings across all southern POEs. Appendix G shows the distribution of forgone Mexican and U.S. crossings across POEs.

In Chapter 6 we project that in 2010, increased U.S. spending will exceed forgone Mexican spending when aggregated across the entire U.S.-Mexico border under all regulatory alternatives, regardless of whether or not U.S. children are exempt. However, in Exhibit 7-3 the net spending change is negative for the POE clusters in California, Arizona, and New Mexico, and positive for the POE clusters in Texas. Whether net impacts of spending changes are positive or negative in particular geographic regions relates to several factors:

• **Relative proportion of U.S. to Mexican crossings:** In Texas, the split between U.S. versus Mexican travelers crossing the border is nearly even. Mexican travelers account for approximately 43 percent of total crossings in Texas, whereas in California, for example, Mexican travelers account for closer to 70

percent of total crossings. [348] As a result, lost Mexican spending in Texas is smaller relative to gained spending associated with U.S. citizens staying home.

- **Spending amount per trip:** In Texas, lost per trip spending by Mexican travelers ($39) in the United States is low relative to retaining spending by U.S. travelers forgoing trips ($74). [349] As a result, gains in U.S. spending at home are greater than lost spending by Mexican citizens.

- **Unique travelers versus trips:** The amount of forgone local U.S. spending associated with purchasing WHTI-compliant documentation is calculated on a per traveler, as opposed to a per trip, basis. Therefore, although the number of U.S. travelers obtaining documentation in 2008 is much larger than the number of U.S. or Mexican travelers forgoing travel across the border, the number of trips lost across the border from Mexico is larger than the number of U.S. travelers obtaining documentation. The effect of this difference varies at each POE, however in Texas, the small losses associated with passport fees relative to large gains in local spending by U.S. citizens forgoing trips to Mexico is particularly apparent.

Exhibit 7-4 shows the full set of potential POE clusters on the U.S.-Canada border. [350] As is the case for the U.S.-Mexico border, the net spending changes differ in magnitude under Alternative 1 versus Alternatives 2B and 3B, but the rankings of the POE clusters do not change. At all POE clusters on the U.S.-Canada border, spending losses by Canadian travelers visiting the United States in 2008 are greater than U.S. spending increases under all regulatory alternatives. The negative changes in net spending owe primarily to the fact that there are far more Canadian than U.S. trips, and that Canadian travelers spend $330 per traveler per trip, while U.S. travelers spend $292 per traveler per trip. [351] Forgone spending in local communities by U.S. travelers obtaining WHTI-compliant documentation is small relative to lost Canadian spending, because (1) the number of unique U.S. travelers is small relative to the number of trips made by Canadian

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[348] California distribution of crossings by nationality from San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10. Texas distributions from Ghaddar, S. Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

[349] Mexican spending per traveler per trip from Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004. U.S. spending per traveler per trip from San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

[350] Exhibit 7-3 only includes the 16 highest volume POEs on the U.S.-Canada border, which account for 83 percent of total U.S.-Canada border crossings regardless of traveler nationality.

[351] U.S. and Canadian spending per traveler per trip from data obtained via email from Statistics Canada, Culture, Tourism and the Centre for Education Statistics, on November 7, 2006.

travelers, and (2) passport fees are small relative to per trip spending by Canadian travelers.

EXHIBIT 7-4   **RANKING OF U.S.-CANADA POE GROUPINGS BY NET SPENDING CHANGE (ALTERNATIVE 1)**

POE GROUPINGS	FORGONE MEXICAN SPENDING (FORGONE TRAVEL)	GAINED U.S. SPENDING (FORGONE TRAVEL)	FORGONE U.S. SPENDING (PASSPORT)	TOTAL	COUNTIES INCLUDED
Buffalo-Niagara (NY)	-$114,900,000	$14,500,000	-$43,300,000	-$143,700,000	Niagara, Erie
Point Roberts, Blaine, Lynden, Sumas (WA)	-71,400,000	9,000,000	-26,900,000	-89,300,000	Whatcom
Champlain-Rouses Point, Highgate Springs (NY/VT)	-30,200,000	3,800,000	-11,400,000	-37,800,000	Grand Isle, Franklin
Detroit (MI)	-93,900,000	11,800,000	-35,400,000	-117,500,000	Wayne, Oakland, Macomb
Calais (ME)	-19,100,000	2,400,000	-7,200,000	-23,900,000	Washington
Massena (NY)	-26,600,000	3,400,000	-10,000,000	-33,200,000	St. Lawrence
Sault Ste. Marie (MI)	-13,700,000	1,700,000	-5,200,000	-17,200,000	Chippewa
Port Huron (MI)	-35,400,000	4,500,000	-13,400,000	-44,300,000	St. Clair
Alexandria and Cape Vincent (NY)	-13,000,000	1,600,000	-4,900,000	-16,300,000	Jefferson
Madawaska (ME)	-8,100,000	1,000,000	-3,000,000	-10,100,000	Aroostook
Derby Line (VT)	-9,900,000	1,200,000	-3,700,000	-12,400,000	Orleans
International Falls (MN)	-9,000,000	1,100,000	-3,400,000	-11,300,000	Koochiching
Total	**-$545,500,000**	**$68,800,000**	**-$205,700,000**	**-$682,400,000**	

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding. Columns do not sum to totals due to exclusion of smaller POEs from exhibit.

Source: Forgone Canadian spending and gained U.S. spending associated with forgone trips to Canada for the entire U.S.-Canada border are derived in Chapter 6. We assign spending changes to each POE based on the distribution of Canadian or U.S. crossings across POEs. Forgone U.S. spending locally associated with purchasing WHTI-compliant documentation is calculated as the cost of the all fees minus the opportunity cost of time (see Chapter 5), multiplied by unique travelers obtaining documentation in 2008, and is assigned to specific POEs based on the distribution of U.S. crossings across all northern POEs. Appendix G shows the distribution of forgone Canadian and U.S. crossings across POEs.

DEFINING REGIONAL STUDY AREAS

The IMPLAN software models relationships among industries within a regional economy in order to estimate the impacts of an economic "shock," in this case changes in U.S., Mexican, and Canadian spending attributable to WHTI. Therefore, we must define the extent of the regional economy around each POE or cluster of POEs we analyze. As the IMPLAN model relies on county-level data, we define regional study areas in terms of

whole counties.[352] We use a three-step decision process to define each regional study
area. If the first step is insufficient to define the study area, we progress down the
ranking until reaching a suitable geographic area with appropriate data.[353] The three
steps, in order, are:

- **Local survey results:** If local surveys indicate how far Mexican and Canadian
  citizens usually travel into the United States, we select the counties within that
  area.

- **Metropolitan Statistical Area (MSA):** If local survey information does not
  exist, we select the counties that overlap the MSA in which the POE is located.
  The U.S. Census Bureau defines an MSA as an urban core of at least 50,000
  people, "together with adjacent communities having a high degree of social and
  economic integration with that core."[354]

- **County in which POE is located:** If the POE is not located in an MSA, we
  select the county in which the POE is located.

Exhibit 7-5 lists the counties included in each of the regional study areas we analyze.

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[352] We cannot examine impacts to specific cities or towns because the model data do not exist. Even if the
data did exist, the results would not be informative due to what are referred to as economic "leakages."
The IMPLAN model simulates the impact of an economic shock, such as forgone spending, as the shock
multiplies throughout the economy. If the boundaries of the study area are limited to one municipality, the
indirect impacts will be experienced in many industries located outside of the municipality. In other words,
those impacts will "leak" out of the study area and will not be included in the model results. Analysis at
the county level is necessary to minimize these leakages. Also, our data on traveler origin and destination is
not sufficiently detailed to apportion forgone spending to specific municipalities.

[353] Note that we select the smallest, reasonable geographic area to analyze. As a result, the impact of
spending changes on the study area is more significant than would occur if we analyzed spending changes
over a more expansive geographic area.

[354] U.S. Census Bureau, *Current Lists of Metropolitan and Micropolitan Statistical Areas and Definitions*, as
viewed at http://www.census.gov/population/www/estimates/metroarea.html on February 19, 2007.

EXHIBIT 7-5   COUNTIES INCLUDED IN REGIONAL STUDY AREAS

POEs	COUNTIES IN REGIONAL STUDY AREAS
U.S.-MEXICO BORDER	
San Ysidro, Otay Mesa, and Tecate, California	San Diego
Lukeville, Sasabe, and Nogales East (DeConcini), Arizona	Pima and Santa Cruz
Presidio, Texas	Presidio
Brownsville - Matamoros, Hidalgo, and Progreso, Texas	Hidalgo and Cameron
U.S.-CANADA BORDER	
Blaine, Lynden, Point Roberts, and Sumas, Washington	Whatcom
Buffalo-Niagara, New York	Niagara and Erie
Detroit, Michigan	Wayne, Oakland, Macomb
Calais, Maine	Washington

Source: IEc analysis.

U.S.-MEXICO BORDER

In this section, we discuss each regional study area on the U.S.-Mexico border that we have selected for analysis. We explain which of the above criteria determined the POEs selected and the extent of the regional study areas. We then identify the IMPLAN model inputs and present the model results for each regional study area.

SAN YSIDRO, OTAY MESA, AND TECATE, CALIFORNIA

We select the San Diego County POEs (San Ysidro, Otay Mesa, and Tecate) for analysis because they are projected to experience the largest net annual loss in spending on the U.S.-Mexico border. Under Alternative 1, forgone Mexican spending in San Diego County is estimated at $47.2 million annually. Annual spending gains of $53.3 million from non-tourist U.S. travelers forgoing trips to Mexico partially offset the Mexican spending losses, resulting in a net spending gain of $6.1 million.[355] As shown earlier in Exhibit 7-3, this net spending loss is substantially greater than those estimated at any of the other potential regional study areas on the U.S.-Mexico border for Alternative 1. When U.S. spending changes due to the cost of appropriate documentation are included, gains in U.S. spending in San Diego County are only $36.2 million, resulting in a larger net loss for the County overall of $11.0 million.

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[355] In Chapter 6, we estimate forgone Mexican spending for the entire U.S.-Mexico border. In order to estimate forgone Mexican spending at each POE, we use the distribution of Mexican crossings across POEs to apportion total forgone spending to each of the POEs. Appendix G shows the distribution of forgone Mexican and U.S. crossings across POEs.

In late 2004 and early 2005, the San Diego Association of Governments (SANDAG) commissioned a survey of Mexican travelers at San Ysidro, Otay Mesa, and Tecate. The survey found that 94 percent of Mexican travelers crossing through these three POEs into the United States had a final destination within San Diego County.[356] Thus, we limit the regional study area to San Diego County. Exhibit 7-6 displays a map of the San Diego County regional study area.

EXHIBIT 7-6   MAP OF SAN DIEGO COUNTY REGIONAL STUDY AREA

Source: ArcGIS. POE locations obtained from CBP on March 22, 2006.

To model the economic impact of the net spending change on the San Diego County economy, we first apportion the spending losses and gains across affected industries. In 2001, researchers at the Universidad Autónoma de Baja California interviewed 786 Mexican households in Tijuana and Mexicali regarding their shopping habits in the United States.[357] We use these survey results to apportion forgone Mexican spending across industries in San Diego County. As shown in Exhibit 7-7, households in Tijuana and Mexicali spend the majority of their money in the United States on groceries, clothing, shoes, and other personal items. The survey of Mexican households included two miscellaneous spending categories. Without any information to further characterize these categories, we simply apportion the miscellaneous spending equally between

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[356] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

[357] López, S., Alejandra, O., and Contreras, S.S., Universidad Autónoma de Baja California, "Patrones y hábitos de consumo en Baja California," *Comercio Exterior*, Vol. 52:8, August 2002.

general merchandise and miscellaneous store retailers, two general retail categories in IMPLAN.

EXHIBIT 7-7   MEXICAN SPENDING INPUTS FOR IMPLAN ANALYSIS OF SAN DIEGO COUNTY

MODEL INPUTS	FORGONE MEXICAN SPENDING (ALT. 1)	FORGONE MEXICAN SPENDING (ALT. 2B (CHOSEN ALTERNATIVE) & 3B)	PROPORTION OF TOTAL FORGONE SPENDING
Clothing, Shoes, Personal Accessories, Perfumes	-$18,800,000	$0	39.8%
Restaurants	-17,200,000	0	36.4
Groceries	-6,600,000	0	13.9
Furniture	-1,700,000	0	3.5
Domestic Appliances	-700,000	0	1.5
Gas	-500,000	0	1.1
Miscellaneous Store Retailers	-500,000	0	1.1
Toys	-500,000	0	1.0
General Merchandise	-300,000	0	0.7
Auto Parts	-200,000	0	0.5
Other	-200,000	0	0.4
Total Forgone Spending	**-$47,200,000**	$0	100.0%

Note: All expenditure estimates are in 2005 dollars.
Source: Distribution of spending across industries from López, S., O. Alejandra, and S.S. Contreras, Universidad Autónoma de Baja California, "Patrones y hábitos de consumo en Baja California," *Comercio Exterior*, Vol. 52:8, August 2002.

As we described earlier, we assume that only U.S. travelers who visit Mexico for reasons other than vacation and tourism will spend their money within the regional study area. In other words, we assume that U.S. travelers forgoing a tourist trip to Mexico will substitute their trip to Mexico with another trip outside of San Diego County.[358] The SANDAG survey indicates that 8.9 percent of U.S. trips to Mexico are for recreation or tourism.[359] Consequently, we assume that spending on the remaining 91.1 percent of forgone U.S. crossings will occur within San Diego County. We use this assumption regarding U.S. spending for all regional study areas on the U.S.-Mexico border.

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[358] It is likely that some of the travelers forgoing a tourist trip will spend some or all of the money they would have spent in Mexico within San Diego County. Our assumption is conservative in that we are assuming fewer increased dollars spent in San Diego County than might likely occur.

[359] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

To apportion the gained and forgone U.S. spending across industries in San Diego County, we use an average spending distribution for U.S. households, which is provided in IMPLAN. The SANDAG survey indicates that the average annual household income of U.S. travelers through San Ysidro, Otay Mesa, and Tecate is between $35,000 and $50,000.[360] We use the IMPLAN spending distribution for U.S. households at this income level to apportion the increase in U.S. spending across industries. Exhibit 7-8 summarizes the spending increases by U.S. travelers forgoing travel to Mexico in key industries in San Diego County.

EXHIBIT 7-8   U.S. SPENDING INPUTS FOR IMPLAN ANALYSIS OF SAN DIEGO COUNTY (MILLION DOLLARS)

MODEL INPUTS	ALTERNATIVE 1		ALTERNATIVES 2B & 3B		PROPORTION OF TOTAL CHANGE IN SPENDING
	FORGONE TRAVEL	PASSPORT PURCHASED	FORGONE TRAVEL	PASSPORT PURCHASED	
Owner-occupied dwellings	$8,800,000	-$2,800,000	$4,600,000	-$1,300,000	16.5%
Offices of physicians- dentists- and other health	4,700,000	-1,500,000	2,500,000	-700,000	8.9
Food services and drinking places	4,300,000	-1,400,000	2,200,000	-600,000	8.1
Hospitals	2,700,000	-900,000	1,400,000	-400,000	5.1
Real estate	2,600,000	-800,000	1,300,000	-400,000	4.7
Wholesale trade	2,200,000	-700,000	1,200,000	-300,000	4.2
Monetary authorities and depository credit interme	2,100,000	-700,000	1,100,000	-300,000	4.0
Food and beverage stores	1,600,000	-500,000	800,000	-200,000	3.1
General merchandise stores	1,500,000	-500,000	800,000	-200,000	2.9
Remaining industries	22,800,000	-73,00,000	11,800,000	-3,200,000	2.2
Total Change in Spending	**$53,300,000**	**-$17,100,000**	**$27,500,000**	**-$7,600,000**	**100.0%**

Note: All expenditure estimates are in 2005 dollars. Spending on owner-occupied dwellings includes mortgage payments and spending on home repair and maintenance. Totals may not sum due to rounding.
Source: Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Gained U.S. spending in San Diego County is $53.3 million under Alternative 1, greater than the increased spending of $27.5 million under Alternatives 2B and 3B. Likewise, lost spending associated with purchasing WHTI-compliant documentation is smaller under Alternatives 2B and 3B ($7.6 million) than Alternative 1 ($17.1 million). This is because participants in CBP trusted traveler programs are not affected and children are

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[360] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

exempt under Alternatives 2B and 3B. In addition, the less expensive passport card option is available under Alternatives 2B and 3B. Thus, fewer U.S. travelers forgo travel to Mexico and spend money in the United States.

Exhibit 7-9 summarizes the results of our IMPLAN analysis for the San Diego study area.

EXHIBIT 7-9   NET CHANGES ECONOMIC OUTPUT AND EMPLOYMENT IN SAN DIEGO COUNTY

REGULATORY ALTERNATIVE	NET CHANGE IN OUTPUT	% OF TOTAL OUTPUT	NET CHANGE IN EMPLOYMENT	% OF TOTAL EMPLOYMENT
REGIONAL IMPACTS DUE TO CHANGES IN SPENDING RESULTING FROM FORGONE TRIPS ONLY				
Alternative 1 (No child exemption)	+$8.8 million	0.004%	-227 jobs	0.01%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	+44.1 million	0.02	+477 jobs	0.03
REGIONAL IMPACTS ADDING FORGONE U.S. SPENDING DUE TO COSTS OF OBTAINING WHTI-COMPLIANT DOCUMENTS				
Alternative 1 (No child exemption)	-$18.6 million	0.008%	-461 jobs	0.03%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	+31.9 million	0.01	+274 jobs	0.01
SAN DIEGO COUNTY DATA (2004)				
Total County Output				$228.9 billion
Total County Employment				1,831,039 jobs

Source: IEc IMPLAN analysis. IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Alternative 1 Results

Under Alternative 1, with no child exemption and the passport book as the only acceptable document, we estimate that San Diego County would lose $47.2 million in Mexican spending, but gain $53.3 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to San Diego County would be to increase economic output by $8.8 million, but reduce employment by 227 jobs. Employment declines, despite the increase in output, because the Mexican spending losses are concentrated in the retail clothing and restaurant industries, which are labor intensive. U.S. spending in other, less labor-intensive industries is sufficient to overwhelm the output losses in the regional study area, but not the employment losses.

Four industries experience 60 percent of the output reduction from forgone Mexican spending: retail clothing, restaurants, food and beverage stores, and furniture stores. These industries also gain 10 percent of the output increase from U.S. spending, but still experience output and employment declines. Total economic output in San Diego County was $228.9 billion in 2004, while County employment totaled 1.8 million jobs.[361]

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[361] San Diego County data from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Thus, the net increase in output due to WHTI under Alternative 1 would be less than 0.01 percent of County output. The projected net loss of 227 jobs is 0.01 percent of County employment.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, San Diego County would lose $47.2 million in Mexican spending and gain $36.2 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to San Diego County would be to decrease economic output by $18.6 million and employment by 461 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be less than 0.01 percent of County output. The projected net loss of 461 jobs is 0.03 percent of County employment.

Alternatives 2B (Chosen Alternative) & 3B Results

Under Alternatives 2B and 3B, with U.S. children under 16 exempt and passport cards, CBP trusted traveler cards, and BCCs deemed acceptable documents, we estimate that San Diego County would lose no Mexican spending, but gain $27.5 million in U.S. spending by travelers forgoing trips to Mexico. IMPLAN estimates this net spending increase would increase output in San Diego County by $44.1 million and employment by 477 jobs. The increase in output is 0.02 percent and the increase in employment is 0.03 percent of the County total. Net impacts are positive because Mexican travelers do not forgo trips to the United States under Alternatives 2B and 3B.[362] The four industry categories that stand to benefit most from the gains in U.S. spending are owner-occupied dwellings (home repair and maintenance), doctors' and dentists' offices, restaurants, and the real estate industry. Increased output in these industries represents 32 percent of the total estimated increase in County economic output.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, San Diego County would lose no Mexican spending and gain $19.9 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to San Diego County would be to increase economic output by $31.9 million and expand employment by 274 jobs. The net increase in output allowing consideration for the cost of purchasing a passport would be 0.01 percent of County output. The projected net loss of 274 jobs is 0.01 percent of County employment.

LUKEVILLE, SASABE, AND NOGALES EAST (DECONCINI), ARIZONA

We select three POEs in Arizona for analysis: Lukeville, Sasabe, and Nogales East (DeConcini). These POEs are fairly rural, offering the opportunity to examine WHTI's economic impacts on smaller border communities. Under Alternative 1, forgone Mexican spending at Lukeville, Sasabe, and Nogales East (DeConcini) is estimated at $7.1 million annually. Annual spending gains of $10.3 million from non-tourist U.S. travelers forgoing trips to Mexico is projected to offset the Mexican spending losses, resulting in a net spending gain of $3.2 million. When U.S. spending changes due to the

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[362] The border crossing card (BCC/laser visa) and CBP trusted traveler cards are acceptable forms of documentation under Alternatives 2 and 3.

cost of appropriate documentation are included, gains in U.S. spending in Pima and Santa Cruz Counties are only $6.3 million, resulting in a net loss overall of $800,000.

We limit the regional study area for the three POEs to the counties in which they are located. Lukeville and Sasabe are in Pima County, while Nogales East (DeConcini) is in Santa Cruz County. Mexican citizens may travel in Arizona up to 75 miles from the border for up to 30 days without an I-94 visa.[363] Thus, Mexican travelers visiting Arizona may travel as far north as Tucson without an I-94 visa. By including Pima County in the regional study area we capture the vast majority of the 75-mile border region, including Tucson. Exhibit 7-10 provides a map of the regional study area.

EXHIBIT 7-10   PIMA AND SANTA CRUZ COUNTY REGIONAL STUDY AREA
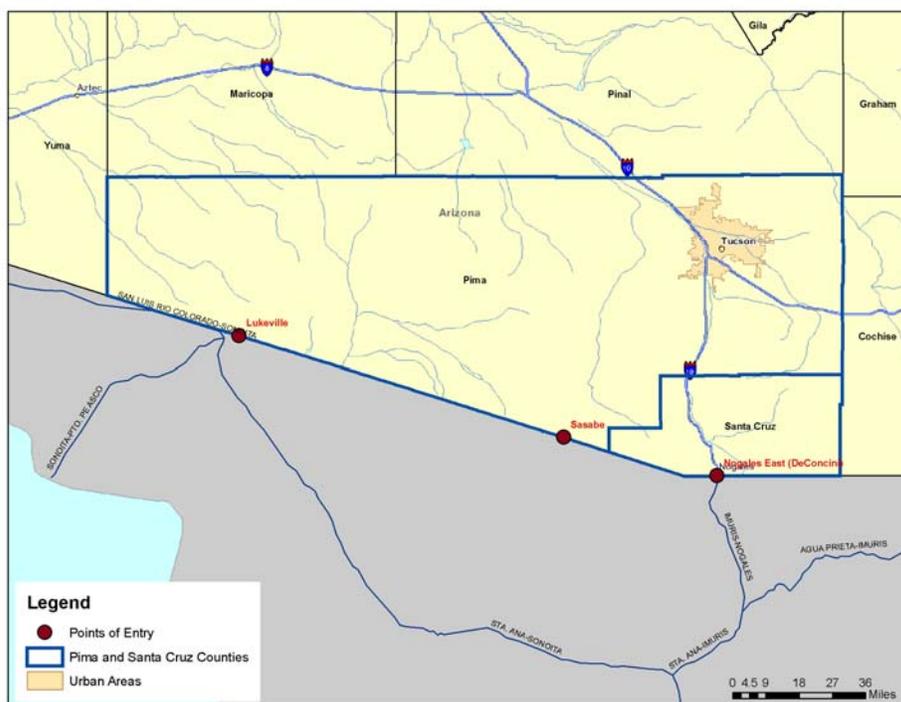
Source: ArcGIS. POE locations obtained from CBP on March 22, 2006.

In 2001 researchers at the University of Arizona conducted a survey of Mexican travelers to Arizona. The survey asked specific questions regarding the dollar value and type of purchases the Mexican travelers made in the United States.[364] Using these survey results, we apportion forgone Mexican spending across industries in Pima and Santa Cruz

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[363] In other southern border states, this region extends only 25 miles from the border. Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

[364] Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

Counties. As Exhibit 7-11 shows, the majority of Mexican spending in Arizona occurs at department and grocery stores. The University of Arizona survey presents spending on gasoline and auto rental in a single category. We assume three-fourths of the spending is for gasoline and the remaining quarter for auto rental because spending on gas likely exceeds spending on auto rental. The survey also included two miscellaneous spending categories, which we to divide equally among three retail categories in IMPLAN: sporting goods, hobbies, books, and music; general merchandise; and miscellaneous store retailers.

EXHIBIT 7-11   MEXICAN SPENDING INPUTS FOR IMPLAN ANALYSIS OF PIMA AND SANTA CRUZ COUNTIES

MODEL INPUTS	FORGONE MEXICAN SPENDING (ALT. 1)	FORGONE MEXICAN SPENDING (ALT. 2B (CHOSEN ALTERNATIVE) & 3B)	PROPORTION OF TOTAL FORGONE SPENDING
Food and beverage stores	-$3,000,000	$0	41.9
Clothing and clothing accessories stores	-2,900,000	0	40.0
Gasoline stations	-200,000	0	3.4
Automotive equipment rental and leasing	-200,000	0	2.9
Hotels and motels- including casino hotels	-200,000	0	2.2
Hospitals	-200,000	0	2.1
Nondepository credit intermediation and related a	-100,000	0	2.1
Miscellaneous store retailers	-100,000	0	2.0
Sporting goods- hobby- book and music stores	-100,000	0	1.9
General merchandise stores	-100,000	0	1.3
Total Forgone Spending	-$7,100,000	$0	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding. Source: IEc analysis. Distribution of forgone spending across industries from Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

For Arizona, we do not have information regarding the typical household incomes of U.S. travelers to Mexico. Therefore, we apportion the U.S. spending increase across industries using the IMPLAN spending distribution for households earning between $35,000 and

$50,000 annually.[365] Exhibit 7-12 summarizes the largest U.S. spending increases in Pima and Santa Cruz Counties across a subset of industries. Exhibit 7-12 shows that U.S. spending in the two-county study area for Alternative 1 is projected to increase by $10.3 million, greater than the increased spending of $6.0 million under Alternatives 2B and 3B. This is because participants in CBP trusted traveler programs are not affected and children are exempt under Alternatives 2B and 3B. In addition, the less expensive passport card option is available under Alternatives 2B and 3B. Thus, fewer U.S. travelers forgo travel to Mexico and spend money in the United States. Lost spending in Arizona associated with purchasing WHTI-compliant documentation is estimated to be $4.0 million under Alternative 1 and $1.8 million under Alternatives 2B and 3B.

EXHIBIT 7-12   U.S. SPENDING INPUTS FOR IMPLAN ANALYSIS OF PIMA AND SANTA CRUZ COUNTIES (MILLION DOLLARS)

MODEL INPUTS	ALTERNATIVE 1		ALTERNATIVES 2B & 3B		PROPORTION OF TOTAL CHANGE IN SPENDING
	FORGONE TRAVEL	PASSPORT PURCHASED	FORGONE TRAVEL	PASSPORT PURCHASED	
Owner-occupied dwellings	$1,700,000	-$700,000	$1,000,000	-$300,000	16.6
Offices of physicians- dentists- and other health	1,000,000	-400,000	500,000	-200,000	9.4
Food services and drinking places	900,000	-300,000	500,000	-200,000	8.6
Hospitals	800,000	-300,000	500,000	-100,000	7.9
Real estate	500,000	-200,000	300,000	-100,000	5.1
Wholesale trade	400,000	-100,000	200,000	-100,000	3.4
Monetary authorities and depository credit intermediaries	400,000	-100,000	200,000	-100,000	3.4
Food and beverage stores	300,000	-100,000	200,000	-100,000	3.0
General merchandise stores	300,000	-100,000	200,000	-50,000	2.7
Remaining Industries	4,100,000	-1,600,000	2,400,000	-700,000	39.8
Total Change in Spending	$10,300,000	-4,000,000	$6,000,000	-1,800,000	100.0%

Note: All expenditure estimates are in 2005 dollars. Spending on owner-occupied dwellings includes mortgage payments and spending on home repair and maintenance.

Source: Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

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[365] The SANDAG (2006) survey in California finds that U.S. traveler household income is between $35,000 and $50,000 annually. Without a U.S. traveler survey specific to Arizona, we assume the household income of U.S. travelers in Arizona also lies within this range. San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

Exhibit 7-13 summarizes the results of our IMPLAN analysis for Pima and Santa Cruz Counties.

EXHIBIT 7-13 NET CHANGES IN ECONOMIC OUTPUT AND EMPLOYMENT IN PIMA AND SANTA CRUZ COUNTIES

REGULATORY ALTERNATIVE	NET CHANGE IN OUTPUT	% OF TOTAL OUTPUT	NET CHANGE IN EMPLOYMENT	% OF TOTAL EMPLOYMENT
REGIONAL IMPACTS DUE TO CHANGES IN SPENDING RESULTING FROM FORGONE TRIPS ONLY				
Alternative 1 (No child exemption)	+$4.4 million	0.01%	+10 jobs	0.002%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	+9.2 million	0.02	+95 jobs	0.02
REGIONAL IMPACTS ADDING FORGONE U.S. SPENDING DUE TO COSTS OF OBTAINING WHTI-COMPLIANT DOCUMENTS				
Alternative 1 (No child exemption)	-$1.7 million	0.004%	-53 jobs	0.01%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	+6.5 million	0.01	+68 jobs	0.01
PIMA AND SANTA CRUZ COUNTY DATA (2004)				
Total County Output				$47.6 billion
Total County Employment				460,036 jobs

Source: IEc IMPLAN analysis. IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Alternative 1 Results

Under Alternative 1, with no child exemption and the passport book as the only acceptable document, we estimate that Pima and Santa Cruz Counties would lose $7.1 million in Mexican spending, but gain $10.3 million in spending by U.S. citizens forgoing travel to Mexico. IMPLAN estimates that the net impact of these spending changes to the regional study area would increase economic output by $4.4 million and increase employment by 10 jobs. Four industries experience 56 percent of the output reduction due to forgone Mexican spending: clothing stores, food and beverage stores, auto rental, and gasoline stations. Despite gaining five percent of the output increase from U.S. spending, these four industries still experience output and employment declines. Total economic output in Pima and Santa Cruz Counties was $47.6 billion in 2004, while County employment totaled 460,036 jobs.[366] Thus, we estimate that the net increase in output due to WHTI under Alternative 1 is 0.01 percent of County output. The net gain of 10 jobs is less than 0.01 percent of County employment.

[366] Pima and Santa Cruz county output and employment data from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, Pima and Santa Cruz Counties would lose $7.1 million in Mexican spending and gain $6.3 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Pima and Santa Cruz Counties would be to decrease economic output by $1.7 million and reduce employment by 53 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be less than 0.01 percent of County output. The projected net loss of 53 jobs is 0.01 percent of County employment.

Alternatives 2B (Chosen Alternative) and 3B Results

Under Alternatives 2B and 3B, with U.S. children under 16 exempt and passport cards, CBP trusted traveler cards, and BCCs deemed acceptable documents, we estimate that Pima and Santa Cruz Counties would lose no Mexican spending and gain $6.0 million in U.S. spending by travelers forgoing trips to Mexico. IMPLAN estimates this net spending increase would produce a benefit to Pima and Santa Cruz Counties of $9.2 million and 95 jobs. The projected increase in economic output is 0.02 percent of total output, while the projected increase in employment is 0.02 percent of total employment. The net impacts of Alternatives 2B and 3B are positive, because no Mexican travelers forgo trips to the United States. The four industry categories that are projected to benefit most from the gains in U.S. spending are owner-occupied dwellings (home repair and maintenance), doctors' and dentists' offices, restaurants, and the real estate industry. Increased output in these industries represents 35 percent of the total estimated increase in County economic output.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, Pima and Santa Cruz Counties would lose no Mexican spending and gain only $4.2 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Pima and Santa Cruz Counties would be to increase economic output by $6.5 million and expand employment by 68 jobs. The net increase in output allowing consideration for the cost of purchasing a passport would be 0.01 percent of County output. The projected net gain of 68 jobs is 0.01 percent of County employment.

BROWNSVILLE, HIDALGO, AND PROGRESO, TEXAS

Brownsville is an urban POE located adjacent to Matamoros, Mexico. Due to their close proximity, Brownsville and Matamoros are effectively a single metropolitan area. In this respect, Brownsville and Matamoros are like El Paso, Texas and Ciudad Juárez, Mexico. We select Brownsville-Matamoros for analysis because we have survey data available for this economic region. Specifically, researchers at the University of Texas-Pan American surveyed Mexican shoppers in Brownsville in 2003.[367] We do not have such survey data for El Paso. We use the Brownsville data, although we have concerns that the spending amount per trip may be biased downward due to the nature of the Mexican traveler

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[367] Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

population surveyed.[368] The survey data were collected from Mexican shoppers in Hidalgo and Cameron Counties. Thus, we define these two counties to be the regional study area. The counties contain three POEs: Brownsville, Hidalgo, and Progreso. Together they receive the second highest volume of inbound crossings on the U.S.-Mexico border. Only the San Diego County POEs (San Ysidro, Otay Mesa, and Tecate) receive more.[369]

Under Alternative 1, we project forgone Mexican spending at Brownsville, Hidalgo, and Progreso to be $9.4 million annually. We estimate that the annual spending gains of $55.3 million from non-tourist U.S. travelers forgoing trips to Mexico will offset the Mexican spending losses, resulting in a net spending increase of $45.9 million.[370] The net spending change at the Texas POEs is positive because Mexican travelers account for a smaller proportion (43 percent) of total crossings in Texas than do U.S. travelers (57 percent).[371] Also, Mexican travelers spend less per trip ($39) in the United States, while U.S. travelers spend $74 per trip.[372] When forgone U.S. spending due to the cost of obtaining appropriate documentation is included, gained U.S. spending in Hidalgo and Cameron Counties is only $36.4 million annually, resulting in a net gain overall of $27 million. Exhibit 7-14 displays a map of the Hidalgo and Cameron County regional study area.

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[368] The Texas survey data yield a weighted average party size of 4.19 Mexican travelers, approximately twice as large as the party sizes in California and Arizona. The larger party size results in relatively smaller per trip expenditures per Mexican traveler in Texas ($39) than in California ($74) and Arizona ($42). The Texas survey effort may have sampled larger parties on average because it was conducted only at shopping malls, which may draw larger groups on all-day outings with friends and family.

[369] U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006. See Chapter 3 of this report for a ranking of POEs on the U.S.-Mexico border by total inbound crossing volume.

[370] In Chapter 6, we estimate forgone Mexican spending for the entire U.S.-Mexico border. In order to estimate forgone Mexican spending at each POE, we use the distribution of Mexican crossings across POEs to apportion total forgone spending to each of the POEs. Appendix G shows the distribution of forgone Mexican and U.S. crossings across POEs.

[371] Texas and New Mexico distributions from Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

[372] Mexican spending per traveler per trip from Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004. U.S. spending per traveler per trip from San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

EXHIBIT 7-14   HIDALGO AND CAMERON COUNTY REGIONAL STUDY AREA

Source: ArcGIS. POE locations obtained from CBP on March 22, 2006.

The survey by researchers at the University of Texas-Pan American asked Mexican shoppers about the dollar value and type of purchases they made in Texas.[373] We use these survey results to apportion forgone Mexican spending in Hidalgo and Cameron Counties across industries. As shown in Exhibit 7-15, Mexican shoppers in Hidalgo and Cameron Counties spend the majority of their money on clothing. The survey also included a miscellaneous spending category, which we divide equally among three retail categories in IMPLAN: sporting goods, books and music; general merchandise; and miscellaneous store retailers.

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[373] Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

EXHIBIT 7-15   MEXICAN SPENDING INPUTS FOR IMPLAN ANALYSIS OF HIDALGO AND CAMERON COUNTIES

MODEL INPUTS	FORGONE MEXICAN SPENDING (ALT. 1)	FORGONE MEXICAN SPENDING (ALT. 2B (CHOSEN ALTERNATIVE) & 3B)	PROPORTION OF TOTAL FORGONE SPENDING
Clothing and clothing accessories stores	-$4,800,000	$0	51.6%
Food and beverage stores	-1,800,000	0	19.5
Hotels and motels- including casino hotels	-1,000,000	0	11.0
Electronics and appliance stores	-600,000	0	6.0
Miscellaneous store retailers	-400,000	0	4.5
Sporting goods- hobby- book and music stores	-400,000	0	4.2
General merchandise stores	-300,000	0	2.9
Hospitals	-30,000	0	0.3
Other	-1,000	0	0.0
Total Forgone Spending	**-9,400,000**	**$0**	**100.0%**

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding.
Source: Distribution of forgone spending across industries from Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

For Texas, we do not have information about household earnings or local spending by U.S. travelers forgoing trips to Mexico. Therefore, we apportion the U.S. spending increase across industries using the IMPLAN spending distribution for households earning between $35,000 and $50,000 annually.[374] Exhibit 7-16 summarizes the largest U.S. spending increases in Hidalgo and Cameron Counties across a subset of industries. Exhibit 7-16 shows that the projected U.S. spending in the two-county study area under Alternative 1 of $55.3 million is greater than the increase of $28.5 million projected under Alternatives 2B and 3B. This is because participants in CBP trusted traveler programs are not affected and children are exempt under Alternatives 2B and 3B. In addition, the less expensive passport card option is available under Alternatives 2B and 3B. Thus, fewer U.S. travelers forgo travel to Mexico and spend money in the United States. Lost spending associated with purchasing WHTI-compliant documentation is

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[374] The SANDAG (2006) survey in California finds that U.S. traveler household income is between $35,000 and $50,000 annually. Without a U.S. traveler survey specific to Texas, we assume the household income of U.S. travelers in Texas also lies within this range. San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

estimated to be $18.9 million under Alternative 1 and $8.4 million under Alternatives 2B and 3B.

EXHIBIT 7-16   U.S. SPENDING INPUTS FOR IMPLAN ANALYSIS OF HIDALGO AND CAMERON COUNTIES

MODEL INPUTS	ALTERNATIVE 1		ALTERNATIVES 2B & 3B		PROPORTION OF TOTAL CHANGE IN SPENDING
	FORGONE TRAVEL	PASSPORT PURCHASED	FORGONE TRAVEL	PASSPORT PURCHASED	
Owner-occupied dwellings	$10,800,000	-$3,700,000	$5,600,000	-$1,600,000	19.6%
Hospitals	4,500,000	-1,500,000	2,300,000	-700,000	8.1
Offices of physicians, dentists, and other health professionals	4,400,000	-1,500,000	2,300,000	-700,000	7.9
Food services and drinking places	2,700,000	-900,000	1,400,000	-400,000	4.9
Real estate	2,500,000	-900,000	1,300,000	-400,000	4.5
Wholesale trade	2,400,000	-800,000	1,200,000	-400,000	4.3
Automobile and light truck manufacturing	1,900,000	-600,000	1,000,000	-300,000	3.4
Monetary authorities and depository credit intermediaries	1,600,000	-600,000	800,000	-300,000	3.0
Insurance carriers	1,300,000	-400,000	600,000	-200,000	2.3
Remaining Industries	23,200,000	-7,900,000	11,900,000	-3,500,000	42.0
Total Change in Spending	**$55,300,000**	**-18,900,000**	**$28,500,000**	**-8,400,000**	**19.6**

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding. Spending on owner-occupied dwellings includes mortgage payments and spending on home repair and maintenance.

Source: Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Exhibit 7-17 summarizes the results of our IMPLAN analysis for Hidalgo and Cameron Counties.

EXHIBIT 7-17   NET CHANGES IN ECONOMIC OUTPUT AND EMPLOYMENT IN HIDALGO AND CAMERON
COUNTIES

REGULATORY ALTERNATIVE	NET CHANGE IN OUTPUT	% OF TOTAL OUTPUT	NET CHANGE IN EMPLOYMENT	% OF TOTAL EMPLOYMENT
REGIONAL IMPACTS DUE TO CHANGES IN SPENDING RESULTING FROM FORGONE TRIPS ONLY				
Alternative 1 (No child exemption)	+$65.0 million	0.2%	+668 jobs	0.2%
Alternatives 2B (chosen alternative)& 3B (U.S. children under 16 exempt)	+40.5 million	0.1	+466 jobs	0.1
REGIONAL IMPACTS ADDING FORGONE U.S. SPENDING DUE TO COSTS OF OBTAINING WHTI-COMPLIANT DOCUMENTS				
Alternative 1 (No child exemption)	+$38.1 million	0.1%	+359 jobs	0.1%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	+28.6 million	0.1	+330 jobs	0.1
HIDALGO AND CAMERON COUNTY DATA (2004)				
Total County Output				$30.0 billion
Total County Employment				393,633 jobs

Source: IEc IMPLAN analysis. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN
System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Alternative 1 Results

Under Alternative 1, with no child exemption and passport books as the only acceptable
document, we estimate that Hidalgo and Cameron Counties would lose $9.4 million in
Mexican spending, but gain $55.3 million in U.S. spending. IMPLAN estimates that the
net impact of these spending changes to the regional study area would be an increase in
economic output of $65.0 million and an increase in employment of 668 jobs. Fifty-one
percent of the output reduction due to the forgone Mexican spending is concentrated in
four industries: clothing stores; hotels; electronic appliance stores; and hobby, book, and
music stores. Despite gaining two percent of the output increase from U.S. spending,
these four industries experience declines in output and employment. Total economic
output in Hidalgo and Cameron counties was $30.0 billion in 2004, while employment
totaled 394,000 jobs.[375] Thus, the net increase in output due to WHTI under Alternative 1
is projected to be approximately 0.2 percent of total output of the two-county area. The
net gain of 668 jobs is 0.2 percent of total employment.

When reductions to U.S. spending in the regional study area due to the expense of a
passport are included, Hidalgo and Cameron Counties would lose $9.4 million in
Mexican spending and gain $36.4 million in U.S. spending. IMPLAN estimates that the

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[375] Hidalgo and Cameron county output and employment data from IMPLAN Pro™. IMPLAN Professional®,
Version 2.0. Minnesota IMPLAN Group, Inc. Minnesota IMPLAN Group, Inc., IMPLAN System (data and
software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

net impact of these spending changes to Hidalgo and Cameron Counties would be to increase economic output by $38.1 million and expand employment by 359 jobs. The net increase in output allowing consideration for the cost of purchasing a passport would be 0.1 percent of County output. The projected net gain of 359 jobs is 0.1 percent of County employment.

Alternatives 2B and 3B Results

Under Alternatives 2B and 3B, with U.S. children under 16 exempt and passport cards, CBP trusted traveler cards, and BCCs deemed acceptable documents, we estimate that Hidalgo and Cameron Counties would lose no Mexican spending, but would gain $28.5 million in U.S. spending associated with travelers who forgo trips to Mexico. IMPLAN estimates this net spending increase would produce a benefit to the regional study area of $40.5 million and 466 jobs. The increase in economic output is 0.1 percent of total output of the two-county area and the increase in total employment is 0.1 percent. Net impacts are positive because no Mexican travelers forgo trips to the United States under Alternatives 2B and 3B. The four industry categories that stand to benefit most from the gains in U.S. spending are owner-occupied dwellings (home repair and maintenance), restaurants, doctors' and dentists' offices, and wholesale trade. Increased output in these industries represents 34 percent of the total estimated increase in economic output.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, Hidalgo and Cameron Counties would lose no Mexican spending and gain $20.1 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Hidalgo and Cameron Counties would be to increase economic output by $28.6 million and expand employment by 330 jobs. The net increase in output allowing consideration for the cost of purchasing a passport would be 0.1 percent of County output. The projected net gain of 330 jobs is 0.1 percent of County employment.

PRESIDIO, TEXAS

We select Presidio, Texas, for IMPLAN analysis because it is a rural POE that offers the opportunity to examine WHTI's economic impacts on a smaller border community. Presidio is among the five smallest POEs on the U.S.-Mexico border in terms of inbound crossing volume, and the major crossing point in Presidio is a remote U.S. route, rather than an interstate highway.[376] Because we lack detailed information on the place of origin and destinations of travelers crossing at Presidio, we limit the regional study area to Presidio County, shown in Exhibit 7-18.

Under Alternative 1, we estimate forgone Mexican spending in Presidio County to be $400,000 in 2008. We project that spending gains of $1.5 million from non-tourist U.S. travelers forgoing trips to Mexico will offset the Mexican spending losses, resulting in a

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[376] U.S. Department of Transportation, Bureau of Transportation Statistics, *TransStats: The Intermodal Transportation Database*, as viewed at http://www.transtats.bts.gov on October 9, 2006. See Chapter 3 of this report for a ranking of POEs on the U.S.-Mexico border by total inbound crossing volume.

net spending increase in the County of $1.1 million.[377] As was true of Hidalgo and Cameron counties, the net spending change is positive. This is because Mexican travelers account for a smaller proportion (43 percent) of total crossings in Texas than do U.S. travelers (57 percent).[378] Also, Mexican travelers spend less per trip ($39) in Texas than U.S. travelers staying in Texas ($74 per trip).[379] When lost U.S. spending locally due to the cost of obtaining appropriate documentation are included, gained U.S. spending in Presidio County is only $1.0 million, resulting in a net gain overall of $600,000.

EXHIBIT 7-18   PRESIDIO COUNTY REGIONAL STUDY AREA

Source: ArcGIS. POE locations obtained from CBP on March 22, 2006.

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[377] In Chapter 6, we estimate forgone Mexican spending for the entire U.S.-Mexico border. In order to estimate forgone Mexican spending at each POE, we use the distribution of Mexican crossings across POEs to apportion total forgone spending to each of the POEs. Appendix G shows the distribution of forgone Mexican and U.S. crossings across POEs.

[378] Texas and New Mexico distributions from Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

[379] Mexican spending per traveler per trip from Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004. U.S. spending per traveler per trip from San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

The University of Texas-Pan American survey of Mexican shoppers in Hidalgo and Cameron counties is our only source of information on Mexican spending patterns in Texas. Thus, we use the survey results to apportion forgone Mexican spending in Presidio County across industries. The survey questions offered respondents five spending categories, including a miscellaneous category, which we divide equally among three retail industries in IMPLAN: sporting goods, books and music; general merchandise; and miscellaneous store retailers. As shown in Exhibit 7-19, Mexican shoppers in Texas use slightly more than half of their per-trip spending to buy clothing.

EXHIBIT 7-19   MEXICAN SPENDING INPUTS FOR IMPLAN ANALYSIS OF PRESIDIO COUNTY

MODEL INPUTS	FORGONE MEXICAN SPENDING (ALT. 1)	FORGONE MEXICAN SPENDING (ALT. 2B (CHOSEN ALTERNATIVE) & 3B)	PROPORTION OF TOTAL FORGONE SPENDING
Clothing and clothing accessories stores	-$200,000	$0	51.7%
Food and beverage stores	-100,000	0	19.6
Hotels and motels- including casino hotels	-40,000	0	11.0
Electronics and appliance stores	-20,000	0	6.0
Miscellaneous store retailers	-20,000	0	4.5
Sporting goods- hobby- book and music stores	-20,000	0	4.2
General merchandise stores	-10,000	0	2.9
Total Forgone Spending	-400,000	$0	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding.
Source: IEc analysis. Distribution of forgone spending across industries from Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004.

For Texas, we do not have information about household earnings or spending patterns. Therefore, we apportion the U.S. spending increase across industries using the IMPLAN spending distribution for households earning between $35,000 and $50,000 annually.[380] Exhibit 7-20 summarizes the largest U.S. spending increases in Presidio County across a subset of industries. Exhibit 7-20 shows that the projected increase in U.S. spending in

[380] The SANDAG (2006) survey in California finds that U.S. traveler household income is between $35,000 and $50,000 annually. Without a U.S. traveler survey specific to Texas, we assume the household income of U.S. travelers in Texas also lies within this range. San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. C-3 to C-10.

the Presidio County study area of $1.5 million under Alternative 1 is greater than the estimated $700,000 projected under Alternatives 2B and 3B. This is because participants in CBP trusted traveler programs are not affected and children are exempt under Alternatives 2B and 3B in 2010. In addition, the less expensive passport card option is available under Alternatives 2B and 3B. Thus, fewer U.S. travelers forgo travel to Mexico and spend money in the United States. Losses associated with reduced local spending to offset the costs of obtaining WHTI-compliant documents are also smaller under Alternatives 2B and 3B ($200,000) than under Alternative 1 ($500,000), because children under age 16 are able to show a birth certificate in lieu of a passport book or card.

EXHIBIT 7-20   U.S. SPENDING INPUTS FOR IMPLAN ANALYSIS OF PRESIDIO COUNTY

MODEL INPUTS	ALTERNATIVE 1		ALTERNATIVES 2B & 3B		PROPORTION OF TOTAL CHANGE IN SPENDING
	FORGONE TRAVEL	PASSPORT PURCHASED	FORGONE TRAVEL	PASSPORT PURCHASED	
Owner-occupied dwellings	$500,000	-$200,000	$300,000	-$100,000	32.5%
Food services and drinking places	100,000	-40,000	100,000	-20,000	8.9
Power generation and supply	100,000	-30,000	100,000	-20,000	7.0
Monetary authorities and depository credit intermediaries	100,000	-30,000	50,000	-10,000	5.8
Food and beverage stores	100,000	-30,000	50,000	-10,000	5.6
General merchandise stores	100,000	-20,000	30,000	-10,000	3.6
Telecommunications	50,000	-20,000	30,000	-10,000	3.2
Other ambulatory health care services	50,000	-10,000	20,000	-10,000	3.0
Other State and local government enterprises	40,000	-10,000	20,000	-10,000	2.9
Remaining Industries	400,000	-100,000	200,000	-100,000	27.4
Total Change in Spending	$1,500,000	-$500,000	$700,000	-$200,000	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding. Spending on owner-occupied dwellings includes mortgage payments and spending on home repair and maintenance.
Source: Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Exhibit 7-21 summarizes the results of our IMPLAN analysis for Presidio County.

EXHIBIT 7-21   NET CHANGES IN ECONOMIC OUTPUT AND EMPLOYMENT IN PRESIDIO COUNTY

REGULATORY ALTERNATIVE	NET CHANGE IN OUTPUT	% OF TOTAL OUTPUT	NET CHANGE IN EMPLOYMENT	% OF TOTAL EMPLOYMENT
REGIONAL IMPACTS DUE TO CHANGES IN SPENDING RESULTING FROM FORGONE TRIPS ONLY				
Alternative 1 (No child exemption)	+$1.2 million	0.5%	+9 jobs	0.4%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	+0.9 million	0.4	+10 jobs	0.4
REGIONAL IMPACTS ADDING FORGONE U.S. SPENDING DUE TO COSTS OF OBTAINING WHTI-COMPLIANT DOCUMENTS				
Alternative 1 (No child exemption)	+$0.6 million	0.2%	+2 jobs	0.1%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	+0.6 million	0.2	+7 jobs	0.3
PRESIDIO COUNTY DATA (2004)				
Total County Output				$248 million
Total County Employment				2,509 jobs

Source: IEc IMPLAN analysis. IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Alternative 1 Results

Under Alternative 1, with no child exemption and the passport book as the only acceptable document, we estimate that Presidio County would lose $400,000 in Mexican spending, but gain $1.5 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to the Presidio County economy would be an increase in economic output of $1.2 million and an increase in employment of nine jobs. Sixty percent of the output reduction due to the forgone Mexican spending is concentrated in four industries: clothing stores; hotels; electronic appliance stores; and hobby, book, and music stores. Despite gaining three percent of the output increase from U.S. spending, these four industries experience declines in output and employment. Total economic output in Presidio County was $248 million in 2004, while County employment totaled 2,509 jobs.[381] We estimate that the projected net increase in output due to WHTI under Alternative 1 is approximately 0.5 percent of County output. The net gain of nine jobs is 0.4 percent of County employment.

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[381] Presidio County output and employment data from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, Presidio County would lose $400,000 in Mexican spending and gain $1.0 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Presidio County would be to increase economic output by $0.6 million and employment by two jobs. The net increase in output allowing consideration for the cost of purchasing a passport would be 0.2 percent of County output. The projected net gain of two jobs is 0.1 percent of County employment.

Alternatives 2B and 3B Results

Under Alternatives 2B and 3B, with U.S. children under 16 exempt and passport cards, CBP trusted traveler cards, and BCCs deemed acceptable documents, we estimate that Presidio County would lose no Mexican spending, but gain $700,000 in U.S. spending. IMPLAN estimates this net spending increase would produce a benefit to Presidio County of $0.9 million and 10 jobs. The projected increase in economic output is 0.4 percent of County output, while the increase in employment is 0.4 percent of County employment. Net impacts are positive because no Mexican travelers forgo trips to the United States under Alternatives 2B and 3B. The four industry categories that stand to benefit most from the gains in U.S. spending are owner-occupied dwellings (home repair and maintenance), restaurants, power generation and supply, and monetary authorities and depository credit intermediaries. Increased output in these industries represents 50 percent of the total estimated increase in economic output.

When reductions to U.S. spending in the regional study area due to the expense of obtaining WHTI-compliant documentation are included, Presidio County would lose no Mexican spending and gain only $500,000 in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Presidio County would be to increase economic output by $0.6 million and expand employment by seven jobs. The net increase in output allowing consideration for the cost of purchasing a passport would be 0.2 percent of County output. The projected net gain of seven jobs is 0.3 percent of County employment.

U.S.-CANADA BORDER

In this section, we present the IMPLAN results for the four regional study areas on the U.S.-Canada border. As with the U.S.-Mexico border, we discuss each regional study area, explaining the criteria we used to select POEs, and define the extent of the study areas. We then present the IMPLAN model inputs and results.

BUFFALO-NIAGARA, NEW YORK

We select the Buffalo-Niagara POE for analysis because, under Alternative 1, it is projected to experience the largest net annual loss in spending on the U.S.-Canada border.[382] Furthermore, the vast majority of public comments on the proposed rule to

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[382] Buffalo and Niagara, New York, are actually two separate crossing points. However, they are treated as a single POE in the BTS database. U.S. Department of Transportation, Bureau of Transportation Statistics,

implement WHTI in the air environment pertain to Buffalo-Niagara. We lack survey data on the destination of Canadian travelers entering the United States through the Buffalo-Niagara POE. Therefore, we define the regional study area as the Buffalo MSA. The U.S. Census Bureau defines the Buffalo MSA as Niagara and Erie Counties.[383] Under Alternative 1, we estimate forgone Canadian spending as a result of WHTI at $91.4 million annually within the two counties. We project that annual spending gains of $8.9 million from non-tourist U.S. travelers forgoing trips to Canada will offset the Canadian spending losses, resulting in a net spending loss of $82.5 million.[384] As shown earlier in Exhibit 7-4, this net spending loss is substantially greater than those estimated at the other potential regional study areas on the U.S.-Canada border. When forgone U.S. spending due to the cost of obtaining appropriate documentation is included, lost U.S. spending in Niagara and Erie Counties is $17.9 million annually, resulting in a net loss for the counties overall of $109.3 million. Exhibit 7-22 displays a map of the Niagara and Erie County regional study area.

EXHIBIT 7-22   NIAGARA AND ERIE COUNTY REGIONAL STUDY AREA

Source: ArcGIS. POE locations obtained from CBP on March 22, 2006.

TransStats: The Intermodal Transportation Database, as viewed at http://www.transtats.bts.gov on October 9, 2006.

[383] U.S. Census Bureau, *Current Lists of Metropolitan and Micropolitan Statistical Areas and Definitions*, as viewed at http://www.census.gov/population/www/estimates/metrodef.html as viewed on December 6, 2006.

[384] In Chapter 6, we estimate forgone Canadian spending for the entire U.S.-Canada border. In order to estimate forgone Canadian spending at each POE, we use the distribution of Canadian crossings across POEs to apportion total forgone spending to each of the POEs. Appendix G shows the distribution of forgone Canadian and U.S. crossings across POEs.

To model the impact of the net spending decline on the regional study area economy, we first apportion the Canadian spending losses and U.S. spending gains across affected industries. Statistics Canada conducts an annual *International Travel* survey of Canadian citizens who travel abroad. The survey provides data on how much money Canadian travelers spend in the United States on the following five items: accommodation, transportation, food and beverage, recreation and entertainment, and "other," a miscellaneous category that includes souvenirs and shopping. The distribution of spending across these categories is for Canadian travelers entering the United States by land, regardless of the state they enter. Thus, we use these Statistics Canada data for the IMPLAN analysis of forgone Canadian spending at all regional study areas on the U.S.-Canada border.

Exhibit 7-23 presents the survey breakdown of Canadian spending by industry. As the survey includes only five broad spending categories, we apportion the spending to more specific industries in IMPLAN. We assume the majority of transportation spending is for gasoline, so we apportion 75 percent of the transportation category to gasoline and divide the remaining 25 percent equally between auto rental and train and bus tickets. Given that 66 percent of Canadian crossings are for pleasure, recreation, or holiday, we assume all food and beverage spending occurs at restaurants.[385] We divide recreation and entertainment spending equally among the following six industries in IMPLAN: performing arts; spectator sports; museums, historical sites, and zoos; fitness and recreational sports centers; bowling centers; and other amusement, which includes gambling. Lastly, we apportion "other" spending, which includes souvenir purchases and retail shopping, into four retail categories in IMPLAN: clothing; sporting goods, books, and music; general merchandise; and miscellaneous store retailers.

As with the other study areas, we assume that only U.S. travelers who visit Canada for reasons other than vacation and tourism will spend their money within the regional study area. In other words, we assume that U.S. travelers forgoing a tourist trip to Canada will substitute their trip to Canada with another trip outside of Niagara and Erie Counties.[386] The Statistics Canada *International Travel* survey also collects data from U.S. travelers to Canada. The survey indicates that 66 percent of U.S. trips to Canada are for recreation or tourism.[387] Consequently, we assume that spending related to the remaining 34 percent of forgone U.S. crossings occurs within the regional study area. We use this assumption regarding U.S. spending for all regional study areas on the U.S.-Canada border.

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[385] Data obtained via email from Statistics Canada, Culture, Tourism and Centre for Education Statistics, on November 7, 2006.

[386] It is likely that some of the travelers forgoing a tourist trip will spend some or all of the money they would have spent in Canada within Niagara and Erie counties. Our assumption is conservative in that we are assuming fewer increased dollars spent in Niagara and Erie counties than might likely occur.

[387] Data obtained via email from Statistics Canada, Culture, Tourism and Centre for Education Statistics, on November 7, 2006.

EXHIBIT 7-23   CANADIAN SPENDING INPUTS FOR IMPLAN ANALYSIS OF NIAGARA AND ERIE
COUNTIES

MODEL INPUTS	FORGONE CANADIAN SPENDING (ALT. 1)	FORGONE CANADIAN SPENDING (ALT. 2B (CHOSEN ALTERNATIVE) & 3B)	PROPORTION OF TOTAL FORGONE SPENDING
Hotels and motels- including casino hotels	-$36,300,000	-$29,500,000	39.7%
Food services and drinking places	-26,800,000	-21,800,000	29.4
Spectator sports	-2,400,000	-2,000,000	2.7
Bowling centers	-2,400,000	-2,000,000	2.7
Performing arts companies	-2,400,000	-2,000,000	2.7
Fitness and recreational sports centers	-2,400,000	-2,000,000	2.7
Clothing and clothing accessories stores	-2,400,000	-1,900,000	2.6
Museums- historical sites- zoos- and parks	-2,400,000	-1,900,000	2.6
Miscellaneous store retailers	-2,300,000	-1,900,000	2.5
Gasoline stations	-2,200,000	-1,800,000	2.5
Other amusement- gambling- and recreation industries	-2,200,000	-1,800,000	2.4
Sporting goods- hobby- book and music stores	-2,100,000	-1,700,000	2.3
Transit and ground passenger transportation	-1,700,000	-1,400,000	1.8
General merchandise stores	-1,500,000	-1,200,000	1.6
Nondepository credit intermediation and related a	-900,000	-700,000	
Automotive equipment rental and leasing	-800,000	-700,000	1.0
Total Forgone Spending	**-91,400,000**	**-74,300,000**	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding.
Source: Distribution of spending from data obtained via email from Statistics Canada, Culture, Tourism and the Centre for Education Statistics, on November 7, 2006.

To apportion the gained and lost U.S. spending in Niagara and Erie Counties across affected industries, we use an average spending distribution for U.S. households. IMPLAN provides average spending distributions for U.S. households that vary by household income. Although we have survey data on household income for U.S. travelers to Canada, the data include airplane travelers, who likely skew the reported average income upwards. The data are in a form that does not allow us to remove the airplane travelers.   However, median household income in the United States was $46,000

in 2005.[388] Thus, we use the IMPLAN spending distribution for U.S. households earning between $35,000 and $50,000 to apportion the changes in U.S. spending across industries.

Exhibit 7-24 summarizes the largest U.S. spending increases in Niagara and Erie Counties across a subset of industries. Exhibit 7-24 shows that the increase of $8.9 million in U.S. spending by travelers from Niagara and Erie Counties forgoing trips to Canada under Alternative 1 is greater than the increase of $4.8 million under Alternatives 2B and 3B. This is because participants in CBP trusted traveler programs are not affected and children are exempt under Alternatives 2B and 3B. In addition, the less expensive passport card option is available under Alternatives 2B and 3B. Thus, fewer U.S. travelers forgo travel to Canada and spend money in the United States. Lost spending by U.S. citizens obtaining WHTI-compliant documents are also lower under Alternatives 2B and 3B ($13.6 million) than under Alternative 1 ($26.8 million) for the same reason (i.e., the child exemption results in lower document costs).

EXHIBIT 7-24   U.S. SPENDING INPUTS FOR IMPLAN ANALYSIS OF NIAGARA AND ERIE COUNTIES

MODEL INPUTS	ALTERNATIVE 1		ALTERNATIVES 2B & 3B		PROPORTION OF TOTAL CHANGE IN SPENDING
	FORGONE TRAVEL	PASSPORT PURCHASED	FORGONE TRAVEL	PASSPORT PURCHASED	
Owner-occupied dwellings	$1,500,000	-$4,400,000	$800,000	-$2,200,000	16.5%
Offices of physicians- dentists- and other health	800,000	-2,400,000	400,000	-1,200,000	8.9
Food services and drinking places	600,000	-2,000,000	300,000	-1,000,000	7.3
Hospitals	600,000	-1,800,000	300,000	-900,000	6.7
Wholesale trade	400,000	-1,200,000	200,000	-600,000	4.5
Monetary authorities and depository credit intermediaries	400,000	-1,100,000	200,000	-600,000	4.3
Insurance carriers	300,000	-900,000	100,000	-400,000	3.2
Real estate	300,000	-900,000	100,000	-400,000	3.2
Food and beverage stores	300,000	-800,000	100,000	-400,000	2.9
Remaining Industries	3,800,000	-11,400,000	2,000,000	-5,800,000	42.6
Total Change in Spending	**$8,900,000**	**-$26,800,000**	**$4,800,000**	**-$13,600,000**	16.5

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding. Spending on owner-occupied dwellings includes mortgage payments and spending on home repair and maintenance.

Source: Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

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[388] U.S. Census Bureau, *American Community Survey*, as viewed at http://www.census.gov/acs/www/ on February 2, 2007.

Exhibit 7-25 summarizes the results of our IMPLAN analysis for Niagara and Erie
Counties.

EXHIBIT 7-25   NET CHANGES IN ECONOMIC OUTPUT AND EMPLOYMENT IN NIAGARA AND ERIE
COUNTIES

REGULATORY ALTERNATIVE	NET CHANGE IN OUTPUT	% OF TOTAL OUTPUT	NET CHANGE IN EMPLOYMENT	% OF TOTAL EMPLOYMENT
REGIONAL IMPACTS DUE TO CHANGES IN SPENDING RESULTING FROM FORGONE TRIPS ONLY				
Alternative 1 (No child exemption)	-$137.8 million	0.2%	-2,150 jobs	0.4%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	-116.0 million	0.2	-1,785 jobs	0.3
REGIONAL IMPACTS ADDING FORGONE U.S. SPENDING DUE TO COSTS OF OBTAINING WHTI-COMPLIANT DOCUMENTS				
Alternative 1 (No child exemption)	-$181.0 million	0.2%	-2,562 jobs	0.4%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	-138.0 million	0.2	-1,994 jobs	0.3
NIAGARA AND ERIE COUNTY DATA (2004)				
Total County Output				$73.4 billion
Total County Employment				608,055 jobs

Source: IEc IMPLAN analysis. IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group,
Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082
www.implan.com.

Alternative 1 Results

Under Alternative 1, with no child exemption and passports as the only acceptable
document, we estimate that Niagara and Erie Counties would lose $91.4 million in
Canadian spending, but gain $8.9 million in U.S. spending related to travelers forgoing
trips to Canada. IMPLAN estimates that the net impact of these spending changes to the
regional study area would be reduced economic output of $137.8 million and a decline in
employment of 2.150 jobs. Nearly 60 percent of the net output reduction is concentrated
in four industries: hotels, restaurants, spectator sports, and retail clothing. Total
economic output in Niagara and Erie counties was $73.4 billion in 2004, while
employment totaled 608,055 jobs.[389] Thus, we estimate that the net reduction in output
due to WHTI under Alternative 1 is approximately 0.2 percent of total output. The net
loss of 2,150 jobs is 0.4 percent of total employment.

When reductions to U.S. spending in the regional study area due to the expense of a
obtaining WHTI-compliant documentation are included, Niagara and Erie Counties

[389] Niagara and Erie county output and employment data from IMPLAN Pro™. IMPLAN Professional®, Version
2.0. Minnesota IMPLAN Group, Inc. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725
Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

would lose $91.4 million in Canadian spending and $17.9 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Niagara and Erie Counties would be to decrease economic output by $181.0 million and reduce employment by 2,562 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be 0.2 percent of County output. The projected net loss of 2,562 jobs is 0.4 percent of County employment.

Alternatives 2B and 3B Results

Under Alternatives 2B and 3B, with U.S. and Canadian children under 16 exempt and passport cards and CBP trusted traveler cards deemed acceptable documents, we estimate that Niagara and Erie Counties would lose $74.3 million in Canadian spending, but would gain $4.8 million in U.S. spending related to forgone travel to Canada, producing a net spending loss of $69.5 million. IMPLAN estimates this net spending decrease will reduce economic output in the regional study area by $116.0 million and employment by 1,785 jobs. The projected decrease in economic output is 0.2 percent of total output, while the decrease in employment is 0.3 percent of total employment. The four industry categories that are most affected under Alternatives 2B and 3B are hotels, restaurants, spectator sports, and retail clothing. Output reductions in these industries represent 58 percent of the total net reduction in economic output due to forgone Canadian spending.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, Niagara and Erie Counties would lose $74.3 million in Canadian spending and $8.8 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Niagara and Erie Counties would be to decrease economic output by $138.0 million and employment by 1,994 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be 0.2 percent of County output. The projected net loss of 1,994 jobs is 0.3 percent of County employment.

CALAIS, MAINE (WASHINGTON COUNTY)

We select Calais, Maine, for analysis because it is a rural POE with predominantly local crossing traffic. Calais is immediately adjacent to St. Stephen, Canada, and residents make multiple trips between the two towns over the course of a year. We lack survey data on the destinations of Canadian travelers crossing at Calais, Maine. As the Calais population is too small to constitute a MSA, we limit the Calais regional study area to Washington County, in which Calais is located. The Washington County regional study area encompasses three POEs: Calais, Vanceboro, and Eastport. We estimate forgone Canadian spending of $24.7 million annually within the County as a result of WHTI under Alternative 1. We project that annual spending gains of $800,000 from non-tourist U.S. travelers forgoing trips to Canada will offset the Canadian spending losses, resulting in a net spending loss of $23.9 million.[390] When forgone U.S. spending due to the cost of

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[390] In Chapter 6, we estimate forgone Canadian spending for the entire U.S.-Canada border. In order to estimate forgone Canadian spending at each POE, we use the distribution of Canadian crossings across POEs

obtaining appropriate documentation is included, lost U.S. spending in Washington County is $1.6 million annually, resulting in a net loss overall of $26.3 million. Exhibit 7-26 provides a map of the Washington County regional study area.

EXHIBIT 7-26   MAP OF WASHINGTON COUNTY REGIONAL STUDY AREA

Source: ArcGIS. POE locations obtained from CBP on March 22, 2006.

Exhibit 7-27 details the breakdown of forgone Canadian spending in Washington County. This is the same spending distribution from the Statistics Canada *International Travel* survey described in the analysis of the Niagara and Erie County regional study area. The survey results are for Canadian travelers entering the United States by land, regardless of the state they enter. Thus, we use the same distribution to analyze forgone Canadian spending at all regional study areas on the U.S.-Canada border.

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to apportion total forgone spending to each of the POEs. Appendix G shows the distribution of forgone Canadian and U.S. crossings across POEs.

EXHIBIT 7-27   CANADIAN SPENDING INPUTS FOR IMPLAN ANALYSIS OF WASHINGTON COUNTY

MODEL INPUTS	FORGONE CANADIAN SPENDING (ALT. 1)	FORGONE CANADIAN SPENDING (ALT. 2B (CHOSEN ALTERNATIVE) & 3B)	PROPORTION OF TOTAL FORGONE SPENDING
Hotels and motels- including casino hotels	-$10,200,000	-$8,300,000	41.2%
Food services and drinking places	-7,700,000	-6,200,000	31.1
Performing arts companies	-700,000	-600,000	2.8
Bowling centers	-700,000	-600,000	2.8
Fitness and recreational sports centers	-700,000	-600,000	2.8
Museums- historical sites- zoos- and parks	-700,000	-600,000	2.8
Clothing and clothing accessories stores	-700,000	-500,000	2.7
Miscellaneous store retailers	-600,000	-500,000	2.6
Gasoline stations	-600,000	-500,000	2.6
Sporting goods- hobby- book and music stores	-600,000	-500,000	2.4
General merchandise stores	-400,000	-300,000	1.7
Other amusement- gambling- and recreation industries	-400,000	-300,000	1.6
Transit and ground passenger transportation	-300,000	-300,000	1.3
Total Forgone Spending	**-$24,700,000**	**-$20,100,000**	**100.0%**

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding.
Source: Distribution of spending from data obtained via email from Statistics Canada, Culture, Tourism and the Centre for Education Statistics, on November 7, 2006.

As for the other study areas, we assume that only U.S. travelers who, but for WHTI, would visit Canada for reasons other than vacation and tourism, will spend their money within the regional study area.[391] The Statistics Canada *International Travel* indicates that 66 percent of U.S. trips to Canada are for recreation or tourism.[392] Consequently, we assume that spending on the remaining 34 percent of forgone U.S. crossings occurs

[391] It is likely that some of the travelers forgoing a tourist trip will spend some or all of the money they would have spent in Canada within Washington County. Our assumption is conservative in that we are assuming fewer increased dollars spent in Washington County than might likely occur.

[392] Data obtained via email from Statistics Canada, Culture, Tourism and Centre for Education Statistics, on November 7, 2006.

within the regional study area. To apportion the U.S. spending gained in Washington County across affected industries, we use IMPLAN's average spending distribution for U.S. households earning between $35,000 and $50,000 annually. The same spending distribution is applied to apportion lost U.S. spending to offset costs of obtaining WHTI-compliant documentation.

Exhibit 7-28 summarizes the largest U.S. spending increases in Washington County across a subset of industries. Exhibit 7-28 shows that increased U.S. spending in Washington County of $800,000 under Alternative 1 is greater than the increase of $400,000 projected under Alternatives 2B and 3B. This is because participants in CBP trusted traveler programs are not affected and children are exempt under Alternatives 2B and 3B. In addition, the less expensive passport card option is available under Alternatives 2B and 3B. Thus, fewer U.S. travelers forgo travel to Canada and spend money in the United States. Lost U.S. spending to offset the cost of obtaining WHTI-compliant documentation is also lower under Alternatives 2B and 3B ($1.2 million) than under Alternative 1 ($2.4 million) due to the child exemption.

EXHIBIT 7-28   U.S. SPENDING INPUTS FOR IMPLAN ANALYSIS OF WASHINGTON COUNTY

MODEL INPUTS	ALTERNATIVE 1		ALTERNATIVES 2B & 3B		PROPORTION OF TOTAL CHANGE IN SPENDING
	FORGONE TRAVEL	PASSPORT PURCHASED	FORGONE TRAVEL	PASSPORT PURCHASED	
Owner-occupied dwellings	$200,000	-$500,000	$100,000	-$300,000	22.2%
Offices of physicians- dentists- and other health	100,000	-200,000	30,000	-100,000	10.4
Hospitals	100,000	-200,000	30,000	-100,000	9.4
Food services and drinking places	100,000	-200,000	30,000	-100,000	8.6
Food and beverage stores	30,000	-100,000	20,000	-50,000	3.8
Monetary authorities and depository credit intermediaries	30,000	-100,000	10,000	-40,000	3.4
General merchandise stores	30,000	-100,000	10,000	-40,000	3.4
Real estate	30,000	-100,000	10,000	-40,000	3.2
Automotive repair and maintenance- except car wash	30,000	-100,000	10,000	-40,000	2.9
Remaining industries	300,000	-800,000	100,000	-400,000	32.7
Total Change in Spending	$800,000	-$2,400,000	$400,000	-$1,200,000	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding. Spending on owner-occupied dwellings includes mortgage payments and spending on home repair and maintenance.

Source: Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Exhibit 7-29 summarizes the results of our IMPLAN analysis for Washington County (Calais).

EXHIBIT 7-29   NET CHANGES ECONOMIC OUTPUT AND EMPLOYMENT IN WASHINGTON COUNTY

REGULATORY ALTERNATIVE	NET CHANGE IN OUTPUT	% OF TOTAL OUTPUT	NET CHANGE IN EMPLOYMENT	% OF TOTAL EMPLOYMENT
REGIONAL IMPACTS DUE TO CHANGES IN SPENDING RESULTING FROM FORGONE TRIPS ONLY				
Alternative 1 (No child exemption)	-$31.5 million	1.8%	-755 jobs	4.0%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	-25.9 million	1.4	-617 jobs	3.2
REGIONAL IMPACTS ADDING FORGONE U.S. SPENDING DUE TO COSTS OF OBTAINING WHTI-COMPLIANT DOCUMENTS				
Alternative 1 (No child exemption)	-$34.5 million	1.9%	-792 jobs	4.2%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	-27.4 million	1.5	-636 jobs	3.3
WASHINGTON COUNTY DATA (2004)				
Total County Output				$1.8 billion
Total County Employment				18,989 jobs

Source: IEc IMPLAN analysis. IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Alternative 1 Results

Under Alternative 1, with no child exemption and passport books as the only acceptable document, we estimate that Washington County would lose $24.7 million in Canadian spending, but would gain $800,000 in U.S. spending. IMPLAN estimates that the net impact of these spending changes to the Washington County economy would reduce economic output by $31.5 million and cause a decline in employment of 755 jobs. Sixty-one percent of output reductions due to forgone Canadian spending are concentrated in four industries: hotels, restaurants, performing arts companies, and fitness and recreational sports centers. Total economic output in Washington County was $1.8 billion in 2004, while employment totaled 18,989 jobs.[393] Thus, we conclude that the projected net reduction in output due to WHTI, under Alternative 1, is approximately 1.8 percent of County output. The net loss of 755 jobs is 4.0 percent of County employment.

When reductions to U.S. spending in the regional study area due to the expense of obtaining WHTI-compliant documentation are included, Washington County would lose

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[393] Washington County output and employment data from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

$24.7 million in Canadian spending and $1.6 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Washington County would be to decrease economic output by $34.5 million and reduce employment by 792 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be 1.9 percent of County output. The projected net loss of 792 jobs is 4.2 percent of County employment.

Alternatives 2B (Chosen Alternative) & 3B Results

Under Alternatives 2B and 3B, with U.S. and Canadian children under 16 exempt and passport cards and CBP trusted traveler cards deemed acceptable documents, we estimate that Washington County would lose $20.1 million in Canadian spending, but would gain $400,000 in U.S. spending, producing a net spending loss of $19.7 million. IMPLAN estimates this net spending decrease will reduce economic output in Washington County by $25.9 million and 617 jobs. Under Alternatives 2B and 3B, County economic output is projected to decline 1.4 percent, while County employment falls 3.2 percent. The four industry categories that stand to lose most under Alternatives 2B and 3B are hotels, restaurants, performing arts companies, and fitness and recreational sports centers. Output reduction in these industries represents slightly more than 60 percent of the total expected reduction in economic output.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, Washington County would lose $20.1 million in Canadian spending and $800,000 in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Washington County would be to decrease economic output by $27.4 million and employment by 636 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be 1.5 percent of County output. The projected net loss of 636 jobs is 3.3 percent of County employment.

WAYNE, MACOMB, OAKLAND COUNTIES, MICHIGAN

Like Buffalo-Niagara, Detroit-Windsor is a large, cross-border metropolitan area with a major interstate highway. As shown in Exhibit 7-4, Detroit is expected to experience the fourth-largest reductions in forgone Canadian spending. We define the regional study area for Detroit using information on Canadian traveler destination from the 2001 *Ontario-Michigan Border Crossing Traffic Study*. This survey indicates that 71.1 percent of Canadians crossing at Detroit have a final destination within Wayne, Macomb, or Oakland Counties.[394] Thus, we limit the regional study area to these three counties where the majority of forgone Canadian spending will likely occur. We estimate forgone Canadian spending of $55.5 million within the three counties as a result of WHTI under Alternative 1. We project that spending gains of $8.7 million from non-tourist U.S. travelers forgoing trips to Canada will offset the Canadian spending losses, resulting in a

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[394] Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports,* August 2001, pp. 24-25.

net spending loss of $46.8 million.[395] When forgone U.S. spending due to the cost of obtaining appropriate documentation is included, lost U.S. spending in the three counties is $17.3 million, resulting in a net loss overall of $72.8 million. Exhibit 7-30 displays a map of the Wayne, Macomb, and Oakland County regional study area.

EXHIBIT 7-30   WAYNE, MACOMB, AND OAKLAND COUNTY REGIONAL STUDY AREA

Source: ArcGIS. POE locations obtained from CBP on March 22, 2006.

Exhibit 7-31 details the breakdown of forgone Canadian spending in Wayne, Macomb, and Oakland Counties. This is the same spending distribution from the Statistics Canada *International Travel* survey described previously. The survey results are for Canadian travelers entering the United States by land, regardless of the state they enter. Thus, we use the same distribution to analyze forgone Canadian spending at all regional study areas on the U.S.-Canada border.

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[395] In Chapter 6, we estimate forgone Canadian spending for the entire U.S.-Canada border. In order to estimate forgone Canadian spending at each POE, we use the distribution of Canadian crossings across POEs to apportion total forgone spending to each of the POEs. Appendix G shows the distribution of forgone Canadian and U.S. crossings across POEs.

EXHIBIT 7-31   CANADIAN SPENDING INPUTS FOR ANALYSIS OF WAYNE, MACOMB, AND OAKLAND COUNTIES

MODEL INPUTS	FORGONE CANADIAN SPENDING (ALT. 1)	FORGONE CANADIAN SPENDING (ALT. 2B (CHOSEN ALTERNATIVE) & 3B)	PROPORTION OF TOTAL FORGONE SPENDING
Hotels and motels- including casino hotels	-$22,000,000	-$17,900,000	39.6
Food services and drinking places	-16,300,000	-13,200,000	29.3
Spectator sports	-1,500,000	-1,200,000	2.7
Performing arts companies	-1,500,000	-1,200,000	2.7
Bowling centers	-1,500,000	-1,200,000	2.7
Fitness and recreational sports centers	-1,500,000	-1,200,000	2.7
Clothing and clothing accessories stores	-1,400,000	-1,200,000	2.6
Other amusement- gambling- and recreation industries	-1,400,000	-1,200,000	2.6
Museums- historical sites- zoos- and parks	-1,400,000	-1,200,000	2.6
Miscellaneous store retailers	-1,400,000	-1,100,000	2.5
Gasoline stations	-1,400,000	-1,100,000	2.5
Sporting goods- hobby- book and music stores	-1,300,000	-1,000,000	2.3
General merchandise stores	-900,000	-700,000	1.6
Nondepository credit intermediation and related a	-600,000	-500,000	1.1
Total Forgone Spending	**-$55,500,000**	**-$45,100,000**	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding.
Source: Distribution of spending from data obtained via email from Statistics Canada, Culture, Tourism and the Centre for Education Statistics, on November 7, 2006.

As for the other study areas, we assume that only U.S. travelers who visit Canada for reasons other than vacation and tourism will spend their money within the regional study area.[396] The Statistics Canada *International Travel* indicates that 66 percent of U.S. trips to Canada are for recreation or tourism.[397] Consequently, we assume that spending on the remaining 34 percent of forgone U.S. crossings occurs within the regional study area. To apportion the gained U.S. spending in Wayne, Macomb, and Oakland Counties across

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[396] It is likely that some of the travelers forgoing a tourist trip will spend some or all of the money they would have spent in Canada within Wayne, Macomb, and Oakland counties. Our assumption is conservative in that we are assuming fewer increased dollars spent in Wayne, Macomb, and Oakland counties than might likely occur.

[397] Data obtained via email from Statistics Canada, Culture, Tourism and Centre for Education Statistics, on November 7, 2006.

affected industries, we use IMPLAN's average spending distribution for U.S. households earning between $35,000 and $50,000 annually. We apply the same distribution to apportion lost spending by U.S. citizens obtaining WHTI-compliant documentation.

Exhibit 7-32 summarizes the largest U.S. spending increases in the regional study area across a subset of industries. Exhibit 7-32 shows that U.S. spending will increase in the regional study area by $8.7 million under Alternative 1, more than the increase of $4.6 million under Alternatives 2B and 3B. This is because participants in CBP trusted traveler programs are not affected and children are exempt under Alternatives 2B and 3B in 2010. In addition, the less expensive passport card option is available under Alternatives 2B and 3B. Thus, fewer U.S. travelers forgo travel to Canada and spend money in the United States. Lost spending by U.S. citizens offsetting the costs of obtaining WHTI-compliant documentation are also lower under Alternatives 2B and 3B ($13.2 million) than under Alternative 1 ($26.0 million) because of the child exemption.

EXHIBIT 7-32   U.S. SPENDING INPUTS FOR IMPLAN ANALYSIS OF WAYNE, MACOMB, AND OAKLAND COUNTIES

MODEL INPUTS	ALTERNATIVE 1		ALTERNATIVES 2B & 3B		PROPORTION OF TOTAL CHANGE IN SPENDING
	FORGONE TRAVEL	PASSPORT PURCHASED	FORGONE TRAVEL	PASSPORT PURCHASED	
Owner-occupied dwellings	$1,400,000	-$4,300,000	$700,000	-$2,200,000	16.4%
Offices of physicians- dentists- and other health	800,000	-2,300,000	400,000	-1,200,000	8.8
Food services and drinking places	700,000	-2,100,000	400,000	-1,100,000	8.0
Hospitals	600,000	-1,900,000	300,000	-1,000,000	7.2
Real estate	400,000	-1,300,000	200,000	-700,000	5.0
Wholesale trade	300,000	-900,000	200,000	-400,000	3.4
Monetary authorities and depository credit intermediaries	300,000	-900,000	100,000	-400,000	3.3
Food and beverage stores	200,000	-700,000	100,000	-400,000	2.7
Insurance carriers	200,000	-700,000	100,000	-300,000	2.6
Remaining industries	3,700,000	-11,000,000	2,000,000	-5,600,000	42.5
Total Change in Spending	**$8,700,000**	**-$26,000,000**	**$4,600,000**	**-$13,200,000**	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding. Spending on owner-occupied dwellings includes mortgage payments and spending on home repair and maintenance.
Source: Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Exhibit 7-33 summarizes the results of our IMPLAN analysis for the Wayne, Macomb, and Oakland County regional study area.

EXHIBIT 7-33   NET CHANGES IN ECONOMIC OUTPUT AND EMPLOYMENT IN WAYNE, MACOMB, AND OAKLAND COUNTIES

REGULATORY ALTERNATIVE	NET CHANGE IN OUTPUT	% OF TOTAL OUTPUT	NET CHANGE IN EMPLOYMENT	% OF TOTAL EMPLOYMENT
REGIONAL IMPACTS DUE TO CHANGES IN SPENDING RESULTING FROM FORGONE TRIPS ONLY				
Alternative 1 (No child exemption)	-$75.8 million	0.02%	-1,126 jobs	0.05%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	-65.4 million	0.02	-948 jobs	0.04
REGIONAL IMPACTS ADDING FORGONE U.S. SPENDING DUE TO COSTS OF OBTAINING WHTI-COMPLIANT DOCUMENTS				
Alternative 1 (No child exemption)	-$116.2 million	0.03%	-1,479 jobs	0.06%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	-86.0 million	0.02	-1,127 jobs	0.05
WAYNE, MACOMB, AND OAKLAND COUNTY DATA (2004)				
Total County Output				$393.4 billion
Total County Employment				2,391,556 jobs

Source: IEc IMPLAN analysis. IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Alternative 1 Results

Under Alternative 1, with no child exemption and passport books as the only acceptable document, we estimate that Wayne, Macomb, and Oakland Counties would lose $55.5 million in Canadian spending, but would gain $8.7 million in U.S. spending associated with forgone trips to Canada. IMPLAN estimates that the net impact of these spending changes to the regional study area would be to reduce economic output $75.8 million and cause a loss of 1,126 jobs. Nearly 50 percent of the output reduction due to forgone Canadian spending is concentrated in four industries: hotels, restaurants, spectator sports, and performing arts companies. Total economic output in Wayne, Macomb, and Oakland Counties was $393.4 billion in 2004, while employment totaled 2.4 million jobs.[398] Thus, we conclude that the projected net reduction in output due to WHTI under Alternative 1 is 0.02 percent of total output. The projected net loss of 1,126 jobs is 0.05 percent of total employment.

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[398] Wayne, Macomb, and Oakland county output and employment data from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, Wayne, Macomb, and Oakland Counties would lose $55.5 million in Canadian spending and $17.3 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Wayne, Macomb, and Oakland Counties would be to decrease economic output by $116.2 million and reduce employment by 1,479 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be 0.03 percent of County output. The projected net loss of 1,479 jobs is 0.06 percent of County employment.

Alternatives 2B and 3B Results

Under Alternatives 2B and 3B, with U.S. and Canadian children under 16 exempt and passport cards and CBP trusted traveler cards deemed acceptable documents, we estimate that Wayne, Macomb, and Oakland Counties would lose $45.1 million in Canadian spending, but would gain $4.6 million in U.S. spending, producing a net spending loss of $40.5 million. IMPLAN estimates this net spending decrease will reduce economic activity in the regional study area by $65.4 million and 948 jobs. The projected decrease in economic output is 0.02 percent of total output, while the decrease in employment is 0.04 percent of total employment. The four industry categories that are projected to be most affected under Alternatives 2B and 3B are hotels, restaurants, spectator sports, and the real estate industry. The output reductions in these industries represent nearly 50 percent of the total output reduction caused by forgone Canadian spending.

When reductions to U.S. spending in the regional study area due to the expense of a passport are included, Wayne, Macomb, and Oakland Counties would lose $45.1 million in Canadian spending and $8.6 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Wayne, Macomb, and Oakland Counties would be to decrease economic output by $86.0 million and employment by 1,127 jobs. The net increase in output allowing consideration for the cost of purchasing a passport would be 0.02 percent of County output. The projected net loss of 1,127 jobs is 0.05 percent of County employment.

WHATCOM COUNTY, WASHINGTON

Whatcom County, Washington, contains four of the 16 highest volume U.S.-Canada POEs. As shown in Exhibit 7-4, these four POEs are projected to have the second largest decline in dollars of Canadian spending of the Canadian POEs. In addition to the magnitude of these spending losses, we select the Whatcom County POEs for analysis to investigate WHTI's impacts along the western portion of the U.S.-Canada border.

Without information on traveler destination for Canadians crossing at the Whatcom County POEs, we define the regional study area as Whatcom County. None of the Whatcom County POEs are large enough to constitute metropolitan statistical areas

extending beyond Whatcom County.[399] When forgone U.S. spending due to the cost of obtaining appropriate documentation is included, lose U.S. spending in Whatcom County is $8.8 million, resulting in a net loss overall of $75.5 million. Exhibit 7-34 displays a map of the regional study area, which includes the following four POEs: Sumas, Lynden, Blaine, and Point Roberts.

EXHIBIT 7-34   MAP OF WHATCOM COUNTY REGIONAL STUDY AREA
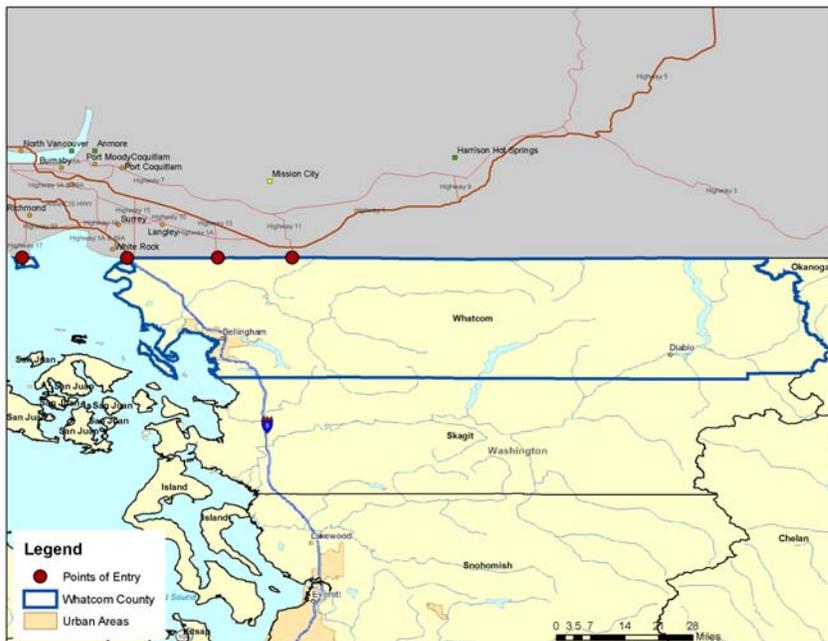
Source: ArcGIS. POE locations obtained from CBP on March 22, 2006.

Exhibit 7-35 details the breakdown of forgone Canadian spending in Whatcom County. This is the same spending distribution from the Statistics Canada *International Travel* survey described previously. The survey results are for Canadian travelers entering the United States by land, regardless of the state they enter. Thus, we use the same distribution to analyze forgone Canadian spending at all regional study areas on the U.S.-Canada border.

[399] While we are aware that considerable through-traffic destined for areas south of the county comes through the Whatcom County POEs, our focus on Whatcom County will produce a conservative assessment of the impact of WHTI by focusing the spending changes on the smallest geographical area.

EXHIBIT 7-35   CANADIAN SPENDING INPUTS FOR IMPLAN ANALYSIS OF WHATCOM COUNTY

MODEL INPUTS	FORGONE CANADIAN SPENDING (ALT. 1)	FORGONE CANADIAN SPENDING (ALT. 2B (CHOSEN ALTERNATIVE) & 3B)	PROPORTION OF TOTAL FORGONE SPENDING
Hotels and motels- including casino hotels	-$26,400,000	-$21,400,000	39.5%
Food services and drinking places	-19,700,000	-16,000,000	29.5
Spectator sports	-1,800,000	-1,400,000	2.7
Performing arts companies	-1,800,000	-1,400,000	2.7
Bowling centers	-1,800,000	-1,400,000	2.7
Fitness and recreational sports centers	-1,800,000	-1,400,000	2.7
Clothing and clothing accessories stores	-1,700,000	-1,400,000	2.6
Other amusement- gambling- and recreation industries	-1,700,000	-1,400,000	2.5
Miscellaneous store retailers	-1,700,000	-1,400,000	2.5
Gasoline stations	-1,600,000	-1,300,000	2.5
Museums- historical sites- zoos- and parks	-1,600,000	-1,300,000	2.4
Sporting goods- hobby- book and music stores	-1,500,000	-1,200,000	2.3
General merchandise stores	-1,100,000	-900,000	1.6
Transit and ground passenger transportation	-1,000,000	-800,000	1.4
Automotive equipment rental and leasing	-700,000	-600,000	1.1
Total Forgone Spending	**-$66,700,000**	**-$54,200,000**	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding.
Source: Distribution of spending from data obtained via email from Statistics Canada, Culture, Tourism and the Centre for Education Statistics, on November 7, 2006.

As described earlier, we assume that only U.S. travelers who visit Canada for reasons other than vacation and tourism will spend their money within the regional study area.[400] The Statistics Canada *International Travel* indicates that 66 percent of U.S. trips to Canada are for recreation or tourism.[401] Consequently, we assume that spending on the remaining 34 percent of forgone U.S. crossings occurs within the regional study area. To apportion the gained U.S. spending in Whatcom County across affected industries, we

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[400] It is likely that some of the travelers forgoing a tourist trip will spend some or all of the money they would have spent in Canada within Whatcom County. Our assumption is conservative in that we are assuming fewer increased dollars spent in Whatcom County than might likely occur.

[401] Data obtained via email from Statistics Canada, Culture, Tourism and Centre for Education Statistics, on November 7, 2006.

use IMPLAN's average spending distribution for U.S. households earning between $35,000 and $50,000 annually. We also apply this distribution to apportion lost spending related to the costs of obtaining WHTI-compliant documentation.

Exhibit 7-36 summarizes the largest U.S. spending increases in Whatcom County across a subset of industries. Exhibit 7-36 shows that U.S. spending in Whatcom County will increase $4.5 million under Alternative 1, more than the increase of $2.4 million under Alternatives 2B and 3B. This is because participants in CBP trusted traveler programs are not affected and children are exempt under Alternatives 2B and 3B. In addition, the less expensive passport card option is available under Alternatives 2B and 3B. Thus, fewer U.S. travelers forgo travel to Canada and spend money in the United States. Lost U.S. spending associated with obtaining WHTI-compliant documentation is also lower under Alternatives 2B and 3B ($6.8 million) than under Alternative 1 ($13.3 million) due to the child exemption.

EXHIBIT 7-36   U.S. SPENDING INPUTS FOR IMPLAN ANALYSIS OF WHATCOM COUNTY

MODEL INPUTS	ALTERNATIVE 1		ALTERNATIVES 2B & 3B		PROPORTION OF TOTAL CHANGE IN SPENDING
	FORGONE TRAVEL	PASSPORT PURCHASED	FORGONE TRAVEL	PASSPORT PURCHASED	
Owner-occupied dwellings	$800,000	-$2,300,000	$400,000	-$1,200,000	17.3%
Offices of physicians- dentists- and other health	400,000	-1,200,000	200,000	-600,000	9.3
Food services and drinking places	400,000	-1,100,000	200,000	-600,000	8.6
Hospitals	300,000	-800,000	100,000	-400,000	5.7
Real estate	200,000	-700,000	100,000	-400,000	5.3
Wholesale trade	200,000	-500,000	100,000	-300,000	4.1
Monetary authorities and depository credit intermediaries	200,000	-500,000	100,000	-300,000	3.9
Food and beverage stores	100,000	-400,000	100,000	-200,000	3.0
General merchandise stores	100,000	-300,000	100,000	-200,000	2.6
Remaining industries	1,800,000	-5,400,000	1,000,000	-2,700,000	40.2
Total Change in Spending	$4,500,000	-$13,300,000	$2,400,000	-$6,800,000	100.0%

Note: All expenditure estimates are in 2005 dollars. Totals may not sum due to rounding. Spending on owner-occupied dwellings includes mortgage payments and spending on home repair and maintenance.
Source: Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Exhibit 7-37 summarizes the results of our IMPLAN analysis for the Whatcom County regional study area.

EXHIBIT 7-37   NET CHANGES IN WHATCOM COUNTY ECONOMIC OUTPUT AND EMPLOYMENT

REGULATORY ALTERNATIVE	NET CHANGE IN OUTPUT	% OF TOTAL OUTPUT	NET CHANGE IN EMPLOYMENT	% OF TOTAL EMPLOYMENT
REGIONAL IMPACTS DUE TO CHANGES IN SPENDING RESULTING FROM FORGONE TRIPS ONLY				
Alternative 1 (No child exemption)	-$95.0 million	0.7%	-1,573 jobs	1.6%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	-79.0 million	0.5	-1,297 jobs	1.3
REGIONAL IMPACTS ADDING FORGONE U.S. SPENDING DUE TO COSTS OF OBTAINING WHTI-COMPLIANT DOCUMENTS				
Alternative 1 (No child exemption)	-$114.6 million	0.8%	-1,780 jobs	1.8%
Alternatives 2B (chosen alternative) & 3B (U.S. children under 16 exempt)	-89.0 million	0.6	-1,403 jobs	1.4
WHATCOM COUNTY DATA (2004)				
Total County Output				$14.5 billion
Total County Employment				100,122 jobs

Source: IEc IMPLAN analysis. IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

Alternative 1 Results

Under Alternative 1, with no child exemption and passport books as the only acceptable documents, we estimate that Whatcom County would lose $66.7 million in Canadian spending, but would gain $4.5 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to the Whatcom County economy would be to reduce economic output $95.0 million and a loss of 1,573 jobs. Slightly more than half of the output reduction due to forgone Canadian spending is concentrated in four industries: hotels, restaurants, real estate, and retail clothing. Total economic output in Whatcom County was $14.5 billion in 2004, while County employment totaled 100,122 jobs.[402] Thus, we conclude that the projected reduction in output due to WHTI is approximately 0.7 percent of County output. The projected net loss of 1,573 jobs is 1.6 percent of total employment.

When reductions to U.S. spending in the regional study area due to the expense of obtaining WHTI-compliant documentation are included, Whatcom County would lose

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[402] Whatcom County data from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com.

$66.7 million in Canadian spending and $8.8 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Whatcom County would be to decrease economic output by $114.6 million and reduce employment by 1,780 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be 0.8 percent of County output. The projected net loss of 1,780 jobs is 1.8 percent of County employment.

Alternatives 2B (Chosen Alternative) & 3B Results

Under Alternatives 2B and 3B, with U.S. and Canadian children under 16 exempt and passport cards and CBP trusted traveler cards deemed acceptable documents, we estimate that Whatcom County would lose $54.2 million in Canadian spending, but would gain $2.4 million in U.S. spending, producing a net spending loss of $51.8 million. IMPLAN estimates this net spending decrease will reduce economic output in Whatcom County by $79.0 million and with an associated loss of 1,297 jobs. The projected decrease in economic output is 0.5 percent of County output, while the estimated decrease in employment is 1.3 percent of County employment. The four industry categories that stand to lose most under Alternatives 2B and 3B are hotels, restaurants, real estate, and retail clothing. Output reductions in these industries represent slightly more than half of the total output reduction due to forgone Canadian spending.

When reductions to U.S. spending in the regional study area due to the expense of obtaining WHTI-compliant documentation are included, Whatcom County would lose $54.2 million in Canadian spending and $4.4 million in U.S. spending. IMPLAN estimates that the net impact of these spending changes to Whatcom County would be to decrease economic output by $89.0 million and employment by 1,403 jobs. The net decrease in output allowing consideration for the cost of purchasing a passport would be 0.6 percent of County output. The projected net loss of 1,403 jobs is 1.4 percent of County employment.

CONCLUSIONS AND KEY SOURCES OF UNCERTAINTY

Exhibits 7-38 and 7-39 summarize the results of our analysis of the eight regional study areas. Focusing on the net effects of both forgone travel across the border and lost local spending associated with the costs of obtaining WHTI-compliant documentation (Exhibit 7-39), under Alternative 1 with no child exemption, output changes on the U.S.-Mexico border range from a loss of $18.6 million in San Diego County to an increase of $38.1 million in Hidalgo and Cameron Counties. Employment changes range from a loss of 461 jobs in San Diego County to a gain of 359 jobs in Hidalgo and Cameron Counties. Under Alternatives 2B and 3B, all output and employment changes on the U.S.-Mexico border are positive because Mexican travelers are able to continue visiting the United States with their current documentation.

Under all regulatory alternatives, the greatest impacts on the U.S.-Mexico border as a percentage of total output and total employment are estimated for Presidio County. By contrast, although the largest output and employment reductions are estimated at San Diego County, the reductions represent a very small percentage of total San Diego

County output and employment. This suggests that WHTI's impacts on smaller border communities could be more significant than on larger communities.

On the U.S.-Canada border, under Alternative 1 with no child exemption, estimated output declines range from $34.5 million in Washington County, Maine, to $181.0 million in Niagara and Erie Counties in New York. Estimated employment declines range from 792 jobs in Washington County to 2,562 jobs in Niagara and Erie Counties. The output and employment reductions are slightly less under Alternatives 2B and 3B, ranging from $27.4 million to $138.0 million and 636 to 1,994 jobs. Under both regulatory alternatives, the greatest impacts as a percentage of total output and total employment are expected to occur in Washington County. Niagara and Erie Counties are expected to incur the largest absolute reductions in output and employment on the U.S.-Canada border, however the effect relative total output and employment is less than one percent.

EXHIBIT 7-38 SUMMARY OF DISTRIBUTIONAL EFFECTS ON REGIONAL STUDY AREAS (FORGONE TRAVEL ONLY)

REGIONAL STUDY AREAS	TOTAL OUTPUT (BILLION $)	TOTAL EMPLOYMENT	OUTPUT CHANGE (MILLION $)	% OF TOTAL OUTPUT	EMPLOYMENT CHANGE (JOBS)	% OF TOTAL EMPLOYMENT
ALTERNATIVE 1						
San Diego County, CA	$228.90	1,831,039	$8.8	0.00%	-227	0.01%
Pima and Santa Cruz Counties, AZ	47.6	460,036	4.4	0.01	10	0.00
Hidalgo and Cameron Counties, TX	30	393,633	65.0	0.2	668	0.2
Presidio County, TX	0.2	2,509	1.2	0.5	9	0.4
Niagara and Erie Counties, NY	73.4	608,055	-137.8	0.2	-2,150	0.4
Washington County, ME	1.8	18,989	-31.5	1.8	-755	4
Macomb, Wayne, and Oakland Counties, MI	393.4	2,391,556	-75.8	0.02	-1,126	0.05
Whatcom County, WA	14.5	100,122	-95.0	0.7	-1,573	1.6
ALTERNATIVES 2B (CHOSEN ALTERNATIVE) & 3B						
San Diego County, CA	$228.90	1,831,039	$44.1	0.02%	477	0.03%
Pima and Santa Cruz Counties, AZ	47.6	460,036	9.2	0.02	95	0.02
Hidalgo and Cameron Counties, TX	30	393,633	40.5	0.1	466	0.1
Presidio County, TX	0.2	2,509	0.9	0.4	10	0.4
Niagara and Erie Counties, NY	73.4	608,055	-116.0	0.2	-1,785	0.3
Washington County, ME	1.8	18,989	-25.9	1.4	-617	3.2
Macomb, Wayne, and Oakland Counties, MI	393.4	2,391,556	-65.4	0.02	-948	0.04
Whatcom County, WA	14.5	100,122	-79.0	0.5	-1,297	1.3

Source: IEc IMPLAN analysis.

EXHIBIT 7-39 SUMMARY OF DISTRIBUTIONAL EFFECTS ON REGIONAL STUDY AREAS (FORGONE TRAVEL PLUS WHTI-COMPLIANT DOCUMENTATION COSTS)

REGIONAL STUDY AREAS	TOTAL OUTPUT (BILLION $)	TOTAL EMPLOYMENT	OUTPUT CHANGE (MILLION $)	% OF TOTAL OUTPUT	EMPLOYMENT CHANGE (JOBS)	% OF TOTAL EMPLOYMENT
ALTERNATIVE 1						
San Diego County, CA	$228.90	1,831,039	-$18.6	0.01%	-461	0.03%
Pima and Santa Cruz Counties, AZ	47.6	460,036	-1.7	0.00	-53	0.01
Hidalgo and Cameron Counties, TX	30	393,633	38.1	0.1	359	0.1
Presidio County, TX	0.2	2,509	0.6	0.2	2	0.1
Niagara and Erie Counties, NY	73.4	608,055	-181.0	0.2	-2,562	0.4
Washington County, ME	1.8	18,989	-34.5	1.9	-792	4.2
Macomb, Wayne, and Oakland Counties, MI	393.4	2,391,556	-116.2	0.03	-1,479	0.06
Whatcom County, WA	14.5	100,122	-114.6	0.8	-1,780	1.8
ALTERNATIVE 2B (CHOSEN ALTERNATIVE)						
San Diego County, CA	$228.90	1,831,039	$31.9	0.01%	274	0.01%
Pima and Santa Cruz Counties, AZ	47.6	460,036	6.5	0.01	68	0.01
Hidalgo and Cameron Counties, TX	30	393,633	28.6	0.1	330	0.1
Presidio County, TX	0.2	2,509	0.6	0.2	7	0.3
Niagara and Erie Counties, NY	73.4	608,055	-138.0	0.2	-1,994	0.3
Washington County, ME	1.8	18,989	-27.4	1.5	-636	3.3
Macomb, Wayne, and Oakland Counties, MI	393.4	2,391,556	-86.0	0.02	-1,127	0.05
Whatcom County, WA	14.5	100,122	-89.0	0.6	-1,403	1.4

Source: IEc IMPLAN analysis.

KEY SOURCES OF UNCERTAINTY
Below we discuss the key issues and assumptions that might affect our results.

Extent of Regional Study Areas
Our regional study areas seek to capture an area large enough to encompass the majority of changed expenditures resulting from WHTI. In many cases, however, Mexicans and Canadians travel and spend money beyond the regional study areas we have defined. For example, large interstate highways pass through both the Detroit and Buffalo-Niagara POEs. Survey data indicate that 28.9 percent of Canadian travelers have final destinations outside of our regional study area, which is limited to Wayne, Macomb, and Oakland counties.[403] At Nogales East (DeConcini), 79 percent of Mexican travelers have an I-94 visa, which allows them to travel farther than 75 miles from the border and beyond our regional study area of Santa Cruz and Pima Counties.[404] By confining all forgone Mexican and Canadian spending to our regional study areas, we likely *overestimate* the economic impact of reduced travel from Mexico and Canada in these counties. The actual impacts are likely to be dispersed over a greater geographic area, rather than entirely localized in the border counties.

Although our approach may overstate impacts within the counties analyzed, data limitations prevent us from estimating the distribution of impacts at a sub-county level (e.g., impacts to specific municipalities or businesses). For example, although reduced output in Niagara and Erie Counties represents less than one percent of total output in this regional study area, the impacts to businesses located along the Falls may be more pronounced.

Furthermore, little information is available describing the residence of U.S. travelers visiting Mexico or Canada. As a result, we assume that U.S. travelers making crossings at specific POEs reside in the economic regions encompassing those POEs. As a result, we may overstate gained local spending associated with U.S. travelers forgoing trips out of the country and overstate lost local spending by U.S. travelers deciding to obtain WHTI-compliant documentation. The net effect of these biases on the results of the analysis are unknown.

Characterization of Traveler Expenditures
Our analyses rely on limited data to characterize the forgone spending of Mexican and Canadian travelers and the increased spending of U.S. travelers that choose not to travel to Canada or Mexico as a result of WHTI. Therefore, the characterization we make in the IMPLAN analysis may not necessarily be an accurate portrayal of actual expenditures in those study areas.

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[403] Ontario Ministry of Transportation and Michigan Department of Transportation, *Ontario-Michigan Border Crossing Traffic Study: Technical and Summary Reports,* August 2001, pp. 24-25.

[404] Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002.

IMPLAN Modeling

As we discuss at the outset of this chapter, our analysis of the distributional impacts of the WHTI requirements is based on the results of IMPLAN modeling. The IMPLAN model takes into account the downstream and multiplier effects of the specified changes in spending. It provides an understanding of the magnitude of impact relative to the overall size of the local economy and employment. However, IMPLAN does not model subsequent adjustments that may occur. As a result, estimates of economic impacts may be overstated if the local economics have the ability to adjust to spending changes.

Reduced Spending to Offset Documentation Costs

In this analysis, we assume that travelers who obtain acceptable documentation and continue traveling reduce spending at home, rather than for travel-related expenditures at their destination, by a commensurate amount. In other words, we assume that U.S. citizens reduce spending in their local community (and not in Mexico or Canada) equal to the cost of applying for a passport book or card, and, for consistency sake, we make the same assumption for Mexican and Canadian citizens.

If, however, U.S., Mexican, and Canadian travelers instead reduce their spending at their destination rather than at their home communities to offset documentation costs, our results may be overstated or understated. As explained in Chapter 6, due to data limitations, we cannot estimate the associated economic impact on a national or regional basis. For example, we do not have data indicating over how many trips and to what extent (or percentage of documentation costs) travelers would reduce their spending on cross-border trips.

CHAPTER 8 | RISK REDUCTION BENEFITS

This rule is intended to "reduce vulnerabilities identified in the final report of the National Commission on Terrorist Attacks Upon the United States (9/11 Commission)."[405] Currently, U.S. citizens are exempt from carrying passports when returning from Canada, Mexico, and the Caribbean; Canadian citizens are also exempt from presenting a passport when entering the United States from within the Western Hemisphere. Upon arrival, U.S. and Canadian citizens need only prove their identity and citizenship to U.S. Customs and Border Protection (CBP) personnel using such documents as driver's licenses and birth certificates.[406]

According to the 9-11 Commission, the current exemptions represent a source of vulnerability in U.S. security.[407] The historical absence of traditional travel document requirements for the travel of Canadian and U.S. citizens across the mutual border has resulted in the current multiplicity of documents presented at ports-of-entry (POEs) by Canadian and U.S. travelers.[408] As a result, those individuals who seek to enter the United States or Canada illegally or who pose a potential threat could falsely declare themselves as U.S. or Canadian citizens. They can do this through several methods: presenting fraudulent documents that cannot be validated; presenting authentic documentation that cannot be validated; or assuming the identity of the legitimate authentic document holder.

These same vulnerabilities exist for U.S. citizens crossing back and forth across the southern border with Mexico. Although there are far fewer types of documents that Mexican nationals may present when seeking admission to the United States, these vulnerabilities exist with regard to some of the documents used by Mexican nationals as well.

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[405] U.S. Department of Homeland Security, U.S. Customs and Border Protection, and Department of State, "Documents Required for Travelers Arriving in the United States at Air and Sea Ports-of-Entry From Within the Western Hemisphere," 71 FR 46155.

[406] When entering the United States, Mexican citizens may present either a passport and visa or a Border Crossing Card (BCC), also referred to as a "laser visa." As discussed in Chapter 6, some portion of existing BCC holders may not currently posses a valid Mexican passport.

[407] The National Commission on Terrorist Attacks Upon the United States (9-11 Commission), *The 9-11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States*, July 22, 2004, p. 388.

[408] The remainder of the text in this paragraph and the next is taken from the preamble to the proposed rule: U.S. Department of Homeland Security, U.S. Customs and Border Protection, and U.S. Department of State, "Documents Required for Travel Within the Western Hemisphere; Advance Notice of Proposed Rulemaking," 70 FR 52037.

Furthermore, under the current system, high-traffic volume at certain land POEs creates incentives for CBP officers to spend a minimal amount of time visually inspecting incoming travelers' documents. In some cases, inspection of documents may not occur.[409]

Simply standardizing documentation requirements for many travelers entering the United States will allow border security officials to more quickly, efficiently, accurately, and reliably review documentation, and identify persons of concern to national security. Additionally, combining such a requirement with the use of vicinity radio frequency identification (RFID) technology, or some other type of technology, may enable CBP officers to record the crossing of passport card holders, even if they lack the time and resources to carefully inspect and interview each traveler. Finally, more efficient review of documents may assist CBP in achieving its general goal of expediting the movement of legitimate trade and travel within the Western Hemisphere.[410]

In this chapter, we focus on one of two primary benefits of the rule: increased security related to the prevention of terrorist attacks within the United States. Benefits associated with potential reductions in wait time at land POEs are discussed in Chapter 9. Analysis of additional ancillary benefits, such as the prevention of non-terrorist individuals from fraudulently entering the United States through land POEs, is beyond the scope of this analysis.

ANALYTIC APPROACH
This section describes our analytic approach to measuring the benefits of the rule. First, we discuss the methods typically used in a regulatory impact analysis to measure benefits and describe existing limitations to applying this approach. Next, we outline the alternative framework applied to provide the decision-maker with information regarding the critical risk reduction necessary for the benefits of the regulation to equal or exceed the regulation's costs.

STANDARD APPROACH TO ESTIMATING DIRECT BENEFITS
Ideally, the quantification and monetization of the benefit of decreasing the risk of a terrorist attack involves two steps. First, we would estimate the incremental reduction in the risk of a successful terrorist attack, expressed in terms of casualties, property damage, and other non-monetary impacts, resulting from implementation of the rule. Then, we would identify individuals' willingness to pay for this incremental risk reduction and multiply it by the population experiencing the benefit. Below, we outline

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[409] According to a poll conducted by Zogby International for the Business for Economic Security Tourism and Trade (BESTT) Coalition in February 2006, "[a]s many as 51% of Canadians without a passport have not been asked to show even a birth certificate, and 39% were not asked to show a drivers license" when crossing the border. From Zogby International, *Survey of U.S. Border State Voters and Canadians about New Border Regulations*, as viewed at http://www.besttcoalition.com/files/Zogby_Poll_Analysis.pdf on December 7, 2006.

[410] Preamble to the proposed rule: U.S. Department of Homeland Security, U.S. Customs and Border Protection, and U.S. Department of State, "Documents Required for Travel Within the Western Hemisphere; Advance Notice of Proposed Rulemaking," 70 FR 52037.

these two steps in greater detail, noting limitations in currently available data that prevent us from implementing this approach.

Estimating the Reduction in the Risk of Terrorist Attacks

Terrorism risk is generally defined to include three components: the threat to a target, the target's vulnerability to the threat, and the consequences should the target be successfully attacked.[411] Experts measure threat and vulnerability in terms of the probability that an attack will be attempted and the probability that if the attack is successful, it results in damage. Experts measure consequences in terms of the expected magnitude and type of damage resulting from a successful attack. In other words, "terrorism risk represents the expected consequences of attacks taking into account the likelihood that attacks occur and that they are successful if attempted."[412] The total terrorism risk in the United States can be estimated from the sum of the risk associated with all potential attacks.

OMB directs Federal agencies to estimate the benefits of a rule relative to a baseline.[413] The baseline represents the best estimate of current terrorism risk in the United States today, absent the implementation of the WHTI regulation. The difference between the baseline level of terrorism risk today and anticipated risk levels after WHTI implementation represents the incremental risk reduction attributable to the regulation.

Models of baseline terrorism risk have been developed for use by the insurance industry. For example, the Risk Management Solutions U.S. Terrorism Risk Model (RMS model) provides an assessment of the overall terrorism risk from both foreign and domestic terrorist organizations.[414] The RMS model generates a probabilistic estimate of the overall terrorism risk from loss estimates for dozens of types of potential attacks against several thousand potential targets of terrorism across the United States.[415] For each attack mode-target pair (constituting an individual scenario) the model accounts for the probability that a successful attack will occur and the consequences of the attack.

RMS derives attack probabilities from a semi-annual structured expert elicitation process focusing on terrorists' intentions and capabilities. It bases scenario consequences on physical modeling of attack phenomena and casts target characteristics in terms of property damage and casualties of interest to insurers. Specifically, property

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[411] This paragraph and the subsequent formula taken from Willis, H., Morral, A.R., Kelly, T.K., and J.J. Medby, *Estimating Terrorism Risk*, RAND Corporation, 2005, pp. xvi, 6-10.

[412] Willis, H., Morral, A.R., Kelly, T.K., and J.J. Medby, *Estimating Terrorism Risk*, RAND Corporation, 2005, p. 10.

[413] Office of Management and Budget, *Circular A-4*, September 17, 2003, p. 15.

[414] RMS provides products and services for the quantification and management of catastrophic risks. (RMS, "About RMS," as viewed at www.rms.com/AboutRMS/ on August 1, 2006; and RMS, "Managing Terrorism Risk," as viewed at www.rms.com/publications/terrorism_risk_modeling.pdf on August 1, 2006, p. 1)

[415] This sentence and the remainder of the text in this paragraph and the next is taken from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 4.

damages include costs of damaged buildings, loss of building contents, and loss from business interruption associated with property to which law enforcement prohibits entry immediately following a terrorist attack. RMS classifies casualties based on injury-severity categories used by the worker compensation insurance industry.

Exhibit 8-1 presents estimates of annualized loss from terrorist attacks in the United States generated by the RMS model. These results are based on the model's "standard" threat outlook, RMS's best assessment of the risk of large-scale terrorism loss in the United States. Experts at RMS also developed two additional threat outlooks: (1) the "reduced" threat outlook that relies on optimistic interpretations of available intelligence implying a low risk of terrorist loss; and (2) the "increased" threat outlook that uses pessimistic interpretations of available intelligence implying a heightened risk of terrorist loss.[416] Throughout this chapter, when we present results of the RMS model, we present the standard risk estimate using the standard threat outlook.

Exhibit 8-1 demonstrates that estimates of baseline risk of terrorism in the United States are available. To isolate the incremental risk reduction likely to result from the rule, we must understand how risks of terrorism will be altered by the implementation of WHTI. Terrorism risk may be altered by changing either or both of the probability and consequences of attacks. However, great uncertainty exists with respect to how a security regulation will influence terrorism risk. This is particularly the case for regulations such as WHTI that have a broad scope and target the "upstream" parts of terrorist planning and operations cycles. At this time, sufficient studies of how this type of regulation will affect terrorist motivations or capabilities and, ultimately, overall terrorism risk, are not available. Therefore, we cannot estimate the incremental risk reduction resulting from the rule.

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[416] LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, pp. 38-39.

EXHIBIT 8-1   STANDARD RISK ESTIMATE FROM THE RMS TERRORISM RISK MODEL

LOSS CATEGORY	EXPECTED ANNUALIZED LOSS
NUMBER OF CASUALTIES BY INJURY-SEVERITY CATEGORY	
Medical only or minor	7,120
Temporary total	710
Permanent partial – minor	270
Permanent partial – major	170
Permanent total	80
Fatal	450
Total casualties	**8,800**
PROPERTY LOSSES (MILLIONS)	
Building	$395
Contents	$231
Business interruption	$675
Total property	**$1,305**

Source: Reproduced from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 12.
Note: The RMS model calculates a current assessment of expected annual losses for a single year. RAND assumes that the inflation-adjusted, undiscounted cost in each year over a ten-year time horizon is equal to estimated annual losses. Thus, when discounted over the ten-year time frame using real rates of three and seven percent, the annualized loss estimate equals RMS's annual loss estimate.

Valuing Reductions in Terrorism Risk Resulting from the Regulation

Assuming the incremental risk reduction resulting from a regulation can be quantified, the second step in an analysis of benefits is to place a monetary value on this risk reduction. The practice of benefits valuation is based on the discipline of welfare economics, in which value is measured by the "satisfaction" or "utility" individuals derive from an improvement in security. Individuals reveal these values through their willingness to pay for the effects of these types of changes. Willingness to pay is the maximum amount of money an individual would voluntarily exchange to obtain an improvement (e.g., a reduction in the risk of a successful terrorist attack), given his or her available financial resources and desired spending on other goods and services.

Willingness to pay is not the same as price or cost. Price is determined by the interactions of buyers and sellers in the marketplace, while cost is a function of the materials, processes, and labor used to create the good and service. Some individuals' willingness to pay for a particular good or service will exceed the market price, in which case they benefit from the ability to buy the good or service at the (lower) market price. Other individuals' willingness to pay will be less than the market price, in which case they would not buy the good or service.

Where willingness to pay for the effect of a regulation (e.g., reduced terrorism risk) is difficult to directly observe in the marketplace, economists use other methods to elicit the value society places on the effect. For example, stated preference methods estimate willingness to pay for a given outcome by asking individuals to make choices based on hypothetical questions in a survey. Economists also use revealed preference methods to infer the value placed on these effects by looking at individuals' behavior in related markets (e.g., estimating willingness to pay to decrease mortality risks by observing purchases of items that reduce the risk of dying in an accident).[417]

We conducted a review of the economics literature to identify existing studies of individuals' willingness to pay to reduce the risk of a terrorist attack. Several articles discuss characteristics of terrorist attacks that might influence willingness to pay to reduce these risks.[418] However, given the publicly available data, we are unable to identify specific estimates of willingness to pay to reduce the risk of terrorist attack in the United States.[419]

Where it is not possible to obtain a single value estimate that comprises the bundle of benefits derived from the regulation in question, analysts estimate separately the value of individual effects resulting from the regulation and sum them to estimate total benefits. Certain effects are more easily measured than others. For example, the value

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[417] For additional information on methods for estimating willingness to pay for non-market goods, see U.S. Environmental Protection Agency, *Guidelines for Preparing Economic Analyses*, EPA 240-R-00-003, September 2000.

[418] For example, see Sunstein, C., "Terrorism and Probability Neglect," *Journal of Risk and Uncertainty*, 26:2/3, 2003, pp. 121-136; and Fischhoff, B., Gonzalez, R.M., Small, D.A., and J.S. Lerner, "Judged Terror Risk and Proximity to the World Trade Center," *Journal of Risk and Uncertainty*, 26:2/3, 2003, pp. 137-151.

[419] Although we are unable to identify estimates of willingness to pay for the risk reductions potentially achieved by this regulation, the academic literature provides information about how the public's perception of terrorism risk might influence its desire for policy action, and ultimately, its willingness to pay for such regulation. A substantial body of psychometric literature attempts to measure how the perception of risk affects attitudes towards risk reduction. The work of Slovic et al. clarifies dimensions of risk that influence individual rankings of the importance of reducing these risks (see Slovic, P., Fischhoff, B., and S. Lichtenstein, "Perceived Risk: Psychological Factors and Social Implications," *Proceedings of the Royal Society of London. Series A: Mathematical and Physical Sciences*, Vol. 430, No. 1878, 1981, pp. 17-34. Also evaluated in Slovic, P., "Perception of Risk," *Science*, Vol. 236, April 1987, pp. 280-285). They find that the most important determinant of how the public ranks risk is the degree of "dread" associated with the risk. Slovic defines dreaded risks by a "perceived lack of control,…catastrophic potential, fatal consequences, and the inequitable distribution of risks and benefits" (Slovic, P., "Perception of Risk," *Science*, Vol. 236, April 1987, p. 283). In other words, the public is less willing to tolerate risks related to incidents they dread, such as nuclear accidents or terrorist attacks, than incidents that are not dreaded but that pose similar or higher risks, such as riding a motorcycle. Slovic et al. state that the more dreaded an activity, "(a) the higher its perceived risk, (b) the more people want its risk reduced, and (c) the more they want to see strict regulation employed to achieve the desired reduction in risk" (Slovic, P., Fischhoff, B. and S. Lichtenstein, "Perceived Risk: Psychological Factors and Social Implications," *Proceedings of the Royal Society of London. Series A: Mathematical and Physical Sciences*, Vol. 430, No. 1878, 1981, p. 29). Based on existing risk perception literature, it is reasonable to hypothesize that people would be willing to pay more to reduce risks associated with terrorism than similar risks associated with hazards that are familiar, controllable, and that do not have catastrophic consequences. However, additional research is required to estimate the value of terrorism-related risk reductions.

of lost property and opportunity costs associated with supply chain effects can be determined from market data. In the case of casualties, a substantial literature exists estimating the value of changes in fatal and nonfatal risks, although no data exist for willingness to pay to avoid casualties resulting specifically from terrorism.

Other effects may be more difficult to quantify or monetize. For example, the regulation may cause people to feel safer, or conversely, have less fear. Several researchers argue that reductions in fear result in a social good that should be quantified. However, in a recent paper, Sunstein states: "the problem of quantifying and monetizing fear and its consequences…has yet to be seriously engaged in the relevant literature."[420] In addition, people's willingness to pay to protect certain structures, such as national historic treasures, may exceed the simple costs of repairing or rebuilding these sites. Effects that are not easily monetized using readily available information may be discussed qualitatively.

In summary, commercially available data describing baseline terrorism risk exist. However, we are unable at this time to estimate the incremental risk reduction attributable to the regulation. In addition, we are unable to identify studies estimating willingness to pay for increased security against terrorism. It may be possible to value the individual effects of reducing terrorism risk (i.e., reduced fatalities, injuries, property value losses, or other market effects) should information about incremental risk reductions become available in the future.

USING BREAK-EVEN ANALYSIS TO INFORM THE RULEMAKING PROCESS

When it is not possible to quantify or monetize the important incremental benefits of a regulation, OMB recommends conducting a threshold, or "break-even" analysis. According to OMB, such an analysis answers the question, "How small could the value of the non-quantified benefits be (or how large would the value of the non-quantified costs need to be) before the rule would yield zero net benefits?"[421] Below, we provide a conceptual description of break-even analysis. Then, we describe the specific break-even framework used in this regulatory analysis.

Conceptual Overview of Break-even Analysis

Understanding that the main benefit of this regulation, decreased terrorism risk, cannot be quantified given current data limitations, we would ideally estimate any additional primary or ancillary benefits resulting from the rule. Benefits associated with potential reductions in wait time at land POEs are discussed qualitatively in Chapter 9. Analysis of additional ancillary benefits, such as the prevention of non-terrorist individuals from fraudulently entering the United States through land POEs, is beyond the scope of this analysis.

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[420] Sunstein, C., "Terrorism and Probability Neglect," *Journal of Risk and Uncertainty*, 26:2/3, 2003, pp. 132-133.

[421] U.S. Office of Management and Budget, Circular A-4, September 17, 2003, p.3.

If we were able to monetize additional categories of benefits, we would subtract them from the costs of the regulation calculated in Chapter 5.[422] The resulting estimate of net costs equals the magnitude of benefits required for the total benefits of the rule to equal the total costs. In other words, this value represents the threshold at which benefits would "break-even" with the costs of the regulation. Exhibit 8-2(a) illustrates this concept.[423] If quantified reductions in wait time or ancillary benefits exceed the costs of the regulation, as shown in Exhibit 8-2(b), then no additional break-even analysis is required (i.e., even without quantifying the direct benefits of the regulation, benefits exceed costs). If reductions in wait time or ancillary benefits are not quantified, due to a lack of such benefits or a lack of sufficient data to monetize these benefits, then the magnitude of direct benefits required for the rule to break-even equals the total costs of the regulation, as shown in Exhibit 8-2(c).

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[422] As discussed earlier in this report, the indirect effects measured in Chapter 6 represent changes in travel expenditures in the United States, rather than welfare losses or gains. As such, the estimates cannot be added to the direct costs in Chapter 5. Therefore, our break-even analysis is limited to the direct costs of the rule.

[423] Note that the exhibit is not drawn to scale and is intended only to be illustrative of the framework for the analysis. The actual, relative proportions of other ancillary benefits to costs and ancillary benefits to direct benefits likely differ from the proportions in the exhibit.

EXHIBIT 8-2   ILLUSTRATION OF THE CONCEPT OF A BREAK-EVEN ANALYSIS

In August 2006, IEc subcontracted with RAND to use the RMS model to conduct a break-even analysis of the benefits of the WHTI regulation examined in this report.[424] Our goal was to use the information about the costs of the regulation and information generated by RMS describing baseline losses to estimate the incremental risk reduction required for the benefits of the rule to break-even with costs.

We believe the use of this model is appropriate for this regulatory assessment because of the model's scope. The types of terrorist attacks potentially prevented by making illegal entry into the United States more difficult may be numerous and varied. The RMS terrorism risk model includes thousands of potential attack scenarios, any of which could be affected by the regulation. The following text describes the framework developed by RAND for conducting the break-even analysis using a probabilistic estimate of baseline annual terrorism losses.[425] The complete analysis is available in LaTourrette and Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, 2007. RAND's goal is to identify the percentage incremental reduction in overall terrorism risk that would result in benefits equal to or exceeding the costs of the regulation (see Exhibit 8-2(c)).

RAND expresses the incremental benefit of WHTI as the negative difference between the annualized loss from terrorism with and without the regulation.[426] Expressing the incremental cost of the regulation as the difference between the cost incurred from the regulation and the cost incurred in the baseline results in the following formula:

(1) $\quad - (L_n - L_b) \geq C_n - C_b$

where L is the annualized terrorism loss, C is the annualized cost incurred, and the subscripts n and b indicate conditions with the regulation (new) and without the regulation (baseline), respectively. $C_n - C_b$ is the annualized cost of the regulation, C_r, and relationship (1) simplifies to

(2) $\quad L_b - L_n \geq C_r.$

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[424] The RAND Center for Terrorism Risk Management Policy (CTRMP) acts as a consultant and reviewer of the RMS model and RMS is a sponsor of the CTRMP. As a result of this partnership, RMS has licensed to RAND its Probabilistic Terrorism Risk Model for the purposes of conducting public policy analyses.

[425] The text in the following paragraphs is taken, with slight modification, from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, pp. 5-7.

[426] Note that in this discussion, the difference between baseline expected losses and expected losses with WHTI represents the incremental change in risk (i.e., the benefit) of the rule. However, the monetized value of the consequences generated by the RMS model may not represent a complete accounting of the public's willingness to pay to avoid these losses. For example, the RMS model does not quantify a potential premium placed on avoiding events that are dreaded or highly feared. As a result, understating the public's willingness to pay to avoid these losses may bias the results of the break-even analysis.

The effect of a new terrorism security regulation is to change risk, and in doing so change the annualized loss from L_b to L_n. It is generally difficult to ascribe the influence of a terrorism security effort exclusively to reducing probability or exclusively to reducing consequences because of the dynamic nature of terrorist adaptation.[427] A terrorism security measure could deter potential terrorists or protect potential targets so that the probability of attack would decrease. Alternatively, terrorists could adapt by shifting to different attack modes or target types that would change not only the probability of successful attack, but also the expected consequences of attack. Because terrorism risk reflects both probability and consequence, using risk reduction as the measure of benefit in a benefit-cost analysis captures both effects.

To make the focus on risk reduction more explicit, RAND defines a risk reduction factor, R, as

$$(3) \qquad R = (L_b - L_n)/L_b$$

R is a dimensionless parameter characterizing the risk reducing effectiveness of a regulation and ranges from 0 (no risk reduction) to 1 (complete mitigation of risk). Combining (2) with (3) gives

$$(4) \qquad R \geq C_r/L_b.$$

When inequality (4) holds, the benefits of a terrorism security regulation exceed the costs (assuming that the monetization of baseline losses adequately reflects the public's value for those losses). The point at which the risk reduction just equals C_r/L_b is the minimum risk reduction for which the regulation is efficient, and we define the critical risk reduction, R_c, as

$$(5) \qquad R_c = C_r/L_b.$$

In the remainder of this chapter, we describe RAND's use of this framework to measure the critical risk reduction, R_c.[428]

BREAK-EVEN ANALYSIS

This section describes the break-even analysis conducted by RAND using the RMS model for the estimate of baseline losses. We first describe the methodology used by RAND to monetize the casualty estimates presented in Exhibit 8-1 so that baseline losses and incremental costs can be compared in monetary terms. Then we present the results of the analysis as reported by RAND. We conclude with a discussion of key limitations and sources of uncertainty.

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[427] Jackson, B.A., Baker, J.C., Chalk, P., Cragin, K., Parachini, J.V., and H.R. Trujillo, *Aptitude for Destruction, Volume 1: Organizational Learning in Terrorist Groups and Its Implications for Combating Terrorism*, Santa Monica: RAND Corporation, MG-331-NIJ, 2005.

[428] For additional discussion of RAND's framework for break-even analysis using the RMS model, see LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, pp. 5-7.

MONETIZING CASUALTIES

The RMS terrorism risk model predicts casualties in terms of fatalities and non-fatal injuries resulting primarily from physical trauma. The valuation of health effects in the context of regulatory analysis is complex and the subject of much debate. Thus, rather than propose a preferred method for valuing casualties, RAND uses three different valuation approaches to illustrate the sensitivity of its break-even results to the valuation method selected.

Fatality Valuation

RAND identifies two different approaches for valuing fatalities: (1) estimates of the cost to individuals and society of fatalities (referred to by RAND as its "cost of injury" approach); and (2) individual willingness to pay to avoid fatalities estimated in terms of the value of a statistical life (VSL).[429] OMB notes that willingness to pay is "the conceptually appropriate measure as compared with other alternatives (e.g., cost of illness or lifetime earnings), in part because it attempts to capture pain and suffering and other quality-of-life effects."[430] In the presentation of its results, RAND focuses on fatality losses valued using a VSL; RAND provides the cost of injury estimate primarily to illustrate the sensitivity of the model to different valuation methods.

RAND obtains its first estimate of the value of a fatality using a cost of injury estimate developed by U.S. Department of Transportation (DOT), National Highway Traffic Safety Administration (NHTSA). In 2002, NHTSA published a report titled *The Economic Impact of Motor Vehicle Crashes 2000*.[431] In that report, it estimates that deaths resulting from car crashes cost individuals and society approximately $958,000 (in 2000 dollars) per fatality. This sum includes medical treatment costs, police and fire department response costs, lost benefits and wages during the victims remaining life span (calculated assuming a four percent discount rate), the present value of lost productive household activity, administrative costs associated with processing insurance claims, costs of workplace disruption due to the loss of an employee, and legal fees and court costs. RAND inflates this value to 2005 dollars using the consumer price index, for a per fatality value of $1,086,000.

DOT also conducted an evaluation of the economics literature and identified a VSL for use in benefit-cost analysis of regulations reducing the risk of fatalities resulting from transportation accidents. Specifically, in 1993, DOT published a guidance memorandum recommending a VSL of $2.5 million for use in regulatory analysis. That

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[429] VSL represents individual willingness to pay for fatal risk reductions. While this value can be estimated through a variety of methods (including consumer behavior and hedonic housing price studies), it is most commonly estimated based on data from wage-risk studies or contingent valuation surveys.

[430] U.S. Office of Management and Budget , *Circular A-4*, September 17, 2003, p. 28.

[431]Blincoe, L. Seay, A., Zaloshnja, E., Miller, T., Romano, E., Luchter, S., and R. Spicer, *The Economic Impact of Motor Vehicle Crashes 2000*, prepared by the U.S. Department of Transportation, National Highway Traffic Safety Administration, DOT-HS-809-446, May 2002.

value has been updated periodically using the gross domestic product (GDP) implicit price deflator. As of 2004, DOT recommended the use of a value of $3 million.[432]

In its *Guidelines for Preparing Economic Analyses*, EPA also reviewed the existing literature estimating the VSL using revealed preference, stated preference, and averting behavior studies.[433] The agency recommended that regulatory analysts use a VSL of $4.8 million (1990 dollars), updating that value to the base year of the analysis. As of 1999, the updated value was $6.1 million.[434] Based on the DOT and EPA guidance, RAND applies VSLs of $3 million and $6 million in its break-even analysis. Exhibit 8-3 summarizes the estimates used by RAND to value avoided fatalities.

EXHIBIT 8-3   VALUE OF AVOIDED FATALITIES APPLIED BY RAND IN ITS BREAK-EVEN ANALYSIS

VALUATION METHOD	VALUE	AGENCY SOURCE
Cost of injury	$1,086,000	NHTSA
VSL	$3,000,000	NHTSA
	$6,000,000	EPA

Source: LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, pp. 16.

Injury Valuation

RAND uses three different methodologies to value baseline expected injuries. First, as a lower-bound, it applies costs of injury estimates developed by NHTSA for valuing the costs of car crashes.[435] Second, RAND identifies an estimate in the economics literature of individual willingness to pay to avoid injury (referred to by RAND as its "willingness to pay" estimate). Third, RAND uses a study from health literature that derives preference weights for injury categories and uses the VSL to value those weights (referred to by RAND as its "quality of life" estimate).

[432] U.S. Department of Transportation, Office of Economic and Strategic Analysis, "Revision of Departmental Guidance on Treatment of the Value of Life and Injuries," January 23, 2004, as viewed at http://ostpxweb.dot.gov/policy/EconStrat/treatmentoflife.htm on May 12, 2007. Note that since the completion of this break-even analysis, DOT published new guidance requiring analysts to apply a VSL of $5.8 million in regulatory analysis. It also requires sensitivity analysis using VSLs of $3.2 million and $8.4 million (U.S. Department of Transportation, Assistant Secretary for Transportation Policy and General Counsel, Memorandum: Revised Departmental Guidance: Treatment of the Value of Preventing Fatalities and Injuries in Preparing Economic Analyses, February 5, 2008).

[433] U.S. Environmental Protection Agency, *Guidelines for Preparing Economic Analyses*, EPA 240-R-00-003, September 2000, p. 90.

[434] More recently, EPA analysts have made adjustments to the VSL for income. For example, see EPA's regulatory impact analysis for its 2006 National Ambient Air Quality Standards for Particle Pollution. The EPA's Science Advisory Board is currently considering revisions to recommended estimation of VSL for regulatory analysis.

[435] Note that willingness to pay is the preferred method for estimating the value of avoided injuries. For limitations of the cost of injury (or illness) approach, refer to OMB's *Circular A-4*.

RAND's Cost of Injury Approach

In its 2002 report titled *The Economic Impact of Motor Vehicle Crashes 2000*, NHTSA estimates the costs of injury for five, non-fatal injury categories.[436] These categories are based on the Abbreviated Injury Scale (AIS), a scoring system maintained by the Association for the Advancement of Automotive Medicine that ranks injuries on a scale of one to six, with one being minor, five being severe, and six being unsurvivable. The scale is meant to represent the immediate threat to life rather than its long-term severity.[437] For individuals who suffer multiple injuries during a car crash, NHTSA categorizes each case based on its most life-threatening injury, that is the Maximum AIS (MAIS).[438]

Prior to beginning its valuation exercise, RAND maps the casualty categories used in the RMS model to MAIS categories, noting that in terms of the types of injuries that put people in the respective injury classes there is a great deal of similarity between the two scales (see Exhibit 8-4).[439] One difference is that the MAIS is most concerned with triage and allocation of on-scene medical resources, while the RMS scale tries to account for the long-term prognosis. This difference manifests itself in two ways that have opposing effects. On the one hand, some proportion of people with serious injuries will not go back to work even if they are not completely medically disabled, in which case the same injury would be a three on the MAIS and a four or five on the RMS scale. This will tend to bias the casualty distributions in the RMS scale towards more severe injuries relative to the MAIS. On the other hand, many injuries with life-threatening trauma could potentially have total or near-total recovery, in which case the same injury would be a four or five on the MAIS and two or three on the RMS scale. This will tend to bias the casualty distributions in the RMS scale towards less severe injuries relative to MAIS. Taken together, these effects work to cancel each other, diminishing difference in the two classification systems.

Once the RMS categories are matched to the appropriate MAIS categories, RAND uses NHTSA's cost of injury estimates to value each injured individual in each category. As discussed above in the section on valuing fatalities, the value applied by NHTSA for an injury in each MAIS category includes medical treatment costs, police and fire department response costs, lost benefits and wages during the victims remaining life span (calculated assuming a four percent discount rate), the present value of lost productive household activity, administrative costs associated with processing insurance

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[436] U.S. Department of Transportation, National Highway Traffic Safety Administration, *The Economic Impact of Motor Vehicle Crashes 2000*, DOT-HS-809-446, May 2002.

[437] Trauma.org, "Abbreviated Injury Scale," as viewed at http://www.trauma.org/archive/scores/ais.html on May 13, 2007.

[438] Institute of Medicine of the National Academies, *Valuing Health for Regulatory Cost-effectiveness Analysis*, Washington, DC: National Academies Press, 2006, p. 60.

[439] The text in this paragraph is taken directly from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 14.

claims, costs of workplace disruption due to the loss of an employee, and legal fees and court costs. Exhibit 8-5 presents the cost of injury values used by RAND in its analysis.

RAND's Willingness to Pay Approach

For an estimate of individual's willingness to pay to avoid injury, RAND relies on a review of the economics literature conducted by Viscusi and Aldy.[440] The authors reviewed 40 studies of injury risk premiums derived from revealed preference studies measuring workers' willingness to trade-off work-related risks and wages. Viscusi and Aldy identify a willingness to avoid work-related injury ranging from $20,000 to $70,000 (2000 dollars). RAND applies the high end of this range, $79,000 (inflated to 2005 dollars using the consumer price index) to all injury cases in all RMS injury categories except "medical only." They exclude injuries in the lowest severity category because the injuries are minor and would not be representative of the types of injuries that are associated with the estimated wage premiums.[441]

RAND's Quality of Life Approach

RAND also applies a third approach to valuing injuries. To better differentiate among injury-related health states, RAND uses preference weights for MAIS categories obtained from a study by Graham *et al.* of the effectiveness of air bags in preventing crash-related injuries and values these weights using a VSL (see the discussion of RAND's cost of injury approach for a discussion of MAIS categories).[442] Specifically, Graham *et al.* rely on the Functional Capacity Index (FCI), which assigns a preference weight to each MAIS category "elicited from a convenience sample for injuries that result in functional limitations persisting longer than one year after injury."[443] Graham *et al.* then adjust these weights to account for the proportion of injuries resulting from car accidents in the United States that do not results in persistent injuries. Exhibit 8-6 presents the resulting weights.[444]

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[440] Viscusi, W.K. and J.E. Aldy, "The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World," *The Journal of Risk and Uncertainty*, Vol. 27, pp. 5-76.

[441] LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 16.

[442] Graham, J.D., Thompson, K.M., Goldie, S.J., Segui-Gomez, M., and M.C. Weinstein, "The Cost-effectiveness of Air Bags by Seating Position," *Journal of the American Medical Association,* 278:17, pp. 1418-1425.

[443] Graham, J.D., Thompson, K.M., Goldie, S.J., Segui-Gomez, M., and M.C. Weinstein, "The Cost-effectiveness of Air Bags by Seating Position," *Journal of the American Medical Association,* 278:17, pp. 1422. For FCI weights, see Center on the Evaluation of Value and Risk in Health, *The Cost-effectiveness Analysis Registry*, Boston, MA: Tufts-New England Medical Center, ICRHPS. Available online at http://www.tufts-nemc.org/cearegistry, as viewed on December 20, 2006.

[444] Graham *et al.* did not include MAIS 1 in their analysis, because air bags have little net effectiveness on these types of injuries.

EXHIBIT 8-4   COMPARISON OF RMS AND MAIS CASUALTY CATEGORIES

RMS CASUALTY CATEGORY	MAIS INJURY SEVERITY CATEGORY	CONDITIONS THAT WOULD FALL INTO THE VARIOUS CATEGORIES IN BOTH THE MAIS AND THE RMS SCALE
Medical only or minor	1: Minor injury	Abrasion, laceration, strains, sprains, contusions: can be treated and released
Temporary Total	2: Moderate injury	Simple broken bone, loss of consciousness, serious strains and sprains: requires follow-up and several weeks or months to heal, but will heal completely
Permanent Partial - Minor	3: Serious injury	Complicated fracture, serious joint injury, concussion, minor crush injury: requires substantial follow-up and some minor disability will result
Permanent Partial - Major	4: Severe injury	Massive organ injury, heart laceration, loss of limb, crushed extremities: hospitalization, substantial temporary disability and moderate long-term disability
Permanent Total	5: Critical injury	Spinal cord syndrome, crush syndrome with kidney failure, massive head injury: extended hospitalization, significant long-term disability
Death	6: Immediately fatal	

Source: Reproduced from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 14.

EXHIBIT 8-5   PER CASUALTY COST ESTIMATES APPLIED BY RAND IN ITS BREAK-EVEN ANALYSIS (2005 DOLLARS)

RMS CATEGORY	MAIS CATEGORY	COST OF INJURY[A]	WILLINGNESS TO PAY[B] (VSL = $3 MILLION)	QUALITY OF LIFE[C] (VSL = $3 MILLION)	WILLINGNESS TO PAY[B] (VSL = $6 MILLION)	QUALITY OF LIFE[C] (VSL = $6 MILLION)
Medical only	1	$7,000	$0	$0	$0	$0
Temporary total	2	$70,000	$79,000	$330,000	$79,000	$660,000
Permanent partial - minor	3	$202,000	$79,000	$480,000	$79,000	$960,000
Permanent partial - major	4	$383,000	$79,000	$210,000	$79,000	$420,000
Permanent total	5	$1,222,000	$79,000	$2,430,000	$79,000	$4,860,000

Source: Reproduced from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 16.

Notes:

(a) RAND obtains its cost of injury estimates from U.S. Department of Transportation, National Highway Traffic Safety Administration, *The Economic Impact of Motor Vehicle Crashes 2000*, DOT-HS-809-446, May 2002, p. 9. Costs are inflated to 2005 dollars using the Consumer Price Index.

(b) RAND obtains its estimates of individual willingness to pay to avoid injury from Viscusi, W.K., and J.E. Aldy, "The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World," *The Journal of Risk and Uncertainty*, Vol. 27, pp. 5-76. Costs are inflated to 2005 dollars using the Consumer Price Index.

(c) RAND calculates its per case quality of life estimates by combining VSLs of $3 million and $6 million with preference weights obtained from Graham, J.D., Thompson, K.M., Goldie, S.J., Segui-Gomez, M., and M.C. Weinstein, "The Cost-effectiveness of Air Bags by Seating Position," *Journal of the American Medical Association,* 278:17, pp. 1418-1425.

EXHIBIT 8-6   PREFERENCE WEIGHTS FROM GRAHAM *ET AL.*

INJURY SEVERITY CATEGORY	QUALITY OF LIFE WEIGHT
MAIS 2	0.89
MAIS 3	0.84
MAIS 4	0.93
MAIS 5	0.19

Source: Reproduced from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 18.

Notes:

(a) RAND obtains the preference weights from Graham, J.D., Thompson, K.M., Goldie, S.J., Segui-Gomez, M., and M.C. Weinstein, "The Cost-effectiveness of Air Bags by Seating Position," *Journal of the American Medical Association,* 278:17, pp. 1418-1425.

(b) Graham et al. adjust the FCI weights based on the proportion of crash-related injuries in 1994 and 1995 included in the National Accident Sampling System's Crashworthiness Data System (NASS CDS) that do not result in persistent injuries. As a result, the resulting quality of life weights do not vary monotonically. To the extent that the proportion of persistent injuries resulting from terrorist attacks is different from the NASS CDS dataset, these weights may be under- or overstated.

RAND subtracts each weight in Exhibit 8-6 from one (the value for perfect functioning) and multiplies the resulting weight by VSLs of $3 million and $6 million. The results, shown in Exhibit 8-5, are used to value casualties predicted by the RMS model under the quality of life approach.

RESULTS OF THE BREAK-EVEN ANALYSIS[445]

In this section we first present the critical risk reduction function calculated using the framework outlined earlier in this chapter. Then, we estimate specific risk reductions necessary for our current estimate of baseline losses using the RMS standard risk estimate and the valuation methodologies discussed in the previous paragraphs.

Critical Risk Reduction Function Given the Annualized Costs of the Rule

RAND uses equation (5), presented earlier, to compute the critical risk reduction, or the amount of risk reduction above which the benefit of the regulation exceeds the cost, as a function of annualized terrorism loss. Exhibit 8-7 shows the general results for the Alternative 2B, the preferred alternative, assuming the steady-state travel demand scenario and a seven percent discount rate (see Chapter 5 for a description of the steady-state travel demand scenario). Under this alternative and scenario, we estimate direct regulatory costs of $290 million on an annualized basis (see Chapter 5, Exhibit 5-30).

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[445] The text in this entire section is taken, with only slight modification, from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, pp. 19-27. Results presented are updated based on the current cost estimates presented in Chapter 5.

EXHIBIT 8-7   CRITICAL RISK REDUCTION AS A FUNCTION OF ANNUALIZED TERRORISM LOSS
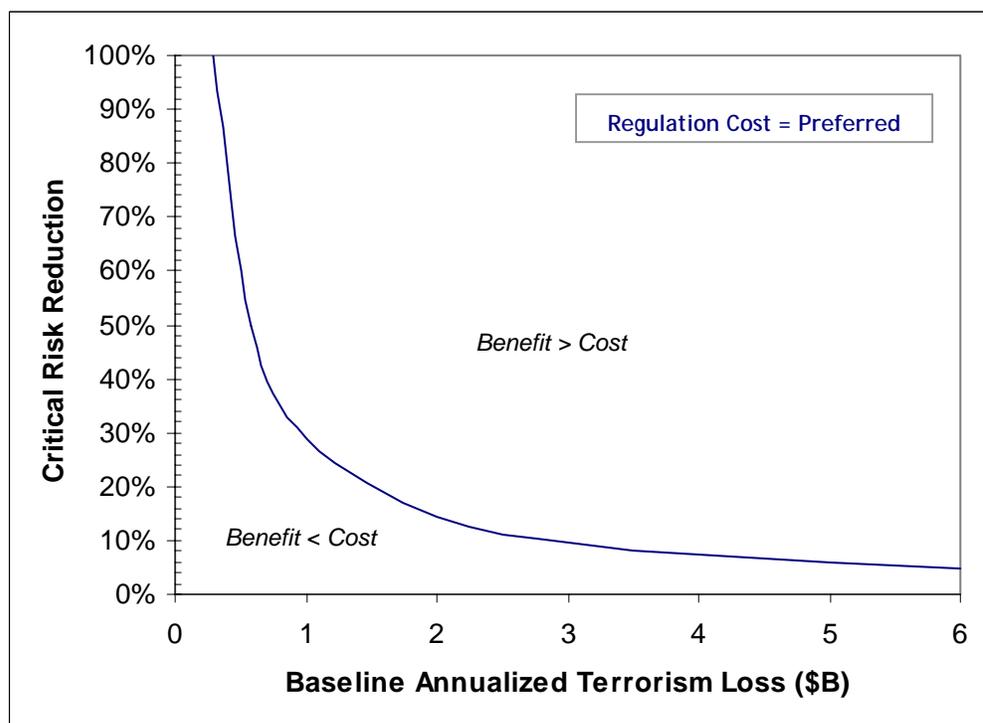
Adapted from: LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 20.

In the area above the curve, the benefits of the regulation exceed the costs. Below the curve, the opposite is true. The critical risk reduction decreases with increasing annualized terrorism loss because the fractional decrease in annualized loss required to offset the regulation cost decreases with increasing loss magnitude. This means that the minimum required risk-reducing effectiveness of the regulation depends inversely on estimates of the annualized terrorism loss. For example, for an annualized terrorism loss of $6 billion, a risk reduction of about five percent is sufficient to offset the costs of the regulation. An annualized loss of $0.5 billion requires a risk reduction of approximately 60 percent.

When we consider the critical risk reduction functions for the other regulatory alternatives, the variation is not great. Across annualized costs ranging from $190 million to $440 million, depending on the assumed travel demand scenario and discount rate, critical risk reduction varies by a factor of 2.3.[446]

Critical Risk Reduction Estimates for the Monetized Standard Threat Outlook
Baseline monetized annualized losses (L_b) are equal to the value of the casualties estimated by the RMS model under the standard threat outlook plus the value of

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[446] Note that in its report, RAND graphs the variation for a slightly smaller range of annualized costs from $270 million to $520 million.

building, contents, and business interruption losses (see Exhibit 8-1). Exhibit 8-8 presents the value of baseline, annualized losses using the different casualty valuation methods described in the previous section. Fatalities represent a relatively large fraction of the casualty distribution shown in Exhibit 8-1 and are the most expensive casualty type. As a result, fatality costs account for from 20 percent to nearly 70 percent of the total baseline terrorism loss.

EXHIBIT 8-8   BASELINE ANNUALIZED LOSS UNDER THE RMS STANDARD RISK ESTIMATE (BILLION 2005 DOLLARS)

VALUATION METHODOLOGY	ANNUALIZED LOSS
Cost of injury (fatality = $1.1 million)	$2.1
Willingness to pay (VSL = $3 million)	2.8
Quality of life (VSL = $3 million)	3.3
Willingness to pay (VSL = $6 million)	4.1
Quality of life (VSL = $6 million)	5.2

Source: Reproduced, in part, from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 26.

Applying these estimates of baseline annualized loss, Exhibits 8-9 and 8-10 present the critical risk reduction for Alternative 2B under the RMS standard risk estimate and applying each valuation methodology. The cost of injury valuation approach gives the lowest annualized cost ($2.1 billion) and therefore requires the greatest percentage risk reduction (14 percent) in order for the reduction in annualized loss to exceed the costs of the regulation. Conversely, the casualty cost estimate for the quality of life approach anchored at a $6 million VSL leads to the highest annualized loss ($5.2 billion) and therefore the lowest critical risk reduction (six percent).

EXHIBIT 8-9   CRITICAL RISK REDUCTION FOR THE RMS STANDARD RISK ESTIMATE
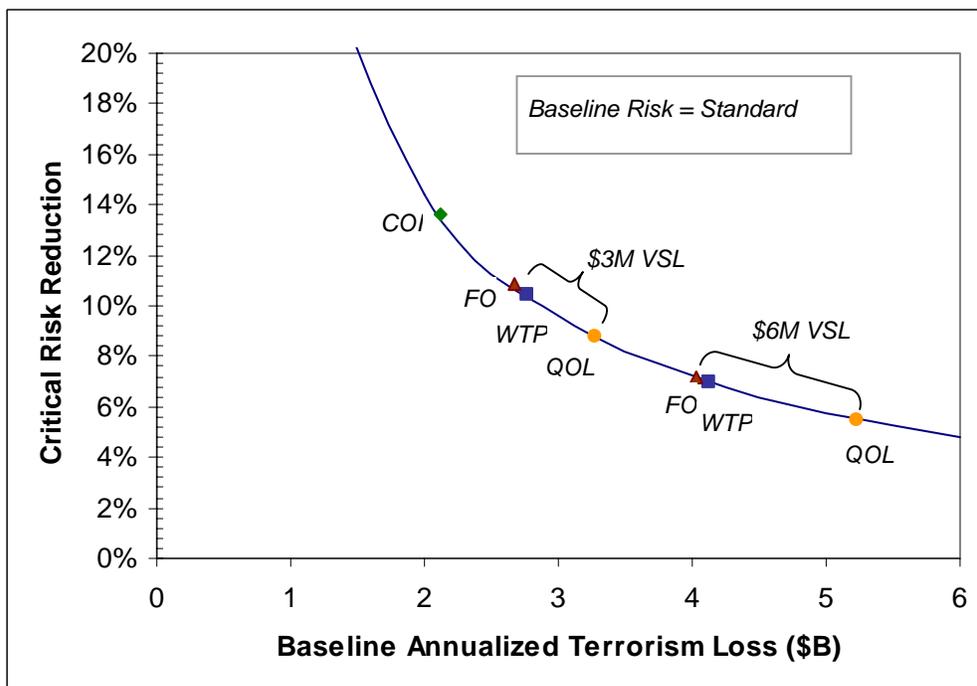
Adapted from: LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 25.

EXHIBIT 8-10   CRITICAL RISK REDUCTION FOR ALTERNATIVE 2B
(STEADY-STATE SCENARIO, SEVEN PERCENT DISCOUNT RATE)

VALUATION METHODOLOGY	CRITICAL RISK REDUCTION
Cost of injury (fatality = $1.1 million)	14%
Willingness to pay (VSL = $3 million)	10
Quality of life (VSL = $3 million)	8.8
Willingness to pay (VSL = $6 million)	7.0
Quality of life (VSL = $6 million)	5.5

Source: Reproduced, in part, from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 26.

CONCLUSIONS AND KEY SOURCES OF UNCERTAINTY
We are currently unable to estimate the incremental risk reductions resulting from the implementation of WHTI. As a result, we rely on the results of a break-even analysis conducted by RAND to provide information about the critical risk reduction necessary for the benefits of the rule to break even with the costs. Under the preferred alternative and assuming a seven percent discount rate, the critical risk reduction ranges from six

percent to 14 percent, depending on the methodology used to value casualties. The range in risk reduction required under the other regulatory alternatives and applying discount rates of three and seven percent is likely to vary by a factor of approximately two.

In addition to the methodology used to value casualties, several other key factors affect the critical risk reduction estimate. These factors include: (1) the uncertainty in the risk estimate produced by the RMS model; (2) the potential for other types of baseline losses not captured in the RMS model; and (3) the size of other non-quantified direct and ancillary benefits of the rule. We discuss each of these factors below.

- **Uncertainty inherent to the RMS model:[447]** The RMS model expresses uncertainty in terrorism threat using threat outlooks, which represent perceptions about terrorist intentions and capabilities. The default terrorism risk estimates from the RMS model assume a standard threat outlook based on current perceptions of the intent and capabilities of the global Jihadist terrorist threat. Uncertainty in consequence estimates can arise through variations in the hazard distribution (e.g., blast pressure transmission), vulnerability (e.g., the extent of building damage), as well as uncertainties in model parameters and data.

  The overall uncertainty in the risk level resulting from uncertainties in threat and consequences is difficult to characterize. RAND examines the effect of uncertainty in the terrorism risk level by calculating the critical risk reduction for terrorism risk levels ranging from half to twice that of the standard risk estimate from the RMS model. This results in a factor of four range in the baseline annualized terrorism loss.[448]

  When this range of baseline annualized terrorism loss is applied in the break-even framework, critical risk reductions range even more broadly. Exhibit 8-11 presents the range compared with the critical risk reductions presented in Exhibit 8-10. For the lowest baseline loss estimate and using the cost of injury valuation approach, the critical risk reduction is 27 percent. Conversely, for the highest baseline loss estimate and using the quality of life valuation approach with a $6 million VSL, the critical risk reduction is only 2.8 percent, an order of magnitude lower.

[447] The text in this paragraph and the next is taken from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, pp. 22-23.

[448] Note that separate from the uncertainty inherent in estimating the overall risk level, the RMS model produces three different estimates of attack depending on assumptions about the terrorist threat level (i.e., the reduced threat outlook, the standard threat outlook, and the increased threat outlook). The break-even analysis presented in this chapter relies on the risk estimate using the standard threat outlook. For more information about these threat outlooks is provided in LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007.

EXHIBIT 8-11 CRITICAL RISK REDUCTION FOR ALTERNATIVE 2B (STEADY-STATE SCENARIO, SEVEN PERCENT DISCOUNT RATE) CONSIDERING UNCERTAIN BASELINE LOSS ESTIMATES

VALUATION METHODOLOGY	CRITICAL RISK REDUCTION		
	LOW RISK	STANDARD RISK	HIGH RISK
Cost of injury (fatality = $1.1 million)	27%	14%	6.8%
Willingness to pay (VSL = $3 million)	21	10	5.2
Quality of life (VSL = $3 million)	18	8.8	4.4
Willingness to pay (VSL = $6 million)	14	7.0	3.5
Quality of life (VSL = $6 million)	11	5.5	2.8

Source: Reproduced, in part, from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, p. 26.

- **Other baseline losses not captured in the RMS model:**[449] The RMS model likely underestimates total baseline terrorism loss because it only reflects the direct, insurable costs of terrorism. It does not include any indirect losses that would result from continued change in consumption patterns or preferences or that would result from propagating consequences of interdependent infrastructure systems. Furthermore, the model also excludes non-worker casualty losses and losses associated with government buildings and employees. Finally, the model may not capture less-tangible components of losses that the public wishes to avoid, such as the fear and anxiety associated with experiencing a terrorist attack. Omission of these losses will cause us to overstate the necessary risk reductions.

- **Other non-terrorism related benefits of the rule:** As discussed at the beginning of this chapter, the regulation may result in wait time savings at the border or other ancillary benefits such as prevention of non-terrorist individuals from fraudulently entering the United States. To the extent that such benefits exist but are not quantified, the break-even analysis will overstate necessary risk reductions.

[449] The text in this paragraph and the next is taken from LaTourrette, T. and H. H. Willis, "Using Probabilistic Terrorism Risk Modeling for Regulatory Benefit-Cost Analysis: Application to the Western Hemisphere Travel Initiative Implemented in the Land Environment," WR-487-IEC, May 2007, pp. 26-27.

CHAPTER 9 | CHANGES IN WAIT TIME AT THE BORDER

This chapter examines benefits that may result from changes in wait times at land ports-of-entry (POEs) as a result of changes in travel document requirements under the Western Hemisphere Travel Initiative (WHTI).[450] Previous analyses have indicated that the economic impact of increased wait times can be significant. For example, Taylor et al., using the Canada Customs Border Transit Time Archive from 2002, undertook an extensive study of trade and traffic levels at the U.S.-Canada border in 2002-2003 at large POEs.[451] The study found delays ranging from 11 minutes at Detroit's Ambassador Bridge to 23 minutes at Blaine's Peace Arch Bridge for privately owned vehicles (POVs), while delays for commercial vehicles crossing Ambassador Bridge approached 30 minutes.[452] The study took into account secondary processing times, budgeted uncertainty in crossing times, and other costs associated with transporting goods across the border. The authors estimated annual economic losses of over $10 billion. These losses include those related to "specific costs to carriers and manufacturers resulting from border transit times and uncertainty, other border related costs borne by manufacturers and carriers for duties, broker fees, customs administration, etc., and costs for inspection staffs borne by the two governments."[453] For POVs only, the study estimates over 3 million hours were spent, in the aggregate, waiting in line to cross into the United States from Canada in 2002.[454]

Wait time studies focused on the southern border reach similar conclusions. For example, the San Diego Association of Governments' (SANDAG) *Economic Impacts of Wait Times at the San Diego-Baja California Border* reports, based on data from surveys conducted between November 2004 and February 2005, that the average delay entering the United States from Mexico at San Ysidro, Otay Mesa, and Tecate is 45 minutes for POV crossings and over two hours for truck crossings.[455, 456] The authors calculate

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[450] Throughout this chapter, "wait time" refers to processing time upon contact with a CBP officer combined with the time a vehicle spends in the queue prior to arrival at the primary processing location.

[451] Taylor, J.C., Robideaux, D., and G.C. Jackson, *The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options*, May 21, 2003.

[452] Taylor, J.C., Robideaux, D., and G.C. Jackson, *The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options*, May 21, 2003. p.13.

[453] Taylor, J.C., Robideaux, D., and G.C. Jackson, *The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options*, May 21, 2003, p.2.

[454] Taylor, J.C., Robideaux, D., and G.C. Jackson, *The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options*, May 21, 2003, p.178.

[455] The delays described in SANDAG's report include both wait times and processing time, including all time spent in primary and secondary processing.

elasticity of travel demand with respect to wait time based on survey responses and Bureau of Transportation Statistics (BTS) data.[457] They estimate travelers forwent 8.4 million trips to the San Diego region in 2003 due to expected delays crossing the border.[458] The methodology takes into consideration the distribution of trips by purpose, time, and destination together with the sensitivity of each type to the delay at the border.[459]

For commercial traffic, the SANDAG report applies elasticities derived from the literature to estimate changes in industrial output in the region due to border delays. The effects of border delays on industry are manifold. For example, in some cases manufacturing plants need to keep higher inventories if their suppliers are located across the border and have uncertain travel times. In the case of manufacturers of finished goods, the increased travel time across the border will increase shipment costs, making the products less competitive than domestically produced substitutes.[460] The report estimates San Diego County loses $271 million in annual net revenues as a result of delayed freight activity.[461]

<div style="margin-left:2em">

ESTIMATING THE EFFECTS OF THE REGULATORY ALTERNATIVES

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On September 26, 2007, U.S. Customs and Border Protection (CBP) and the Department of Homeland Security (DHS) published a "Notice of Availability of a Final Programmatic Environmental Assessment (PEA) and a Finding of No Significant Impact (FONSI) on the Western Hemisphere Travel Initiative in the Land and Sea Environments" (72 FR 34671).[462] Relying on interviews with CBP officers in the field and a number of assumptions about how processing procedures and traffic volume may change as a result

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[456] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp.43, 51.

[457] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, p.30.

[458] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp.43.

[459] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, p.30.

[460] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, pp. 35-37.

[461] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006, p.51.

[462] The Final PEA and FONSI may be obtained at http://www.cbp.gov/travel and http://www.regulations.gov (docket USCP-2007-0060) or by writing to: CBP, 1300 Pennsylvania Avenue, NW., Room 5.4D, Attn: WHTI Environmental Assessment, Washington, DC 20229.

of the rule, the Final PEA describes how processing times will decrease with increased standardization of documents and automation of database queries, and concludes that decreased processing times will yield decreased wait times.

DHS, CBP, and the Department of State (DOS) subsequently defined several regulatory alternatives that would change the inspection process for travelers entering the United States from Canada or Mexico via land POEs.

ALTERNATIVE 1: All U.S. citizens entering the United States via the Mexican or Canadian border must present a traditional passport book.

> ALTERNATIVE 1A: Alternative 1, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 1B: Alternative 1, except for U.S. and Canadian children under 16 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 2: All U.S. citizens must present a passport book, a passport card containing a vicinity-read radio frequency identification (RFID) chip, a CBP trusted traveler card (Free and Secure Trade (FAST), NEXUS, Secure Electronic Network for Travelers' Rapid Inspection (SENTRI)), a DHS-approved Enhanced Driver's License (EDL), or a Merchant Mariner Document (MMD). In addition, Canadian citizens not enrolled in a CBP trusted traveler program will need to present a Canadian passport. For the purposes of this analysis, we assume that there will be no change in the documentation required of lawful permanent residents (LPRs), Mexican citizens, Native Americans, members of the U.S. Armed Forces with military identification and traveling on official orders, and NATO military personnel on official duty.[463]

> ALTERNATIVE 2A: Alternative 2, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 2B (chosen alternative): Alternative 2, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

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[463] Mexican nationals must present a valid, unexpired passport and a valid, unexpired visa issued by a U.S. embassy or consulate abroad, or they must present a Border Crossing Card (BCC), also known as a "laser visa." As of September 31, 2001, first-time applicants for BCCs are required to present a valid Mexican passport during the application process. However, individuals who obtained a BCC prior to that date may not currently possess a valid passport.

ALTERNATIVE 3: Alternative 2, except the passport card and EDLs will not contain a vicinity-read RFID chip.

> ALTERNATIVE 3A: Alternative 3, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 3B: Alternative 3, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

In support of the final rule, we analyzed the effect that each alternative would have on POE wait times. To complete our analysis, we relied upon the best available data that describe changes in wait time under different POE processing circumstances. These data are available in a CBP cost-benefit analysis (CBA) of alternative POE processing technology investments. As part of this analysis, analysts evaluated the wait time impact attributable to each technology alternative.[464] The next three sections of this chapter describe baseline POE conditions, summarize the CBP wait time analysis and results, and present our interpretation of the CBP wait time analysis results in the context of our regulatory analysis (i.e., explains how we reconciled the CBA framework (three technology alternatives) with our analytic framework (nine regulatory alternatives)). We conclude with a discussion of several factors that, while relevant to the analysis of changes in wait time under different circumstances, cannot be addressed at this time due to data limitations.

UNDERSTANDING THE BASELINE CONDITIONS

To understand the benefits of changing the documentary requirements at land POEs, we first examine the baseline conditions at border crossings, including the current inspection process and the type of documents currently used.

Baseline Wait Times to Reach Primary Processing

For several years, CBP officers at 57 crossing points associated with 40 POEs recorded, each hour, the estimated length of time for the last car in line to reach the primary processing booth.[465] From these data, we calculate the average wait time for a vehicle crossing at each of these POEs. This set of 40 POEs was selected by CBP and represents the most complete baseline wait time data available.

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[464] *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007.

[465] In this chapter, "crossing point" refers to a distinct location where a traveler can cross the border (e.g., a single bridge or highway). This is in contrast to a POE, which may comprise all crossing points into a single city.

Average delays during daytime hours range from near zero at less crowded POEs such as Fabens, Texas, and Norton, Vermont, to 41 minutes during commuting hours at San Ysidro, California, the busiest land POE in the United States. We summarize the average (mean) wait times for POVs and commercial vehicles in Exhibits 9-1 and 9-2 both for all crossers and for crossers traveling during working hours. In addition, we report the value for which 10 percent of observations were higher and 90 percent of observations were lower.[466]

Current Inspection Process and Types of Documents in Use

In Chapter 5, we describe in detail the current processing procedures for inbound travelers in POVs at land POEs. To summarize, CBP officers currently inspect travelers entering the United States in a passenger vehicle in one of two ways. Most travelers physically hand over documentation such as a driver's license or a passport book. The officer visually inspects the documents, the passengers, and the vehicle before allowing the travelers to enter the United States. This process takes 51 to 74 seconds, assuming CBP does not select the travelers for secondary processing.[467]

Members of the NEXUS, SENTRI, and FAST programs do not hand documentation to an officer when entering through dedicated lanes. The trusted traveler lanes use vicinity RFID technology to read the travelers' documentation while it remains in the vehicle, automatically loading the travelers' information onto the CBP officer's computer screen. The process for these entries takes approximately 35 seconds per vehicle.[468]

Chapter 1 describes the types of documents currently used by border crossers. For U.S. citizens, these include any documents sufficient to satisfy the CBP officer of the traveler's citizenship. Many U.S. travelers present state-issued driver's licenses and birth certificates. Citizens of Canada and Bermuda, arriving from anywhere in the Western Hemisphere other than Cuba, also must satisfy the inspecting CBP officer of their citizenship, typically by presenting a birth certificate, passport book, or citizenship card. Mexican citizens arriving from a contiguous territory may present their Border Crossing Card (BCC). Nonimmigrant aliens arriving in the U.S. must present to the CBP officer a valid, unexpired passport book issued by his or her country of citizenship and a valid, unexpired visa issued by a U.S. embassy or consulate abroad, unless the individual is

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[466] Note that delays were reported on a crossing point basis (e.g., Ambassador Bridge and Windsor Tunnel connecting Windsor, Ontario, with Detroit each had a separate set of observations), and these values were combined to determine the average delay for the POE as a whole. We did not weight the values by the magnitude of traffic levels at each crossing point. Also note that the 90th percentile times are reported with the same precision as the recorded observations (in most cases this is a multiple of 5 minutes) because no calculations were applied to the observations to determine the values.

[467] *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007, p. 25.

[468] *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007, p. 25.

from a visa-waiver country, in which case only the valid passport book is required.[469]
Current participation in CBP trusted traveler programs is small relative to the number of
travelers using other forms of documentation; however, participants in these programs
may account for a larger proportion of trips across the border.

EXHIBIT 9-1   AVERAGE WAIT TIME IN 2005 AT U.S.-MEXICO POEs (IN MINUTES)

POE	POV WAIT TIMES			COMMERCIAL WAIT TIMES		
	AVERAGE (ALL HOURS)	AVERAGE (6AM – 6PM)	90th PERCENTILE	AVERAGE (ALL HOURS)	AVERAGE (6AM – 6PM)	90th PERCENTILE
San Ysidro, CA	31.7	41.1	60	-	-	-
Otay Mesa, CA	23.6	29.8	50	23.5	23.0	30
Calexico West, CA	25.4	29.7	50	-	-	-
Nogales, AZ	22.1	26.0	45	22.8	22.2	60
San Luis, AZ	16.8	20.7	35	0.2	0.2	0
Tecate, CA	17.6	19.9	45	11.7	11.7	20
Calexico East, CA	16.2	17.3	40	9.0	8.4	30
El Paso, TX	13.0	16.6	30	13.3	12.6	30
Hidalgo/Pharr, TX	11.9	13.9	25	9.9	10.3	25
Laredo, TX	10.2	12.7	30	14.6	15.9	50
Douglas, AZ	6.9	10.4	20	0.3	0.3	0
Del Rio, TX	6.5	8.5	20	3.2	3.2	10
Brownsville, TX	7.1	8.3	15	5.3	5.8	15
Andrade, CA	7.2	7.9	20	-	-	-
Eagle Pass, TX	5.7	7.1	15	2.5	2.5	5
Rio Grande, TX	4.6	5.1	10	2.8	3.2	10
Progreso, TX	3.6	5.0	10	2.4	2.4	10
Roma, TX	3.2	4.4	10	0.6	0.6	1
Lukeville, AZ	3.7	4.2	6	0.0	0.0	0
Naco, AZ	1.0	1.5	3	0.2	0.2	1
Presidio, TX	0.9	1.3	1	0.5	0.5	0
Santa Teresa, NM	1.2	1.2	0	0.4	0.4	0
Columbus, NM	0.3	0.5	0	0.1	0.1	0
Fabens, TX	0.5	0.4	0	-	-	-

Note: San Ysidro, Calexico West, Andrade, and Fabens do not process commercial vehicle
traffic.
Source: IEc calculations from CBP data compiled by the DHS Private Sector Office, provided
to IEc by CBP Office of Regulations and Rulings in October 2006.

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[469] As of the writing of this report, 27 countries participate in the Visa Waiver Program, 22 of which are
located in Europe. See U.S. Department of State, *Visa Waiver Program (VWP)*, as viewed at
http://travel.state.gov/visa/temp/without/without_1990.html on February 29, 2008.

EXHIBIT 9-2   AVERAGE WAIT TIME IN 2005 AT U.S.-CANADA POEs (IN MINUTES)

POE	POV WAIT TIMES			COMMERCIAL WAIT TIMES		
	AVERAGE (ALL HOURS)	AVERAGE (6AM – 6PM)	90th PERCENTILE	AVERAGE (ALL HOURS)	AVERAGE (6AM – 6PM)	90th PERCENTILE
Blaine, WA	7.4	12.0	25	11.9	17.0	30
Champlain, NY	3.8	6.2	15	5.3	6.8	15
Sweetgrass, MN	3.5	6.1	15	5.1	7.7	20
Sault Ste. Marie, MI	3.8	5.3	12	2.7	4.4	10
Sumas, WA	3.2	5.3	10	4.3	7.1	15
Port Huron, MI	4.2	4.8	15	14.6	16.5	45
Alexandria Bay, NY	2.6	4.3	10	5.4	5.4	20
Highgate Springs, VT	2.2	3.7	8	3.5	3.9	10
Detroit, MI	3.0	3.4	10	5.0	5.2	15
Buffalo, NY	2.4	3.4	5	5.0	5.0	20
Pembina, ND	1.6	2.8	5	4.2	5.8	14
Calais, ME	1.8	2.7	0	1.8	2.7	0
Jackman, ME	1.5	2.7	0	0.9	1.4	0
Derby Line, VT	0.6	1.1	0	4.5	3.7	15
Houlton, ME	0.2	0.3	0	2.3	3.1	9
Norton, VT	0.0	0.0	0	0.0	0.0	0

Source: IEc calculations from CBP data compiled by the DHS Private Sector Office, provided to IEc by CBP Office of Regulations and Rulings in October 2006.

SUMMARY OF CBP COST-BENEFIT ANALYSIS AND RESULTS

Independent of this regulatory analysis, analysts prepared a CBA that evaluates the strategic, technical, and financial merits of different approaches for addressing increases in traveler wait times caused by processing delays and dated technology.[470] Analysts considered three alternatives:

ALTERNATIVE 1: STANDARD DOCUMENTS. Standardized information and layout for a limited number of acceptable travel document categories, with continued reliance on existing information management systems and continued acceptance of trusted traveler documents.

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[470] The CBP cost-benefit report is intended to meet the requirements of the Clinger-Cohen Act, which requires Federal agencies to evaluate the costs and benefits of significant information technology investments. For a detailed description of CBP's methodology, data sources, and assumptions, see *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007

ALTERNATIVE 2: MACHINE READABLE ZONE. Alternative 1, but all standardized documents have a machine-readable zone (MRZ) that is readable using existing equipment, cabling, and computer software.

ALTERNATIVE 3: RADIO FREQUENCY IDENTIFICATION. Alternative 2 with the deployment of radio frequency identification (RFID) technology at border crossings and the addition of RFID technology to specific travel documents.

For each alternative, analysts estimated the monetary value, relative to baseline conditions, of four potential benefits: baseline cost offset, primary inspection processing labor reductions, secondary inspection processing labor reductions, and border wait time reductions. As noted in the report, developing accurate estimates of border wait time "is complicated and data intensive . . . [requiring] queuing theory, discrete event simulation, or other methods."[471] To develop their estimates, the analysts utilized BorderWizard™, the tool CBP uses for facility capacity planning and traffic analysis.

A key input to CBP's analysis is the number of crossings by privately owned vehicle (POV) each year by inspection processing type.[472] Analysts considered six potential processes: oral declaration, manual query (non-standard documents), manual query (standard documents), MRZ query, RFID query, and Dedicated Commuter Lanes (DCL) query. Using a combination of traveler data and assumptions regarding factors such as projected trusted traveler program growth rates, analysts arrived at annual estimates (2008-2017) of vehicle crossings by process type for the aggregate northern and southern borders.

Analysts then used BorderWizard™ to analyze the largest crossings (by POV volume) in multiple scenarios for hundreds of simulations. Each simulation produced an estimate of total vehicle wait time (in hours) for a single day. Since the monetary value of an hour of wait time is expressed on a per person basis, it was necessary to convert daily vehicle wait times to annual individual wait times. For this conversion, analysts multiplied the daily values by (1) two people per POV (the assumed national average), (2) 365 days per year, and (3) the percentage of travelers who are U.S. citizens (38.7 percent for the southern border, 43.7 percent for the northern border). To derive annual wait times for the years between 2008 and 2017, analysts assumed a linear decrease in processing times (i.e., a linear increase in wait time benefits).

Finally, analysts applied the blended value of one wait time hour for a U.S. citizen ($13.87) to the estimated annual wait times in the baseline and alternative cases to arrive at total cost estimates. The difference between the baseline and each alternative represents the monetary benefit of reduced wait times. Exhibit 9-3 summarizes the results.

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[471] *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007, p. 69.

[472] CBP's analysis of changes in wait time does not include non-POV types of traffic, such as trucks, buses, trains, or pedestrians.

EXHIBIT 9-3   ADJUSTED ESTIMATE OF REDUCED WAIT TIME BENEFITS
(2009 - 2018, BILLION 2005 DOLLARS)

TECHNICAL ALTERNATIVE	PRESENT VALUE	
	THREE PERCENT	SEVEN PERCENT
1	2.8	2.0
2	3.3	2.4
3	4.8	3.4

Source: IEc calculations discounting results presented in *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007, Exhibit 8-9.

Note: CBP estimates wait time benefits for the period 2008 through 2017 and presents its estimates in undiscounted 2005 dollars. To account for the new projected implementation date of June 2009, we: (1) shift CBP's benefit projections out one year to cover the time period relevant to our analysis (2009-2018); and (2) multiply the benefits experienced in 2009 by 7/12.

INTERPRETATION OF CBP COST-BENEFIT REPORT RESULTS IN THE CONTEXT OF THE REGULATORY ANALYSIS

As noted above, the alternatives that serve as the basis for CBP's monetization of wait time benefits attributable to alternative POE processing technology standards differ from the regulatory alternatives that serve as the basis for the analysis in this report. While the differences are not dramatic, they also are not trivial; therefore, it would not be reasonable simply to "map" the three technology alternatives to the three regulatory alternatives (leaving aside the fact that the age-based sub-alternatives in the regulatory framework are beyond the scope of the CBA). However, it is reasonable to undertake a side-by-side comparison of the two sets of alternatives in order to place the regulatory alternatives within the spectrum of the technology alternatives. By doing so, we can conclude that the benefits of the regulatory alternatives exist within specific ranges defined by the CBA's results. While the use of ranges incorporates a degree of uncertainty (because the ranges overlap), we believe they enable judgments regarding the relative merits of different regulatory alternatives with respect to this benefit category. Our comparisons of the alternatives are presented below and summarized in Exhibit 9-4 (for simplicity, we focus on the present value of benefits assuming a seven percent discount rate; results assuming a three percent discount rate are presented separately at the end of this discussion).

EXHIBIT 9-4   BEST ESTIMATE OF WAIT TIME BENEFITS ASSOCIATED WITH THE REGULATORY ALTERNATIVES (2005-2018)

"MAPPING" OF REGULATORY TO TECHNICAL ALTERNATIVES		BENEFIT ASSOCIATED WITH REGULATORY ALTERNATIVE
REGULATORY ALTERNATIVE	BENEFIT ("X") RELATIVE TO CBP TECHNICAL ALTERNATIVES	(BILLION 2005 DOLLARS)
THREE PERCENT DISCOUNT RATE		
1	Baseline < X < Technical Alt 2	$0 < X < $3.3
1 with child exemption	Baseline < X < Regulatory Alt 1	$0 < X < $3.3
2	Technical Alt 2 < X < Technical Alt 3	$X \approx$ $4.8
2 with child exemption	Baseline < X < Technical Alt 3	$0 < X < $4.8
3	Technical Alt 1 < X < Technical Alt 2	$X \approx$ $3.3
3 with child exemption	Baseline < X < Technical Alt 2	$0 < X < $3.3
SEVEN PERCENT DISCOUNT RATE		
1	Baseline < X < Technical Alt 2	$0 < X < $2.4
1 with child exemption	Baseline < X < Regulatory Alt 1	$0 < X < $2.4
2	Technical Alt 2 < X < Technical Alt 3	$X \approx$ $3.4
2 with child exemption	Baseline < X < Technical Alt 3	$0 < X < $3.4
3	Technical Alt 1 < X < Technical Alt 2	$X \approx$ $2.4
3 with child exemption	Baseline < X < Technical Alt 2	$0 < X < $2.4

KEY SOURCES OF UNCERTAINTY

Regulatory Alternative 1

In the first regulatory alternative, all U.S. citizens must present a traditional passport book at a POE. If we assume that all passport books have a MRZ, regulatory alternative 1 is similar to technology alternative 2, with the following exceptions: technology alternative 2 permits multiple, MRZ-enabled documents (not just a passport book) and continues to allow the use of trusted traveler documents (which regulatory alternative 1 would not). The absence of the trusted traveler option in regulatory alternative 1 suggests that the benefits would be less than those in technical alternative 2. At the same time, the use of a single form of documentation in regulatory alternative 1 is assumed to provide some benefit relative to the baseline, though we cannot quantify its magnitude. Therefore, we can conclude that the benefits of regulatory alternative 1 are less than $2.4 billion (the estimate of the benefits of technical alternative 2) and greater than zero.

Regulatory alternative 1 with child exception

At best, the addition of the child exemption to regulatory alternative 1 would have no impact on the benefits of this alternative, in which case the regulatory alternative 1 benefit range would apply (greater than zero and less than $2.4 billion). However, it may be likely that by permitting children under the age of 16 (or 14) to present documents

other than passports processing times would increase relative to the passport-only alternative and result in some reduction in benefits.[473]

Regulatory alternative 2

Regulatory alternative 2 is similar to technical alternative 3 in that both would allow travelers to present a range of documents at POEs, including passport cards, trusted traveler documents, and EDLs. These three documents contain RFID technology, significantly reducing the time required to process these documents. The wait time benefits estimated by CBP for technical alternative 3 are $3.4 billion over the time frame of our analysis.

Regulatory alternative 2 with child exception

As with regulatory alternative 1, it is difficult to determine the change in benefits, if any, associated with the potential child exceptions to regulatory alternative 2. Therefore, we can simply conclude that at best it has no impact on the high end (i.e., benefits are less than $3.4 billion, the high end of the benefits estimate for regulatory alternative 2 without the child exception). At the low end, we can conclude only that some benefits are realized relative to the baseline (i.e., the benefits of regulatory alternative with the child exception are greater than zero).

Regulatory alternative 3

Regulatory alternative 3, with multiple permissible MRZ-enabled documents, but no RFID technology other than the trusted traveler program, is largely the same as technical alternative 2. Therefore, we assume the benefits of regulatory alternative 3 are approximately equal to $2.4 billion over the time period of our analysis.

Regulatory alternative 3 with child exception

As with regulatory alternatives 1 and 2, it is difficult to determine the change in benefits, if any, associated with the potential child exceptions to regulatory alternative 3. Therefore, we can simply conclude that at best it has no impact on the high end (i.e., benefits are less than $2.4 billion, the high end of the benefits estimate for regulatory alternative 3 without the child exception). At the low end, we can conclude only that some benefits are realized relative to the baseline (i.e., the benefits of regulatory alternative with the child exception are greater than zero).

The limitations and key sources of uncertainty associated with CBP's CBA are discussed in detail in its report.[474] Below, we discuss additional limitations that may bias the estimates of benefits. These issues include consistency in key data sources relied upon

[473] When comparing regulatory and technical alternatives, we do not distinguish between exceptions for children under the age of 14 and children under the age of 16, as we are unable to discern a difference between the two scenarios in the context of this comparison.

[474] *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007.

between the CBA and this analysis, omission of non-POV travelers from the benefits calculation, and the effect of reduced wait times on travel demand.

KEY DATA SOURCES RELIED UPON

To estimate changes in wait time, analysts first estimates the volume of U.S. POV crossings undertaken at POEs each year. It assumes crossing volumes at POEs will remain constant, consistent with the preferred assumption utilized elsewhere in this regulatory assessment. However, it begins with crossing volume data provided by CBP for fiscal year 2007, which is lower than the 2004 baseline POV passenger crossing volume reported by the U.S. Bureau of Transportation Statistics (BTS) and used in this regulatory assessment. Furthermore, analysts assume a smaller percentage of crossings are undertaken by U.S. citizens.[475] The effect of these differences in assumptions on the results of the wait time analysis is indeterminate.

In addition, CBP forecasts participation rates regarding compliance with the proposed rule and type of document obtained under each technical alternative. In contrast, in Chapter 5 of the regulatory assessment, we estimate the type of document obtained assuming that travelers choose the least cost option because this price is indicative of the travelers' welfare loss. In reality, travelers may choose a higher cost document with offsetting benefits that are not the focus of this analysis. As a result, we are unable to compare the total number of documents obtained with CBP's estimates to ensure analytic consistency.

COMMERCIAL AND OTHER NON-POV TRAFFIC

The CBA does not include commercial (trucks, buses, trains) or pedestrian crossings.[476] The addition of new technology to primary inspection lanes is likely to benefit all vehicles, however quantification of the magnitude of this change is not possible without additional information and analysis. Without additional information about the BorderWizard[TM] modeling effort, the effect of omitting non-POV crossings from the CBA is indeterminate.

ESTIMATING CHANGING TRAVEL DEMAND AS A RESULT OF REDUCED WAIT TIMES

CBP assumes that crossing volume is unaffected by the implementation of WHTI. In other words, it does not assume lower crossing volumes associated with travelers choosing to forgo future cross border travel. The effect of this assumption is indeterminate; fewer travelers experience wait time benefits, however the reduction in wait time may be greater than that modeled by CBP.

Furthermore, estimating the incremental reduction in wait times across all travelers under alternative regulatory conditions could be refined by accounting for changes in travel

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[475] *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007, p. 23.

[476] *Western Hemisphere Travel Initiative (WHTI) Cost Benefit Analysis, Version 2.0*, prepared for U.S. Customs and Border Protection, October 23, 2007, p. 19.

demand that might be attributable to shorter wait times. As discussed in the SANDAG report, 46 percent of U.S. respondents traveling for work and 14 percent of Mexican respondents traveling for work reported that they would no longer work in the other country if the wait at the border reached two hours every day, and 73 percent of respondents would be willing to pay three dollars to cross more quickly at a hypothetical new POE.[477] These decisions reflect the opportunity cost of travel time, discussed in detail in Appendix D of this report. A dynamic model would be necessary to estimate the point at which the number of crossings and wait times reach equilibrium after the rule goes into effect.

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[477] San Diego Association of Governments (SANDAG), California Department of Transportation, District 11, *Economic Impacts of Wait Times at the San Diego-Baja California Border - Final Report*, prepared by HDR/HLB Decision Economics, Inc., January 19, 2006.

IEc

CHAPTER 10 | REGULATORY FLEXIBILITY ACT

The previous chapters of this report focus on the incremental costs and benefits resulting from the rule requiring U.S. citizens entering the United States via land, ferry, and recreational boating ports-of-entry (POEs) to present documentation to Customs and Border Protection (CBP) officers that is sufficient for the officers to reliably review and evaluate identity and citizenship. The relationship between these costs and benefits focuses on the net impact of the regulation to society and is only one of several factors CBP must consider in its analysis of the regulation and related regulatory options.

Under the requirements of the Regulatory Flexibility Act (RFA) of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) and Executive Order 13272, entitled "Proper Consideration of Small Entities in Agency Rulemaking," agencies, during the development of their rules, must consider the potential distributional impact of those rules on small entities, defined as small businesses, small governmental jurisdictions, and small non-profit organizations. We address the potential impact of the rule on small entities in this chapter. Two additional administrative laws and executive orders also require analysis of distributional impacts; these analyses are addressed in Chapter 11.

OVERVIEW OF RFA/SBREFA REQUIREMENTS

When considering the impacts on small entities for the purpose of complying with the RFA, CBP consulted U.S. Small Business Administration's (SBA) guidance document for conducting regulatory flexibility analysis.[478,479] Per this guidance, a regulatory flexibility analysis is required when an agency determines that the rule will have a significant economic impact on a substantial number of small entities that are *subject to the requirements of the rule*.[480] This guidance document also includes a discussion describing how direct and indirect costs of a regulation are considered differently for the purposes of the RFA. With the exception of certain sole proprietors, the Department of Homeland Security (DHS) and the Department of State (DOS) do not believe that small entities are subject to the requirements of the rule; individuals are subject to the

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[478] U.S. Small Business Administration, Office of Advocacy, *A Guide for Government Agencies: How to Comply with the Regulatory Flexibility Act*, May 2003.

[479] The text in this paragraph and the following paragraph is provided to IEc by the U.S. Department of Homeland Security (DHS) via U.S. Customs and Border Protection (CBP), as it states the Department's determination regarding compliance with RFA/SBREFA requirements.

[480] U.S. Small Business Administration, Office of Advocacy, *A Guide for Government Agencies: How to Comply with the Regulatory Flexibility Act*, May 2003, p. 69.

requirements, and individuals are not considered small entities.[481] As stated in SBA's guidance, "The courts have held that the RFA requires an agency to perform a regulatory flexibility analysis of small entity impacts only when a rule directly regulates them."[482]

Small businesses could be indirectly affected by the rule if international travelers forgo travel to affected Western Hemisphere countries. However, as was first held in *Mid-Tex Electric Cooperative, Inc. v. Federal Energy Regulatory Commission*, the court reasoned "Congress did not intend to require that every agency consider every indirect effect that any regulation might have on small businesses in any stratum of the national economy."[483] The same court later held that an agency is under no obligation to conduct a small entity impact analysis of effects on entities it does not regulate.[484] Finally, the courts further bolstered the notion that indirect impacts should be disregarded by noting that the RFA is not intended to apply to every entity that may be targeted by the regulation. The fact that the rule will have economic impacts in many sectors of the economy does not change this. The court reasoned that "requiring an agency to assess the impact on all of the nation's small businesses possibly affected by a rule would be to convert every rulemaking process into a massive exercise in economic modeling, an approach we have already rejected."[485]

| REASON FOR AGENCY ACTION | Security concerns have led Congress to amend the authority of the Secretary of State or the Secretary of Homeland Security to waive documentary requirements for U.S. citizens entering the United States from countries in the Western Hemisphere. As part of the broader effort to combat terrorist threats to the United States, the ability to verify the identity and citizenship of individuals attempting to gain entry to the United States is critical. Specifically, Congress has found, "Additional safeguards are needed to ensure that terrorists cannot enter the United States."[486] The rule is intended to not only enhance security efforts at U.S. borders, but also to expedite the movement of legitimate travel within the Western Hemisphere. More detail is provided in the preamble to this final rule. |

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[481] DOS's supporting statement for their Paperwork Reduction Act submission states: "the collection of information does not involve small businesses or other small entities." (U.S. Department of State, *Application for a U.S. Passport*, as viewed at http://travel.state.gov/pdf/DS-0011.pdf). The approved collection is valid through September 30, 2008.

[482] U.S. Small Business Administration, Office of Advocacy, *A Guide for Government Agencies: How to Comply with the Regulatory Flexibility Act*, May 2003, p. 20.

[483] *Mid-Tex Elec. Coop v. FERC*, 773 F.2d 327, 342 (D.C. Cir. 1985).

[484] *United Dist. Cos. v. FERC*, 88 F.3d 1105, 1170 (D.C. Cir. 1996).

[485] *Cement Kiln*, 255 F.3d at 868.

[486] Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA).

Section 7209 of the Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA) requires that the Secretary of Homeland Security, in consultation with the Secretary of State, develop and implement a plan to require travelers entering the United States to present a passport, other document, or combination of documents, that are "deemed by the Secretary of Homeland Security to be sufficient to denote identity and citizenship." The rule has been developed in response to the requirements of IRTPA. More detail is provided in the preamble to this final rule.

**NUMBER AND
TYPES OF
SMALL ENTITIES
TO WHICH THE
RULE WILL
APPLY**

As stated previously, DHS and DOS have determined that the rule will not apply to small entities; it will apply to individuals who travel in the Western Hemisphere who are currently not required to carry a valid passport for entry into the United States. Individuals are not considered small entities.

Numerous small entities may be indirectly affected by the rule. Chapter 6 describes the typical types of expenditures made by U.S. citizens traveling out of the country and by Mexicans and Canadians traveling to the United States. If Canadian and Mexican travelers forgo travel to the United States, some industries may be negatively affected. Furthermore, if U.S. citizens forgo future travel outside of the country, certain U.S. small businesses may experience benefits. In addition, Chapter 7 addresses the distributional impacts associated with decisions by U.S. citizens to obtain acceptable documentation for continued travel out of the United States. The fees associated with obtaining documentation will reduce the amount of money available to spend locally, potentially affecting additional categories of small entities.

This section summarizes the industries impacted by the three general categories of distributional effects described in Chapter 7. First, some Canadian and Mexican citizens will no longer travel to the United States. We determine the industries affected by this change using survey data. Second, some U.S. citizens will no longer travel to Canada and Mexico. We assume that those who do not substitute domestic travel will spend an equivalent amount to what they would have spent on their trip in their local region, distributed in the same manner as a typical household in that region. Finally, U.S. travelers who purchase documentation in order to continue traveling will have less money to spend on other goods and services. We also apportion this spending based on typical household spending patterns. Note that under Alternatives 2 and 3 (including the chosen Alternative 2B), travel by Mexicans is unlikely to be affected, because Mexican citizens entering at land POEs already carry acceptable documentation for entry under the rule. Therefore, the majority of negative impacts are likely to be incurred by entities along the northern border. Under Alternative 1, impacts would be felt in communities along both borders.

Exhibit 10-1 summarizes the typical distribution of trip expenditures across businesses by Mexicans and Canadians visiting the United States. The sources of these data are described in detail in Chapter 6. During trips to California, Arizona, and Texas, Mexicans generally reported spending the majority of their total trip expenditures on clothing and groceries and at department stores. Conversely, Canadians visiting the

United States reported applying most of their trip expenditures to dining, lodging, and recreational activities.

Exhibit 10-2 reports both the total, and nationwide, number of entities in each of the industries potentially negatively affected by the rule and the number of those entities that meet the SBA's definition of "small" by North American Industrial Classification System (NAICS) code.[487] The table suggests that in all industry categories, most of the entities indirectly affected are likely to be small. It is important to note that not all small entities in these categories will be indirectly affected by the rule; the table merely shows the businesses in each affected industry that would be considered small. The descriptions of spending in the surveys relied upon in Exhibit 10-1 do not allow us to provide more specific industry classification information in Exhibit 10-2.

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[487] Small Business Administration, *Table of Small Business Size Standards*, as viewed at http://www.sba.gov/services/contractingopportunities/sizestandardstopics/tableofsize/index.html on February 17, 2007.

EXHIBIT 10-1   DISTRIBUTION OF TRIP EXPENDITURES BY CANADIAN AND MEXICAN VISITORS TO THE UNITED STATES

SPENDING CATEGORY	SOUTHERN BORDER			NORTHERN BORDER
	CALIFORNIA	ARIZONA	TEXAS	
Clothing	43.7%	-	56.5%	4.8%
Department stores	-	42.2%	-	-
Groceries	24.5	31.5	4.6	-
Dining	17.1	9.6	8.4	23.9
Hotel/Lodging	-	0.9	6.4	31.4
Recreational Activities	-	-	-	12.6
Appliances	2.6	-	11.5	-
Gasoline	2.3	6.4	-	9.5
Furniture	3.9	-	-	-
Sporting goods, books, and music	-	2.2	4.1	4.8
General merchandise	1.8	2.2	4.1	4.8
Miscellaneous store retailers	1.8	2.2	4.1	4.8
Auto rental	-	2.1	-	1.6
Auto parts	1.8	-	-	-
Train and bus tickets	-	-	-	1.6
Toys	0.6	-	-	-
Medical	-	0.6	0.2	-
Total	100.0%	100.0%	100.0%	100.0%

Note: Totals may not sum due to rounding. Category names are based on original surveys, except spending classified into broad categories (e.g., "Other spending" or "Recreational Activities"), which is allocated to more specific categories as described in Chapter 7.

Sources: López, S., Alejandra, O., and S.S. Contreras, Universidad Autónoma de Baja California, "Patrones y hábitos de consumo en Baja California," *Comercio Exterior*, Vol. 52:8, August 2002 as viewed at http://revistas.bancomext.gob.mx/rce/sp/articleReader.jsp?id=7&idRevista=21 on February 13, 2007; Charney, A. and V. Pavlakovich-Kochi (University of Arizona), *The Economic Impacts of Mexican Visitors to Arizona: 2001*, July 2002, p.20; Ghaddar, S., Richardson, C., and C.J. Brown (University of Texas-Pan American), *The Economic Impact of Mexican Visitors to the Lower Rio Grande Valley 2003*, May 2004; Unpublished data obtained electronically from Statistics Canada, Culture, Tourism and the Centre for Education Statistics, on November 7, 2006.

EXHIBIT 10-2   INDUSTRIES INDIRECTLY AFFECTED BY THE FINAL RULE DUE TO REDUCED TRAVEL BY CANADIANS AND MEXICANS TO THE UNITED STATES

NAICS	DESCRIPTION	SMALL BUSINESS SIZE STANDARD (ANNUAL REVENUES)	TOTAL U.S. FIRMS	TOTAL SMALL FIRMS*
442	Furniture and Home Furnishings Stores	<$6.5 million	49,846	48,683
443	Electronics and Appliance Stores	<$6.5 million to $8 million	34,012	33,306
445	Food and Beverage Stores	<$6.5 million to $25million	119,448	118,803
447	Gasoline Stations	<$8 million to $25 million	64,068	63,452
448	Clothing and Clothing Accessories Stores	<$6.5 million to $8 million	69,030	68,087
451	Sporting Goods, Hobby, Book, and Music Stores	<$6.5 million	43,888	43,369
485	Transit and Ground Passenger Transportation	<$6.5 million	14,770	14,460
532111	Passenger Car Rental	<$23.5 million	2,328	2,279
621 (ex. 6216)	Ambulatory Health Care Services (excluding Home Health Care Services)	<$6.5 million to $31.5 million	411,903	410,948
622	Hospitals	<$31.5 million	4,548	2,935
71	Arts, Entertainment, & Recreation	<$6.5 million	103,043	101,192
7211	Traveler Accommodation	<$6.5 million	41,551	40,452
722	Food Services and Drinking Places	<$6.5 million to $19 million	376,637	376,034

Note: SBA presents the number of firms by receipt size in bins (e.g., $1,000,000 - $4,999,999; $5,000,000 - $9,999,999; $10,000,000 - $49,999,999). When the size threshold falls in the middle of a bin range, we include all the firms in that bin size. As a result, this table may overstate the number of small businesses in each NAICS code.

Source: U.S. Small Business Administration, *Table of Small Business Size Standards*, as viewed at http://www.sba.gov/services/contractingopportunities/ sizestandardstopics/tableofsize/index.html, on February 17, 2007 and U.S. Small Business Administration, Office of Advocacy, *Firm Size Data, Classified by receipt size of firm – 2002*, as viewed at http://www.sba.gov/advo/research/data.html on February 17, 2007.

The United States will also see gains in domestic spending from former travelers who opt out of purchasing a WHTI document in order to travel to Canada or Mexico and losses in domestic spending from continuing travelers who have less discretionary income to spend at home because of the cost of purchasing the necessary documentation for travel. In Chapter 7, we apportion these changes in spending by the typical spending distribution for households earning between $35,000 and $50,000 annually. The industries seeing the greatest impacts are listed in Exhibit 10-3.

In addition to these industries, certain "sole proprietors" may require access through U.S. POEs as part of their employment. We do not have an estimate of how many sole proprietors exist nationally, how many of them make border crossings for their jobs, or how many do not currently possess acceptable WHTI documentation (including CBP trusted traveler cards). We acknowledge that these sole proprietors could be directly affected by the rule. However, as described in Chapter 5, the per-individual welfare losses for individuals continuing to travel under Alternative 1 ranges from $88 to $199. Under Alternatives 2 and 3, including the chosen Alternative 2B, welfare losses for these individuals range from $53 to $164 per person. These losses would be incurred once per decade, as an adult passport is valid for 10 years. For individuals who forgo future travel, per decade losses would be, on average, half of these estimates. Thus, these expenditures, if required, would not rise to the level of a "significant economic impact" for potentially affected sole proprietors.

EXHIBIT 10-3   INDUSTRIES INDIRECTLY AFFECTED BY THE FINAL RULE DUE TO REDUCED TRAVEL BY U.S. CITIZENS TO CANADA AND MEXICO AND REDUCED SPENDING DUE TO PASSPORT

NAICS	DESCRIPTION	SHARE OF IMPACT OF HOUSEHOLD SPENDING	SIZE STANDARD	TOTAL U.S. FIRMS	SMALL FIRMS
6211	Offices of Physicians	6.5%	<$9.0 million	179,583	176,120
722	Food Services and Drinking Places	6.5	<$6.5 million	376,637	373,782
531	Real Estate	6.3	<$2.0 million to <$23.5 million	227,584	221,885
42	Wholesale Trade	4.9	500 employees	345,309	342,196
5241	Insurance Carriers	3.1	<$6.5 million	5,930	4,611
622	Hospitals	3.1	<$31.5 million	4,548	2,935
445	Food and Beverage Stores	2.2	<$6.5 million to <$25.0 million	119,632	118,564
5133	Telecommunications	2.0	1,500 employees to <$13.5 million	11,448	Unknown
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	2.0	<$6.5 million	48,121	45,710
81111	Automotive Mechanical and Electrical Repair and Maintenance	1.8	<$6.5 million	94,448	94,053

Note: SBA presents the number of firms by receipt size and employment size in bins (e.g., $1,000,000 - $4,999,999; $5,000,000 - $9,999,999; $10,000,000 - $49,999,999). When the size threshold falls in the middle of a bin range, we include all the firms in that bin size. As a result, this table may overstate the number of small businesses in each NAICS code. Industries listed with multiple size standards have different size standards for the various sub-industries. We were unable to determine the number of small business in the telecommunications industry because the SBA does not bin employment sizes beyond 500 employees. IMPLAN lists the commodity "Owner-occupied dwellings" and the industry "Monetary Authorities – Central Bank" as experiencing a high share of the impact from reduced general household spending. The first cannot be assigned to a particular NAICS code and the second is a governmental industry comprised of large entities; therefore both are left out of this table.

Source: IEc analysis; Distribution of spending from IMPLAN Pro™. IMPLAN Professional®, Version 2.0. Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, MN 55082 www.implan.com; U.S. Small Business Administration, *Table of Small Business Size Standards*, as viewed at http://www.sba.gov/services/contractingopportunities/ sizestandardstopics/tableofsize/index.html, on February 17, 2007; U.S. Small Business Administration, Office of Advocacy, *Firm Size Data, Classified by receipt size of firm – 2002*, as viewed at http://www.sba.gov/advo/research/data.html on February 17, 2007; and U.S. Small Business Administration, Office of Advocacy, *Firm Size Data, Classified by employment size of firm – 1998 - 2002*, as viewed at http://www.sba.gov/advo/research/data.html on February 17, 2007.

REPORTING AND RECORD KEEPING

DHS and DOS have determined that the final rule imposes no new reporting or recordkeeping requirements on small entities.

OTHER FEDERAL RULES

As described in Chapter 2, there are several programs that affect parts of the regulation. The CBP trusted traveler programs, including the NEXUS program on the U.S.-Canada border, the Secure Electronic Network for Travelers' Rapid Inspection (SENTRI) program on the U.S.-Mexico border, the Free and Secure Trade (FAST) program for commercial vehicle operators, and the I-68 permit program for recreational boaters who enter U.S. waters from Canada all expedite border travel for individuals who subject themselves to stringent background checks and in-person interviews with CBP officials. Alternative 1, which would require all U.S. citizens to have a passport book, would effectively eliminate these programs. Alternatives 2 and 3, however, allow FAST, NEXUS, and SENTRI members to use their current documents in place of a passport book or passport card.

REGULATORY ALTERNATIVES

Chapter 1 describes the regulatory alternatives considered in this report. They are as follows:

ALTERNATIVE 1: All U.S. citizens entering the United States via the Mexican or Canadian border must present a traditional passport book.

> ALTERNATIVE 1A: Alternative 1, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 1B: Alternative 1, except for U.S. and Canadian children under 16 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 2: All U.S. citizens must present a passport book, a passport card containing a vicinity-read radio frequency identification (RFID) chip, a CBP trusted traveler card (FAST, NEXUS, SENTRI), a Department of Homeland Security (DHS)-approved Enhanced Driver's License (EDL), or a Merchant Mariner Document (MMD). In addition, Canadian citizens not enrolled in a CBP trusted traveler program will need to present a Canadian passport. For the purposes of this analysis, we assume that there will be no change in the documentation required of lawful permanent residents (LPRs), Mexican citizens, Native Americans, members of the U.S. Armed Forces with military

identification and traveling on official orders, and NATO military personnel on official duty.[488]

> ALTERNATIVE 2A: Alternative 2, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 2B (chosen alternative): Alternative 2, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

ALTERNATIVE 3: Alternative 2, except the passport card and EDLs will not contain a vicinity-read RFID chip.

> ALTERNATIVE 3A: Alternative 3, except for U.S. and Canadian children under 14 years of age, who may instead present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

> ALTERNATIVE 3B: Alternative 3, except for U.S. and Canadian children under 16 years of age, who may present a birth certificate, a Consular Record of Birth Abroad issued by DOS, or a Certificate of Naturalization issued by the U.S. Citizenship and Immigration Services.

Discussion of these alternatives can be found in Chapter 1, and calculation of the direct and indirect costs of each alternative are found in Chapters 5 and 6, respectively. DHS and DOS have determined that none of the alternatives considered would directly affect small entities.

COMMENTS TO THE PROPOSED RULE

One commenter to the June 26, 2007, Notice of Proposed Rulemaking (NPRM) noted several examples of individuals who would be considered small businesses, including sole proprietors, self-employed individuals, and freelancers.

As noted previously in the analysis for the NPRM and this analysis for the final rule, CBP agrees that these "sole proprietors" would be considered small businesses and could be directly affected by the rule if their occupation requires cross-border travel within the Western Hemisphere where a document was not previously required. We do not have an estimate of how many sole proprietors exist nationally, how many of them make border crossings for their jobs, or how many do not currently possess acceptable WHTI documentation (including CBP trusted traveler cards). In any case, welfare losses for

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[488] Mexican nationals must present a valid, unexpired passport and a valid, unexpired visa issued by a U.S. embassy or consulate abroad, or they must present a Border Crossing Card (BCC), also known as a "laser visa." As of September 31, 2001, first-time applicants for BCCs are required to present a valid Mexican passport during the application process. However, individuals who obtained a BCC prior to that date may not currently possess a valid passport.

these individuals range from $53 to $164 per person. Thus, these expenditures, if required, would not rise to the level of a "significant economic impact" for potentially affected sole proprietors.

CONCLUSION   Because this rule does not directly regulate small entities, other than certain sole proprietors who will not experience a significant economic impact, DHS certifies that this rule does not have a significant economic impact on a substantial number of small entities.

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CHAPTER 11 | UMRA AND OTHER IMPACTS

The previous chapter of this report addresses the requirements of the Regulatory Flexibility Act (RFA) of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) and Executive Order 13272. This chapter addresses the remaining analytical requirements under administrative law and executive order. The first analytical requirement is found in Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), which requires agencies to assess the effects of their regulatory actions on state, local, and Tribal governments and the private sector. Second, in response to Executive Order 13211, entitled, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use," we consider whether the rule will result in a significant energy action. We note that requirements of the Paperwork Reduction Act (PRA) to estimate average annual burden are addressed by the Department of State (DOS) in a separate document. Additional PRA burden estimates for special rules for children under age 19 traveling in groups are summarized in the preamble to the final rule.

UMRA Title II of UMRA requires agencies to assess the effects of their regulatory actions on state, local, and Tribal governments and the private sector.[489] Under Section 202 of UMRA, CBP must prepare a written statement, including a cost-benefit analysis, for rules that may result in the expenditure by state, local, and Tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year. If a written statement is needed, Section 205 of UMRA requires CBP to identify and consider a reasonable number of regulatory alternatives. CBP must adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule, unless the Secretary publishes an explanation of why that alternative was not adopted. The provisions of Section 205 do not apply when they are inconsistent with applicable law.

This regulation will not result in direct expenditures by state, local, and Tribal governments. Some local governments operate passport application acceptance facilities, but their costs are recovered through the passport execution fee. However, the regulation will result in annual costs exceeding $100 million that will likely be distributed more heavily on residents of border communities than on individuals living in the interior of the United States. We do not have data on the places of residence of U.S. travelers crossing land borders, so we cannot quantify the geographic distribution of the direct costs. We specify these direct costs as welfare losses to travelers who must obtain a passport in order to travel between the United States and Canada, Mexico, Bermuda, or

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[489] 2 U.S.C. 1531 et seq.

the Caribbean by land, ferry, or recreational boat. Further, most of the direct costs will be incurred by individual U.S. citizens. The remaining direct costs will be incurred by the Federal government.

The components of the regulating agency's written statement must:

- Identify the authorizing legislation;

- Provide a qualitative and quantitative analysis of costs and benefits, including the impacts on state, local, and Tribal governments and on the private sector, and the impacts on health, safety and the environment;

- Estimate, to the extent possible, future compliance costs and disproportionate budgetary effects on particular geographic regions or types of entities;

- Discuss effects on the national economy; and,

- Describe the agency's consultations with elected officials.

Below we address these items.

In the case of the Western Hemisphere Travel Initiative (WHTI), the authorizing legislation is the Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA), discussed in Chapter 1 of this report. The Department of Homeland Security (DHS) and DOS are considering several regulatory alternatives, as summarized in Chapter 1. DHS and DOS have determined that the chosen alternative, Alternative 2B, achieves the statutory requirements of IRTPA at a reasonable cost.

The direct costs of the regulation are assessed in Chapter 5. The annualized costs of this regulation to U.S. travelers are estimated to be $160 million to $430 million, depending upon assumptions of the number of U.S. travelers desiring future access to Mexico and Canada, the discount rate, and the regulatory alternative. These results represent less than 0.01 percent of 2007 Gross Domestic Product (GDP) of $13.8 trillion, well below the macro-economic effect range of 0.25 percent to 0.5 percent that the Office of Management and Budget (OMB) considers measurable.[490]

OMB notes that a regulation with a lesser cost might have a measurable macro-economic impact if it is highly focused on a geographic area or specific economic sector.[491] Travelers affected by the regulation are likely to be geographically diverse but reside primarily in states bordering Mexico and Canada. The added costs of this regulation are small on an individual basis. In Chapter 5, we estimate that 3.3 percent of frequent travelers to Canada and 5.7 percent of frequent travelers to Mexico will opt-out of purchasing acceptable documentation (the opt-out rates rise to 5.4 percent and 9.3 percent

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[490] U.S. Office of Management and Budget, The Executive Office of the President, *Memorandum for the Heads of Executive Departments and Agencies, Guidance for Implementing Title II of S.1*, March 31, 1995; and GDP figure from U.S. Bureau of Economic Analysis, *National Economic Accounts*, as viewed at http://www.bea.gov/bea/dn/nipaweb/TableView.asp?SelectedTable=5&FirstYear=2005&LastYear=2005&Freq=Ann on February 14, 2007.

[491] U.S. Office of Management and Budget, The Executive Office of the President, *Memorandum for the Heads of Executive Departments and Agencies, Guidance for Implementing Title II of S.1*, March 31, 1995.

if the more expensive passport book is the only option), while between 6.4 percent and 25.6 percent of infrequent and rare travelers will choose not to purchase acceptable documentation in order to travel to Mexico or Canada, depending on the regulatory alternative. Because the vast majority of the current traveling population will purchase documentation in order to continue to travel, the cost of the document is likely to be small relative to the utility gained from traveling.

The private sector may also be affected indirectly if the regulation results in reduced visitation to border communities by Mexican and Canadian citizens or changes in local spending by U.S. citizens paying passport fees or forgoing trips out of the country. Chapter 6 describes the overall net effect to the United States of changes in travel expenditures. Under the chosen alternative, Alternative 2B, the net effect over the time period of our analysis is likely to be positive. Chapter 7 provides eight case studies considering potential distributional effects, both in terms of geographic location and types of businesses affected. We found that travel-related industries (e.g., hotels, restaurants, recreational facilities) along the U.S.-Canada border are likely to experience adverse impacts.

Chapter 8 describes qualitatively the types of benefits potentially resulting from this regulation. The direct benefit is heightened security against terrorist attack resulting from limiting terrorists' access to U.S. soil. Another possible benefit will be reduced wait times for crossing the border resulting from the presentation of a smaller set of potential documents and greater automation of the primary inspection process at most land ports-of-entry (POEs), as described in Chapter 9 and in the cost benefit analysis prepared for this final rule.

IMPACTS ON ENERGY SUPPLY, DISTRIBUTION, OR USE

Pursuant to Executive Order 13211, "Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use," Federal agencies must prepare and submit a "Statement of Energy Effects" for all "significant energy actions."[492] The purpose of this requirement is to ensure that all Federal agencies "appropriately weigh and consider the effects of the Federal Government's regulations on the supply, distribution, and use of energy."[493] OMB provides guidance for implementing this order that outlines nine outcomes that may constitute "a significant adverse effect" of a regulatory action under consideration:

- Reductions in crude oil supply in excess of 10,000 barrels per day;

- Reductions in fuel production in excess of 4,000 barrels per day;

- Reductions in coal production in excess of 5 million tons per year;

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[492] "Executive Order 13211 of May 18, 2001: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, and Use," *Federal Register*, Vol. 66, No. 98, May 21, 2001, p. 28355.

[493] U.S. Office of Management and Budget (OMB), The Executive Office of the President, *Memorandum For Heads of Executive Department Agencies, and Independent Regulatory Agencies, Guidance For Implementing E.O. 13211, M-01-27*, July 13, 2001.

- Reductions in natural gas production in excess of 25 million Mcf per year;

- Reductions in electricity production in excess of 1 billion kilowatt-hours per year or in excess of 500 megawatts of installed capacity;

- Increases in energy use required by the regulatory action that exceed the thresholds above;

- Increases in the cost of energy production in excess of one percent;

- Increases in the cost of energy distribution in excess of one percent; or

- Other similarly adverse outcomes.[494]

The regulation will not have a significant adverse effect on the supply, distribution, and use of energy. The regulation will not affect fuel supply or production. In addition, the regulation will require little additional energy use.

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[494] U.S. Office of Management and Budget (OMB), The Executive Office of the President, *Memorandum For Heads of Executive Department Agencies, and Independent Regulatory Agencies, Guidance For Implementing E.O. 13211, M-01-27*, July 13, 2001.

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CHAPTER 12 | CHANGES FROM ANALYSIS SUPPORTING THE PROPOSED RULE

The proposed rule for implementation of WHTI in the land and sea environments was published June 26, 2007 (72 FR 35088). Based on new information provided in public comments and U.S. Customs and Border Protection (CBP) and the Department of Homeland Security (DHS) review of those comments, we revised the analysis presented in this report to include more accurate data and to provide additional information about the potential impacts of the rule. The substantial changes include:

- **Additional Regulatory Alternative:** We have eliminated the "no action" regulatory alternative from consideration and have added an alternative where a passport card without radio frequency identification (RFID) capability is available for use at land ports-of-entry (POEs). Alternative 2 from the regulatory analysis supporting the proposed rule is now presented as Alternative 1, Alternative 3 becomes Alternative 2, and the new alternative with the simpler passport card is presented as the new Alternative 3.

  Under the new Alternative 3, welfare losses experienced by U.S. travelers are the same as for Alternative 2 (where travelers obtain an RFID-capable passport card) because the unit cost of the passport card is the same regardless of whether it contains the RFID technology. However, the costs to CBP of implementing the regulation (e.g., installing new equipment at POEs to read the cards) are lower. As a result, the direct costs of Alternative 3 are less than Alternative 2. The indirect costs and distributional effects of the two alternatives are identical because they are driven by the unit cost of the passport card. The critical risk reduction at which the security benefits of the rule equal the costs of the rule is smaller for Alternative 3 than Alternative 2. The wait time benefits resulting from the rule are likely to be greater under Alternative 2 than Alternative 3; however, we are unable to quantify these benefits at this time.

- **New Passport Rule:** The Department of State (DOS) published several rules affecting the cost of obtaining a passport. One rule reduced the execution fee for obtaining a passport book by five dollars. In addition, the rule increases the ages at which a minor needs to have both parents' consent in order to apply for a passport from under 14 to under 16. Because we monetize the value of time spent applying for documentation, this change represents an increase in the cost of the passport for 14 and 15 year old applicants. A separate rule increased the security fee from $12 to $20. Finally, the passport card rule was published and the security fee was waived from passport card applications. The net effect of

all of these changes is an increase in the cost of the passport book and a decrease in the cost of the passport card. We have incorporated these changed costs into our estimates in Chapter 5 of travelers who obtain WHTI-compliant documentation and those who opt-out of traveling because of the expense of the new requirements. The lower passport card cost results in a lower opt-out rate. This has the effect increasing welfare losses (more documents are purchased) in Chapter 5, decreasing forgone travel-related spending by U.S. travelers who choose not to travel to Canada or Mexico in Chapters 6 and 7, and decreasing forgone household spending by U.S. travelers who purchase passport books or passport cards in Chapter 7. The change in welfare losses in turn affects our break-even analysis in Chapter 8, resulting in a higher critical risk reduction. Conversely, the higher passport book cost results in a higher opt-out rate, decreasing the total welfare losses (Chapter 5), increasing forgone travel-related spending by U.S. travelers (Chapters 6 and 7), and increasing forgone household spending by U.S. travelers (Chapter 7). The change in welfare losses in turn affects our break-even analysis in Chapter 8, resulting in a lower critical risk reduction. For the chosen regulatory alternative, the increased passport book cost and the change the ages at which a minor needs to have both parents' consent to apply for a passport are irrelevant, as all minors under the age of 16 are exempt from the rule and all adults have the option of purchasing the less expensive passport card; therefore, the net effect of DOS's new passport rules are a decrease in our estimates of total welfare losses and the associated impacts in Chapters 5 through 8.

- **Extended Period of Analysis:** In order to capture the effects of this rule for 10 years from the date of implementation, we have extended the final year of our analysis from 2014 to 2018. This change increases the present value of total welfare losses estimated in Chapter 5 and the present value of changes in travel expenditures estimated in Chapter 6. Under the steady-state travel demand scenario applied in Chapter 5, the critical risk reduction required for the benefits of the rule to break-even with costs is slightly lower. We note that in Appendix C, we use Monte Carlo analysis to identify the uncertain variables with the greatest influence on the results of our analysis. Projecting impacts over a longer time frame causes the travel demand growth rate to be the most significant variable.

- **Updated Government Costs:** Based on the availability of more recent information on CBP's implementation costs for this rule, we have updated our estimates of government costs in Chapter 5. The costs are higher, primarily due to information about additional cost categories that were unavailable for the Regulatory Assessment that accompanied the June 26, 2007, proposed rule. The updated government costs carry through to our estimates of the total direct costs of this rule in Chapter 5 and our break-even analysis in Chapter 8, resulting in a higher critical risk reduction.

- **New Information Regarding Changes in Wait Times:** The same analysis that provided updated implementation costs also included an analysis of the changes in wait times as a result of the rule. This analysis has been incorporated into Chapter 9, and we are now able to provide a range of potential benefits due to WHTI.

- **New Estimate of Canadian Travel Behavior:** Comment USCBP-2007-0061-0319 to the proposed rule identified an error in our application of the percentage of Canadian trips to the United States that will be lost due to WHTI reported in *The Potential Impact of a Western Hemisphere Travel Initiative Passport Requirement on Canada's Tourism Industry*.[495] We contacted the original authors of the report in order to obtain further detail on lost trips by mode of travel, as the original figure represented the combined effect of WHTI in the air and land environments. Based on this new detail, we have modified our estimates of forgone spending by Canadian visitors to the United States in Chapters 6 and 7.

- **Effect of Cost of Documentation on Local Spending:** Also in response to comment USCBP-2007-0061-0319, we have expanded our analysis in Chapter 7 to incorporate the effect of residents of border communities spending money on WHTI-compliant documents instead of on household expenditures in the local economic region. The change exacerbates adverse economic impacts in the border communities.

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[495] The Conference Board of Canada, *The Potential Impact of a Western Hemisphere Travel Initiative Passport Requirement on Canada's Tourism Industry*, prepared for the Canadian Tourism Commission, July 2005. Comment USCBP-2007-0061-0319 may be viewed in its entirety at www.regulations.gov.

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