



**NAVAL
POSTGRADUATE
SCHOOL**

MONTEREY, CALIFORNIA

THESIS

**THE ECONOMIC IMPACT OF THE HOMELAND
SECURITY ADVISORY SYSTEM: THE COST OF
HEIGHTENED BORDER SECURITY**

by

Jason J. Cockrum

December 2008

Thesis Advisor:

Robert E. Looney

Second Reader:

Harold A. Trinkunas

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.			
1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE December 2008	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE The Economic Impact of the Homeland Security Advisory System: The Cost of Heightened Border Security		5. FUNDING NUMBERS	
6. AUTHOR(S) Jason J. Cockrum		8. PERFORMING ORGANIZATION REPORT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000		10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A		11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.	
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release, distribution is unlimited		12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) The majority of literature written on the economic impact of border security has indicated that the increased security following 9/11 has had adverse effects on the flow of foreign imports. This study measures the direct cost the Homeland Security Advisory System (HSAS) had on U.S. Customs and Border Protection (CBP) overtime spending and the indirect cost on the U.S. economy by reducing the daily flow of imports. Three case studies were conducted at the United States' largest ports of entry. Each compared CBP overtime spending and the daily flow of imports during the seven periods the HSAS was elevated to ORANGE between 2002 and 2005. The study found that increased threat levels of the HSAS resulted in 50% more overtime spending by CBP. However, the HSAS had no impact on the daily flow of imports into the United States during the seven periods of elevated security between 2002 and 2005.			
14. SUBJECT TERMS Homeland Security Advisory System, Economic Impact of Border Security, U.S. Customs and Border Protection, Ambassador Bridge, World Trade Bridge, Port of Los Angeles, Port of Long Beach		15. NUMBER OF PAGES 83	
		16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

**THE ECONOMIC IMPACT OF THE HOMELAND SECURITY ADVISORY
SYSTEM: THE COST OF HEIGHTENED BORDER SECURITY**

Jason J. Cockrum
Major, United States Air Force
B.S., United States Air Force Academy, 1995

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

from the

**NAVAL POSTGRADUATE SCHOOL
December 2008**

Author: Jason J. Cockrum

Approved by: Dr. Robert E. Looney
Thesis Advisor

Dr. Harold A. Trinkunas
Second Reader

Dr. Harold A. Trinkunas
Chairman, Department of National Security Affairs

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

The majority of literature written on the economic impact of border security has indicated that the increased security following 9/11 has had adverse effects on the flow of foreign imports. This study measures the direct cost the Homeland Security Advisory System (HSAS) had on U.S. Customs and Border Protection (CBP) overtime spending and the indirect cost on the U.S. economy by reducing the daily flow of imports. Three case studies were conducted at the United States' largest ports of entry. Each compared CBP overtime spending and the daily flow of imports during the seven periods the HSAS was elevated to ORANGE between 2002 and 2005. The study found that increased threat levels of the HSAS resulted in 50% more overtime spending by CBP. However, the HSAS had no impact on the daily flow of imports into the United States during the seven periods of elevated security between 2002 and 2005.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	THE COST OF BORDER SECURITY	1
A.	MAJOR RESEARCH QUESTION.....	1
B.	IMPORTANCE.....	1
C.	PROBLEMS AND HYPOTHESES	3
D.	LITERATURE REVIEW	3
1.	The U.S.-Canada Border.....	4
2.	The U.S.-Mexico Border.....	5
3.	Maritime Port of Entry	6
E.	METHODS AND SOURCES.....	7
II.	THE HOMELAND SECURITY ADVISORY SYSTEM.....	9
A.	HOMELAND SECURITY PRESIDENTIAL DIRECTIVES	9
B.	CHANGES IN THE HSAS THREAT LEVEL	11
1.	Period One.....	12
2.	Period Two.....	13
3.	Period Three.....	14
4.	Period Four.....	15
5.	Period Five.....	16
6.	Period Six.....	17
7.	Period Seven	17
III.	THE CANADIAN CONNECTION.....	19
A.	DETROIT-WINDSOR AND THE AUTOMOTIVE INDUSTRY	19
B.	THE AMBASSADOR BRIDGE SYSTEM	21
C.	PORT OF DETROIT CUSTOMS AND BORDER PROTECTION.....	23
1.	Inspections	24
2.	Overtime Data	27
D.	AMBASSADOR BRIDGE CARGO DATA	29
IV.	A BRIDGE TO MEXICO	33
A.	THE LAREDO BRIDGES.....	33
B.	PORT OF LAREDO CUSTOMS AND BORDER PROTECTION	35
1.	Inspections	36
2.	Overtime Data	38
C.	LAREDO CARGO DATA	40
V.	THE UNITED STATE'S LINK ACROSS THE PACIFIC	43
A.	THE PORT OF LOS ANGELES	43
B.	THE PORT OF LONG BEACH	44
C.	U.S. CUSTOMS & BORDER PROTECTION AT LA/LB SEAPORT... 	45
1.	Inspections	46
2.	Overtime Data	48
D.	LA/LB CARGO DATA	50
VI.	SUMMARY OF DATA AND RECOMMENDATIONS.....	55

A.	THE DIRECT COST TO U.S. CUSTOMS AND BORDER PROTECTION.....	55
B.	THE INDIRECT COST TO THE U.S. ECONOMY	57
C.	RECOMMENDATIONS.....	60
	1. CBP Overtime Spending	60
	2. Commission Border Infrastructure Studies	60
	3. CBP Facilities	60
	4. Improved Technology	61
	5. Intelligence Fusion	61
	6. Maintain Daily Historical Records.....	61
	LIST OF REFERENCES	63
	INITIAL DISTRIBUTION LIST	69

LIST OF TABLES

Table 1.	The Homeland Security Advisory System.....	10
Table 2.	Seven Periods of ORANGE.....	12
Table 3.	Port of Detroit Overtime Data.....	28
Table 4.	Ambassador Bridge Commercial Traffic.....	30
Table 5.	Service Port-Laredo Overtime Data.....	39
Table 6.	Laredo Southbound Commercial Traffic 2002-2005.....	41
Table 7.	CBP LA/LB Seaport Overtime Data.....	49
Table 8.	Long Beach Port Authority Cargo Data.....	51
Table 9.	San Pedro Bay Gate Moves 2002-2005	52
Table 10.	CBP Overtime Spending 2002-2005	56
Table 11.	Total Commercial Vehicles / TEUs 2002-2005.....	58

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

I would like to thank Dr. Robert E. Looney for his support throughout this project. His “learning should be fun” approach made the completion of the thesis enjoyable.

The men and women of U.S. Customs and Border Protection were instrumental in providing first hand information for this project. Mrs. Christina Bell, Director, Executive Secretariat at CBP, was critical in providing support within the organization. Without her sponsorship, this project would have never taken flight. Each of the three CBP field offices provided a better understanding of border security operations and the issues facing their ports of entry. Mrs. Margie Gutierrez of the Laredo CBP Field Office, Mr. Jose Uribe of Service Port-Laredo, Mr. Gabriel Padilla of the Los Angeles CBP Field Office, and Mr. Patrick Reed of the Detroit CBP Field Office provided outstanding support. I am grateful for their time and patience in explaining CBP operations and procedures. I would also like to thank Mr. Daniel R. Meyer, CBP HQ Budget Management & Program Analyst, for his research in providing CBP overtime data at the three ports of entry.

Daily cargo data from each of the three ports would have not been possible without the support from the following individuals and their private sector companies: Mrs. Yvette Limon, Assistant Director City of Laredo Bridge Department; Mr. Skip McMahon, of Canadian Transit; Mrs. Michele Grubbs of the Pacific Maritime Shippers Association; Mr. John DiBernardo of SSA Marine; Mr. Jim Flanagan of APM Terminals; and Mr. Curtis Christensen of the Port of Long Beach. I am grateful to each of you for your time and support throughout this project.

The editorial team of Eric and Linda Swenson were invaluable to this project. Thank you for guiding me through the English language.

Most importantly, I would like to thank my girls: Kristen, Olivia and Ella. The past year has been incredible. Thank you for your support and patience. I dedicate this work to you. My hope is you will live in a world absent of terrorist threats and the need for advisory systems. Ya’ll are my WWW.

THIS PAGE INTENTIONALLY LEFT BLANK

I. THE COST OF BORDER SECURITY

A. MAJOR RESEARCH QUESTION

In the aftermath of the 9/11 attacks, Homeland Security Presidential Directive 3 established the Homeland Security Advisory System (HSAS). The HSAS was established as a mechanism to inform government, the private sector, and American citizens of both the probability of an attack occurring and its potential gravity.¹ An important point often debated is that increases in the threat level of the HSAS come with additional costs. This paper will focus on the economic impact that elevations in the HSAS has on international trade and U.S. Customs and Border Protection (CBP).

B. IMPORTANCE

Economic trade between the United States and the world has rapidly increased during the past two decades. The implementation of free trade agreements such as the North American Free Trade Agreement (NAFTA) and the Dominican Republic-Central America Free Trade Agreement (DR-CAFTA) has dramatically changed the dynamics of the U.S. manufacturing industry and consumer markets. While free trade has substantially increased productivity, the U.S. economy has become critically dependent on foreign trade and the rate at which it arrives from distant markets. In the month of March 2008, more than \$170 billion worth of imports traveled legally across the nation's borders.² Foreign trade annually constitutes 25% of the U.S. Economy. The current trends in foreign trade will likely continue to increase as the United States' membership in free trade agreements and involvement in world markets both continue to grow.

¹ Shawn Reese, *Homeland Security Advisory System: Possible Issues for Congressional Oversight* (Washington, D.C.: Congressional Research Services, The Library of Congress, 2006), 1, <http://bosun.nps.edu/uhtbin/hyperion-image.exe/CRS-RL32023.pdf> (accessed May 28, 2008).

² Foreign Trade Division, U.S. Census Bureau, "Foreign Trade Statistics," <http://www.census.gov/foreign-trade/statistics/highlights/top/top0803cm.html#imports> (accessed June 2, 2008).

The Homeland Security Advisory System plays a critical role in keeping Americans safe by allowing the Department of Homeland Security (DHS) to disseminate terrorist threat warnings quickly to federal, state, and local security agencies. Additionally, the HSAS affords DHS an effective tool for providing warnings to public and private sector entities. While the HSAS has been successful in broadcasting changes in the threat level, its implementation has also adversely impacted the United States' economy. Between September 10, 2002 and August 12, 2005, the HSAS has been elevated from threat level YELLOW to ORANGE seven times for a total of 236 days. The total extent of the economic damage inflicted by increases in border security is extremely complex and has been debated by numerous studies. However, it is agreed that slow downs in trade from additional security at our nation's ports of entry can result in billions of dollars per day in additional costs and lost productivity. In the days following the attacks of September 2001, industries that relied on just-in-time shipping to keep their production lines running were hit the hardest. For example, the auto industry came to a stop the week after the 9/11 attacks as Ford and DaimlerChrysler closed six different U.S. manufacturing plants due to a lack of necessary components that were assembled in Canada.³

The implementation of threat level ORANGE security procedures has an additional direct cost to the U.S. Customs and Border Protection organization. Increased security translates into more frequent and more demanding searches of cargo and people passing across the U.S. borders. The increase in workload under heightened conditions creates longer workdays for CBP personnel. Under these surge operations, CBP must provide additional overtime payments to meet the required manning.

The HSAS is a critical tool to warn the nation. The increased reliance on foreign trade and a just-in-time supply chain make implementing the HSAS potentially hazardous to the U.S. economy. Increased work levels during elevated security periods require more manpower and overtime pay. These factors must be carefully considered in the decision to elevate the Homeland Security Advisory System.

³ Peter Andreas and Thomas J. Biersteker, *The Rebordering of North America: Integration and Exclusion in a New Security Context* (New York: London: Routledge, 2003), 115.

C. PROBLEMS AND HYPOTHESES

The general consensus from experts regarding the HSAS is that the heightened security level is necessary, but the system places significant costs directly on Customs and Border Protection and indirectly on the U.S. economy by limiting the flow of imports. This study will determine what the direct cost to CBP is during increased threat levels, and show that the HSAS had little effect on restricting the flow of imports into the United States.

Secondary economic impacts of the HSAS such as the airline industry, lost tourism, and retail business from cross-border shoppers are beyond the scope of this study. Additionally, the impact the Homeland Security Advisory System has on foreign economies will not be addressed in this project.

D. LITERATURE REVIEW

A great deal of literature on the economics of border security has been written following the terrorist attacks of 2001. Much of the focus has been targeted on the rise of security inspections on persons and goods entering through the United States' more than 300 ports of entry. The range of the literature has varied from the economic impact of border delays to environmental and highway safety issues for foreign drivers. The most significant literature for this project can be broken down into three different areas: 1) transportation of Canadian exports into the United States, 2) transportation of Mexican exports into the United States, and 3) maritime container shipment. While the studies in each of these three areas focus on the economic impact of post 9/11 trade, none of the literature has attempted to calculate the resulting cost associated with increases in the HSAS.

The majority of the literature has been produced in conjunction with area or state economic development organizations, or by federal governmental organizations such as the United States General Accounting Office. The methods of the studies vary from surveys of transport drivers, site visits and personal interviews, to a combination of

secondary sources reviews. Impact studies on both the U.S. and Canadian economy have been conducted, while the issue on the Southern border has been one sided with limited information written concerning the impact on the Mexican economy.

1. The U.S.-Canada Border

Trade between the U.S. and Canada represents the largest bilateral trading relationship in the world. Imports and exports to Canada account for approximately 20% of all U.S. trade.⁴ Prior to 9/11, a border-wide study of transit times had not been conducted. In 2003, a U.S. Department of Transportation study by Taylor, Robideaux and Jackson looked at delays on the U.S.-Canada border. The report assembled Canadian Customs archives, site visits to various POEs, and interviews with the main stakeholder to assess the economic impact of wait times, processing times, lost productivity, and fees. Taylor's study found that the border management system and trade policies were costing the U.S. and Canadian economies an estimated \$10.3 billion per year. The study addressed the cause of the inefficiencies as being related to a combination of factors, "including a lack of sufficient federal inspection service booths at high volume crossings, and an inability to staff all booths during peak volumes."⁵

The economic impact of traffic congestion at the Windsor-Detroit crossing was the focus of a 2004 HLB Decision Economics study. The report looked at two broad categories: the impact on cross-border freight movements and industry productivity on the just-in-time automobile supply chain; and the impact on cross-border personal trips for vacation, shopping, or recreation purposes. The study projected that the mounting congestion and delays on the Michigan/Ontario border during the next two decades would cost the U.S. \$11.4 billion per year in lost productivity, and 17,000 fewer jobs.⁶

⁴ Foreign Trade Division, U.S. Census Bureau, "Foreign Trade Statistics," <http://www.census.gov/foreign-trade/statistics/highlights/top/top0803cm.html#imports> (accessed June 2, 2008).

⁵ John C. Taylor, Douglas Robideaux and George C. Jackson, *The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options* (n.p.: May 21, 2003), 7.

⁶ HLB Decision Economics Inc., *Regional and National Economic Impact of Increasing Delay and Delay Related Costs at the Windsor-Detroit Crossings* (n.p.: January 2004).

The Ontario Chamber of Commerce Borders and Trade Development Committee conducted a 2004 study to quantify the post 9/11 impacts on Ontario and its businesses. The study is aimed at the trucking, automotive, and tourism industries; and how they are impacted by border delays. The Ontario Chamber found that the average wait times to cross the U.S. border ranged between 60 and 120 minutes, costing the Ontario province \$5.25 billion annually in lost revenue.⁷

An additional study was conducted by DAMF Consultants Inc. in 2005 to assess how compliance with U.S. import security procedures at the Canada/U.S. border affected Canadian motor carriers operating in the United States. The DAMF study makes a detailed review of U.S. border security measures and conducts a survey of Canadian carriers representing the main trucking industry segments. The study found that increased truck delays resulting from U.S. security measures are costing the Canadian trucking industry between \$179 million to \$406 million per year.⁸

2. The U.S.-Mexico Border

Mexico is the United States' second largest trading partner as it accounts for more than 11% of the total U.S. foreign trade, and ranks third in exports to the United States.⁹ Most of the applicable literature written on the U.S. southern border is focused on freight movements, the sensitivity of the import/export sector to delays, and uncertainty in border transit times resulting from heightened security procedures. One study that looked at the effects of border infrastructures prior to 9/11 was Keith Phillips's report, *Transportation: Infrastructure and the Border Economy*. Phillips highlights NAFTA's dramatic increases in border traffic and how it has impacted border infrastructure. His

⁷ Ontario Chamber of Commerce, "Cost of Border Delays to Ontario," *Ontario Chamber of Commerce and Borders and Trade Development Committee*, May 2004, <http://site.ebrary.com/lib/albertace1/Doc?id=10084345> (accessed March 28, 2008).

⁸ Canada and others, *The Cumulative Impact of U.S. Import Compliance Programs at the Canada/U.S. Land Border on the Canadian Trucking Industry: Final Report* (Ottawa, Ont: Transport Canada, 2005), 58, <http://www.tc.gc.ca/pol/en/Report/BorderStudy/Main.htm> (accessed March 28, 2008).

⁹ "Foreign Trade Statistics," *Foreign Trade Division, U.S. Census Bureau*, 1.

2001 predictions indicate that, “border cities, particularly Laredo, will benefit from growth in the short-haul trucking industry, but efficiency in border transportation may result in reduced job growth on the border.”¹⁰

The importance of wait times to Mexican based companies that export goods to the United States is examined in a San Diego Association of Governments study. Border delays and their impact on a company’s profitability, employment, and exports are the focus of this report. In 2005, traffic delays at the San Diego-Baja border cost the U.S. and Mexican economies an estimated \$6 billion in gross output and more than 51,000 jobs.¹¹

Tony Payan and Amanda Vasquez of the University of Texas at El Paso looked at the different initiatives undertaken after 9/11 to secure the U.S.-Mexico border. The authors analyze the cost of border transactions to local retail businesses and the import/export sector. Additionally, they look at how increased security measures affect the drayage transport system at the ports of entry. They found a decrease in economic trade in the months that immediately followed 9/11 but no long-term impact on border wait times.¹²

All of the mentioned studies on the U.S.-Canada/Mexico border are different in nature and were conducted for varying reasons. However, the studies tend to focus on what impact border traffic and freight movements have on the economy.

3. Maritime Port of Entry

The majority of literature written on maritime shipping’s impact on homeland security has focused on the threat of a weapon of mass destruction arriving via a shipment container. The Los Angeles and Long Beach ports are the largest in the United States. The twin ports account for 17% of all U.S. exports and are responsible for

¹⁰ Keith R. Phillips and Carlos E. Manzanares, *The Border Economy: Transportation Infrastructure and the Border Economy* (n.p.: June 2001), 4.

¹¹ HDR/HLB Decision Economics Inc., *Economic Impacts of Wait Times at the San Diego-Baja California Border* (n.p.: January 2006).

¹² Tony Payan and Amanda Vasquez, *Is it Worth the Candle? The Costs and Inconvenience of Homeland Security on the U.S.-Mexico Border* (University of Texas at El Paso: November 1, 2005), 17.

delivering 43% of U.S. imports. A disruption in the flow of cargo into the Los Angeles POE would have worldwide effects on commerce. Studies of port closures have referenced the shutdown of the West Coast docks during the 2002 labor lockout costing in excess of \$1.96 billion per day, and *The Economic Impacts of Dirt Bomb Attacks on the Los Angeles and Long Beach Ports: Applying the Supply-Driven NIEMO* incorporate this data in calculating the economic impact of terrorist attacks on the San Pedro Bay ports.¹³

United States Government Accountability Office has addressed ways of streamlining the container Security process,¹⁴ and the implementation of the SAFE Port Act.¹⁵ Other authors like terrorism expert, Steven Flynn, have focused on the problems that would arise from “how the U.S. government would respond to an attack on a domestic seaport.”¹⁶ His works also suggests that an attack on a major seaport like Los Angeles would bring world commerce to a stand still. However, similar to the Canada and Mexico borders, literature has not addressed the economic impact of changes in the HSAS threat level on the nation’s maritime ports of entry.

E. METHODS AND SOURCES

This thesis uses three case studies to gain an overall perspective on how the HSAS affected the U.S. economy and CBP. For determining the indirect economic impact, the case studies focus on daily cargo movements of imports at three of the United States’ largest ports of entry: Detroit, MI; Laredo, TX; and Los Angeles/Long Beach,

¹³ JiYoung Park, *The Economic Impacts of Dirty Bomb Attacks on the Los Angeles and Long Beach Ports: Applying the Supply-Driven NIEMO (National Interstate Economic Model)* (Los Angeles, CA: School of Policy, Planning, and Development; University of Southern California, 2007), 21.

¹⁴ Richard M. Stana and others, “Container Security a Flexible Staffing Model and Minimum Equipment Requirements would Improve Overseas Targeting and Inspection Efforts: Report to Congressional Requesters,” *U.S. Government Accountability Office*, <http://www.gao.gov/new.items/d05557.pdf> (accessed June 2, 2008).

¹⁵ Stephen L. Caldwell and others, “Maritime Security Observations on Selected Aspects of the SAFE Port Act: Testimony before the Subcommittee on Border, Maritime, and Global Counterterrorism, Committee on Homeland Security, House of Representatives,” *U.S. Govt. Accountability Office*, <http://www.gao.gov/new.items/d07754t.pdf> (accessed June 2, 2008).

¹⁶ Stephen E. Flynn and Council on Foreign Relations, *The Edge of Disaster: Rebuilding a Resilient Nation*, 1st ed. (New York: Random House: in cooperation with the Council on Foreign Relations, 2007), 133.

CA. Each of these ports was selected to provide a representation of the United States' largest economic trading partners: Canada, Mexico, and China. By comparing the amount of cargo transported through each POE during the seven periods of ORANGE between 2002-2005, against the days prior under threat level YELLOW, it is possible to determine how higher security conditions impacted the daily flow of goods into the United States. By comparing CBP overtime payments during the same seven periods, it is possible to determine the direct financial impact on U.S. Customs and Boarder Protection. Hopefully, this paper will provide DHS policy makers an accurate measure of the financial impact changes in the Homeland Security Advisory System have on both CBP and the U.S. Economy.

II. THE HOMELAND SECURITY ADVISORY SYSTEM

On March 12, 2002, the Director of the White House Office of Homeland Security, Tom Ridge, announced the establishment of the Homeland Security Advisory System (HSAS). In a White House press conference, Director Ridge introduced the HSAS with the following description:

The Homeland Security Advisory System is designed to measure and evaluate terrorist threats and communicate them to the public in a timely manner. It is a national framework; yet it is flexible to apply to threats made against a city, a state, a sector, or an industry. It provides a common vocabulary, so officials from all levels of government can communicate easily with one another and to the public. The system is designed to encourage partnerships between the public and the private sectors, between all levels of law enforcement and public safety officials, and between – and among all levels of government.

A. HOMELAND SECURITY PRESIDENTIAL DIRECTIVES

In the days following the terrorist attacks of September 11, 2001, the U.S. Government made a series of vague warnings recommending American citizens exercise higher vigilance. Critics of the warnings felt the government recommendations were confusing to local authorities and alarming to the public. In response to these claims, President Bush signed Homeland Security Presidential Directive-3 (HSPD-3) on March 11, 2002. HSPD-3 made the HSAS a binding directive for the federal government and suggested that other levels of government and the private sector implement the HSAS as well.¹⁷ HSPD-3 modeled the HSAS after the Department of Defense's Threatcon system with five color-coded levels that each describes a different threat condition. Each level then provides a list of recommended protective measures to implement as the alert level is raised (see Table 1).

¹⁷ Homeland Security Presidential Directive 3: Homeland Security Advisory System, March 11, 2002.

HSAS Threat Levels		
Threat Level	Risk of Terroris Attack	Protective Measures
GREEN Low	Low	Refining and exercising preplanned protective measures ensure personnel receive proper training on the Homeland Security Advisory System and preplanned Protective Measures Institutionalize processes to ensure all facilities and sectors are regularly assessed for vulnerabilities and measures to mitigate terrorist attacks
BLUE Guarded	General	Check emergency response communications Review and update emergency response procedures Provide information to the public that will strengthen its ability to react appropriately
YELLOW Elevated	Significant	Increase surveillance of critical locations Coordinate emergency plans with other federal, state and local agencies Assess the threat and refine preplanned protective measures Implement contingency and emergency response plans
ORANGE High	High	Coordinate security efforts with Federal, State, and local law enforcement and armed forces organizations Take additional precautions at public events, change venues, or cancel if necessary Prepare to execute contingency procedures--disperse workforce Restrict threatened facility access to essential personnel only
RED Severe	Severe	Increase or redirect personnel to address critical emergency needs Assign emergency response personnel and pre-position specially trained teams and resources Monitor and redirect transportation systems Close public and government facilities

Source: Homeland Security Presidential Directive 3, March 11, 2002

Table 1. The Homeland Security Advisory System

HSPD-3 assigned the duties of administering the HSAS to the U.S. Attorney General. The threat level was to be set by the Attorney General in consultation with the Assistant to the President for Homeland Security and the members of the Homeland Security Council. The Attorney General was also responsible for establishing a system to convey threat intelligence to federal, state, and local government officials, law enforcement agencies, and the private sector. These responsibilities shifted during the following year with the passage of the Homeland Security Act of 2002, which established

the Department of Homeland Security (DHS).¹⁸ The responsibility for administering the HSAS was transferred to DHS Under Secretary for Information and Analysis and Infrastructure Protection. In February 2003, President Bush signed HSPD-5, which transferred responsibility to the Secretary of DHS for assigning the HSAS threat level and conveying related information.¹⁹ HSPD-5 still required the Secretary to consult with members of the Homeland Security Council, if time allowed, prior to assigning a threat level.

B. CHANGES IN THE HSAS THREAT LEVEL

Since Director Ridge's introduction, the nation's HSAS threat level has never been lower than YELLOW. Between March 2002 and August 2005, there were seven periods that the HSAS was raised to ORANGE for the entire nation. Some of these periods were as short as ten days and the longest period stretched over 102 calendar days. In total, the nation spent 236 calendar days in ORANGE between March 2002 and August 2005. The threat level for a specific city reached RED for the first time on May 11, 2005. For eight minutes, government buildings in the District of Columbia were locked down as a small airplane flew within three miles of the White House and Capitol.²⁰ Once the airplane was secured, the threat level returned to YELLOW. The airline transportation sector has remained at ORANGE since the HSAS introduction in 2002.

Many state and local government agencies and some private companies have chosen not to implement certain ORANGE procedures during some of the seven periods. State and city officials have struggled with determining the actual risk to their populations when the national threat level has been raised. While implementing ORANGE procedures has been an option for local leaders, in accordance with HSPD-3, compliance by federal government originations is mandatory.

¹⁸ Homeland Security Act of 2002, Public Law 107-296, 107th Cong., November 25, 2002.

¹⁹ Homeland Security Presidential Directive 5: Management of Domestic Incidents, February 28, 2003.

²⁰ Jim Miklaszewski, Pete Williams, and Tom Curry, "Day after Panic, D.C. Ponders Evacuation Plan," *NBC, MSNBC and News Services*, May 11, 2005.

HSAS Threat Level ORANGE		
Date	Number of Calendar days at ORANGE	Reason for ORANGE threat level
1) Sep 11, 2002 - Sep 24, 2002	14	Terrorist threat info from debriefings of senior al Qaeda operative / 1 year anniversary of 9/11
2) Feb 7, 2003 - Feb 27, 2003	21	Intel suggesting al Qaeda attacks on apt buildings, hotels, other soft skin targets after Bali and Mombasa bombings during Hajj
3) Mar 17, 2003 - Apr 16, 2003	31	Operation Liberty Shield--Intel indicated al Qaeda may attempt to launch attacks on U.S. interests to defend Muslims & Iraqi people / Start of OIF
4) May 20, 2003 - May 30, 2003	11	Wake of bombings in Saudi Arabia & Morocco Believed al Qaeda conducting world wide campaign to attack Westerners / Memorial Day weekend
5) Dec 21, 2003 - Jan 9, 2004	20	Increased terrorist communications indicating attacks during holiday season and beyond using aircraft as a weapon
6) Aug 1, 2004 - Nov 10, 2004	102	Intel indicates that al Qaeda planning attacks on financial institutions in New York, DC, and New Jersey / ORANGE for financial sector only
7) Jul 7, 2005 - Aug 12, 2005	37	Terrorist bombings of London subway Threat level raised for mass transit sector only
	236	Total number of calendar days of Threat Level ORANGE

Source: U.S. Department of Homeland Security

Table 2. Seven Periods of ORANGE

1. Period One

On September 10, 2002, U.S. Attorney General Ashcroft announced in a press conference, “after conferring with the Homeland Security Council, the recommendation

has been made to increase the national threat level to High Risk.” President Bush accepted the recommendation and the HSAS was raised to ORANGE for the first time for the entire nation. According to General Ashcroft, the U.S. intelligence community had, “received information based on debriefings of a senior al Qaeda operative.” The intelligence indicated that attacks were being planned around the anniversary of 9/11. Additional intelligence suggested car bombs and suicide bombers might be used against U.S. interests. General Ashcroft indicated that the most likely targets would be against the, “transportation and energy sectors, and facilities or gatherings that would be recognized as symbols of American power.” Director Ridge said the elevation of the HSAS to ORANGE would result in, “additional security personnel at federal facilities, the erection of barriers to adjust traffic flow, and more frequent inspections of people and cars entering federal facilities.”²¹ While answering questions from the press regarding the announcement, General Ashcroft said the intelligence that led to the elevation in the HSAS had been received within the previous 24-hours and was primarily focused overseas.

On September 24, General Ashcroft and Director Ridge issued a joint statement announcing the decision to return the HSAS threat level to YELLOW. General Ashcroft cited the arrest of six men in Buffalo; the capture of senior al Qaeda operatives in Pakistan, Singapore, and Yemen; and the passing of the 9/11 anniversary as reasons for the decision to return to YELLOW.²² The first period of threat level ORANGE lasted for 14 days.

2. Period Two

On February 7, 2003 during a White House press conference, General Ashcroft, Secretary Ridge, and FBI Director Mueller announced the decision to again increase the HSAS to ORANGE. The decision was based on specific intelligence that, “al Qaida may attempt to attack Americans in or around the end of the Hajj, a Muslim religious period

²¹ Director Ridge, Attorney General Ashcroft Discuss Threat Level, The Justice Department Office of the Press Secretary, September 10, 2002.

²² “Threat Level Returns to ‘Elevated,’” Joint Statement of Attorney General John Ashcroft and Homeland Security Adviser Tom Ridge, *Office of the U.S. Attorney General*, September 24, 2002.

ending mid-February 2003.” General Ashcroft emphasized apartment buildings, hotels and other soft skinned buildings as possible al Qaida targets in the United States. Additionally, a nightclub bombing in Bali, Indonesia; the bombing of a resort in Mombasa, Kenya; and the discovery of the chemical, ricin during an arrest in London, contributed to the decision to raise the threat level of the HSAS. Secretary Ridge said the increase from YELLOW to ORANGE would result in, “increased security personnel at points of entry, additional protective measures at all federal agencies, and restrictions on travel around federal facilities and airports would be implemented.”²³ In a separate press release, Secretary Ridge said the department of Customs and Border Protection would be increasing the number of secondary vehicle inspections with Non-Intrusive Inspection (NII) equipment for both passenger vehicles and cargo containers and trucks.²⁴

On February 27, General Ashcroft and Secretary Ridge announced the HSAS threat level would return to YELLOW. The decision to lower the threat level was based on how intelligence had evolved, and “the passing of time period in or around the end of the Hajj.”²⁵ This announcement ended the 21 days of ORANGE for period two.

3. Period Three

Three days prior to the start of Operation Iraqi Freedom, Secretary Ridge announced Operation Liberty Shield to increase protective measures to thwart attacks against the homeland. Liberty Shield was based on intelligence estimates indicating, “terrorist will attempt multiple attacks against U.S. and Coalition targets worldwide in the event of a U.S.-led military campaign against Saddam Hussein.”²⁶ The intelligence community believed that attacks would be conducted against the United States by al

²³ “Homeland Security Threat Level Raised to Orange,” Remarks by Attorney General John Ashcroft, Secretary of Homeland Security Tom Ridge, and FBI Director Robert S. Mueller, *White House Press Conference*, February 7, 2003.

²⁴ “Agency Actions in Response to the National Elevated Alert Level,” *U.S. Department of Homeland Security Office of the Press Secretary*, February 7, 2003.

²⁵ “Joint Statement of Attorney General John Ashcroft and Secretary of Homeland Security Tom Ridge,” *U.S. Department of Homeland Security Office of the Press Secretary*, February 27, 2003.

²⁶ “Operation Liberty Shield: Statement by Homeland Security Secretary Tom Ridge,” *U.S. Department of Homeland Security Office of the Press Secretary*, March 17, 2003.

Qaida claiming they were defending Muslims or the Iraqi people. Additionally, Iraqi state agents, surrogate groups, and other organizations could attempt attacks against United States interests. On March 17, 2003, Secretary Ridge explained how Operation Liberty Shield would affect U.S. land and maritime borders. Ships arriving and departing from U.S. ports would have armed Sea Marshals onboard to monitor the ship's crew, increased patrols and surveillance of the land borders between major ports of entry, and increased screening of vehicles, personnel, and cargo crossing into the United States would be some of the primary actions to increase border security.²⁷ Secretary Ridge continued to explain inspections at the land borders would not significantly impact the movement of people or cargo across the border.

On April 16, Secretary Ridge cited a review of the intelligence assessment of threats and the drawing down of major combat operations in Iraq as the reason the HSAS was returned to YELLOW.²⁸ Period three covered 31 days in ORANGE.

4. Period Four

After consulting with the Homeland Security Council, Secretary Ridge raised the HSAS again on May 20, 2003. This elevation in the threat level came one week after terrorist bombings in Riyadh, Saudi Arabia and Casablanca, Morocco. The intelligence community believed that these events were part of an al Qaeda worldwide campaign.²⁹ The approaching Memorial Day weekend provided terrorists a number of opportunities, but U.S. officials said, "they were most worried about landmarks like the New York subway system, Sears Tower, and a number of sites in California."³⁰ The intelligence led

²⁷ "Operation Liberty Shield," U.S. Department of Homeland Security Office of the Press Secretary, March 17, 2003.

²⁸ "Statement by Secretary Tom Ridge on Lowering the Threat Level on April 16th," U.S. Department of Homeland Security Office of the Press Secretary, April 16, 2003.

²⁹ "Statement by Homeland Security Secretary Tom Ridge on Raising the Threat Level," U.S. Department of Homeland Security Office of the Press Secretary, May 20, 2003.

³⁰ Mintz, John and Schmidt, Susan, "Government Raises Terror Alert Level to Orange; Officials Say Intelligence Suggests Al Qaeda Attacks," *The Washington Post*, May 21, 2003, A.01.

officials to believe that the largest threat was to facilities where Westerners congregate in North Africa, the Middle East, and Southeast Asia.³¹ DHS did not provide specific information as to how procedures would be affected at U.S. Ports of Entry.

Eleven days later, Secretary Ridge announced the HSAS would return to YELLOW. He relayed the decision was based upon a, “review of the intelligence and the passing of heightened vulnerability associated with the Memorial Day holiday.”³²

5. Period Five

After more than six months without a change to the HSAS, December 21, 2003 marked the fifth time the threat level was raised to ORANGE. Secretary Ridge revealed, “the intelligence community has received a substantial increase in the volume of threat-related intelligence reports suggesting the possibility of attacks against the homeland around the holiday season and beyond.”³³ In Secretary Ridge’s address, he indicated that al Qaeda was still interested in using aircraft as weapons. To deter an attack the government would increase security at the nation’s airports and transportation systems, re-deploy agents to the borders, and increase Coast Guard air and sea patrols.³⁴

On January 9, 2004, Secretary Ridge announced that after careful review of the intelligence information and the passing of seasonal holiday gatherings, the HSAS threat level would return to YELLOW.³⁵ The Secretary’s remarks ended the 20-day period of threat level ORANGE.

³¹ Mintz, John and Schmidt, Susan, “Government Raises Terror Alert Level to Orange; Officials Say Intelligence Suggests Al Qaeda Attacks,” *The Washington Post*, May 21, 2003, A.01.

³² “Statement by Secretary of Homeland Security Tom Ridge on Lowering the Threat Level.” *U.S. Department of Homeland Security Office of the Press Secretary*, May 30, 2003.

³³ “Remarks by Secretary of Homeland Security Tom Ridge at a Press Conference Announcing the Raising of the National Threat Level,” *U.S. Department of Homeland Security Office of the Press Secretary*, December 21, 2003.

³⁴ *Ibid.*

³⁵ “Remarks for Secretary Tom Ridge Threat Level Press Conference; Remarks by Secretary Tom Ridge on Lowering National Threat Level to Yellow,” *U.S. Department of Homeland Security Office of the Press Secretary*, January 9, 2004.

6. Period Six

August 1, 2004 was the first time the HSAS was raised to ORANGE for a specific sector of the nation. Secretary Ridge announced the intelligence community had intercepted multiple messages indicating, “al Qaeda was targeting the financial services sector in New York City, Northern New Jersey and Washington, D.C.”³⁶ Some of the protective actions to be implemented were buffer zones to secure the perimeter of these buildings, restrictions on underground parking, an increased law enforcement presence, and a screening of vehicles entering financial buildings.³⁷ This action was unique in that the HSAS threat level was raised for a very narrow sector of industry. Secretary Ridge indicated financial buildings in the Mid West and West Coast did not appear to be as threatened.

On November 10, 2004, Secretary Ridge lowered the HSAS threat level for the financial sector. He cited the implementation of permanent buffer zones, communication systems, exercises, and the review of business’s continuity plans as the reason for being able to reduce the threat level back to YELLOW after 102 days.³⁸

7. Period Seven

The London subway bombings on July 7, 2005 marked the seventh time the HSAS was raised to ORANGE for the nation. DHS Secretary Chertoff announced that in light of the attacks, “the mass transit portion of the transportation sector, including passenger rail, subways, and metropolitan bus systems would be raised to ORANGE.”³⁹ The Secretary indicated that the department had no credible information suggesting an imminent attack on the United States. Just as during period six, the HSAS was targeted for a specific sector.

³⁶ “Remarks by Secretary of Homeland Security Tom Ridge Regarding Recent Threat Reports,” *U.S. Department of Homeland Security Office of Press Secretary*, August 1, 2004.

³⁷ *Ibid.*

³⁸ “Statement by Department of Homeland Security on Lowering of Threat Level for Financial Service Sector,” *U.S. Department of Homeland Security Office of Press Secretary*, November 10, 2004.

³⁹ “Transcript from Secretary Michael Chertoff Press Briefing on the London Bombings,” *U.S. Department of Homeland Security Office of Press Secretary*, July 7, 2005.

On August 12, 2005, Secretary Chertoff announced the threat level for mass transit systems would be reduced to YELLOW. He cited the “development and implementation of long-term sustainable mass transit security measures” as the reason for the reduction.⁴⁰ The decrease ended the 37-day period in threat level ORANGE for the transportation sector.

Based on open source intelligence, each of the seven periods is unique as to why the threat level of the HSAS was raised. Some of the intelligence was specific to certain sectors and regions of the country, and some of the intelligence was broad and non descript. Often policy makers’ decisions have far-reaching unintentional effects as the threat level of the HSAS was raised. It is important to consider the intelligence for each of the seven periods and how it related to additional costs for CBP while not reducing the flow of imports into the United States.

⁴⁰ “Statement by Homeland Security Secretary Michael Chertoff on Lowering the National Threat Level for the Mass Transit Sector,” *U.S. Department of Homeland Security Office of Press Secretary*, August 12, 2005.

III. THE CANADIAN CONNECTION

A. DETROIT-WINDSOR AND THE AUTOMOTIVE INDUSTRY

Canada and the United States represent the largest bi-national trading partnership in the world. According to the Ontario Chamber of Commerce, “each day more than \$1 billion in trade cross the U.S.-Canada border, and 70% of that trade is moved by truck.”⁴¹ At the heart of this relationship is the automotive industry, as vehicle parts cross from factories to assembly lines on each side of the border. The Detroit-Windsor corridor represents 42% of Canada’s trade with the U.S. and has made the Ambassador Bridge the busiest border crossing in the world.⁴² This chapter will focus on the than 6,000 commercial trucks per day that cross the Ambassador Bridge. To put this in perspective, the corridor delivers more goods than are traded between the countries of Germany and France each day.⁴³ The Ambassador Bridge system was designed to handle approximately 1,700 vehicles per hour, and the 2003 Belzer Report indicated, “the bridge system was approaching 92% capacity.”⁴⁴ Belzer also reveals that, “between 1990 and 2000, commercial truck traffic between Canada and the United States grew at an annual average rate of 13.3%.”⁴⁵ The Ontario Chamber of Commerce projects that truck traffic is “likely to increase by 118% over the next 30 years.”⁴⁶

Border delays at the Ambassador Bridge cost each country billions of dollars in lost productivity and additional trucking costs, and have adverse environmental impacts. The just-in-time delivery system of the automotive industry and other vital areas of the

⁴¹ Ontario Chamber of Commerce, “Cost of Border Delays to Ontario,” Ontario Chamber of Commerce and Borders and Trade Development Committee. May 2004, 5.

⁴² *Ibid.*, 10.

⁴³ Aaron Sydor, “NAFTA@Ten: A Preliminary Report,” *Canadian Department of Foreign Affairs and International Trade*, 2003, 44.

⁴⁴ Michael H. Belzer, *The Jobs Tunnel: The Economic Impact of Adequate Border-Crossing Infrastructure*, Produced for The Jobs Tunnel Detroit River Tunnel Partnership, November 3, 2003, 8.

⁴⁵ *Ibid.*, 44.

⁴⁶ Ontario Chamber of Commerce, “Cost of Border Delays to Ontario,” Ontario Chamber of Commerce and Borders and Trade Development Committee. May 2004, 11.

manufacturing sector are the hardest hit by unexpected border delays. For industries that require large parts, keeping extra inventories can become extremely expensive. The just-in-time delivery system depends on efficient and timely delivery of components, and provides the industry an excellent way to reduce on site inventories and lower capital requirements, which in return minimizes costs. The Center for Automotive Research has determined that, “it cost \$432,000 in additional capital for a U.S. automotive assembly plant to carry one additional hour’s worth of production inventory.”⁴⁷ There are numerous examples of how the just-in-time delivery system can be adversely affected by border delays. Cadillac car seats are made in Windsor and then custom loaded onto trucks so that when they are unloaded in Detroit, the seats match up with the correct car on the assembly line. In the city of Windsor, a truck leaves the Chrysler parts factory every twenty minutes destined for a Detroit assembly factory.⁴⁸ The timing of the truck’s arrival is critical; if it arrives too early, it will have to wait until there is available room to offload its newly produced components. This results in lost productivity for the truck owner and increases transportation costs in fuel and hourly wages for the driver. Trucks that arrive more than 60 minutes late will typically result in some type of assembly plant disruption to include a possible assembly line shutdown. In the example of the Cadillac seats, a past delay from U.S. Customs and Border Protection (CBP) inspectors resulted in a complete shut down of an entire facility’s assembly lines while waiting for the correct seats to arrive.⁴⁹ In the aftermath of September 11, these types of issues forced Ford and Chrysler to close six of their Detroit car assembly plants temporarily due to a lack of components.⁵⁰ The efficiency of the just-in-time delivery system of Detroit-Windsor industries makes erratic border delays extremely costly to both the United States and Canada.

⁴⁷ David J. Andrea and Brett C. Smith, *The Canada-U.S. Border: An Automotive Case Study* (Ann Arbor, MI: January 2002), 18.

⁴⁸ Skip McMahon of Canadian Transit, telephone interview with the author, June 24, 2008.

⁴⁹ Patrick Reed of the Detroit CBP Field Office, telephone interview with the author, September 11, 2008.

⁵⁰ Peter Andreas and Thomas J. Biersteker, *The Rebordering of North America: Integration and Exclusion in a New Security Context* (New York: London: Routledge, 2003), 115.

The Ambassador Bridge traffic generated by the automotive industry follows a weekly cycle and is significantly impacted by both U.S. and Canadian holidays. Typically Tuesday, Wednesday, and Thursday are the busiest days of the week for commercial traffic. Commercial traffic across the bridge is drastically reduced on the weekend. However, according to CBP Patrick Reed, “the total amount of traffic for CBP remains constant as the number of private autos dramatically increases from weekend travelers.”⁵¹ Agent Reed also indicated that each year the bridge experiences a drop in commercial traffic during the month of July as automobile factories on both sides of the border shut down to retool the assembly lines for the next year’s vehicle models.

B. THE AMBASSADOR BRIDGE SYSTEM

Construction on the world’s longest international suspension bridge began in May of 1927, and the Ambassador Bridge was completed in November of 1929. The bridge project was the private financial venture of Mr. Joseph Bower, a Detroit banker, working through the American and Canadian Transit Companies. The stock market crash of 1929 and the start of World War II both caused difficult financial operations during the bridge’s first two decades of use. As a result of financial reorganization and increased traffic during the post war years, the bridge began experiencing financial prosperity and has continued to remain profitable as trade between Canada and the United States has grown. The bridge is remarkable for many reasons, one being vehicles actually drive north to reach the United States and south into Canada.

The Ambassador Bridge has experienced only minor upgrades since its completion in 1929. The bridge’s four-lane roadway was overhauled and upgraded with an asphalt overlay in 1970, and electrical wiring and paint have been replaced and updated periodically.⁵² Most of the improvements to the bridge system have been focused on the addition of each countries custom’s terminals, inspection facilities, and administrative offices.

⁵¹ Patrick Reed of the Detroit CBP Field Office, telephone interview with the author, September 11, 2008.

⁵² “Improving the Bridge,” *Ambassador Bridge*, http://www.ambassadorbridge.com/history/improving_the_bridge.html (accessed August 25, 2008).

Prior to the 9/11 terrorist attacks, six inspection booths were operated by the U.S. Customs Office. According to the Canadian Transit Company, “normally five of the booths were manned and 99% of the time there were no problems with the backup of trucks entering the United States.”⁵³ Canadian Transit data indicated that on September 10, 2001 the average commercial truck took approximately 30 seconds to pass through the U.S. Custom’s booths. On the following afternoon, it took commercial trucks an average of two hours to pass through customs due to a much higher degree of inspection.⁵⁴ The weeks following 9/11 saw significant disruption of automotive production schedules, reduction of vehicle production, and the closure of factories due to unpredictable border transportation. According to the Andrea study, by December 2001, the situation had stabilized and the Detroit-Winsor “border crossing times were consistent enough to meet the needs of the industry’s just-in-time logistical requirements.”⁵⁵ The following year, the United States added three more customs booths, and in 2004, four additional booths opened, bringing the total to thirteen U.S. Customs inspection booths for commercial vehicles.⁵⁶ After 9/11 and prior to opening the additional booths for commercial traffic, it was common for trucks traveling into the United States to back up three or four miles into Canada each day.⁵⁷ According to Canadian Transit Company officials, the average processing time for commercial vehicles is two and a half minutes, which could translate into 30 to 60 minutes of wait time for a commercial driver to cross the border during peak traffic periods.

Detroit and Windsor are also linked with a second transportation connection, the Detroit-Windsor Tunnel. The tunnel is a mile long portal dug under the Detroit River approximately one half mile north of the Ambassador Bridge. The history of the Detroit-Windsor Tunnel dates back to the 1870s, but it was not opened to vehicle traffic until

⁵³ Skip McMahon of Canadian Transit, telephone interview with the author, June 24, 2008.

⁵⁴ Ibid.

⁵⁵ Andrea and Smith, *The Canada-U.S. Border: An Automotive Case Study*, 1.

⁵⁶ Patrick Reed of the Detroit CBP Field Office, telephone interview with the author, September 11, 2008.

⁵⁷ Skip McMahon of Canadian Transit, telephone interview with the author, June 24, 2008.

1930.⁵⁸ The two lane tunnel connects downtown Detroit with the Windsor business district. Each day more than 350 commercial vehicles pass through the Detroit-Windsor Tunnel. However, a 13 feet height restriction and a tunnel width of only 22 feet limit the size of trucks that can pass through the tunnel. A spiral exit ramp at each end of the tunnel limits the length of commercial vehicles as well. Additionally, the traffic congestion in each city's downtown districts reduces the tunnel's use by long haul commercial vehicles. There are several ferries that operate on the Detroit River, but their limited number, cargo capacity, speed, and cost make them impractical to industry. The next closest connection between Detroit and Windsor is the Blue Water Bridge in Port Huron, Michigan. Transporting goods from Windsor to Detroit via the Blue Water Bridge would require an additional 160 miles and four hours of travel to move goods from the towns that sit less than one mile apart. The unique geography of this region, Lake St. Clair and Lake Erie, make the Ambassador Bridge the critical infrastructure link between the United States and Canada.

C. PORT OF DETROIT CUSTOMS AND BORDER PROTECTION

The Port of Detroit (PoD), also known as Service Port Detroit, is the U.S. Customs and Border Protection's office responsible for securing the United States' land border in the Detroit area. PoD provides a wide range of cargo processing functions that include inspections, entry, collections, and verification.⁵⁹ The office is responsible for facilities and crossings at the Ambassador Bridge, the Detroit City Airport, the Detroit Marine Office, the Detroit-Windsor Tunnel, as well as several other small seaport facilities. CBP operations at Detroit's international airports fall under the responsibility of Customs and Border's Detroit Metropolitan Airport office and are beyond the scope of this paper. The main effort of PoD is focused on the Ambassador Bridge and the Detroit-Windsor Tunnel. These two locations along with the Fort Street Cargo Facility are the only CBP facilities manned 24 hours a day seven days a week. The seaports and the Detroit City

⁵⁸ "Tunnel History," *Detroit-Windsor Tunnel*, <http://www.dwtunnel.com/history/tunnel-history> (accessed September 10, 2008).

⁵⁹ "Service Port-Detroit," *CBP.gov*, <http://www.cbp.gov/xp/cgov/toolbox/contacts/ports/mi/3801.xml> (accessed September 11, 2008).

Airport CBP offices are open eight hours a day, or on case by case requests. Several hundred CBP officers and administration staff are assigned to Service Port Detroit, and the office's annual budget reaches into the millions of dollars. It is common for officers to be assigned to multiple areas of responsibility within the PoD, and specific assignments vary in length from as long as one year to as short as two weeks.⁶⁰

1. Inspections

PoD is responsible for approving the entry of more than 6,000 commercial vehicles into the United States from the Ambassador Bridge each day. To accomplish this daunting task, the inspection process actually begins well before a truck arrives at the bridge. In accordance with CBP procedures, agents at PoD are provided a current intelligence brief at the start of each shift. This briefing covers details such as the status of the Homeland Security Advisory System (HSAS) and information directly relative to PoD operations. The briefing helps set the agent's state of mind for the upcoming shift. More intelligence actions are conducted by PoD's intelligence targeting cell prior to a trucks arrival. The Trade Act of 2004 requires that commercial carriers electronically send truck manifest data a minimum of one hour prior to a truck's arrival at the boarder. According to Patrick Reed of CBP's Detroit Field Office, "today greater than 99% of the manifests arrive prior to the truck."⁶¹ Agent Reed indicated that of the fraction of trucks that arrive without a manifest on file, the most common reason was a problem with the processing software. The intelligence-targeting cell uses the truck manifest to calculate the level of risk associated with each shipment. PoD's targeting cell uses a computer-automated matrix to assess the risk of the shipper, the trucking company, brokers and import agents, as well as the actual cargo. Additionally, the PoD targeting cell uses a number of other factors for determining a shipments risk level, which are beyond the

⁶⁰ Patrick Reed of the Detroit CBP Field Office, telephone interview with the author, September 11, 2008.

⁶¹ Ibid.

classification of this paper. If a truck arrives without the required manifest, then it does not enter the United States until the proper paper work is provided and cleared by the targeting cell.

If the PoD intelligence-targeting cell determines a specific truck or its contents require a closer inspection, that information is immediately available to the CBP booth agent when the truck arrives at the border. Additionally, 100% of vehicles crossing the Ambassador Bridge into the United States pass through Radiation Portal Monitors (RPM). RPMs are a stationary passive system that is a safe and effective way to scan traffic and cargo quickly for nuclear and radioactive materials. The RPMs are on fixed sites at the Detroit land border. They are setup so that a vehicle drives through the detectors prior to arriving at a CBP entry booth.⁶² The RPMs are extremely sensitive and detections are more common than a person might think. If a vehicle sets off the RPM, then CBP agents use hand-held radiation detectors and radiation isotope identifying devices to determine exact data on the radioactive material. These hand-held devices record the isotopes and that data is electronically sent to the intelligence-targeting cell. The targeting cell compares the readings with the truck manifest and cargo information to determine if the isotope matches known natural occurring radioactive materials found in that type of cargo. Common examples of cargo containing naturally occurring radioactive materials are earthen pots, fertilizers, and raw building materials. The entire process for inspecting an activated RPM can take place in as little as ten minutes. This allows the CBP booth agent to determine quickly if the vehicle can be cleared into the United States, or needs to be detained for a more detailed search.

Once the targeting cell has determined a commercial truck has an increased level of risk, PoD agents have a number of options as to the type of inspection to be conducted. The Detroit Field Office currently has four Non-Intrusive Inspection (NII) mobile vehicles and one fixed NII site at the Ambassador Bridge capable of scanning large cargo containers.⁶³ The NII devices use X-ray technology to produce images of the cargo

⁶² Patrick Reed of the Detroit CBP Field Office, telephone interview with the author, September 11, 2008.

⁶³ Ibid.

without having to unload the truck. The devices are capable of scanning through steel walls as wide as 11 inches thick. The NII mobile vehicles are mounted on the back of a semi truck and have a high tech operation control facility where CBP agents can real time assess the images of suspect cargo. The NII process is relatively slow and labor intensive in comparison with the RPM passive detector. A typical NII will require more than 10 minutes to setup, produce an image, and have a CBP agent interpret the image for each truck.⁶⁴ During a NII, the CBP agent is focused on looking for anomalies in the cargo's packing. Items that do not match the manifest, unsymmetrical boxes and hollow space in the container are common alerts that raise attention for more detailed searches.

CBP agents may decide to conduct a "tailgate inspection" based on the targeting cell warnings, or in conjunction with the results of the NII. Again, this type of search is time consuming and labor intensive. Agents open up the back tailgate of a truck or container and randomly check the contents against the cargo manifest. This process can sometimes be relatively dangerous to CBP personnel as the internal cargo often shifts during transport. CBP officers must also keep detailed records of the container's seal numbers removed and replaced during a tailgate inspection to ensure the integrity of the shipping process. During a tailgate inspection, CBP officers are looking for a wide range of threats. Improper trademark labeling, tariffs, import quotas, agricultural issues, narcotics, human trafficking, and terrorism are among the diverse range of threats CBP officers must quickly assess during a tailgate search of the cargo. According to CBP Operations Specialist, Gabriel Padilla, shippers looking to smuggle illegal goods into the United States are aware of CBP's search process and often pack the illegal goods in the front of containers to reduce the chance of being detected during a tailgate inspection.⁶⁵

The most costly and labor intensive inspection conducted by CBP would be to unload an entire truck and search its contents. This process is conducted at CBP warehouses near the Ambassador Bridge and throughout the city of Detroit. CBP uses a contractor to provide the labor force responsible for unloading and reloading the cargo.

⁶⁴ CBP NII field demonstration provide by Los Angeles/Long Beach Seaport CBP agents for the author on August 29, 2008.

⁶⁵ Gabriel Padilla of the Los Angeles CBP Field Office, personal interview with the author, August 29, 2008.

Once contractors have unloaded a truck, CBP agents search through the cargo. They open boxes, use hand-held radiation detectors, canines, and x-ray machines to inspect the cargo. This process is extremely expensive, labor intensive, and time consuming. It could take four to six hours to unload, inspect, and reload a truck. U.S. Customs Officials at the Detroit Field Office would not indicate the exact number of commercial trucks fully unloaded and searched each day, but it was revealed that the number was less than 100 commercial vehicles.⁶⁶

The implementation of NAFTA and other reductions in trade restrictions between the United States and Canada might have appeared to reduce CBP's workload in theory. In actuality, however, free trade has increased CBP's workload at the northern border. According to Agent Reed, since NAFTA took effect, more and more foreign exporters have attempted to bring their goods into the United States through Canada in an attempt to try and take advantage of the free trade agreement.⁶⁷

2. Overtime Data

CBP operations at the Ambassador Bridge are conducted seven days a week, 24 hours a day. There is virtually no difference between weekday or weekend duty for PoD officials. PoD manning normally allows for eight-hour work shifts and a normal workweek of 40 hours. During certain conditions, longer work shifts or additional man-hours may be required to meet the demand of inspecting imports and securing the border. Overtime payments at PoD occur anytime an employee works more than an eight-hour day or 40 hours a week.⁶⁸

Table 3 depicts CBP overtime spending under threat condition YELLOW and threat condition ORANGE during each of the seven periods between 2002 and 2005. It should be noted that it is extremely difficult to compare daily overtime data from year to year during this time frame. The total manning and budget of PoD drastically increased

⁶⁶ Patrick Reed of the Detroit CBP Field Office, telephone interview with the author, September 11, 2008.

⁶⁷ Ibid.

⁶⁸ Ibid.

from 2002 to 2005 with the merger of U.S. Customs and the U.S. Border Patrol under the Department of Homeland Security. Additionally, seasonal changes in trade and fluctuations in the U.S. economy make comparisons between each of the seven periods difficult due to a number of constantly changing variables. For these reasons, this case study focused on comparing the periods under threat level ORANGE with the same number of days previously under threat level YELLOW. CBP manning, seasonal fluctuations in trade, and the overall state of the U.S. economy would have remained relatively constant during the comparison of each of these short periods. This method allows as many variables as possible to remain constant while measuring the impact of changes in the HSAS.

Port of Detroit Overtime Data 2002-2005		
1)		
28 Aug 2002 -- 10 Sep 2002 = 14 days Yellow	\$	159,530.86
11 Sep 2002 -- 24 Sep 2002 = 14 days Orange	\$	172,169.36
% Delta		7.92%
Terrorist threat info from debriefings of senior al Qaeda operative / 1 year anniversary of 9/11		
2)		
17 Jan 2003 -- 6 Feb 2003 = 21 days Yellow	\$	126,220.47
7 Feb 2003 -- 27 Feb 2003 = 21 days Orange	\$	176,021.03
% Delta		39.46%
Intel suggesting al Qaeda attacks on apt buildings, hotels, other soft skin targets after Bali and Mombasa bombings during Hajj		
3)		
28 Feb 2003 -- 16 Mar 2003 = 17* days Yellow	\$	187,188.01
17 Mar 2003 -- 16 Apr 2003 = 31 days Orange	\$	239,977.53
% Delta		28.20%
Operation Liberty Shield--Intel indicated al Qaeda may attempt to launch attacks on U.S. interests to defend Muslims & Iraqi people / Start of OIF		
4)		
9 May 2003 -- 19 May 2003 = 11 days Yellow	\$	73,442.73
20 May 2003 -- 30 May 2003 = 11 days Orange	\$	77,011.39
% Delta		4.86%
Wake of bombings in Saudi Arabia & Morocco Believed al Qaeda conducting world wide campaign to attack Westerners / Memorial Day weekend		
5)		
1 Dec 2003 -- 20 Dec 2003 = 20 days Yellow	\$	113,695.45
21 Dec 2003 -- 9 Jan 2004 = 20 days Orange	\$	115,336.16
% Delta		1.44%
Increased terrorist communications indicating attacks during holiday season and beyond using aircraft as a weapon		
6)		
21 Apr 2004 -- 31 July 2004 = 102 days Yellow	\$	722,754.37
1 Aug 2004 -- 10 Nov 2004 = 102 days Orange	\$	1,137,577.47
% Delta		57.39%
Intel indicates that al Qaeda planning attacks on financial institutions in New York, DC, and New Jersey / ORANGE for financial sector only		
7)		
31 May 2005 -- 6 July 2005 = 37 days Yellow	\$	384,868.83
7 July 2005 -- 12 Aug 2005 = 37 days Orange	\$	466,755.44
% Delta		21.28%
Terrorist bombings of London subway Threat level raised for mass transit sector only		
Yellow Total 2002-2005		\$1,767,700.72
Orange Total 2002-2005		\$2,384,848.38
Average % Delta 2002-2005		34.91%
* Only 17 days under YELLOW since previous ORANGE. Numbers reflect the 17 day average x 31.		

Table 3. Port of Detroit Overtime Data

The PoD overtime payments consistently increased during the periods of ORANGE indicating an increased activity level by CPB Port of Detroit personnel as the HSAS threat posture was increased. This study assumes that the additional overtime spending was used as a direct result of the increase in the nation's threat posture. CBP records detailing the exact reason for the increase in overtime spending, the number of inspections conducted each day, or the number of agents on duty each day was either not kept on a daily basis or was no longer available from CBP's historical records.⁶⁹

In total, between 2002 and 2005, PoD spent 34.91% more in overtime payments during periods of ORANGE than during the same number of day's prior under YELLOW.⁷⁰ This data indicates that the DHS policy makers' decision to adjust the HASA has far-reaching effects beyond the specific areas intelligence suggested were at risk. One hypothesis regarding the 35% increase in overtime is that CBP would have conducted inspections on more vehicles and conducted more detailed inspections, both resulting in longer border delays during an elevated threat posture. A counter hypothesis is that more overtime would have resulted in more CBP agents available to staff more inspections stations and tollbooths, allowing traffic to flow into the United States more quickly.

D. AMBASSADOR BRIDGE CARGO DATA

Of the \$1 billion worth of goods that travel across the northern border each day, historically, it has been extremely difficult to determine the exact quantity that entered the U.S. economy on a specific date. Most businesses and government agencies responsible for recording data on imports keep the information on a monthly or quarterly basis. Daily fluctuations can be significant and both sectors prefer to use monthly and quarterly averages to compare imports from year to year. As a result, the actual data on specifically how many imports enter the United States on a certain day become lost as

⁶⁹ Kathleen McKevitt Director, Strategic Planning CBP Office of Field Operations, phone interviews with the author August 2008.

⁷⁰ Port of Detroit overtime data provided by US Customs & Border Protection Office of Field Operations, via Mr. Daniel R. Meyer, CBP HQ Budget Management & Program Analyst, phone and e-mail interviews with the author July 22, 2008.

data is aggregated into monthly and quarterly averages. The merger of U.S. Customs and U.S. Border Patrol within DHS has also made it difficult to obtain daily records between 2002 and 2005. Through the merger, numerous new computer programs for the combined operations of CBP resulted in the daily records being discarded and only the monthly averages being transferred into the current computer programs. However, in the case of the Ambassador Bridge, one company has been recording the daily flow of cargo between Detroit and Windsor for nearly 80 years. The Canadian Transit Company has kept daily records on the number of vehicles that cross the Ambassador Bridge every day.⁷¹

Ambassador Bridge Commercial Traffic 2002-2005		
Number of Commercial Vehicles		
1)		
28 Aug 2002 -- 10 Sep 2002 = 14 days	YELLOW	56,682
11 Sep 2002 -- 24 Sep 2002 = 14 days	ORANGE	66,327
	% Delta	17.02% increase
Terrorist threat info from debriefings of senior al Qaeda operative / 1 year anniversary of 9/11		
2)		
17 Jan 2003 -- 6 Feb 2003 = 21 days	YELLOW	97,421
7 Feb 2003 -- 27 Feb 2003 = 21 days	ORANGE	93,571
	% Delta	3.95% decrease
Intel suggesting al Qaeda attacks on apt buildings, hotels, other soft skin targets after Bali and Mombasa bombings during Hajj		
3)		
28 Feb 2003 -- 16 Mar 2003 = 17* days	YELLOW	130,313
17 Mar 2003 -- 16 Apr 2003 = 31 days	ORANGE	142,793
	% Delta	9.58% increase
Operation Liberty Shield--Intel indicated al Qaeda may attempt to launch attacks on U.S. interests to defend Muslims & Iraqi people / Start of OIF		
4)		
9 May 2003 -- 19 May 2003 = 11 days	YELLOW	43,605
20 May 2003 -- 30 May 2003 = 11 days	ORANGE	51,063
	% Delta	17.11% increase
Wake of bombings in Saudi Arabia & Morocco Believed al Qaeda conducting world wide campaign to attack Westerners / Memorial Day weekend		
5)		
1 Dec 2003 -- 20 Dec 2003 = 20 days	YELLOW	97,270
21 Dec 2003 -- 9 Jan 2004 = 20 days	ORANGE	47,525
	% Delta	51.14% decrease
Increased terrorist communications indicating attacks during holiday season and beyond using aircraft as a weapon		
6)		
21 Apr 2004 -- 31 July 2004 = 102 days	YELLOW	440,754
1 Aug 2004 -- 10 Nov 2004 = 102 days	ORANGE	488,584
	% Delta	10.85% increase
Intel indicates that al Qaeda planning attacks on financial institutions in New York, DC, and New Jersey / ORANGE for financial sector only		
7)		
31 May 2005 -- 6 July 2005 = 37 days	YELLOW	175,496
7 July 2005 -- 12 Aug 2005 = 37 days	ORANGE	153,477
	% Delta	12.55% decrease
Terrorist bombings of London subway Threat level raised for mass transit sector only		
Commercial Vehicles during YELLOW 2002-2005		1,041,541
Commercial Vehicles during ORANGE 2002-2005		1,043,340
Average % Delta 2002-2005		0.17% increase of traffic during ORANGE

* Only 17 days under Yellow since previous Orange. Numbers reflect the 17 day average x 31.

Table 4. Ambassador Bridge Commercial Traffic

⁷¹ Ambassador Bridge Commercial Traffic data provide to the author by the Canadian Transit Company, September 18, 2008.

The same methodology of comparing the volume of commercial vehicles during each of the seven periods when the HSAS was raised to threat level ORANGE versus the same number of days prior under YELLOW was utilized to minimize the number of variables. Similar to the PoD overtime data, fluctuations in seasonal trade, national holidays, and the overall state of the economy of both countries affect the daily volume of commercial vehicles that cross the bridge into the United States.

This study found the number of commercial vehicles entering the United States actually increased slightly during the periods of a higher threat level. Only three of the seven periods experienced a decrease in the number of commercial vehicles. A closer look at the raw data and the dates indicates that the decrease during periods five and seven were most likely not related to the elevation of the HSAS. Thirteen of the 20 days during period five fall over the Christmas and New Years holidays. The raw traffic count indicates that starting on Christmas Eve, a significant decrease in commercial traffic occurred through Monday, January 5. This decrease is consistent with the closure of most United States businesses and factories during the holiday season. Twenty-five of the 37 days of ORANGE during period seven fall in the month of July. As previously stated, the automotive industry closes assembly lines during the month of July to re-tool for the upcoming year model. The raw traffic data supports this fact with significant reductions in commercial traffic starting on July 1 and ending on July 25.

When considering the reasons for the decrease of traffic during periods five and seven, the total number of commercial vehicles from 2002 to 2005 during ORANGE should have been significantly higher when compared to the same number of days under threat level YELLOW. One hypothesis might lead to the conclusion that an increase in CBP overtime actually increases the flow of commercial vehicles across the Ambassador Bridge.

A second and more likely hypothesis is that the limited numbers of vehicles that pass through a NII, tailgate, or full inspection have little effect on the overall flow of goods across the Ambassador Bridge. PoD is currently only able to inspect 1% of the 6,000 commercial vehicles fully that cross the bridge each day, then doubling or even tripling the number of full inspections during elevations of the HSAS has limited impact

on the overall flow of import across the Ambassador Bridge. Only if PoD attempted to inspect 10-20% of the commercial vehicles fully during a threat level ORANGE would the nation start to experience a decrease in the flow of imports across the Ambassador Bridge.

Data from PoD indicated that an increase in the HSAS threat level had a direct impact on additional costs for CBP. Service Port-Detroit spent 35% more in overtime during ORANGE than it did previously during YELLOW. It resulted in an additional \$617,000 in spending. However, the number of commercial vehicles crossing the Ambassador Bridge actually increased during the periods of ORANGE. This data indicates the HSAS had no affect on limiting the daily flow of imports into the United States.

IV. A BRIDGE TO MEXICO

Mexico, the United States' second largest trading partner, accounts for more than 11% of U.S. foreign trade and is the third largest exporter of goods to the United States.⁷² The Port of Laredo Texas is the largest inland port on the U.S.-Mexico Border and is responsible for 40% of all U.S.-Mexico trade.⁷³ Its geographic proximity to the center of the United States, and its rail and roadway infrastructure have made the Port of Laredo one of the fastest growing ports in the United States. The North American Free Trade Agreement has not only increased trade between Mexico and the United States, but it has also significantly increased trade between Mexico and Canada. Laredo's connection to U.S. Interstate I-35 plays a critical role in linking the flow of goods between the Laredo Bridges and all three countries.

A. THE LAREDO BRIDGES

The City of Laredo, Texas operates four international bridges that span the Rio Grand. The bridges are the critical tie that links Laredo's economy with its sister city, Nuevo Laredo. The first modern bridge linking these two cities was built around the turn of the 19th century. Today, two of the four bridges are dedicated to supporting pedestrians and private automobile traffic. A third bridge services a combination of pedestrians, private automobiles, and some commercial vehicles. The newest of the bridges, World Trade International Bridge, services only commercial vehicles. Bridge IV was completed in April of 2000 and supports approximately 2.5 million commercial trucks each year.⁷⁴ Prior to the construction of Bridge IV, it was common for traffic to back up on both sides of the border for more than four miles as vehicles waited to cross

⁷² U.S. Census Bureau Foreign Trade Division, "Foreign Trade Statistics," <http://www.census.gov/foreign-trade/statistics/highlights/top/top0803cm.html#imports> (accessed September 20, 2008).

⁷³ Laredo Development Foundation Economic Indicators, "Port of Laredo Facts," <http://www.ldfonline.org/products.asp?cat=66&hierarchy=0> (accessed October 27, 2008).

⁷⁴ "World Trade Bridge," *Texas Department of Transportation*, http://www.dot.state.tx.us/services/transportation_planning_and_programming/border_cr (accessed October 27, 2008).

the Laredo Bridges. According to the Texas Department of Transportation, the construction of Bridge IV has greatly reduced commercial traffic congestion in downtown Laredo and on I-35.

Rafael Garcia, bridge director for the World Trade Bridge, states that, “more than 90% of the truck traffic in Laredo flows through Bridge IV. An additional 6% to 7% is handled at the Camino Columbia Bridge (Bridge III).”⁷⁵ The remaining 3% to 4% of commercial vehicle traffic is handled by Bridge I and II. The traffic from Bridge I and II is not considered in this study because the commercial vehicles on these bridges are passenger busses that do not carry imports across the border. There is another bridge in Laredo that carries international trade, the Texas Mexican Railway International Bridge. This bridge supports the passage of more than 1,200 rail cars each day. The impact of the HSAS on the Texas Mexican Railway International Bridge is not addressed by this study.

Unlike the Ambassador Bridge, the World Trade Bridge does not operate 24 hours a day or support a just-in-time delivery system. Bridges III and IV are open to commercial traffic from 7:00AM until midnight Monday through Friday, 8:00AM until 4:00PM on Saturday, and 10:00AM until 2:00PM on Sundays. According to Mr. Daniel Hastings Jr., a Laredo Import/Export customs broker with 65 years experience, “the main flow of cargo across Bridge IV happens each day between 11:00AM and 5:00PM.”⁷⁶ The flow of goods across the United States Southern border is also subject to both countries’ national holidays. Each year, there are 30 border holidays, 10 U.S. and 20 Mexican national holidays, of which only two are celebrated on the same day. Mr. Hastings stated that the months of November and May have the fewest workdays, and provide a challenge for import/export brokers moving goods across the border.⁷⁷

Laredo’s commercial transportation system is unique. A “drop and hook up” drayage operation has developed on the southern border due to U.S.-Mexico trade

⁷⁵ Mike Hall, “National Report Lists Laredo as Largest Inland Port,” *Laredo Morning Times*, <https://madmax.lmtonline.com/askus/transportation/stories/trans1.htm> (accessed October 27, 2008).

⁷⁶ Daniel B. Hastings Jr. of Daniel B. Hastings Inc. Telephone interview with the author on August 4, 2008.

⁷⁷ Ibid.

procedures. Mexico has a pre-arrival system that requires all cargo to be cleared and all fees to be paid prior to cargo entering the country. In contrast, Canada has a post arrival system that allows cargo to enter the country and paper work and fees to be completed afterwards. The United States and Mexico do not currently have a bilateral agreement that accepts each other countries' bill of lading. The lack of a bilateral convention and the pre arrival system results in more inefficiency and a decrease in productivity. Mr. Hastings explained that it is common for cargo entering Mexico to require a 48-72 hour delay before entering the country.⁷⁸ While U.S. Customs' paperwork procedures are more efficient, Mexican commercial truck drivers are not allowed to operate beyond 25 miles of the Southern Border. While it normally takes less than one minute for a truck to pass through the U.S. Customs checkpoint, it can take two to four hours waiting in line to get to the checkpoint. Rather than having expensive long haul trucks idling for hours, trucking firms drop the trailers on one side of the border and hire a local shuttle service company to take the trailers across the border. The local drayage companies drop off trailers on one side and hook up another trailer to take back across the border. As a result, the more expensive U.S. and Mexican long haul trucking companies spend less "down" time waiting at the border. According to Mr. Hastings, it is common for a local shuttle service driver to make three or four trips across the border each day.⁷⁹ This process has developed a warehouse industry in Laredo on each side of the border. The warehouses produce a buffer inventory on each side of the border to cope with unexpected border delays.

B. PORT OF LAREDO CUSTOMS AND BORDER PROTECTION

Service Port-Laredo has a full range of cargo processing functions, including inspections, entry, collections, and verification.⁸⁰ The port is responsible for the entry of people and cargo at all five of the bridges as well as the Laredo Airport. Service Port-

⁷⁸ Daniel B. Hastings Jr. of Daniel B. Hastings Inc. Telephone interview with the author on August 4, 2008.

⁷⁹ Ibid.

⁸⁰ "Service Port-Laredo," *CBP.gov*, <http://www.cbp.gov/xp/cgov/toolbox/contacts/ports/tx/2304.xml> (accessed October 29, 2008).

Laredo is staffed with more than 800 personnel and has an annual budget in excess of \$40 million.⁸¹ CBP commercial operations are conducted 24 hours a day at the airport and the railway bridge. From 2002-2005, CBP commercial operations at Bridges III and IV were conducted 16 hours a day with reduced operating hours on the weekends. In January 2009, CBP is planning for Bridge IV to be open continuously on weekdays.

Since 2000, the World Trade Bridge has been equipped with eight tollbooths to clear commercial vehicles into the United States. According to Mr. Uribe, when the bridge opens at 7:00AM on weekdays, five of the tollbooths are manned. By 8:00AM, all eight booths are opened, and a constant stream of traffic keeps all eight booths busy until 8:00PM.⁸² Mr. Uribe indicated that CBP is making plans to add seven additional tollbooths in 2009 to keep up with the increasing volume of commercial traffic from Mexico. There is room to expand if more are needed in the future.

CBP officers at Service Port-Laredo are typically assigned to a certain aspect of the commercial operations for a minimum of one year at a time. This gives the officers continuity and better allows them to detect slight changes in the flow of imports. The officers at Bridge III and Bridge IV are split into two 8-hour shifts. Before each shift, officers receive a current intelligence briefing, and the HSAS threat level is reviewed.

1. Inspections

CBP officers at Service Port-Laredo officers encounter a wide array of threats from the more than 5,000 commercial vehicles that cross the Laredo Bridges each day. According to Mr. Uribe, “narcotics continue to be one of the greatest threats on the southern border.”⁸³ Marijuana and cocaine are the most prevalent illegal drugs exported by a growing Mexican drug cartel. CBP is also the primary agency responsible for the enforcement of agriculture products, trademark and intellectual property rights, human trafficking, as well as screening cargo and personal to prevent terrorist acts.

⁸¹ Mr. Jose Uribe APD for Trade Service Port-Laredo, U.S. Customs and Border Protection, phone interview with the author, October 29, 2008.

⁸² Ibid.

⁸³ Ibid.

The inspection process starts well before the cargo arrives at the border. The Trade Act of 2004 requires all cargo manifests to be sent electronically to the POE a minimum of one hour prior to a vehicles arrival at the border. Bridge IV is staffed with a Document Analysis Unit, which is an intelligence-targeting cell responsible for reviewing cargo manifests, import/export broker information, trucking company information, and other data that helps evaluate the level of risk associated with each vehicle.⁸⁴ The Document Analysis Unit coordinates real time with CBP's regional intelligence facility in El Paso that oversees intelligence operations on the Southwest border. This process is part of the layered approach that helps CBP determine which commercial vehicles should be more carefully inspected. Mr. Uribe explained that one of the greatest reasons for delays at the border occurs when companies fail to provide this data prior to a truck's arrival.

The Port of Laredo is equipped with numerous Radiation Portal Monitors (RPM) that passively scan 100% of the vehicles that drive over the Laredo Bridges for radioactive materials. Service Port-Laredo has approximately seven mobile and two fixed Non-Intrusive Inspection (NII) devices capable of X-raying a semi-truck. Each day, between 10-20% (approximately 500 vehicles) of the commercial vehicles are scanned using the NII devices. The Document Analysis Unit plays a large part in determining which trucks should receive this additional inspection. A tailgate inspection is conducted on 10-15% of the commercial vehicles to verify the contents of the cargo. Lastly, each day approximately 200 commercial vehicles are completely unloaded and the cargo thoroughly searched.⁸⁵ Additionally, canines are used in conjunction with each of these search procedures.

The complete unloading and search of cargo is conducted at a state of the art facility located at the World Trade Bridge. The facility can simultaneously handle the inspection of 110 commercial trucks. On most days, only 55 of the 110 inspection bays

⁸⁴ Mr. Jose Uribe, APD for Trade Service Port-Laredo, U.S. Customs and Border Protection, phone interview with the author, October 29, 2008.

⁸⁵ Approximate data on the number and types of searched provided by Mr. Jose Uribe, APD for Trade Service Port-Laredo, U.S. Customs and Border Protection, phone interview with the author, October 29, 2008.

are utilized, which indicates the facility has room to expand if needed. The trucks are unloaded and reloaded by contract workers, and small teams of CBP officers conduct searches of the cargo after it is spread across the warehouse floor. This type of inspection is the most expensive and labor intensive, but also the most comprehensive.

2. Overtime Data

Between 2002 and 2005, CBP commercial operations at the Laredo Bridges were not conducted 24 hours a day. The flow of commercial goods in Laredo was limited to business hours, and reduced duty hours on the weekend. CBP commercial operations normally consisted of two 8-hour shifts during the weekday. Overtime was authorized if CBP employees work longer than eight hours a day or more than 40 hours a week. Again, it is extremely difficult to compare daily overtime data from year to year during this time frame. Under the Department of Homeland Security, the total manning and budget of Service Port-Laredo drastically increased from 2002 to 2005 with the merger of U.S. Customs and the U.S. Border Patrol. Additionally, seasonal changes in trade and fluctuations in the U.S. economy make comparisons between each of the seven periods difficult due to a number of constantly changing variables. For these reasons, this study focused on comparing the periods under threat level ORANGE with the same number of days previously under threat level YELLOW. Table 5 depicts the amount of overtime paid by Service Port-Laredo during the seven periods of ORANGE between 2002 and 2005. Overall, the port experienced nearly a 70% increase in overtime spending during periods of ORANGE as compared to the same amount of time prior under YELLOW.⁸⁶ These results are consistent with the hypothesis that more officers would be required during higher threat levels. However, the amount of overtime paid during periods two, three, and six stand out as anomalies to the rest of the data. Both period two and period three experienced a decrease in overtime spending during ORANGE. The intelligence information related to the changes in the HSAS during these periods would have applied to CBP operations in Laredo. The threat of attacks against soft skin targets and Operation

⁸⁶ Service Port-Laredo overtime data provided by US Customs & Border Protection Office of Field Operations, via Mr. Daniel R. Meyer, CBP HQ Budget Management & Program Analyst, phone and e-mail interviews with the author July 22, 2008.

Liberty Shield would have involved officers in Laredo. The amount of cargo crossing the Laredo Bridges during the period two and three ORANGE increased relative to the cargo during YELLOW. This study was unable to identify possible explanations for the decrease in overtime spending during period two and period three. The dramatic increase in overtime spending during period six did not logically translate to the intelligence that caused the HSAS threat level to increase. It is difficult to draw a connection between the financial districts in New York, Washington, D.C., and New Jersey and the increased overtime spending in Laredo, Texas. The increase in overtime spending during period six may be related to the seasonal spikes in the marijuana and cocaine trade across the southern border. The ending and beginning of the fiscal year during the ORANGE portion of period six may have also impacted the overtime budget.

Service Port-Laredo Overtime Data 2002-2005		
1)		
28 Aug 2002 -- 10 Sep 2002 = 14 days	YELLOW	\$ 199,005.85
11 Sep 2002 -- 24 Sep 2002 = 14 days	ORANGE	\$ 203,291.33
	% Delta	2.15%
2)		
17 Jan 2003 -- 6 Feb 2003 = 21 days	YELLOW	\$ 243,155.65
7 Feb 2003 -- 27 Feb 2003 = 21 days	ORANGE	\$ 158,270.78
	% Delta	-34.91%
3)		
28 Feb 2003 -- 16 Mar 2003 = 17* days	YELLOW	\$ 204,004.02
17 Mar 2003 -- 16 Apr 2003 = 31 days	ORANGE	\$ 176,932.75
	% Delta	-13.27%
4)		
9 May 2003 -- 19 May 2003 = 11 days	YELLOW	\$ 83,899.63
20 May 2003 -- 30 May 2003 = 11 days	ORANGE	\$ 109,617.34
	% Delta	30.65%
5)		
1 Dec 2003 -- 20 Dec 2003 = 20 days	YELLOW	\$ 198,890.25
21 Dec 2003 -- 9 Jan 2004 = 20 days	ORANGE	\$ 246,023.26
	% Delta	23.70%
6)		
21 Apr 2004 -- 31 July 2004 = 102 days	YELLOW	\$ 901,165.76
1 Aug 2004 -- 10 Nov 2004 = 102 days	ORANGE	\$ 2,174,961.47
	% Delta	141.35%
7)		
31 May 2005 -- 6 July 2005 = 37 days	YELLOW	\$ 506,946.15
7 July 2005 -- 12 Aug 2005 = 37 days	ORANGE	\$ 902,951.31
	% Delta	78.12%
	YELLOW Total 2002-2005	\$ 2,337,067.31
	ORANGE Total 2002-2005	\$ 3,972,048.24
	Average % Delta 2002-2005	69.96%
* Only 17 days under YELLOW since previous ORANGE. Numbers reflect the 17 day average x 31.		

Table 5. Service Port-Laredo Overtime Data

C. LAREDO CARGO DATA

Data regarding the daily transfer of imports across the Laredo Bridges was extremely difficult to access. Most businesses and government agencies responsible for recording data on imports combine the information into monthly or quarterly reports. Daily fluctuations can be significant and both sectors prefer to use monthly and quarterly averages to compare imports from year to year. As a result, data on specifically how many imports enter the United States on a certain day became lost as the data was aggregated into monthly and quarterly averages. The merger of U.S. Customs and U.S. Border Patrol within DHS has also made it difficult to obtain daily records between 2002 and 2005. The merger resulted in numerous new computer programs for the combined operations of CBP and resulted in daily records being discarded and only the monthly averages being transferred into the historical records.⁸⁷

Mexico Customs officials, the Laredo Development Foundation, and numerous import brokers were contacted regarding the daily flow of cargo, but none was able to provide daily records on the amount of cargo that entered the United States via the Laredo Bridges between 2002 and 2005. The only agency able to provide daily records on commercial vehicles in Laredo was the City of Laredo Bridge Department. The Laredo Bridge Department has detailed records on the number of commercial vehicles that paid the required fee to cross the bridges. The problem with this data is that the City of Laredo only collects a fee on vehicles leaving the United States driving into Mexico. As a result, the City of Laredo data depicts the daily number of commercial vehicles entering Mexico. The HSAS should not have directly impacted commercial vehicles leaving the United States. However, because of the nature of Laredo's "drop and hook up" shuttle service, the data can be used as an indicator to changes in the flow imports across the border.

⁸⁷ Kathleen McKeivitt Director, Strategic Planning CBP Office of Field Operations, phone interviews with the author August 2008.

Laredo Southbound Commercial Traffic 2002-2005		
Number of Commercial Vehicles		
1) 28 Aug 2002 -- 10 Sep 2002 = 14 days YELLOW 11 Sep 2002 -- 24 Sep 2002 = 14 days ORANGE % Delta	52,598 52,327 0.5% decrease	Terrorist threat info from debriefings of senior al Qaeda operative / 1 year anniversary of 9/11
2) 17 Jan 2003 -- 6 Feb 2003 = 21 days YELLOW 7 Feb 2003 -- 27 Feb 2003 = 21 days ORANGE % Delta	76,461 79,266 3.7% increase	Intel suggesting al Qaeda attacks on apt buildings, hotels, other soft skin targets after Bali and Mombasa bombings during Hajj
3) 28 Feb 2003 -- 16 Mar 2003 = 17* days YELLOW 17 Mar 2003 -- 16 Apr 2003 = 31 days ORANGE % Delta	109,552 119,290 8.9% increase	Operation Liberty Shield--Intel indicated al Qaeda may attempt to launch attacks on U.S. interests to defend Muslims & Iraqi people / Start of OIF
4) 9 May 2003 -- 19 May 2003 = 11 days YELLOW 20 May 2003 -- 30 May 2003 = 11 days ORANGE % Delta	38,694 45,246 16.9% increase	Wake of bombings in Saudi Arabia & Morocco Believed al Qaeda conducting world wide campaign to attack Westerners / Memorial Day weekend
5) 1 Dec 2003 -- 20 Dec 2003 = 20 days YELLOW 21 Dec 2003 -- 9 Jan 2004 = 20 days ORANGE % Delta	89,842 54,765 39.0% decrease	Increased terrorist communications indicating attacks during holiday season and beyond using aircraft as a weapon
6) 21 Apr 2004 -- 31 July 2004 = 102 days YELLOW 1 Aug 2004 -- 10 Nov 2004 = 102 days ORANGE % Delta	401,279 401,770 0.1% increase	Intel indicates that al Qaeda planning attacks on financial institutions in New York, DC, and New Jersey / ORANGE for financial sector only
7) 31 May 2005 -- 6 July 2005 = 37 days YELLOW 7 July 2005 -- 12 Aug 2005 = 37 days ORANGE % Delta	153,410 146,866 4.3% decrease	Terrorist bombings of London subway Threat level raised for mass transit sector only
Commercial Vehicles during YELLOW 2002-2005 Commercial Vehicles during ORANGE 2002-2005 Average % Delta 2002-2005	921,836 899,530 2.4% decrease of traffic during ORANGE	

* Only 17 days under Yellow since previous Orange. Numbers reflect the 17 day average x 31.

Table 6. Laredo Southbound Commercial Traffic 2002-2005

CBP trade officers and local import/export brokers both indicated that any changes in the Laredo's southbound commercial traffic would have a direct corresponding effect on the number of northbound commercial vehicles that cross the Laredo Bridges. As previously stated, it is common for local shuttle service drivers in Laredo to make three to four trips across the border each day.

The total number of commercial vehicles that transited Bridge III and Bridge IV during HASA level threat level ORANGE decreased 2.4% for the seven periods.⁸⁸ Most of the seven periods actually showed a small increase in the volume of commercial

⁸⁸ Laredo Southbound Commercial Traffic Data provide by Mrs. Yvette Limon, Assistant Director City of Laredo Bridge Department, phone and e-mail interviews with the author, August 2008.

vehicles during ORANGE. Similar to the findings at the Ambassador Bridge, the 39% decrease in traffic during the period five ORANGE is most likely the result of a decrease in trade during the Christmas and New Year Holidays. If the change in period five data were disregarded, then there would have actually been a slight increase in the flow of imports during threat level ORANGE.

The Service Port-Laredo overtime data demonstrates that an increased threat level in the HSAS had a direct impact on CBP overtime operations. In total, an additional \$1.6 million was spent during the 236 days of ORANGE as compared to normal operations under YELLOW. However, the total number of commercial vehicles entering the United States across the Laredo Bridges remained relatively unchanged. The Laredo data indicates that the HSAS had a direct impact on CBP, but had little effect on delaying the flow of imports into the U.S. economy.

V. THE UNITED STATE'S LINK ACROSS THE PACIFIC

The cities of Los Angeles (LA) and Long Beach (LB) California each operate the two largest ports in the United States. More than 15 million sea containers, otherwise known as Twenty-foot Equivalent Units (TEUs), arrive and depart these two ports each year. Together the ports are known as the San Pedro Bay Ports and are the fifth busiest port complex in the world. Approximately, 43% of all the cargo that enters the United States arrives through the San Pedro Bay Port. This port handles more than \$380 billion worth of goods each year making it of significant importance to both the regional and national economy. Goods that pass through the San Pedro Bay Port complex reach final destinations in all 48 of the Continental United States.

The majority of imports (87.5%) arrive from the Far East. China is the largest supplier of goods to the port accounting for more than 50% of the value of goods, followed by Japan, Taiwan, and South Korea.⁸⁹ Each of the ports is a public agency managed and operated by their respective city harbor departments. There are 14 terminals, seven on the Los Angeles side and seven on the Long Beach side, which are assigned the responsibility of loading and unloading containers. Independent companies that lease the space from the respective city port authority operate the TEU terminals. While each port competes against the other for business, they share much of the same infrastructure, environmental concerns, and customs and security procedures.⁹⁰

A. THE PORT OF LOS ANGELES

San Pedro Bay traces its history of shipping and international trade back prior to the 1800s when Spain and Mexico used the bay as a natural harbor. In 1907 the Board of Harbor Commissioners was created, which marked the official founding of the Port of Los Angeles. In the early 1900s, fishing, canneries, and oil drilling were some of the major industries that impacted the port. During World War II, the port was transformed

⁸⁹ "Facts & Figures," *The Port of Los Angeles*, <http://www.portoflosangeles.org/about/facts.asp> (accessed August 27, 2008).

⁹⁰ "FAQs," *Port of Long Beach*, <http://www.polb.com/about/faqs.asp> (accessed August 27, 2008).

by the U.S. military to support the war. The largest of these activities was shipbuilding. The shipyards at the Port of Los Angeles were responsible for producing thousands of wartime vessels at a record pace.⁹¹

Following the war, the port continued to grow at a slow but steady rate. In the late 1950s, a revolution in the containerized cargo system came to the Port of Los Angeles. Prior to this revolution, “ports received cargo in crates, pallets, and small lots of varying sizes and shapes,” which made unloading cargo extremely slow, dangerous, and inefficient. A standardized container that could be sealed and shipped then quickly placed on a “railroad car or truck became the critical logistical innovation that propelled the Port of Los Angeles to national importance.”⁹²

Today, the 7,500 acre Port of Los Angeles welcomes more than 2,700 cargo vessels each year that deliver more than 8.5 million TEUs making it the United States’ busiest port. In 2007, the Port of Los Angeles was responsible for delivering \$58.7 billion worth of cargo throughout California, but more importantly, handled the movement of \$240 billion worth of cargo from throughout the United States.⁹³

B. THE PORT OF LONG BEACH

The Port of Long Beach is located just to the east of the Port of Los Angeles and they share a common boarder. From aerial imagery or standing in the port, it is difficult to determine where one port begins and the other ends. Individually, Long Beach is the U.S.’s second largest port complex, transporting more than 7.3 million TEUs and \$140 billion worth of goods.⁹⁴ In 2007, more than 5,000 vessels made ports of call to the Long Beach Port.

⁹¹ “History,” *Port of Los Angeles*, http://www.portoflosangeles.org/idx_history.asp (accessed August, 27 2008)

⁹² *Ibid.*

⁹³ *Ibid.*

⁹⁴ “Facts at a Glance,” *Port of Long Beach*, <http://www.polb.com/about/facts.asp> (accessed September 3, 2008).

Long Beach is slightly younger than the Port of Los Angeles. It was founded in 1911 when the State of California granted tidelands to the City of Long Beach. In 1917, the first Board of Harbor Commissioners was formed to oversee operations at the Port of Long Beach. The port's history through World War II and the container revolution is similar to that of the Port of Los Angeles.⁹⁵ In 1980, Port of Long Beach officials visited China following President Carter's 1979 normalization of relations with the People's Republic. In 1981, the China Ocean Shipping Company made the "Port of Long Beach its first U.S. port of call", and trade between the two countries has continued to grow.⁹⁶

Today, approximately 90% of cargo entering the Port of Long Beach originates from East Asia. China, Japan, South Korea, and Taiwan constitute the largest exporters of goods that arrive at the Port of Long Beach.⁹⁷ At 3,200 acres of land, the port has reached its maximum physical size, and there are no current plans to expand. However, as globalization continues and new shipping and transportation technologies evolve, it is clear that the cargo load on the ports will continue to rise.

C. U.S. CUSTOMS & BORDER PROTECTION AT LA/LB SEAPORT

The U.S. Customs and Border Protection Office of Field Operations at the Los Angeles/Long Beach Seaport oversees import operations at San Pedro Bay. While both ports are owned by their respective cities, CBP considers the port to be a single entity. CBP LA/LB Seaport has a staff of 624 employees assigned to monitoring the flow of 43% of the foreign cargo that enters the United States each year. They provide a full range of processing functions, including inspections, entry, collections, and verification.⁹⁸ In addition to cargo ships, numerous cruise ships also make ports of call in Long Beach. Processing cargo constitutes the majority of CBP's workload; however, the

⁹⁵ "History," *Port of Long Beach*, <http://www.polb.com/about/history/1900.asp> (accessed September 3, 2008).

⁹⁶ *Ibid.*

⁹⁷ "Facts at a Glance," *Port of Long Beach*, <http://www.polb.com/about/facts.asp> (accessed September 3, 2008).

⁹⁸ "Port Information," *Service Port-Los Angeles/Long Beach Seaport*, <http://www.cbp.gov/xp/cgov/toolbox/contacts/ports/ca/2704.xml> (accessed on October 2, 2008).

office is also responsible for the entry of cruise ship passengers into the United States. Passenger traffic arriving at Los Angeles' international airports is the responsibility of CBP Service Port-Los Angeles International Airport and is not covered in this study.

CBP operations at LA/LB Seaport are conducted 24 hours a day, seven days a week. Some of CBP's offices, such as the warehouse inspection facilities, operating hours are dependent on the work schedules of the 14 terminal operations companies. This requirement limits some of the CBP inspection operations to approximately 18 hours a day.

1. Inspections

Similar to operations at the Ambassador Bridge and the Laredo Bridges, information regarding cargo destined for LA/LB Seaport is analyzed prior to its arrival. Since January 2002, the Container Security Initiative (CSI) has been an effort to push U.S. port security outward.⁹⁹ Through partnerships with foreign authorities, high-risk containers originating at ports throughout the world are identified prior to being loaded on ships destined for the United States. Currently, CBP has 58 CSI ports operational outside the United States, and 24 more foreign administrations have committed to joining CSI.¹⁰⁰ Today, more than 90% of all containers shipped to the United States originate from a CSI port.

CBP LA/LB Seaport is staffed with an intelligence-targeting cell responsible for reviewing and analyzing information on containers destined for San Pedro Bay. The intelligence cell uses computer programs to screen information on each container prior to its arrival. Country of origin, shipper, importer, broker, and manifested cargo (as well as other items beyond the classification of this paper) are factored into a matrix to determine the level of risk for each container. Typically, the targeting cell has five to 10 days to review information continuously on a container from the time it is loaded in a foreign port until it arrives at LA/LB Seaport. It is common for the LA/LB intelligence cell to

⁹⁹ "Container Security Initiative," *U.S. Customs and Border Protection Fact Sheet*, March 2007.

¹⁰⁰ *Ibid.*

identify 2,700 containers as higher-risk out of the 40,000 plus containers inbound each day.¹⁰¹ Of the 2,700 containers identified as higher-risk, the targeting cell requests more documentation from foreign ports, importers, shippers, and manufactures regarding the cargo. By the time the cargo is unloaded at San Pedro Bay, the targeting cell has been able to narrow the daily number of higher-risk containers to less than 300.

CBP LA/LB Seaport has two Non-Intrusive Inspection (NII) mobile vehicles capable of X-raying large containers and scanning through 10 inches of steel. The NII vehicles scan 200-300 containers each day. Similar to operations at the Ambassador Bridge and in Laredo, tailgate inspections can be conducted if the X-rays identify suspicious cargo, or a container can be sent directly to one of four inspection warehouses to be completely unloaded. Approximately 150 containers are unloaded and searched by the warehouse teams daily. CBP manning is currently the limiting factor to inspecting more containers each day. Each of the warehouses is physically capable of accepting up to 86 containers at a time. The workforce to unload the containers is contracted by CBP to civilian companies. After the cargo is unloaded from a container, CBP agents inspect the contents using canines, X-ray machines, chemical and radiation detectors, and by opening and visual inspecting boxes. This process is labor intensive and normally takes six hours from the time a container is opened until it is repacked.

Three of the warehouses are dedicated to Merchandise Exam Teams (MET), which focus on trademark infringement, agricultural issues, product safety standards, and tariff violations. During a normal duty day, the three warehouses inspect approximately 125 containers. According to Officer Escobar, manager of one of the three warehouses, the MET warehouses are capable of surging to approximately 200 containers per day if overtime is authorized and 24-hour operations are conducted.¹⁰² The fourth warehouse is the Anti-Terrorism Contraband Enforcement Team (A-TCET). This warehouse conducts the remaining 25 warehouse inspections each day. The A-TCET is dedicated to looking for suspected drugs, guns, and terrorism related items. According to Agent Merrick, “on

¹⁰¹ Gabriel Padilla of the Los Angeles CBP Field Office, interview with the author August 29, 2008.

¹⁰² SCBPO Mina Escobar of the CBP LA/LB Seaport Merchandise Exam Team, interview with the author August 29, 2008.

most days the team inspects between 20-25 containers. If overtime is authorized we could inspect up to 50 containers per day.”¹⁰³ In total, if the threat levels require, CBP LA/LB Seaport can surge to unloading and completely inspecting approximately 250 of the 40,000 containers that arrive each day.

The last inspection done prior to every container leaving the port is a check for radiation. There are 85 fixed Radiation Portal Monitors (RPM) placed at all of the exit gates to the port. Since 2005, 100% of the cargo entering the United States from San Pedro Bay has been inspected for radiation. Similar to operations at the Ambassador Bridge, the intelligence targeting cell plays a large role in determining if radiation detected by the RPMs is naturally occurring or requires a closer inspection.

2. Overtime Data

CBP operations at the LA/LB Seaport are conducted seven days a week, 24 hours a day. For CBP employees, virtually no difference exists between weekday and weekend duty. LA/LB Seaport manning normally allows for eight-hour work shifts and a normal workweek of 40 hours. During certain conditions, longer work shifts or additional man-hours may be required to meet the demand of inspecting imports and passengers entering the port. Overtime payments at LA/LB Seaport occur anytime an employee works more than an eight-hour day or 40 hours a week.

Using the same methodology, the author was able to determine overtime spending during periods of ORANGE compared to periods of YELLOW while keeping as many variables as possible constant. From this information, the author was able to assess how the HSAS impacted CBP operations at the LA/LB Seaport.¹⁰⁴

¹⁰³ SCBPO Kevin Merrick of the CBP LA/LB Seaport, interview with the author August 29, 2008.

¹⁰⁴ LA/LB Seaport overtime data provided by US Customs & Border Protection Office of Field Operations via Mr. Daniel R. Meyer, CBP HQ Budget Management & Program Analyst, phone and e-mail interviews with the author July 22, 2008.

LA/LB Seaport Overtime Data 2002-2005			
1)			
	28 Aug 2002 -- 10 Sep 2002 = 14 days	YELLOW	\$ 111,304.09
	11 Sep 2002 -- 24 Sep 2002 = 14 days	ORANGE	\$ 127,406.11
		% Delta	14.47%
2)			
	17 Jan 2003 -- 6 Feb 2003 = 21 days	YELLOW	\$ 88,474.04
	7 Feb 2003 -- 27 Feb 2003 = 21 days	ORANGE	\$ 51,040.56
		% Delta	-42.31%
3)			
	28 Feb 2003 -- 16 Mar 2003 = 17* days	YELLOW	\$ 123,425.15
	17 Mar 2003 -- 16 Apr 2003 = 31 days	ORANGE	\$ 166,528.37
		% Delta	34.92%
4)			
	9 May 2003 -- 19 May 2003 = 11 days	YELLOW	\$ 46,755.95
	20 May 2003 -- 30 May 2003 = 11 days	ORANGE	\$ 40,357.95
		% Delta	-13.68%
5)			
	1 Dec 2003 -- 20 Dec 2003 = 20 days	YELLOW	\$ 105,980.80
	21 Dec 2003 -- 9 Jan 2004 = 20 days	ORANGE	\$ 122,361.91
		% Delta	15.46%
6)			
	21 Apr 2004 -- 31 July 2004 = 102 days	YELLOW	\$ 395,760.76
	1 Aug 2004 -- 10 Nov 2004 = 102 days	ORANGE	\$ 819,844.14
		% Delta	107.16%
7)			
	31 May 2005 -- 6 July 2005 = 37 days	YELLOW	\$ 433,593.81
	7 July 2005 -- 12 Aug 2005 = 37 days	ORANGE	\$ 497,212.59
		% Delta	14.67%
	YELLOW Total 2002-2005		\$ 1,305,294.60
	ORANGE Total 2002-2005		\$ 1,824,751.63
	Average % Delta 2002-2005		39.80%

* Only 17 days under YELLOW since previous ORANGE. Numbers reflect the 17 day average x 31.

Table 7. CBP LA/LB Seaport Overtime Data

Similar to the findings at Service Port-Laredo, the LA/LB Seaport overtime data did not correlate directly to increases in the HSAS. During period two and four, CBP overtime spending at the port actually decreased during ORANGE. Possible explanation for the decrease in spending could be linked to the lack of seasonal holidays, and the availability of more agents, which would require less overtime. Another possible explanation might be that the higher threat level did not apply to the port, and CBP officials chose to reduce manning.

The most interesting increase in the overtime data occurred during period six as CBP more than doubled overtime spending. Possible reasons for the increase could be

linked to the availability of a new fiscal year budget, or seasonal changes in the amount of goods imported. However, the available intelligence data suggest the terrorist threat was focused on East Coast financial institutions.

In total, CBP LA/LB overtime spending during ORANGE increased nearly 40% above the overtime spending during YELLOW. Again, this data indicates the DHS policy makers' decision to adjust the HASA has far reaching effects beyond the specific areas intelligence suggested were at risk. This study assumes that the additional overtime spending was the result of changes in the nation's threat posture. CBP records detailing the exact reason for the increase in overtime spending, the number of inspections conducted each day, or the number of agents on duty each day was either not kept on a daily basis or is no longer available from CBP's historical records.¹⁰⁵

D. LA/LB CARGO DATA

Of the 15 million TEUs that pass through the San Pedro Bay ports each year, it is difficult to determine exactly how many enter the U.S. economy on a specific date. The port authorities of Los Angeles and Long Beach track the arrival of cargo by the date a ship departs the port.¹⁰⁶ Typically, ships at LA/LB Seaport take between five and seven days to unload. TEUs might stay stacked on the docks for days before they are scheduled to be picked up by truck or rail. Using the port authorities' records to determine how much cargo enters the U.S. economy during certain dates becomes very difficult based on the relationships between a ship's departure date and the dates the HSAS threat level changed.

¹⁰⁵ Kathleen McKeivitt Director, Strategic Planning CBP Office of Field Operations, phone interviews with the author August 2008.

¹⁰⁶ Curtis Christensen Long Beach port Authority, interview with the Author, August 29, 2008.

Long Beach Port Authority Cargo Data 2002-2005

	<u>TEUs</u>	
1) 28 Aug 2002 -- 10 Sep 2002 = 14 days YELLOW 11 Sep 2002 -- 24 Sep 2002 = 14 days ORANGE % Delta	93,677 97,054 4% increase	Terrorist threat info from debriefings of senior al Qaeda operative / 1 year anniversary of 9/11
2) 17 Jan 2003 -- 6 Feb 2003 = 21 days YELLOW 7 Feb 2003 -- 27 Feb 2003 = 21 days ORANGE % Delta	117,978 125,741 7% increase	Intel suggesting al Qaeda attacks on apt buildings, hotels, other soft skin targets after Bali and Mombasa bombings during Hajj
3) 28 Feb 2003 -- 16 Mar 2003 = 17* days YELLOW 17 Mar 2003 -- 16 Apr 2003 = 31 days ORANGE % Delta	243,093 213,691 12% decrease	Operation Liberty Shield--Intel indicated al Qaeda may attempt to launch attacks on U.S. interests to defend Muslims & Iraqi people / Start of OIF
4) 9 May 2003 -- 19 May 2003 = 11 days YELLOW 20 May 2003 -- 30 May 2003 = 11 days ORANGE % Delta	75,658 66,981 11% decrease	Wake of bombings in Saudi Arabia & Morocco Believed al Qaeda conducting world wide campaign to attack Westerners / Memorial Day weekend
5) 1 Dec 2003 -- 20 Dec 2003 = 20 days YELLOW 21 Dec 2003 -- 9 Jan 2004 = 20 days ORANGE % Delta	125,965 132,664 5% increase	Increased terrorist communications indicating attacks during holiday season and beyond using aircraft as a weapon
6) 21 Apr 2004 -- 31 July 2004 = 102 days YELLOW 1 Aug 2004 -- 10 Nov 2004 = 102 days ORANGE % Delta	863,855 956,271 11% increase	Intel indicates that al Qaeda planning attacks on financial institutions in New York, DC, and New Jersey / ORANGE for financial sector only
7) 31 May 2005 -- 6 July 2005 = 37 days YELLOW 7 July 2005 -- 12 Aug 2005 = 37 days ORANGE % Delta	339,360 382,978 13% increase	Terrorist bombings of London subway Threat level raised for mass transit sector only
YELLOW Total 2002-2005	1,749,802	
ORANGE Total 2002-2005	1,934,021	
Average % Delta 2002-2005	11% increase in ship deliveries during ORANGE	

* Only 17 days under YELLOW since previous ORANGE. Numbers reflect the 17 day average x 31.

Table 8. Long Beach Port Authority Cargo Data

What is clear from the Long Beach Port Authority data is that changes in the HSAS did not impact the arrival of cargo ships or the Port of Long Beach docks. What the data in Table 6 does not indicate is how the HSAS impacted CBP's ability to release containers into the U.S. economy.

Since daily fluctuations in cargo can be significant, most businesses use monthly and quarterly averages to compare imports from year to year. As a result, the number of imports that enter the United States on a certain day becomes lost as data is aggregated

into monthly and quarterly averages. The merger of U.S. Customs and U.S. Border Patrol within the Department of Homeland Security has also made it difficult to obtain daily records between 2002 and 2005. The merger of new computer programs for the combined operations of CBP resulted in daily records being discarded and only the monthly averages being transferred into current records. After significant research with each of the port authorities and the Pacific Merchant Shipping Association, this study was able to find two port terminal operation companies that had daily cargo data during the period of the HSAS. They both were willing to release their proprietary information.

<u>APM Terminal and SSA Marine Gate Moves 2002-2005</u>		
	<u>Containers</u>	
1) 28 Aug 2002 -- 10 Sep 2002 = 14 days YELLOW 11 Sep 2002 -- 24 Sep 2002 = 14 days ORANGE % Delta	59,197 72,993 23.3% Increase	Terrorist threat info from debriefings of senior al Qaeda operative / 1 year anniversary of 9/11
2) 17 Jan 2003 -- 6 Feb 2003 = 21 days YELLOW 7 Feb 2003 -- 27 Feb 2003 = 21 days ORANGE % Delta	119,555 105,485 11.8% Decrease	Intel suggesting al Qaeda attacks on apt buildings, hotels, other soft skin targets after Bali and Mombasa bombings during Hajj
3) 28 Feb 2003 -- 16 Mar 2003 = 17* days YELLOW 17 Mar 2003 -- 16 Apr 2003 = 31 days ORANGE % Delta	149,988 201,986 34.7% Increase	Operation Liberty Shield--Intel indicated al Qaeda may attempt to launch attacks on U.S. interests to defend Muslims & Iraqi people / Start of OIF
4) 9 May 2003 -- 19 May 2003 = 11 days YELLOW 20 May 2003 -- 30 May 2003 = 11 days ORANGE % Delta	81,993 85,772 4.6% Increase	Wake of bombings in Saudi Arabia & Morocco Believed al Qaeda conducting world wide campaign to attack Westerners / Memorial Day weekend
5) 1 Dec 2003 -- 20 Dec 2003 = 20 days YELLOW 21 Dec 2003 -- 9 Jan 2004 = 20 days ORANGE % Delta	155,157 126,539 18.4% Decrease	Increased terrorist communications indicating attacks during holiday season and beyond using aircraft as a weapon
6) 21 Apr 2004 -- 31 July 2004 = 102 days YELLOW 1 Aug 2004 -- 10 Nov 2004 = 102 days ORANGE % Delta	450,809 682,595 51.4% Increase	Intel indicates that al Qaeda planning attacks on financial institutions in New York, DC, and New Jersey / ORANGE for financial sector only
7) 31 May 2005 -- 6 July 2005 = 37 days YELLOW 7 July 2005 -- 12 Aug 2005 = 37 days ORANGE % Delta	269,636 285,506 5.9% Increase	Terrorist bombings of London subway Threat level raised for mass transit sector only
YELLOW Total 2002-2005	1,286,335	
ORANGE Total 2002-2005	1,560,876	
Average % Delta 2002-2005	21.3% increase in containers released during ORANGE	
* Only 17 days under YELLOW since previous ORANGE. Numbers reflect the 17 day average x 31.		

Table 9. San Pedro Bay Gate Moves 2002-2005

APM Terminals and SSA Marine were able to provide the daily number of containers released, “gate moves,” into the economy dating back to 2002.¹⁰⁷ These two terminal operators handle approximately 30% of the cargo that enters San Pedro Bay each year. Table 7 depicts the relationship between the HSAS periods and the amount of cargo released into the economy by APM Terminals and SSA Marine.

The 18% decrease of cargo during period five is most likely related to the holiday season, and the 51% increase of cargo during period six might be attributed to seasonal fluctuations in the retail economy and shipping.

Based on less than 1% of the TEUs arriving at San Pedro Bay being searched via a NII or full inspection, it is easy to understand why the HSAS would have limited effect on the flow of imports. If for some reason CBP was required to inspect 5-10% of the containers entering San Pedro Bay, then it would be reasonable to expect an impact on the flow of goods into the U.S. economy.

CBP operations at LA/LB Seaport experienced a 40% increase in overtime during threat level ORANGE as compared to normal operations under YELLOW. The direct cost to CBP for the 236 days was an additional \$520,000 during ORANGE. The 11% increase in shipping deliveries at Long Beach, and the 21% increase in cargo at APM Terminal and SSA Marine indicate that elevations in the HSAS had no effect on slowing down imports into the U.S. States economy.

¹⁰⁷ APM Terminal gate move data provided by Mr. Jim Flanagan of APM Terminals, October 15, 2008. SSA Marine gate move data provided by Mr. John Dibernardo of SSA Marine, October 22, 2008.

THIS PAGE INTENTIONALLY LEFT BLANK

VI. SUMMARY OF DATA AND RECOMMENDATIONS

The majority of literature written on the economic impact of border security has indicated that the increased security following the 9/11 attacks have had adverse affects on the flow of foreign imports. The 2003 Taylor and HBL Decision Economics studies suggested that delays on the northern borders cost both the United States and Canada tens of billions of dollars in lost productivity and jobs each year.¹⁰⁸ The 2005 HDR/HLB Decision Economics study suggested that the post 9/11 wait times at the San Diego-Baja border are costing each country in excess of \$6 billion in lost productivity each year.¹⁰⁹ This study found that increased threat levels of the Homeland Security Advisory System (HSAS) had a direct economic impact on U.S. Customs and Border Protection (CBP). However, this study found that the HSAS had no impact on the flow of imports into the United States during the seven periods of elevated security between 2002 and 2005.

A. THE DIRECT COST TO U.S. CUSTOMS AND BORDER PROTECTION

This study recognizes that the HSAS was not the only factor influencing overtime requirements at each of the three ports of entry. Seasonal shifts in trade, illegal imports, and national holidays played a significant part in the availability of CBP officers and the manpower requirement to staff the nation's more than 300 ports of entry. During interviews at each of the three ports, CBP officers indicated that any change in the HSAS threat level would affect procedures at their port. U.S. Customs and Border Protection has developed a department-wide checklist for implementing security procedures as the HSAS threat level changes. Officials at each port also indicated that they have tailored additional local directives linked to the changes in the threat level of the HSAS.

¹⁰⁸ John C. Taylor, Douglas Robideaux and George C. Jackson, *The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options* (n.p.: May 21, 2003) and HLB Decision Economics Inc., *Regional and National Economic Impact of Increasing Delay and Delay Related Costs at the Windsor-Detroit Crossings* (n.p.: January 2004).

¹⁰⁹ HDR/HLB Decision Economics Inc., *Economic Impacts of Wait Times at the San Diego-Baja California Border* (n.p.: January 2006).

CBP's financial records indicate that the elevated threat posture of the HSAS resulted in significant increases in overtime spending at Detroit, Laredo, and Los Angeles/Long Beach. Overtime spending for the three ports of entry increased by more than 50% during the 236 days of ORANGE between 2002 and 2005. CBP spent an additional \$2.7 million more in overtime at these three ports than they did during the same periods of YELLOW. These three ports of entry are responsible for more than 50% of the cargo that enters the United States, but they represent less than 15% of CBP's overtime-eligible workforce. If the 50% increase in overtime spending was projected over CBP's 15,000 employees who could have been tasked with extended duty hours, elevations in the HSAS could have potentially resulted an additional \$18.4 million in overtime spending across the nation.¹¹⁰

CBP Overtime Spending 2002-2005				
	<u>Detroit</u>	<u>Laredo</u>	<u>LA/LB Seaport</u>	<u>Combined</u>
YELLOW Total 2002-2005	\$1,767,700.72	\$2,337,067.31	\$1,305,294.60	\$5,410,062.63
ORANGE Total 2002-2005	\$2,384,848.38	\$3,972,048.24	\$1,824,751.63	\$8,181,648.25
Average % Delta 2002-2005	34.91% increase	69.96% increase	39.8% increase	51.23% increase

Additional Overtime for the 2000 employees at the three POE	=			\$ 2,771,585.62
Extrapolated for CBP's 15,000 eligible employees at all POE	=			\$ 18,477,237.47
CBP's average additional overtime cost per day of ORANGE	=			\$ 78,293.38

Table 10. CBP Overtime Spending 2002-2005

The direct impact of an additional \$18.4 million in overtime spending to CBP's budget is noteworthy, but not overwhelming. When broken down on a day-by-day basis, the additional \$78K of costs per day appears relatively inexpensive for the additional security provided at the nation's borders.

When analyzing the data from all three ports of entry, the most interesting findings related to overtime spending was the dramatic increase during period six. From August to November 2004, overtime spending at all three ports more than doubled during

¹¹⁰ Data on CBP overtime eligible workforce provided by Customs & Border Protection Office of Field Operations, via Mr. Daniel R. Meyer, CBP HQ Budget Management & Program Analyst, phone interview with the author, November 7, 2008.

threat level ORANGE. Intelligence related to period six suggested al Qaeda was targeting financial institutions in New York, New Jersey, and Washington, D.C.¹¹¹ Secretary Ridge indicated that the Department of Homeland Security had obtained intelligence regarding five buildings in these three cities. He also indicated financial buildings in the Mid West and West Coast did not appear to be as threatened.¹¹² Despite the specific focus of the intelligence, overtime spending at Detroit, Laredo, and Los Angeles/Long Beach increased 104%. Additional research should be conducted to determine the relationship between the threat posture of the HSAS during period six and CBP's overtime spending.

By capturing the direct cost the HSAS places on U.S. Customs and Border Protection, this study provides critical information to help the Department of Homeland Security and the Homeland Security Council address the decision to make changes in the HSAS. This study demonstrates the far-reaching and sometimes unintentional effect a policy maker's decision in Washington may have on an organization's operations across the country.

B. THE INDIRECT COST TO THE U.S. ECONOMY

As this study began, it seemed reasonable that as the threat posture at our nation's borders increased, the flow of imports would be reduced due to stricter inspections at the border. After researching and collecting cargo data from Detroit, Laredo, and Los Angeles/Long Beach, it is clear that elevations in the HSAS threat level had little impact on the daily flow of imports into the United States between 2002 and 2005. This study was able to analyze the daily flow of goods across the borders and determined that the total number of imports remained relatively stable (in some cases actually increased) during ORANGE.

¹¹¹ "Remarks by Secretary of Homeland Security Tom Ridge Regarding Recent Threat Reports," *U.S. Department of Homeland Security Office of Press Secretary*, August 1, 2004.

¹¹² *Ibid.*

Total Commercial Vehicles / TEUs 2002-2005				
	<u>Detroit</u>	<u>Laredo</u>	<u>LA/LB Seaport</u>	<u>Combined</u>
YELLOW Total 2002-2005	1,041,541	921,836	1,286,335	3,249,712
ORANGE Total 2002-2005	1,043,340	899,530	1,560,876	3,503,746
Average % Delta 2002-2005	0.17% increase in traffic	2.4% decrease in traffic	21.3% increase in TEUs	7.8% increase

Table 11. Total Commercial Vehicles / TEUs 2002-2005

The necessary data to define the length of time it took each day to move cargo across the border during heightened security levels was unable to be captured by this study. For example, the amount of cargo that normally crosses the border under YELLOW between 8:00AM and 6:00PM may have taken until 10:00PM during threat level ORANGE. This would have resulted in more indirect costs to the U.S. economy. Most of the experts interviewed in this study indicated that increased wait times were likely experienced during the elevated threat levels between 2002 and 2005, but data to support this belief is unavailable.

Two hypotheses can be drawn between the relationship linking CBP’s overtime data and the flow of imports. The first hypothesis is that the additional manpower provided by more overtime spending resulted in the necessary workforce required to accomplish more frequent and more detailed security inspections. The larger workforce was able to keep up with the increased workload experienced during the seven periods of higher security.

The second hypothesis is that the percentage of cargo required to be inspected at the three ports of entry is so minuscule that changes in the HSAS do not generate a significant requirement to inspect more cargo. CBP officials at all three ports indicated that the total amount of cargo inspected with a Non-Intrusive Inspection (NII) or a complete search, is less than 2%. Each of the officers also stressed that any cargo considered suspect would not be released into the U.S. economy regardless of what it did to wait times or backing up the flow of imports. This study has determined that no adverse effects occurred in the daily flow of imports between 2002 and 2005 related to elevations in the HSAS. The open source intelligence data associated with each of the seven periods does not indicate a threat arriving in a container or by commercial truck to

the United States. If intelligence indicated more cargo inspections were not necessary, then it is possible that increases in the HSAS did not trigger additional cargo inspections.

One finding of this study is that CBP's daily NII and full inspections of cargo are being conducted close to full capacity at each of the three ports of entry. CBP officers at each port indicated the number of daily inspections could be only slightly increased with the use of overtime and 24 hour operations. CBP operations at the Ambassador Bridge and LA/LB Seaport have the capability to increase the daily number inspections of commercial vehicles and containers by approximately 50 at each location. The new CBP inspection facility at the World Trade Bridge in Laredo has the ability to inspect 100 more commercial vehicles fully each day. With as many as 10,000 commercial vehicles and 40,000 TEU's entering these three ports each day, the capacity to conduct 200 more inspections would not keep up with the flow of imports should intelligence indicate more cargo needs to be inspected.

In summary, this study found that the daily flow of cargo into the United States remained relatively constant in regard to changes in the Homeland Security Advisory System. CBP's use of new technologies, such as Radiation Portal Monitors (RPMs) to inspect 100% of cargo entering the United States for radiation, has made great improvements in border security without increasing border wait times. CBP has a limited ability to inspect a significant percentage of the cargo completely that enters the United States, but the intelligence and the threats have not previously indicated that a higher percentage of inspections are necessary. It is likely that increases in the HSAS threat level resulted in longer wait times at the border. Longer wait times would have placed additional indirect costs on the transportation sector, and in turn, the U.S. economy. However, data to support directly the association between increased border wait times and elevations in the HSAS threat level were not available.

C. RECOMMENDATIONS

1. CBP Overtime Spending

U.S. Customs and Border Protection should conduct cost benefit analysis studies to determine if current manning is adequate to meet the needs at the nation's borders. Even daily overtime spending during threat level YELLOW is significant. CBP's annual overtime budget exceeds \$250 million. The overtime budgets for each of the three ports of entry in conjunction with recommendations received from officials at each of the ports indicated more personnel might be needed to keep up with the increasing volume of foreign trade and the necessary security procedures.

2. Commission Border Infrastructure Studies

Local, state, and federal transportation and commerce officials need to assess the current infrastructure at our nation's borders. The studies should focus on determining future needs and capabilities for the flow of imports. Redundancy options for choke points such as the Ambassador Bridge need to be considered. The new World Trade Bridge appears to have been a success at reducing traffic congestion in Laredo, but starting in January the bridge will operate 24-hour a day to better keep up with the flow of imports. The infrastructure study must consider the potential need of inspecting a higher percentage of cargo in the future.

3. CBP Facilities

U.S. Customs and Border Protection needs to continue investments in efforts to increase inspection capability and reduce border wait times. New tollbooths and adequate manning in Detroit and Laredo appears to have been the key to reducing wait times. Additional booths appear to be the most significant means in reducing daily wait times during the peak hours of the day. Additional future warehouse inspections facilities in Detroit and LA/LB may be needed to keep up with increases in trade and security procedures.

4. Improved Technology

Since 2001, U.S. Customs and Border Protection has made great strides in developing new technologies to better secure the borders. Technology should continue to be a priority for the organization. During interviews with CBP officials, this study encountered areas for improvement. Placing Non-Intrusive Inspection scanners at foreign ports would add an extra layer in CBP's defense. This action would also provide additional time for CBP's intelligence cells to study images and identify suspect cargo prior to its arrival in the United States. Fixed drive thru NII scanners at LA/LB Seaport could possibly increase efficiency of inspections. A long-term goal of providing passive NII on 100% of the cargo, similar to the RPMs, should be considered in CBP future plans. CBP Officials in Laredo indicated that new camera technology would help increase security efforts at the Laredo Bridges

5. Intelligence Fusion

CBP's intelligence targeting cells at each of the three locations appear to be a useful tool in determining suspect cargo. However, only the Laredo targeting cell coordinated information with an outside agency, the El Paso Intelligence Center. Officials at Detroit and LA/LB indicated their targeting cells did not share data with local, state, or other federal intelligence fusion centers. DHS and CBP need to ensure that efforts at the borders are linked with other local, state, and federal intelligence fusion centers.

6. Maintain Daily Historical Records

The process of aggregating daily cargo totals by CBP and other U.S. Government originations has reduced the ability to track the effects of the Homeland Security Advisory System accurately. In the future, CBP should consider the need to assess the daily flow of imports when selecting database storage programs.

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF REFERENCES

- Andrea, David J. and Brett C. Smith. "The Canada-U.S. Border: An Automotive Case Study." Ann Arbor, MI, January 2002.
- Andreas, Peter and Thomas J. Biersteker. *The Rebordering of North America: Integration and Exclusion in a New Security Context*. New York: London. Routledge, 2003.
- Belzer, Michael H. "The Jobs Tunnel: The Economic Impact of Adequate Border-Crossing Infrastructure." *The Jobs Tunnel Detroit River Tunnel Partnership*, November 2003.
- Caldwell, Stephen L. et al. "Maritime Security Observations on Selected Aspects of the SAFE Port Act: Testimony before the Subcommittee on Border, Maritime, and Global Counterterrorism, Committee on Homeland Security, House of Representatives." *U.S. Govt. Accountability Office*, April 2007.
- Canada—United States—Ontario—Michigan Border Transportation Partnership Planning / Need and Feasibility Study. *Regional and National Economic Impact of Increasing Delay and Delay Related Costs at the Windsor-Detroit Crossings*. HLB Decision Economics Inc., January 2004.
- "Facts & Figures." The Port of Los Angeles. <http://www.portoflosangeles.org/about/facts.asp> (accessed August 27, 2008).
- "Facts at a Glance." Port of Long Beach. <http://www.polb.com/about/facts.asp> (accessed September 3, 2008).
- "FAQs." Port of Long Beach. <http://www.polb.com/about/faqs.asp> (accessed August 27, 2008).
- Flynn, Stephen E. and Council on Foreign Relations. *The Edge of Disaster: Rebuilding a Resilient Nation*. New York: Random House in cooperation with the Council on Foreign Relations, 2007.
- "Foreign Trade Statistics." *U.S. Census Bureau Foreign Trade Division*. <http://www.census.gov/foreign-trade/statistics/highlights/top/top0803cm.html#imports> (accessed September 20, 2008).
- "History." *Port of Long Beach*. <http://www.polb.com/about/history/1900.asp> (accessed September 3, 2008).
- "History." *Port of Los Angeles*. http://www.portoflosangeles.org/idx_history.asp (accessed August 27, 2008).

Homeland Security Act of 2002. Public Law 107-296, 107th Cong., November 25, 2002.

Homeland Security Presidential Directive-3. "Homeland Security Advisory System."
March 2002.

Homeland Security Presidential Directive-5. "Management of Domestic Incidents."
February 2003.

"Improving the Bridge." *Ambassador Bridge*.

http://www.ambassadorbridge.com/history/improving_the_bridge.html (accessed August 25, 2008).

Miklaszewski, Jim, Pete Williams and Tom Curry. "Day after Panic, D.C. Ponders Evacuation Plan." *NBC, MSNBC and News Services*, May 2005.

Mintz, John and Susan Schmidt. "Government Raises Terror Alert Level to Orange; Officials Say Intelligence Suggests Al Qaeda Attacks." *The Washington Post*. May 21, 2003.

"National Report Lists Laredo as Largest Inland Port." *Laredo Morning Times*.

<https://madmax.lmtonline.com/askus/transportation/stories/trans1.htm> (accessed October 27, 2008).

Ontario Chamber of Commerce. "Cost of Border Delays to Ontario." *OCC Borders and Trade Development Committee*, May 2004.

Park, Ji Young. *The Economic Impacts of Dirty Bomb Attacks on the Los Angeles and Long Beach Ports: Applying the Supply-Driven NIEMO (National Interstate Economic Model)*. Los Angeles, CA: School of Policy, Planning, and Development; University of Southern California, 2007.

Payan, Tony and Vasquez, Amanda. *Is it Worth the Candle? The Costs and Inconvenience of Homeland Security on the U.S.-Mexico Border*. University of Texas at El Paso, November 2005.

Phillips, Keith R. and Manzanares, Carlos E. "The Border Economy: Transportation Infrastructure and the Border Economy." June 2001.

"Port Information." *Service Port-Los Angeles/Long Beach Seaport*.

<http://www.cbp.gov/xp/cgov/toolbox/contacts/ports/ca/2704.xml> (accessed on October 2, 2008).

"Port of Laredo Facts." *Laredo Development Foundation Economic Indicators*.

[Http://www.ldfonline.org/products.asp?cat=66&hierarchy=0](http://www.ldfonline.org/products.asp?cat=66&hierarchy=0) (accessed October 27, 2008).

- Reese, Shawn. *Security Advisory System: Possible Issues for Congressional Oversight*. Washington, D.C.: Congressional Research Services, The Library of Congress, 2006.
- San Diego Association of Governments California Department of Transportation, District 11. "Economic Impacts of Wait Times at the San Diego-Baja California Border." *HDR/HLB Decision Economics Inc.*, January 2006.
- "Service Port-Detroit." *CBP.gov*.
<http://www.cbp.gov/xp/cgov/toolbox/contacts/ports/mi/3801.xml> (accessed September 11, 2008).
- "Service Port-Laredo." *CBP.gov*.
<http://www.cbp.gov/xp/cgov/toolbox/contacts/ports/tx/2304.xml> (accessed October, 29 2008).
- Stana, Richard M. "Container Security a Flexible Staffing Model and Minimum Equipment Requirements Would Improve Overseas Targeting and Inspection Efforts: Report to Congressional Requesters." *U.S. Government Accountability Office*, April 2005.
- Sydor, Aaron. "NAFTA@Ten: A Preliminary Report." *Canadian Department of Foreign Affairs and International Trade*, 2003.
- Taylor, John C., Douglas Robideaux, and George C. Jaskson. *The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options*. n.p.: May 21, 2003.
- "Top Trading Partners - Total Trade, Exports, Imports." *U.S. Census Bureau, Foreign Trade Statistics*. <http://www.census.gov/foreign-trade/statistics/highlights/top/top0712.html#total> (accessed September 20, 2008).
- Transport Canada. *The Cumulative Impact of U.S. Import Compliance Programs at the Canada/U.S. Land Border on the Canadian Trucking Industry: Final Report*. By DAMF Consultants Inc. in association with L-P Tardif & Associates Inc. TP 14402E. Transport Canada, 2005.
- "Tunnel History." *Detroit-Winsor Tunnel*. <http://www.dwtunnel.com/history/tunnel-history> (accessed September 10, 2008).
- U.S. Customs and Border Protection. "Container Security Initiative." *CBP Fact Sheet*, March 2007.
- U.S. Department of Homeland Security. "Operation Liberty Shield." *Office of the Press Secretary*, March 17, 2003.

- U.S. Department of Homeland Security. "Agency Actions in Response to the National Elevated Alert Level." *Office of the Press Secretary*, February 7, 2003.
- U.S. Department of Homeland Security. "Homeland Security Threat Level Raised to Orange." *Office of the Press Secretary*, February 7, 2003.
- U.S. Department of Homeland Security. "Joint Statement of Attorney General John Ashcroft and Secretary of Homeland Security Tom Ridge." *Office of the Press Secretary*, February 27, 2003.
- U.S. Department of Homeland Security. "Operation Liberty Shield: Statement by Homeland Security Secretary Tom Ridge." *Office of the Press Secretary*, March 17, 2003.
- U.S. Department of Homeland Security. "Remarks by Secretary of Homeland Security Tom Ridge at a Press Conference Announcing the Raising of the National Threat Level." *Office of the Press Secretary*, December 21, 2003.
- U.S. Department of Homeland Security. "Remarks by Secretary of Homeland Security Tom Ridge Regarding Recent Threat Reports." *Office of Press Secretary*, August 1, 2004.
- U.S. Department of Homeland Security. "Remarks for Secretary Tom Ridge Threat Level Press Conference; Remarks by Secretary Tom Ridge on Lowering National Threat Level to Yellow." *Office of the Press Secretary*, January 9, 2004.
- U.S. Department of Homeland Security. "Ridge, Attorney General Ashcroft Discuss Threat Level." *Office of the Press Secretary*, September 10, 2002.
- U.S. Department of Homeland Security. "Statement by Department of Homeland Security on Lowering of Threat Level for Financial Service Sector." *Office of Press Secretary*, November 10, 2004.
- U.S. Department of Homeland Security. "Statement by Homeland Security Secretary Tom Ridge on Raising the Threat Level." *Office of the Press Secretary*, May 20, 2003.
- U.S. Department of Homeland Security. "Statement by Homeland Security Secretary Michael Chertoff on Lowering the National Threat Level for the Mass Transit Sector." *Office of Press Secretary*, August 12, 2005.
- U.S. Department of Homeland Security. "Statement by Secretary of Homeland Security Tom Ridge on Lowering the Threat Level." *Office of the Press Secretary*, May 30, 2003.
- U.S. Department of Homeland Security. "Statement by Secretary Tom Ridge on Lowering the Threat Level." *Office of the Press Secretary*, April 16, 2003.

U.S. Department of Homeland Security. "Threat Level Returns to 'Elevated.'" *Office of the U.S. Attorney General*, September 24, 2002.

U.S. Department of Homeland Security. Transcript from Secretary Michael Chertoff Press Briefing on the London Bombings." *Office of Press Secretary*, July 7, 2005.

"World Trade Bridge." *Texas Department of Transportation*,
http://www.dot.state.tx.us/services/transportation_planning_and_programming/board_cr (accessed October 27, 2008).

THIS PAGE INTENTIONALLY LEFT BLANK

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California
3. Mrs. Margie Gutierrez
CBP Laredo Field Office
Laredo, Texas
4. Mr. Patrick Reed
CBP Detroit Field Office
Detroit, Michigan
5. Mr. Gabriel Padilla
CBP Los Angeles Field Office
Long Beach, California
6. Mr. Skip McMahon
Canadian Transit
Detroit, Michigan