Evaluation of the Air Cargo Security Program

Transport Canada
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Table of Contents

List of Abbreviations

ACSM	Air Carrier Security Measures
AGAS	Advisory Group on Aviation Security (Air Cargo Security Technical Committee)
Air India Commission	Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182
Air India Report	Report of the Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182
Annex 17 (Chicago Convention)	Security: Safeguarding International Civil Aviation Against Acts of Unlawful Interference
CASR	Canadian Aviation Security Regulations
CATSA	Canadian Air Transport Security Authority
CBSA	Canadian Border Services Agency
Chicago Convention	Convention on International Civil Aviation
CCSP	Certified Cargo Screening Program (United States)
CSIS	Canadian Security Intelligence Service
DPR	Departmental Performance Report
EAP	Canada's Economic Action Plan
EAS	Evaluation and Advisory Services
ECATS	Electronic Collection of Air Transportation Statistics
ETD	Explosive Trace Detection
ICAO	International Civil Aviation Organization
IED	Improvised Explosive Device
iSSCMS	Interim Secure Supply Chain Management System
IRM	Integrated Risk Management Framework
ITAC	Integrated Threat Assessment Centre
MOU	Memorandum of Understanding
OPI	Office of Primary Interest
PAA	Program Activity Architecture
PIA	Privacy Impact Assessment
PM Strategy	Performance Measurement Strategy
PMF	Performance Measurement Framework
RCMP	Royal Canadian Mounted Police
RMAF	Results-based Management and Accountability Framework
RPP	Report on Plans and Priorities
Seaborn Report	Report on Security Arrangements Affecting Airports and Airlines in Canada
SMS/SeMS	Safety Management Systems/Security Management Systems
SMRAC	Security Measures Respecting Air Cargo
SRAS	Security Regulatory Advisory System
SSCIMS	Secure Supply Chain Information Management System
SSCMS	Secure Supply Chain Management System
TSIS	Transportation Security Information System
TSA	Transportation Security Administration (United States)

List of Tables

List of Figures

Executive Summary

The Senate Standing Committee on National Security and Defence, CATSA Act Review Panel and the Air India Commission all identified cargo as a relative weak point in the civil aviation security system. Since 2006, Transport Canada with the support of the Canada Border Services Agency (CBSA) has been working to bring Canada's air cargo security system into better alignment with international standards. While baggage and passenger screening were improved after the Air India and September 11, 2001 terrorist attacks, air cargo security regime took longer to develop in part because air cargo because of the technical and logistical challenges involved. In addition, because hijacking, explosives in the passenger cabin and explosives in checked baggage have been the preferred tactics of terrorists, it was these threats that aviation security regulators focused on.

In 2009-2010, Transport Canada received funding through Canada's Economic Action Plan to implement enhanced security measures for air cargo, and to establish the foundation for a secure supply chain that will allow the cargo industry to secure freight early in the shipping process, and to maintain the security of that cargo until it is accepted by an air carrier. Beginning in 2010-2011, Budget 2010 announced funding to implement Air Cargo Security as an ongoing Program.

This evaluation examined Transport Canada's Air Cargo Security Program, and focused primarily on the work undertaken in 2009-2010 through the Economic Action Plan. Every effort was also made to ensure that the findings and recommendations were forward-looking and relevant to the ongoing Air Cargo Security Program.

The evaluation identified a clear and documented national security rationale for Transport Canada's Air Cargo Security Program and noted that air cargo represents significant value to the Canadian economy. The *Aeronautics Act* gives the Minister of Transportation, Infrastructure and Communities a clear mandate to regulate air cargo security, and the program aligns well with governmental priorities and Transport Canada's strategic outcomes.

Under the Economic Action Plan, the Air Cargo Security Program committed to strengthen regulations, manage the secure supply chain and establish mandatory air cargo screening standards. The program was found to have met the majority of the milestones it committed to for 2009-2010, and there was a consensus among stakeholders that the Air Cargo Security Program has made progress in improving supply chain security. However, a number of potential issues were identified with the security standards in place for certain "Registered Shippers" and the regularity of threat/risk assessments. The evaluation also noted a need for more and better performance information and improved interoperability with other government departments.

The evaluation made four recommendations. First, the Air Cargo Security Program should conduct its threat/risk assessments in a more systematic, integrated and regular fashion. **[ATIP REMOVED]** Third, Air Cargo Security should ensure that it is collecting enough operational intelligence about the secure supply chain to assess the effectiveness and impact of its security measures and regulations. Finally, Transport Canada should work with other government departments and agencies to manage the compliance burden faced by industry by eliminating duplication and reduce 'red tape' wherever possible. A Management Action Plan has been developed to address these recommendations.

Section 1: Background

Following the September 11, 2001 terrorist attacks, Canada moved quickly to improve aviation security, with a focus on passengers and their baggage. By 2003, however, the Senate Standing Committee on National Security and Defence had raised concerns that an imbalance had developed between passenger screening and cargo screening. While passengers and hold baggage were closely scrutinized, the Committee noted that cargo and mail travelling on the same aircraft went largely unscreened. At that time, Transport Canada's rules allowed air carriers flying from Canadian airports to treat cargo as secure if it came from a company with which they had an existing relationship—a "Known Shipper"—or if the cargo had been delayed for a specific period of time. The goal with the latter was to make it more difficult for terrorists to target a specific aircraft. Under these provisions, air carriers were required to keep their cargo facilities secure, to ensure that the waybills accompanying each package were consistent with the package itself and to visually inspect the exterior of the cargo they received. In the absence of a specific threat or evidence of tampering, however, cargo was most often loaded onto aircraft without ever being physically searched or subjected to technology-based screening.

External Assessments of Canada's Air Cargo System

As a reaction to the Air India tragedy and the September 11, 2001 terrorist attacks, Canada applied stringent security measures to passenger baggage. These rules did not apply to cargo.

Although Canada has not lost an aircraft to a cargo bomb since 1949, by the mid-2000s an international consensus had emerged that cargo and airmail were an accessible target for terrorists, and that it was only a matter of time before some group found an opportunity to exploit this vulnerability. In 2005, the International Civil Aviation Organization (ICAO) audited Canada's compliance with Annex 17 of the *Convention on International Civil Aviation*. Canada is a signatory to the Convention, and Annex 17, entitled *Security: Safeguarding International Civil Aviation Against Acts of Unlawful Interference,* contains specific requirements for air cargo and airmail security. **[ATIP REMOVED].**

In 2006, the Canadian Air Transport Security Authority (CATSA) Act Review Panel conducted a detailed assessment of Canadian aviation security and identified a new security regime for air cargo and airmail as being an "urgent priority." While the panel identified a number of problems in Canadian aviation security, it called air cargo the "single most significant gap" and highlighted the inadequacy of the existing Known Shipper rules. In 2007, the Senate Standing Committee on National Security and Defence reviewed aviation security for a second time, and was sharply critical of Transport Canada and its air cargo security regime.

In 2010, the *Report of the Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182* (Air India Report) identified cargo as "one of the most significant gaps in aviation security." The report noted the criticisms of Canada's air cargo security regime outlined in the 2003 and 2007 Senate reports, the 2005 ICAO audit and the 2006 report of the CATSA review panel, and found that with regard to air cargo and a number of other areas, "deficiencies in security still have not been addressed sufficiently" (p. 69). Citing the testimony of a number of aviation experts, the Commission concluded that:

> *The next act of sabotage against civil aviation could well target air cargo. Carried primarily on passenger aircraft, air cargo in this country is not routinely searched before it is loaded, and the screening measures applied to those who present air cargo for transport are insufficient. In many respects, the state of air cargo security today is disturbingly similar to that of the security applied to checked baggage before the loss of Air India Flight 182 (Vol. 4, p. 266).*

The Air India Report noted that the "value of improvements to passenger and baggage screening is greatly diminished if a bomb can be placed in a cargo shipment" (Vol. 4, p. 266). The Commission criticized the progress Transport Canada had made on the air cargo issue when it heard testimony on the issue in 2007. While it commented positively on the Air Cargo Security Initiatives then being implemented, it noted that cargo security had been a known deficiency since the 1980s, and that Transport Canada had done little to improve the situation in the intervening decades.[1]

The Air India Commission noted that Transport Canada began inspecting cargo in the early 1980s, and that it had implemented a Known Shipper program and screening requirements. However, it also found that Canada's definition of a Known Shipper fell short of international standards. **[ATIP REMOVED].** Each air carrier maintained its own Known Shipper list, and unlike the Department of Transportation in the United Kingdom (U.K.), which oversees an application and site inspection process for "known consignors," Transport Canada played no role in monitoring, vetting or inspecting Known Shippers.

The Commission also noted that Transport Canada's definition of "screening" did not require carriers to examine the contents of packages from Known Shippers or to screen those packages using explosive sniffing dogs, X-rays or any other means. As long as the description of the cargo on the waybill matched the cargo itself, and there were no obvious signs of tampering, the package could be accepted. Even if cargo was received from an unknown shipper, carriers did not have to physically search it or subject it to technological screening if they were willing to "hold" it for a specified period of time before shipping it. Citing testimony from an Air Canada official, the Commission observed that Canada's largest air carrier maintained X-ray equipment at its cargo handling facilities in London and Paris because those jurisdictions required it, but it did not have comparable equipment in Canada.

The Commission made three recommendations regarding air cargo security, and signalled support for Transport Canada's proposed Air Cargo Security Initiatives, recommending their implementation on a priority basis along with a comprehensive system for screening air cargo and airmail on both passenger and all-cargo aircraft. As well, the Air India Commission recommended discontinuation of the Known Shipper provisions in favour of a regulated agents program that exceeds the requirements of the Chicago Convention. Finally, the Commission recommended that a secure supply chain be established for non-passenger items such as stores (i.e., food and beverages) and catering.

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[1] Canada's first inquiry into the Air India bombing was the 1985 *Report on Security Arrangements Affecting Airports and Airlines in Canada* (Seaborn Report). The Seaborn Report noted that in cases of heightened alert, parcels should be X-rayed, larger cargo should be physically searched or inspected by explosives-sniffing dogs, or carriers should refuse to carry any cargo they were not able to open and search (p. 4).

The Challenge of Securing Air Cargo

Cargo is difficult to screen because almost anything that can fit onto an aircraft can be considered cargo. Passenger baggage is relatively uniform in size, weight and composition. Because of this, centralized pre-board screening at the airport with X-rays and metal detectors is both practical and effective. In contrast, cargo could include fruits, vegetables, vehicles, electronics, household goods, books, precious stones, human remains or industrial machinery ranging in weight from a few grams to a few tones. The technologies that exist for screening cargo are most effective on smaller, less dense, non-metallic objects with uniform composition. These technologies tend to be less effective when used to screen large, dense or complex objects, and the problem is compounded when cargo is consolidated into pallets or containers. A simple technological solution that would enable efficient pre-board screening of cargo at airports does not exist.

Canada's major trading partners are addressing the air cargo security issue using a combination of mandatory screening requirements, improved screening technologies and secure supply chain programs. For air cargo, the supply chain consists of shippers that originate and consign freight, freight forwarders that consolidate it, logistics firms that get it to the airport, ground handling and ramp agents that receive it and load it onto airplanes, and finally the carriers that operate those aircraft. The firms that make up a secure supply chain may not all know each other, but they all have a direct or indirect relationship with government.[2]

To be part of a secure supply chain, firms are required to demonstrate that their physical site, personnel and procedures comply with specific standards. The British Known Consigner Program uses Independent Validators to visit shipper and freight forwarder sites where they assess physical security and access controls, staff recruitment and training procedures, as well as procedures for cargo packing, storage and final transport to the air carriers. Similarly, the Transportation Security Administration (TSA) in the United States (U.S.) administers the Certified Cargo Screening Program (CCSP). It requires employee background checks, site inspections by an approved validation firm, ongoing inspections by TSA Inspectors, as well as a commitment to adhere to specific cargo handling and screening practices.

Secure supply chains are efficient because they allow different types of cargo to be secured at different points in the process by different methods. As long as air carriers can be assured that each regulated party has done its job properly, and that the chain of custody was never broken, they can recognize a security screening done by another company at an off-airport location. Pushing screening and inspection further up the supply chain makes security faster and less expensive for the air carriers, creates a business opportunity for freight forwarders, and makes it possible for manufacturers and other consigners to ship their goods by air with minimal disruption to their delivery schedules and product packaging.

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[2] **[ATIP REMOVED]**

1.1.   Profile of the Air Cargo Security Program

Relative to its trading partners, Canada has been slow to deal with the air cargo security issue. The Known Consigner Program in the U.K. has been using external validation since 2003. In 2004, the National Commission on Terrorist Attacks Upon the United States (9/11 Commission) released its report, and in August 2007, *The Implementing Recommendations of the 9/11 Commission Act* was signed into law, requiring 100 per cent screening of cargo transported on passenger aircraft in the United States, including cargo from Canada, by August 2010.

Canada launched its first air cargo security pilot project in 2006–07, but did not commit to an ongoing Air Cargo Security Program until 2010–11. By 2015, 100 per cent of the cargo on passenger aircraft in Canada will be screened under the enhanced security measures.

Table 1: Air Cargo Security Budget

Federal Department or Agency/ Initiative	Fiscal Year ($ million)									
	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	Ongoing
Transport Canada										
Air Cargo Security Initiative	3.5	13	10.5							
Air Cargo Security Priority Initiatives (EAP)				11.4						
Air Cargo Security Program					15.3	15.6	15.4	14.8	14.6	13.9
Canada Border Service Agency										
Air Cargo Security Initiative	4.2	3.7	4.2							
Air Cargo Security Priority Initiatives (EAP)				2.9						
Air Cargo Security Program					3.0	3.3	3.6	4.0	3.8	3.8
Total (Including GST/HST)	**7.9**	**17.3**	**15.1**	**14.6**	**19.5**	**20.0**	**20.1**	**19.9**	**19.4**	**18.6**

Source: Transport Canada, Air Cargo Security Program

Transport Canada, with the support of the Canada Border Services Agency (CBSA), has been working to bring Canada's air cargo security system into better alignment with international standards since 2006. *Budget 2006* allocated $39 million over three years for the Air Cargo Security Initiative (see Table 1). The Air Cargo Security Initiatives which ran from 2007–2009 consisted of two pilot projects, a voluntary secure supply chain initiative and a cargo screening initiative. The Air Cargo Security Initiative was structured as a Major Crown Project, and Treasury Board approved a governance model which included a steering committee, an interdepartmental advisory committee and a management committee.

The original Air Cargo Security Initiative was exploratory in nature, with a mandate to engage with the air cargo industry, raise the profile of air cargo security and consider options for an ongoing program. When the Initiative began in 2007, Transport Canada had authority to regulate the cargo operations of air carriers under the Canadian Aviation Security Regulations (CASR) and the Air Carrier Security Measures (ACSM) **[ATIP REMOVED]**. While the Air Cargo Security Initiative succeeded in launching a project office at Transport Canada, enrolling freight forwarders in the voluntary pilot program and raising industry awareness, its broad scope and limited policy and program authorities may have limited its effectiveness.

Canada chose not to implement an ongoing air cargo security program in 2009–10, opting instead to continue to refine the pilot project for an additional year. *Budget 2009* provided one year of funding through *Canada's Economic Action Plan* (EAP) for three Air Cargo Security Priority Initiatives. Although the Air Cargo Security Priority Initiatives did not have the authority to make long-term commitments to industry, or to staff a permanent organization, they gave Transport Canada a mandate and funding to strengthen the regulatory regime for air cargo ($1.5 million), manage the secure supply chain ($8.8 million), and establish mandatory air cargo screening standards ($1.1 million). In December 2009, Transport Canada implemented the Security Measures Respecting Air Cargo (SMRAC) that included new and enhanced standards for air cargo screening.

Budget 2010 allocated $95.7 million over five years and $17.6 million in each subsequent year to implement the Air Cargo Security Program on an ongoing basis. Launched in 2010–11, the Air Cargo Security Program will be operational by April 1, 2011 and fully implemented by 2015. Transport Canada now has the authority to regulate the air cargo operations of freight forwarders who join the program (Approved Participants) and air carriers. It is also working to align Canada with international standards and to extend the program to shippers by 2012.

Air cargo security involves a complex division of labour between a number of industries and federal departments and agencies. The *Aeronautics Act* and its accompanying Regulations and Security Measures establish Transport Canada as the principal regulator, and air carriers as the group responsible for ensuring that cargo they load onto their aircraft has been adequately secured. While Transport Canada makes and enforces rules, it does not itself screen or secure cargo the way CATSA screens passenger baggage. In most instances, the cargo loaded onto commercial aircraft in Canada has been accepted without screening from a known or registered shipper, or secured by an air carrier using a physical search or an active technology. As described below, Transport Canada, CBSA, Canada Post—and to a lesser extent, CATSA—all have an interest in the security of cargo on civilian aircraft in Canada.

- **Transport Canada:** Transport Canada's principal role with regard to air cargo security is to make and enforce regulations. It oversees the operational aspects of the secure supply chain, but it does not screen any cargo itself.

- **Canada Border Services Agency:** While Transport Canada is interested in the integrity of aircraft in Canadian airspace, CBSA is interested in the integrity of Canada's borders. CBSA screens inbound cargo for prohibited items such as narcotics, stowaways or weapons, and enforces export controls that restrict the type of goods Canadians can ship to certain countries. CBSA does not actively search aircraft leaving Canadian airports for Improvised Explosive Devices (IEDs) or hijackers.

- **Canada Post:** Both Canada Post and Transport Canada have some responsibility for airmail security. While Transport Canada does not consider airmail to be cargo, the Air Carrier Security Measures do impose specific requirements on air carriers accepting mail. While Canada Post is responsible for the security and screening of airmail, and for ensuring Canada's compliance with Universal Postal Union standards, the acceptance of airmail by air carriers, and their treatment of airmail between the time it is accepted and the time it is loaded onto an aircraft, are regulated by Transport Canada. Transport Canada is considering options to bring Canada Post into the Air Cargo Security Program as a partner organization.

- **Canadian Air Transport Security Authority**: Beginning in 2011, CATSA will work with Transport Canada to screen air cargo at a limited number of remote Class II and Class Other airports. This screening will be done at off-peak times using existing equipment and staff, and will be limited to individual pieces of cargo consigned at these terminals.

The Secure Supply Chain

The cargo industry in Canada is responsible for screening its freight in accordance with Transport Canada's standards. While a wide group of logistics and aviation service firms play a role in storage, loading and transportation or air cargo, the Air Cargo Security Program works with three main groups: shippers, freight forwarders and air carriers. As Figure 1 illustrates, once the Air Cargo Security Program is fully implemented, air carriers, along with freight forwarders and shippers who join the program will all be able to secure cargo through a combination physical search and technological screening. In instances where an air carrier or a participating shipper or freight forwarder engages the services of a Third Party Service Provider (TPSP), the subcontractor and its facilities are regulated as if they were owned by the firm that hired them.

Figure 1: Three Options for Securing Cargo: Air Carriers, Freight Forwarders and Shippers
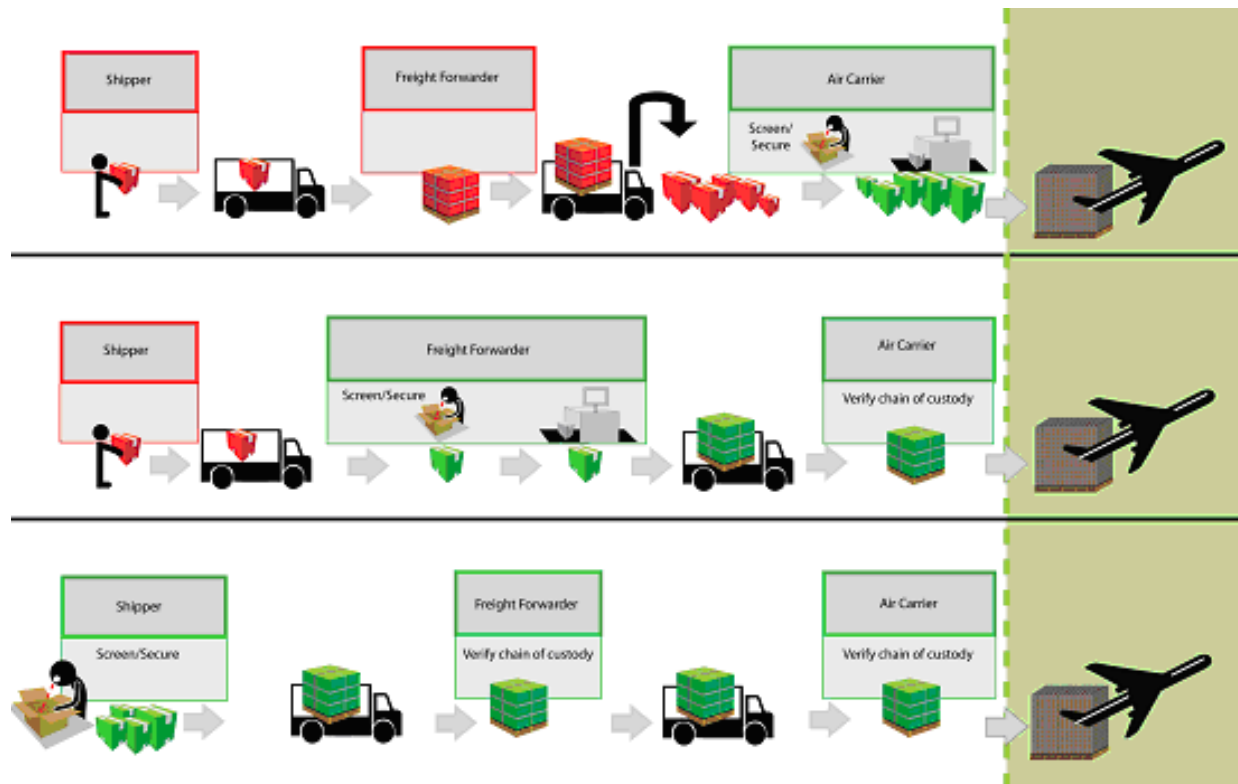
Source: Transport Canada, Air Cargo Security Program

- **Air Carriers:** Passenger and all-cargo carriers are ultimately responsible for the security of the cargo they place on their aircraft. **[ATIP REMOVED]**.

- **Freight Forwarders**: While any number of firms can identify themselves as freight forwarders, in general, they are companies that serve as intermediaries between originating shippers and air carriers. Their role is to assemble, consolidate and package cargo from diverse sources, and arrange shipment by land, sea or air. **[ATIP REMOVED]**.

- **Shippers:** The term "shipper" can be applied to any firm that consigns goods for transport **[ATIP REMOVED].**

Figure 2: Planned Evolution of the Shippers Program

[ATIP REMOVED]

Beginning in 2012, the Air Cargo Security Program hopes to be able to offer Participant Program membership to large-scale shippers and manufacturers. The extension of the Participant Program to shippers will be implemented through public regulations rather than Security Measures, and the Air Cargo Security Program is currently preparing for stakeholder consultations with industry. While it is impossible to know the outcome of these consultations, it is expected that Transport Canada will implement a program equivalent to the Certified Cargo Screening Program in the U.S. or the Known Consigner Program in the U.K.. Both of these programs require shippers and their employees to meet security standards, undergo site inspections by external validators or government inspectors, and adhere to specified security and screening standards.

In the Air Cargo Security Program, each participant recognizes the security screening conducted by the ACS Program participant that initially accepted the cargo, and keeps screened cargo secure until the next participant in the secure supply chain accepts it. Air carriers have the discretion to accept screened cargo from program participants without re-screening it.

1.2. Evaluation Approach

This evaluation is part of Transport Canada's ongoing effort to account for the results achieved with EAP funds in 2009–10, and wherever possible, to show how those investments have been translated into longer-term benefits for Canadians. Multiple lines of evidence were used to assess the relevance and effectiveness of the Air Cargo Security Program, with a focus on program implementation and early outcomes.

1.2.1. Scope and Design Considerations

Air Cargo Security is a new and complex program that has been the subject of particular attention because of the Air India Inquiry, the October 29, 2010 cargo bomb plot, and because the program received EAP funding. As a Major Crown Project, the Air Cargo Security Program is currently being implemented in accordance with a Treasury Board approved five-year plan (2010–11 to 2014–15). Much of the Program's work, including its compliance framework and Performance Measurement Strategy, was not scheduled to be completed until March 31, 2010. Because of this, most of the performance data on the program was either limited or unavailable at the time of this evaluation. In addition, at the beginning of the 2009–10 fiscal year, Air Cargo Security only had authority to implement a set of specific short-term initiatives—effectively a one-year extension of the pilot projects that had been running since 2006–07. But by the end of 2009–10, ongoing funding had been allocated and ACS was actively transitioning its short-term initiatives into an ongoing program. The work done in 2009–10 with EAP funds laid the foundation for the Air Cargo Security Program that exists today.

Table 2: Core Issues and Indicators

Core Issue	Indicator
Relevance	
Continued Need for the Program	a. The importance of air cargo to Canadian national security
	b. The importance of air cargo to the Canadian economy

Core Issue	Indicator
Alignment with Government Priorities	a. Consistency between the Air Cargo Security Program and the current government's priorities b. Consistency between the Air Cargo Security Program and Transport Canada's mandate, legislation and strategic objectives
Program Rationale and Alignment with Federal Roles and Responsibilities	a. The federal government's responsibilities and international obligations b. Alternative divisions of roles and responsibilities
Performance	
Achievement of Expected Outcomes Outputs • Policy Development • Regulatory Development • Secure Supply Chain Management System • Participant Program • Performance Standards for Air Cargo Screening • Ongoing Testing and Qualification of Air Cargo Screening Tools	 Output Indicators a. Enhanced policy framework in place b. Enhanced regulatory framework in force c. Enhanced regulatory framework improves Canada's compliance with Annex 17 of the *Convention on International Civil Aviation* d. Secure Supply Chain Management System operational e. Canadian freight forwarders are approved to accept, handle and secure air cargo f. Number of applications for risk assessment received, processed, accepted or rejected in 2009–10 g. Air Cargo Security performance standards h. Technologies tested (test beds) i. Technologies certified
Immediate Outcome • The foundation for a secure supply chain for domestic, transborder and international air cargo departing from Canadian airports	Outcome Indicators a. Implementation of air cargo security measures b. Industry participation c. Opinion of Program staff and stakeholders d. Awareness of the ACS Program e. Co-operation and interoperability
Issue 5 – Demonstration of Efficiency and Economy	a. Air Cargo Security Program costs b. Relative cost of current and alternative policy models c. Opinions of Air Cargo Security Program staff and key stakeholders

This evaluation was designed to examine the data and information that was available, the implementation of the Air Cargo Security Priority Initiatives in 2009–10 and the early outcomes achieved by the Program since then. The evaluation purposefully focused on the issues of relevance, the achievement of outputs and the achievement of immediate outcomes. While the focus was on outputs, implementation and use of EAP funds, the evaluators made every effort to understand how ACS expanded on those initiatives in 2010–11, and to make recommendations that are forward looking. For example, a media scan was conducted as part of the evaluation in an attempt to make an early assessment of public confidence in the security of the aviation system—one of the Air Cargo Security Program's intermediate outcomes. As a result, the evaluation was able to give a nuanced assessment of

the Program's relevance and a detailed assessment of what the program has achieved so far. As well, it has identified a number of possible improvements.

The evaluation is structured around the five core issues set out in the Treasury Board *Policy on Evaluation*: continued need for the program, alignment with government priorities, alignment with federal roles and responsibilities, achievement of expected outcomes, and the demonstration of efficiency and economy. To help guide the evaluation, Evaluation and Advisory Services worked with the Air Cargo Security Program to refine their existing "Outcomes Map" and "Outcomes Register" into a logic model that situates the EAP funded initiatives in the broader context of Transport Canada's ongoing Air Cargo Security Program. As well, the evaluation produced a list of specific performance indicators to assess each issue (see Table 2).

1.2.2. Lines of Evidence

Multiple lines of evidence were used to address the performance and relevance of the Program, including a document and regulatory review, literature and database reviews, interviews and a media scan.

Figure 3: Lines of Evidence

Document Review	• **Purpose:** To collect and analyze information regarding relevance and performance and to document the Program's authorities, policies and procedures. • **Sources:** Results-based Management and Accountability Frameworks (RMAFs), foundation documents, Legislation, Regulations, Security Measures, Project Planning Documents (such as the Project Charter, Project Plan, Management Committee Monthly Status Reports), Speeches from the Throne, Federal Budgets, Evaluation and Audit Reports, Reports on Plans and Priorities (RPP), Departmental Performance Reports (DPRs) and Performance Measurement Frameworks (PMFs).
Literature Review	• **Purpose:** To document third party assessments of Canadian air cargo security, to document best practices among major trading partners and to document the use of secure supply chains in other jurisdictions. • **Sources:** Academic, intergovernmental, non-governmental and industry literature.
Database Review	• **Purpose:** To analyze information regarding the economic importance of air cargo, to analyze information regarding the movement of air cargo in Canada and to analyze administrative data about the Program's operations. • **Sources:** Secure Supply Chain Management System, Statistics Canada's International Trade Database and Transport Canada's Electronic Collection of Air Transportation Statistics (ECATS) system.
Interviews	• **Purpose:** To provide information on the progress of the Program and to validate and contextualize information obtained via other methodologies. • **Sources:** Air Cargo Security Program Staff, Transport Canada Inspectors, CBSA Staff, freight forwarders and air carriers.
Media Scan	• **Purpose:** To assess the prevalence of the air cargo issue and approximate confidence. • **Sources:** Canadian newspapers

1.2.3. Evaluation Limitations and Analytical Challenges

This evaluation is constrained by a number of factors.

1. **Implementation and Early Outcomes**: Air Cargo Security is a young program, and the performance information available is limited to outputs and early outcomes. Further, performance and inspection

data for the Air Cargo Security Priority Initiatives is limited. The first set of Security Measures Respecting Air Cargo did not come into force until December 2009, and the Program will begin inspecting against these measures in 2011–12. While Aviation Security did continue inspecting air carriers against the old requirements from the Air Carrier Security Measures, this information is of limited value.

2. **Limited Policy and Program Authority:** The focus of this evaluation is 2009–10. The Program received ongoing program and policy authorities in January 2010. Although the Air Cargo Priority Initiatives laid the foundation for the ongoing program, the funding allocated in 2009–10 was for a set of specific initiatives that extended the pilot projects launched in 2006–07, without making any ongoing commitments. As a result, Transport Canada did not have authority to implement a permanent Air Cargo Security Program in 2009–10. Because of this, all of the policy and program work undertaken, including the Program's communication with industry, was premised on the understanding that the Program could be terminated or scaled back at the end of 2009–10.

3. **Evaluation of Counterterrorism Programs:** Governments typically assess performance in a highly systematic way, examining recent successes and failures and using that information to predict a program's readiness to face similar challenges in the near future. For counterterrorism programs, this systematic logic is potentially dangerous. The underlying logic of terrorism is opportunistic rather than systematic. Successful terrorist attacks against the aviation system have taken the form of infrequent, singular, catastrophic events. Every attempt, successful or otherwise, is unique, testing a different weakness, or potential weakness, in the system; this makes the generation of meaningful performance data difficult for a number of reasons. First, the fact that the cargo system has not been attacked, and no aircraft have been lost, does not mean the security regime is working; if this were the case, enhanced security measures for air cargo would not have been needed (i.e., the Known Shipper rules for air cargo that were criticized by the Air India Commission, ICAO and others would not need to be changed). Second, the fact that a specific weakness was exploited in the past does not mean that terrorists will be any more likely to choose that avenue in the future; security programs need to focus on the next threat more so than the last threat. Finally, it is difficult to know if a change in the reported number of security incidents reflects a change in the reporting/enforcement regime or a change in the security environment.

4. **Evaluation of SMS/SeMS Programs:** Safety Management Systems (SMS) and Security Management Systems (SeMS) are regulatory mechanisms that replace prescriptive rules and rigid enforcement regimes with a more flexible culture of performance-based regulation. The media in Canada has criticized SMS/SeMS as a cheaper, less-effective form of industry self-regulation, or worse, as a euphemism for deregulation. For Transport Canada, the challenge is to demonstrate that these systems are real, and that when implemented properly, SMS/SeMS can deliver a level of safety and security that is a least as good as traditional regulation. This creates an added performance measurement challenge; before measuring the outcomes of a program, an SMS/SeMS evaluation needs to validate that the SMS/SeMS "system" actually exists as a tangible, rather than conceptual, thing. Only after the existence of the system has been validated, can the evaluation assess the connection between the operation of that system and safety and security of the industry. In practical terms, this means treating outputs and implementation as necessary prerequisites for the results the program achieves. In the absence of a validated SMS/SeMS system, there is no way to attribute changes in the safety or security of the industry to the money or effort expended by government.

Section 2: Evaluation Findings

The evaluation findings are organized in accordance with the core issues outlined in the *Policy on Evaluation*, looking first at relevance and then at performance (effectiveness, efficiency and economy).

2.1. Relevance

2.1.1. Continued Need for the Program

The continued need the Air Cargo Security Program was assessed against two indicators:
- The importance of air cargo to Canadian national security; and
- The importance of air cargo to the Canadian economy.

National Security

Finding:	There is clear and documented national security rational for an air cargo security regime as a component of the Canadian aviation system.

Canada's *National Security Policy* (2004) identifies air cargo as a priority. As well, a 2004 threat/risk assessment conducted by Transport Canada in co-operation with Canada's intelligence services found that aircraft remain an attractive target for terrorists; it identified a cargo bomb on a passenger plane, an airmail bomb on a passenger plane and the commandeering of an all-cargo plane as specific threats to Canada's aviation system.[3] In 2009–10, the Air Cargo Security Program focused on mitigating the first of these three threats, a bomb in cargo on an outbound passenger plane.

Cargo has been part of the Aviation Security inspection checklist for air carriers since the 1980s and until the Security Measures Respecting Air Cargo (SMRAC) were implemented in December 2009, cargo was addressed as part of the Air Carrier Security Measures. A number of external reviewers have argued that air cargo security has been a known problem for at least 20 years, and have criticized Transport Canada, as follows, for failing to take more decisive action on the issue.

- **Report on Security Arrangements Affecting Airports and Airlines in Canada (1985):** The Seaborn Report into the bombing of Air India Flight 182 identified cargo as a potential threat to civil aviation. The report recommended that in cases of "heightened" or "enhanced" alert, small parcels be X-rayed and larger pieces of cargo be physically searched or inspected by explosives-sniffing dogs. In heightened threat situations, Seaborn also recommended that carriers refuse to carry any cargo that cannot be opened and searched, or to simply refuse to carry cargo at all (p. 4).

- **Senate Standing Committee on National Security and Defence (2003):** The committee identified serious and ongoing deficiencies in Canada's security regime for air cargo and airmail. In 2003, it recommended that "[t]he practice of offering blanket security shortcuts on the basis of being a known shipper should be discontinued in favour of a more robust regulated agents program."

- **Flight Plan: Managing the Risks in Aviation Security: Report of the CATSA Act Review Advisory Panel (2006):** The CATSA Review Panel found that cargo departing Canadian airports was largely

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[3] In 2004, the Air Cargo Working group at Transport Canada convened a threat assessment workshop to document the nature and severity of the threats faced by Canada's air cargo system. The workshop convened experts from the following federal departments and agencies: Transport Canada (policy experts, explosives experts, transportation intelligence experts); the Integrated Threat Assessment Centre (ITAC); the Canadian Security Intelligence Service (CSIS); the Royal Canadian Mounted Police (RCMP); and Canada Border Services Agency.

unscreened, and called cargo the "single most significant gap" in Canadian aviation security. The Panel noted the following:

> Annex 17 [of the Chicago Convention] stipulates that security controls be applied to cargo and mail prior to their being loaded onto an aircraft engaged in passenger commercial air transport operations. As passenger aircraft are the primary means of cargo transportation in this country, the Panel considers the development of a security regime for cargo and mail air transport in Canada to be an urgent priority.

The panel was "impressed" with the Known Shipper program in the U.K., and urged Transport Canada to implement an air cargo security regime as quickly as possible, noting that "CATSA would be an appropriate agency to oversee the operational aspects of a new regime."

- **Senate Standing Committee on National Security and Defence (2007):** In 2007, the Standing Committee argued that Transport Canada's mandate to promote the efficiency and profitability of the transportation industry was in conflict with its role as security regulator. The Committee argued that "putting Transport Canada in charge of [aviation] security is comparable to putting Industry Canada in charge of the environment. Industry Canada wants maximum production. Environmentalists want to ensure that production doesn't despoil the planet. The roles don't mix." The Committee reiterated its criticisms of the Known Shipper provisions, and recommended that "Transport Canada be relieved of its responsibility for security at airports and that this responsibility be transferred to the Department of Public Safety and Emergency Preparedness Canada."

- **Air India Flight 182: A Canadian Tragedy – Final Report of the Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182 (2010):** The Commission was launched in June 2006, held hearings from September 2006 until February 2008, and issued its final report on December 16, 2009. Based largely on evidence examined in 2007, the Commission noted serious deficiencies in Canada's air cargo security system:

> [A]ir cargo, for the most part, is simply placed alongside baggage in the aircraft hold as long as the shipper has met the minimal criteria of having had a regular business relationship with the air carrier. The image of fully screened passengers seated on aircraft with largely unscreened air cargo beneath them is troubling.
>
> …
>
> The value of improvements to passenger and baggage screening is greatly diminished if a bomb can be placed in a cargo shipment. This was the most disturbing revelation about Canada's current civil aviation security regime. It was also the one uniting factor among all the experts and stakeholders who appeared at the hearings. With striking unanimity, they agreed that air cargo currently represented one of the most significant gaps in aviation security, and that the gap must be addressed (p. 268).

The Air India Commission made three recommendations regarding air cargo security, signaled support for Transport Canada's proposed Air Cargo Security Initiative and recommended its implementation on a priority basis:

> Recommendation 23 – *A comprehensive system for screening air cargo (including mail) for transport on passenger and all-cargo aircraft should be implemented as an urgent priority. Canada's system of Known Shippers should be discontinued as soon as possible, and a system of Regulated Agents put in its place in accordance with international best practices. In designing and implementing the system, the Government should exceed the minimum requirements of Annex 17 of the Chicago Convention, with the aim of achieving the highest possible standards of air cargo security.*

> Recommendation 24 – *The new security regime for air cargo must be governed by legislation, not by non-binding Memoranda of Understanding. The security regime should reflect international best practices.*

> Recommendation 25 – *A supply chain security regime should be established for other non-passenger items (such as stores and catering) that are prepared at off-airport premises before being delivered to an aircraft.*

Following the October 29, 2010 cargo bomb plot, the Air Cargo Security Program conducted another threat/risk assessment workshop. Unlike the 2004 assessment, the 2010 workshop considered both inbound and outbound cargo, and the report's conclusion spoke to the need for an inbound cargo security strategy and for better security for all-cargo flights.

The addition of all-cargo flights is significant. A prevailing belief exists that 70 to 80 per cent of Canadian air cargo travels on passenger aircraft (see Figure 4).

Figure 4: Beliefs about Prevalence of Cargo on Passenger Flights

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Commission of Inquiry into the Investigation of the Bombing of Air India Flight 182
80 per cent of Canadian air cargo is carried on passenger planes (cited source was Reg Whitaker, Distinguished Research Professor Emeritus, York University).

CATSA Advisory Panel
70 per cent of Canadian air cargo is on passenger flights (cited to Transport Canada's Economic Analysis Unit).

Minister John Baird, announcing new funding for Air Cargo Security
75 per cent of commercial cargo travels in planes containing passengers (quoted in the National Post, May 25, 2010).

**Minister Jim Prentice, announcing new funding for Air Cargo Security**
75 per cent of all air cargo in Canada is transported on passenger planes (quoted in the Calgary Herald, May 25, 2010; BBC News, July 8, 2010).

CBC News
The Canadian government says about 75 per cent of commercial cargo in the country is transported in aircraft that also transport passengers (quoted from CBC News Online, November 1, 2010).

However, data from Transport Canada's ECATS (Electronic Collection of Air Transportation Statistics) database indicates that the majority (57 per cent) of Canadian air freight now travels on all-cargo flights. Transport Canada is still refining the ECATS reporting system, and Program staff cautioned that these figures may actually under-represent the proportion of freight on all-cargo aircraft because all-cargo carriers have not been as diligent as passenger carriers in their reporting to Transport Canada. Nevertheless, as Figure 5 illustrates, since 2004 the proportion of Canadian air cargo traveling on all-cargo aircraft appears to have grown substantially. While the majority of cargo destined for international destinations outside of North America still travels on passenger aircraft, the data shown in Table 3 suggests that most cargo destined for the United States or other parts of Canada now travels on all-cargo aircraft.

Figure 5: Outbound Cargo, by Type of Aircraft, Since 1999
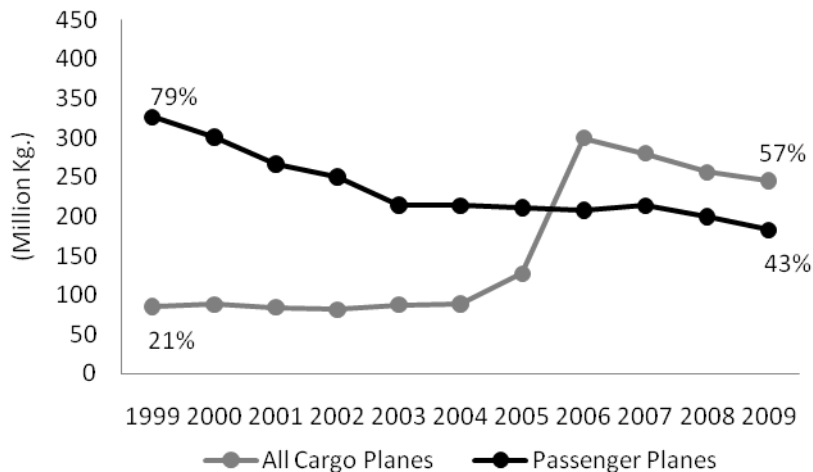
Destination	Annual kg by Aircraft Type	
	Passenger	**All-Cargo**
Domestic	52,732,036	160,410,846
International	150,778,086	9,865,248
Transborder	9,696,379	107,434,685
Total kg	213,206,501	277,710,779

Source: Transport Canada, Economic Analysis, ECATS Data

Economic Importance of Securing Air Cargo

Finding:	Air cargo represents significant value to the Canadian economy, and it is Canada's economic interest to ensure there is a viable air cargo security regime for both passenger and all-cargo aircraft.

Statistics Canada's International Trade Database recorded combined Canadian imports and exports of $725 billion in 2009, of which $94 billion was transported by air (see Table 3). As a percentage, air cargo represented $12.79 per cent of combined imports and exports as compared to rail at 10.33 per cent, road at 45.89 per cent and marine at 20.9 per cent. The value of Canadian air cargo has generally risen since 2002 (see Figure 6). Trade by all modes declined in 2009 when compared to previous years. Although the value of goods traded by air declined less than any other mode (eight per cent for exports and seven per cent for imports as opposed to 21 per cent for all modes), the combined value of imports and exports by air was $7.5 billion dollars lower in 2009 than it was in 2008. In 2009, Canada imported $53.94 billion by air and exported $40.14 billion. These figures include Canadian aircraft exports, which were worth almost $7 billion in 2009, as well as goods carried on aircraft as cargo. However, they still give a good indication of the importance of air cargo to the Canadian economy.

Table 3: How Canadian Imports and Exports Travelled, 1999–2009

| Year | Exports ($B CND) | | | | | | Imports ($B CND) | | | | | | Grand |
	Air	Rail	Road	Water	Other	Total	Air	Rail	Road	Water	Other	Total	Total
1999	27.3	70.9	188.4	40.7	28.1	355.4	44.6	20.2	211.2	42.8	1.6	320.4	675.8
2000	36.1	76.3	203.7	47.1	50.1	413.2	53.9	23.1	222.1	55.9	2.1	357.0	770.2
2001	34.4	76.1	195.8	45.1	52.6	404.1	48.5	24.5	210.7	53.9	5.6	343.1	747.2
2002	31.4	76.6	199.7	46.1	42.6	396.4	43.8	26.2	217.0	57.0	4.9	349.0	745.3
2003	32.0	72.6	176.4	47.8	52.2	381.1	40.2	24.5	203.8	59.7	7.7	336.0	717.1
2004	34.5	78.4	186.7	54.5	57.9	412.0	44.9	25.4	209.7	63.2	11.2	354.5	766.5
2005	38.1	76.5	188.4	60.5	72.1	435.7	47.5	27.5	216.2	69.4	18.2	378.9	814.6
2006	39.6	75.4	185.7	68.7	70.2	439.6	50.5	28.9	221.4	75.0	17.6	393.4	832.9
2007	40.8	74.3	180.3	81.4	73.5	450.4	55.6	31.3	224.7	78.3	17.1	406.9	857.3
2008	43.5	71.1	169.8	96.2	102.9	483.6	58.1	34.5	221.5	99.0	20.9	434.0	917.6
2009	40.1	49.0	136.9	71.6	62.3	360.0	53.9	25.9	193.0	79.9	12.4	365.2	725.2

Source: Statistics Canada, International Trade Database

Figure 6: Canadian Imports and Exports by Air (1999–2009)
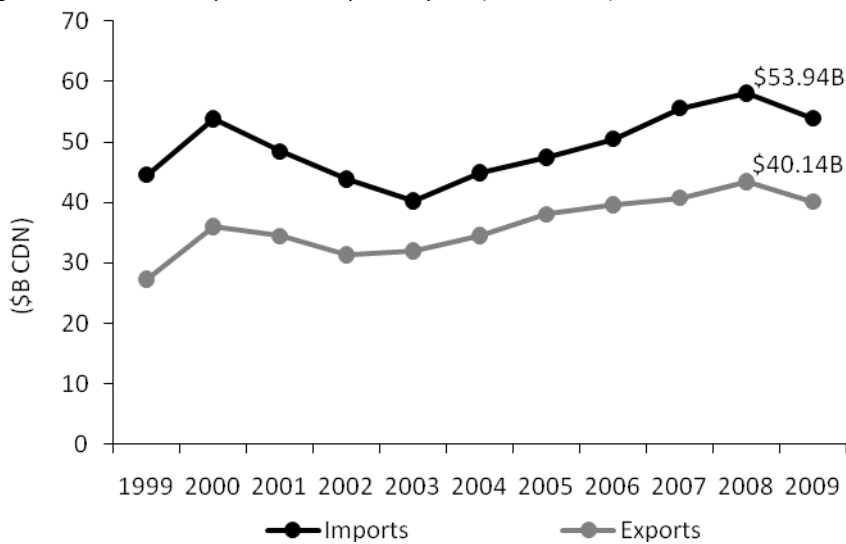
Source: Statistics Canada, International Trade Database

The U.S. and the U.K. are Canada's most significant destinations for exports by air, and it is these jurisdictions that the Program is focusing on with regard to mutual recognition and harmonization. As shown in Table 4, the U.S. receives 33 per cent of Canada's air exports, with machinery and electrical equipment and transportation-related products representing the majority. Although Canada exported more than $4 billion in transportation goods to the U.S. in 2009, it should be noted that most of this figure—$3.7 billion—was in the form of complete aircraft (airplanes and helicopters) rather than cargo traveling in the hold of an airplane. Once the Security Measures Respecting Air Cargo (SMRAC) are fully implemented, air carriers will not be allowed to transport unsecured cargo departing from Canadian airports. As well, some jurisdictions, most notably the U.S., require all inbound cargo to be secured to their domestic standards, which may be more stringent than Canadian standards.

Table 4: 2009 Canadian Exports by Destination and Commodity Type ($Million CDN)

Country	Animals & Animal Prod.	Vegetable Products	Foodstuffs	Tobacco	Mineral Products	Chemicals	Plastics / Rubbers	Skins, Leather, & Furs	Wood & Wood Products	Printed Materials	Textiles	Footwear / Headgear	Stone / Glass	Metals	Machinery / Electrical	Transportation	Miscellaneous	Services	Total	Percentage
Top 20 Export Destinations (At least 1% of Total Exports)																				
United States	22	2	3	1	0	257	79	13	9	33	47	3	1,710	150	4,032	4,053	1,346	1,417	**13,177**	**32.8%**
United Kingdom	14	4	2	0	0	171	14	4	4	7	13	4	6,867	31	732	673	196	47	**8,784**	**21.9%**
Germany	20	1	2	0	0	68	8	7	2	8	28	4	59	22	604	420	191	281	1,725	4.3%
France	50	2	1	0	0	187	7	3	2	4	5	1	4	21	675	83	107	15	1,169	2.9%
Mexico	3	5	0	0	0	22	7	1	2	2	3	0	39	17	830	76	42	8	1,057	2.6%
Switzerland	28	0	1	0	0	323	1	1	0	2	4	1	376	2	120	34	38	110	1,041	2.6%
China	46	1	1	0	0	21	9	69	3	2	4	0	3	21	508	24	191	7	913	2.3%
Japan	63	12	4	0	0	116	6	2	1	1	13	3	11	11	331	147	81	25	829	2.1%
Belgium	27	2	1	0	0	121	3	0	0	2	1	0	547	3	52	8	43	1	814	2.0%
Australia	3	1	2	0	0	49	8	1	1	2	5	1	16	18	228	194	65	69	661	1.6%
Hong Kong	67	8	4	0	0	32	9	103	2	1	5	0	28	4	209	98	52	22	645	1.6%
Singapore	2	1	1	0	41	22	5	0	0	1	1	0	1	13	298	99	63	12	560	1.4%
Italy	6	1	1	0	0	28	5	4	1	2	4	1	5	7	283	106	86	6	545	1.4%
Denmark	1	0	0	0	0	3	1	2	0	0	1	0	0	1	34	363	23	5	437	1.1%
UAE	4	2	1	0	0	12	3	0	1	1	4	1	98	8	172	88	37	4	435	1.1%
Ireland	0	0	1	0	0	327	2	0	0	1	1	0	0	1	54	33	13	1	435	1.1%
Netherlands	15	4	1	0	0	42	4	0	0	2	17	1	4	5	221	15	92	11	434	1.1%
South Korea	15	1	7	0	0	27	3	23	1	1	3	0	2	23	216	9	83	4	417	1.0%
Brazil	5	0	0	0	0	22	4	0	0	1	2	0	2	6	237	68	50	7	407	1.0%
India	1	0	0	0	0	12	3	0	0	1	1	0	99	6	143	63	48	11	388	1.0%
Sub Total	392	47	35	2	44	1,864	182	234	28	75	167	20	9,872	369	9,981	6,654	2,847	2,061	34,872	86.9%
Other Export Destinations (Less than 1% of Total Exports)																				
195 Others	79	28	21	0	8	436	69	27	9	42	49	6	38	129	2,170	1,460	560	134	5,266	13.1%
Total																				
	472	75	57	2	52	2,300	250	262	36	117	215	26	**9,910**	498	**12,152**	**8,114**	3,406	2,195	40,138	100%
	1.2%	0.2%	0.1%	0.0%	0.1%	5.7%	0.6%	0.7%	0.1%	0.3%	0.5%	0.1%	**24.7%**	1.2%	**30.3%**	**20.2%**	8.5%	5.5%	100.0%	

Source: Statistics Canada, International Trade Database

2.1.2. Alignment with Government Priorities

The alignment of the Air Cargo Security Program with federal government priorities and departmental strategic outcomes was assessed against two indicators:
- Consistency between the Air Cargo Security Program and the current government's priorities; and
- Consistency between the Air Cargo Security Program and Transport Canada's mandate, legislation and strategic objectives.

Finding:	**The outputs and immediate outcomes of the Air Cargo Security Program align with federal priorities and with Transport Canada's strategic objective of "a secure transportation system."**

Government Priorities

A review of key federal government foundation documents indicates that the Air Cargo Security Program is aligned with federal priorities (see Figure 7). Air cargo security received funding in *Budgets* 2006, 2009 and 2010. Announcements of new federal spending are an important indication of the relative priority of a program, and the fact that air cargo security received funding in three of the last five budgets is significant. Furthermore, the 2010 Speech from the Throne committed to "make travel by air safer by employing the latest screening practices and detection technologies for passengers and cargo." The Governor General also noted that "while the costs of air security must be borne by businesses and individuals who use air transport, our Government will ensure their contribution is invested responsibly and effectively, and delivers measurable results." The inclusion of aviation and air cargo security in the Throne Speech further highlights the importance of the Program. It is also worth noting that the government specifically committed Transport Canada to demonstrating that the investments made by air carriers, freight forwarders and shippers will yield measurable results, making operational intelligence and performance measurement key deliverables for the program.

Figure 7: References to Air Cargo and Airmail Security in Federal Foundation Documents

Issues Mentioned Or Commitments Funded	Government of Canada											Transport Canada										
	Federal Budget						Throne Speech					RPP						DPR				
	2005	2006	2007	2008	2009	2010	2006 (April)	2007 (Oct)	2008 (Nov)	2009 (Jan)	2010 (March)	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2005–06	2006–07	2007–08	2008–09	2009–10
Aviation Security	■	■		■	■	■					■	■	■	■	■	■	■	■	■	■	■	■
Air Cargo Security		■			■	■					■	■	■	■	■	■	■	■	■	■	■	■
Airmail Security												■	■	■								

Departmental Strategic Outcomes

Specific commitments regarding air cargo and airmail security were identified in Transport Canada's Report on Plans and Priorities (RPP) in 2005–06, 2006–07, and 2007–08. While Transport Canada regulates the shipment of mail by air through the Air Carrier Security Measures, the Air Cargo Security Program is not responsible for airmail. After 2007–08, RPPs stopped making reference to airmail, although commitments regarding air cargo security *were* identified in the 2008–09, 2009–10 and 2010–11 RPPs. The Departmental Performance Reports (DPRs) from 2005–06 to 2009–10 all make some reference to aviation security and air cargo, but make no reference to airmail. In its response to the Air India Report, Transport Canada may commit to a National Aviation Security Program which will include air cargo security as a priority. The Air Cargo Security Program has linked its program outputs and outcomes to Transport Canada's strategic objective of "a secure transportation system."

2.1.3. Alignment with Federal Roles and Responsibilities

The alignment of the Air Cargo Security Program with federal responsibilities and international obligations was assessed against two indicators:
- The federal government's responsibilities and international obligations; and
- Alternative divisions of roles and responsibilities.

Federal Responsibilities and Obligations

Finding:	**Canada's Aeronautics Act makes the federal Minister of Transportation responsible for regulating aviation security.**

Aviation is a federal responsibility, and the *Aeronautics Act* gives the Federal Minister of Transportation the authority to make regulations with regard to aviation security and to "co-operate or enter into administrative arrangements with aeronautics authorities of other governments or foreign states with respect to any matter relating to aeronautics." With regard to aviation security, sub-section 4.71 (2)(d) of the Act stipulates that the Governor in Council may make regulations "respecting the screening of goods that are intended to be taken or placed on board an aircraft or brought into an aerodrome or other aviation facility, or that are inside an aircraft or an aerodrome or other aviation facility . . ." Further, sub-sections k, l, m and o of section 4.71 (2) give the Minister of Transportation authority to make regulations with respect to Security Management Systems (SeMS), and to set standards for equipment and personnel training.

Section 4.72 gives the Minister the authority to establish Security Measures. Security Measures have the same force as regulations, but they are not made public, and they do not need to be published in the Canada Gazette. Because Security Measures are less transparent than regulations, they can only be used under specific circumstances, as described in section 4.72 (2):

> *The Minister may only make a security measure in relation to a particular matter if (a) an aviation security regulation could be made in relation to that matter; and (b) aviation security, the security of any aircraft or aerodrome or other aviation facility or the safety of the public, passengers or crew members would be compromised if the particular matter that is to be the subject of the security measure were set out in a regulation and the regulation became public.*

If at any time the Minister believes that security would no longer be compromised by the publication of a specific Security Measure, the government is obligated to either repeal that Security Measure or publish it in the Canada Gazette.

Finding:	The federal government is responsible for Canada's implementation of the Convention on International Civil Aviation (Chicago Convention): As a signatory, Canada has committed to implementing air cargo security measures as well as airmail and in-flight security provisions. In-flight and airmail provisions are regulated through Air Carrier Security Measures rather than the Security Measures Respecting Air Cargo, and are not considered part of the Air Cargo Security Program.

The Act also gives the Minister of Transportation the authority to enter into international agreements with respect to aviation. Although the *Constitution Act* does not explicitly identify international treaty making as an exclusive federal power, it is generally accepted that the Government of Canada can enter into international agreements on behalf of the country, provided it does not infringe on provincial powers (Parliamentary Information and Research Service, Library of Parliament, Canada 2008). The international standards for air cargo security are outlined in Annex 17 of the *Convention on International Civil Aviation* (the Chicago Convention). Specifically, Section 4.6 details the requirements relating to cargo, mail and other goods:

- **4.6.1** Contracting states shall ensure the security controls are applied to cargo, mail and other goods prior to being loaded onto a commercial transport plane;

- **4.6.2** Contracting states will ensure said cargo is protected from interference after it has cleared security;

- **4.6.3** Contracting states will establish a process for approval of regulated agents if such agents are involved in implementing security controls;

- **4.6.4** All cargo must be subject to security controls by a regulated agent;

- **4.6.5** Each contracting state shall ensure the security controls are applied to catering, stores and supplies prior to being loaded onto a commercial transport plane; and

- **4.6.6** (Recommendation) each contracting state should ensure that mail and cargo on all-cargo aircraft be subject to risk-appropriate security controls based on a risk assessment by the relevant national authority.

Canada is a signatory to the Chicago Convention, and has agreed to implement measures to protect air cargo and ensure that it is subject to appropriate security controls. Under the International Civil Aviation Organization (ICAO) treaty, Canada is responsible for securing cargo and mail as well as catering and stores. **[ATIP REMOVED].**

2.2. Performance

2.2.1. Achievement of Expected Outputs

Finding:	**The Air Cargo Security Program was found to have met the majority of the milestones it committed to under Canada's Economic Action Plan by March 31, 2010.**

The Air Cargo Security Program tracked its use of EAP funds against 20 key project milestones, each of which was comprised of a number of smaller deliverables. As Table 5 outlines, the Program completed all seven milestones associated with strengthening air cargo regulations, and all three milestones associated with the establishment of mandatory air cargo screening standards. With regard to management of the secure supply chain, four of the 10 milestones were reached by the end of the fiscal year, two remained outstanding pending a ruling from the Privacy Commissioner regarding a Privacy Impact Assessment (PIA) of an intelligence sharing arrangement with CBSA and two milestones related to a shippers pilot project were deferred until 2010. Finally, two milestones became irrelevant when a contract with an external IT provider was discontinued in favour of an in-house system.

Table 5: Status of EAP-Funded Milestones as of March 31, 2010

Milestone	Planned Completion Date	Status as of March 31, 2010
Strengthening Regulations		
1. ACS Measures Effective	31-Mar-10	Completed
2. ACS Measures Released	28-Aug-09	Completed
3. Economic Analysis (Initial)	31-Aug-09	Completed
4. High Risk Cargo Defined	15-Sep-09	Completed
5. **[ATIP REMOVED]**	03-Dec-09	Completed
6. Regulatory Standards Completed	31-Jan-10	Completed
7. **[ATIP REMOVED]**	28-Jan-10	Completed
Managing the Secure Supply Chain		
8. Air Carrier Program Launched	31-Aug-09	Completed
9. MOU with CBSA Completed	TBD	Awaiting Results of PIA
10. Preliminary Privacy Impact Assessment for Information Sharing with CBSA	TBD	Under legal review
11. Risk Assessment Target #1	31-Oct-09	Completed
12. Risk Assessment Target #2	31-Jan-10	Completed
13. Shipper Pilot Developed	15-Sep-09	Deferred to 2010/2011
14. Shipper Pilot Launched	01-Nov-09	Deferred to 2010/2011
15. SSCMS Contract Resolution	18-Sep-09	Completed
16. SSCMS Release 2 Implemented	20-Aug-09	No Longer Relevant
17. SSCMS Release 3 Implemented	30-Oct-09	No Longer Relevant
Establishing Mandatory Air Cargo Screening Standards		
18. Interim Technology Standards Released	31-Jul-09	Completed
19. Test Bed #1 Completed	02-Mar-10	Completed
20. Test Bed #2 Completed	24-Mar-10	Completed

Source: Transport Canada, Air Cargo Security Program, Year-End Report FY 2009–2010

Finding:	Under Canada's Economic Action Plan, the Air Cargo Security Program committed to strengthen regulations, manage the secure supply chain and establish mandatory air cargo screening standards. The Program was effective in delivering its intended outputs with EAP funds.

Canada's Economic Action Plan allocated $11.4 million to Transport Canada in 2009–10 to improve the state of air cargo security. **[ATIP REMOVED].** Table 6 shows the outputs expected from these investment and activities. The text that follows provides an assessment of the six outputs described in the table.

Table 6: Intended Outputs in 2009–2010

EAP Investment	Funded Activity	Measurable Output
$1.5 million	Strengthen Regulations	Policy Development
		Regulatory Development
$8.8 million	Strengthen the Secure Supply Chain	Secure Supply Chain Management System
		Participant Program
$1.1 million	Establish Mandatory Air Cargo Screening Standards	Performance Standards for Air Cargo Screening
		Ongoing Testing and Qualification of Air Cargo Screening Tools

Policy Development

Policy work is not normally considered an output for evaluation purposes. **[ATIP REMOVED].** In January 2010, following consultations with industry representatives, Transport Canada received authority to establish Air Cargo Security as an ongoing program.

[ATIP REMOVED]

Regulatory Development

Pursuant to the *Aeronautics Act*, the Air Cargo Security Program had an obligation to consult with air carriers before implementing new security measures. It conducted consultations with industry stakeholders across Canada, as follows, prior to implementing new Security Measures. In November and December of 2009, consultation sessions were held in 15 cities with Class I and Class II airports; there were 276 attendees. Consultation material was also made available to more than 1,500 stakeholders through Transport Canada's Security Regulatory Advisory System (SRAS).

The Program also worked with the Canadian International Freight Forwarders Association (CIFFA), the NACSTAC (National Air Cargo Security Training Awareness Committee) and the Air Cargo Security Technical Committee of the Advisory Group on Aviation Security (AGAS), which is comprised of representative air carriers, airport authorities, industry associations, unions, suppliers and CATSA. A number of air carriers indicated that they were very satisfied with the level of consultation. In contrast, several freight forwarders expressed dissatisfaction with the level of consultation.

In 2009–10, the Program developed new Security Measures Respecting Air Cargo (SMRAC) **[ATIP REMOVED].**

Secure Supply Chain Management System (SSCMS)

The Air Cargo Security Program is supported by the SSCMS. This computer system has a number of administrative and operational roles. Administratively, the system is used by the Program as a secure

way to communicate with its participants, to distribute security memos and updates, and to collect documents from participants and manage their information. Operationally, Program participants and air carriers are required to use SSCMS to validate each other's credentials as they move secure freight. SSCMS has evolved through three stages:

1. Secure Supply Chain Management System (SSCMS): Until March 31, 2010, Transport Canada outsourced the SSCMS to an external service provider **[ATIP REMOVED]**.

2. Interim Secure Supply Chain Management System (iSSCMS): Because of the cost of the contract, and difficulties in securing approval for project extensions, a decision was made in the fall of 2009 to develop an in-house system. The proposed Transportation Security Information System (TSIS) was meant to include SSCMS. As a temporary measure, an interim system (iSSCMS) was developed during the EAP period; it relied on the Secure Regulatory Advisory System (SRAS), database applications and manual office procedures. For a number of reasons, including the resource burden of using manual office procedures, unacceptably slow system performance, the need to deploy the system to Transport Canada offices outside the National Capital Region and a reclassification of the system's data from Protected B to Protected A, the Air Cargo Security Program is now developing a new secure supply chain management system.

3. Secure Supply Chain Information Management System (SSCIMS): The TSIS project mentioned in the previous paragraph has been discontinued. In its stead, the Program recently received approval to implement its own web-based, in-house IT system for managing the secure supply chain for air cargo. While some information is captured by the ECATS system, neither the interim iSSCMS system nor the permanent SSCIMC systems has the capacity to collect operational intelligence on the movement of freight through the secure supply chain.

Air carriers were required to start using the system in February 2010, and it became mandatory for freight forwarders on March 31, 2011. Most of the larger air carriers indicated that they are not using the current iSSCMS system. They are either using Excel spreadsheets (provided by the Program) to update their own proprietary systems, or they rely on their own Known Shipper lists rather than validating consigners through Transport Canada. Most carriers not flying to international destinations are not yet required to use the system, but were aware of its existence. For a number of reasons, freight forwarders may not be using the system consistently. Some are still not aware the system exists. **[ATIP REMOVED].**

Participant Program

Under the pilot program, the Participant Program consisted of air carriers and freight forwarders. All air carriers licensed to operate in Canada are regulated under the *Aeronautics Act* and their cargo handling facilities must always comply with SMRAC. On the other hand, freight forwarders are voluntary participants in the Air Cargo Security Program, and the Program is working to develop regulations that would allow shippers to voluntarily join the program by 2012.

Freight forwarders are not regulated under the *Aeronautics Act*, and their participation in the Air Cargo Security Program is voluntary because not all freight forwarders ship goods by air, while others do not ship enough air cargo to justify the costs associated with Program membership. From 2007 until September 2010, freight forwarders could join the pilot program by signing a Memorandum of Understanding (MOU) with Transport Canada. The MOU required them to submit a Cargo Security Plan based on Minimum Required Elements that were developed to test security components within the freight forwarding industry.

In 2009, the Air Cargo Security Program conducted a compliance audit of firms that had signed MOUs **[ATIP REMOVED]**, and the Air India Commission recommended that Transport Canada eliminate individual MOUs in favour of binding Terms and Conditions. In the fall of 2010, in preparation for the enhanced security measures and to improve the consistency of the program, participating freight forwarders who wished to continue to handle and submit secure air cargo were required to sign Terms and Conditions that committed them to submit a new Cargo Security Plan based on a revised set of Minimum Required Elements (MREs). The MREs were to be codified within SMRAC and come into law on April 1, 2011.

Because the SMRAC consists of are Security Measures pursuant to the *Aeronautics Act*, they supersede the individual MOUs and the Terms and Conditions that governed the pilot project. As of April 2011, freight forwarders could join the Air Cargo Security Program by submitting to a security clearance and site inspection process, and by submitting a Cargo Security Plan that documents their compliance with the Air Cargo Security Program's requirements. If their application is successful, the Air Cargo Security Program issues the freight forwarder a Participant Authorization Number on behalf of the Minister of Transportation. This allows them to accept, handle and transport cargo in the secure supply chain. Freight forwarders that choose not to be part of the Air Cargo Security Program can still ship cargo by air, but the cargo has to be screened by either an approved participant or an air carrier.

[ATIP REMOVED]. As of November 2010, 255 sites had been approved (see Figure 8).

Figure 8: Air Cargo Security Participant Program
[ATIP REMOVED]

There was consensus among the air carriers and freight forwarders interviewed that a secure supply chain for air cargo is emerging in Canada. However, a number of Transport Canada Inspectors and freight forwarders indicated that the majority of freight forwarders are not screening cargo; **[ATIP REMOVED]**. Also, the Air Cargo Security Program is working to bring Canada Post into the secure supply chain as a partner organization; under such an arrangement, Canada Post would be responsible for ensuring that airmail is secure to an equivalent standard to air cargo.

Performance Standards for Air Cargo Screening

The Program has implemented minimum technical performance standards for a number of screening technologies and processes that can be used to detect explosives in air cargo: **[ATIP REMOVED]**.

The value of X-ray devices and other screening technologies is contingent on their appropriate use by a trained operator. **[ATIP REMOVED]**.

Ongoing Testing and Qualification of Air Cargo Screening Tools

[ATIP REMOVED].

Canada is actively working with the U.S., the U.K., the European Union and Australia on technical issues related to air cargo security. Transport Canada has a *Cooperative Activity Agreement* under the *Critical Infrastructure Protection and Border Security Agreement* with the U.S.. Pooling Transport Canada's research and development budget with other jurisdictions gives the department access to a significant volume of research and development data at a fraction of its full cost. **[ATIP REMOVED]**.

Industry expressed concern that the list of approved technologies has not been finalized, and does not include devices that would allow them to quickly screen larger pieces of cargo or freight that have been consolidated into pallets or containers. A number of air carriers indicated that they had funds available and could purchase and deploy screening technologies at their sites within 90 days of receiving a "final" qualified equipment list from Transport Canada. Program staff indicated that few technologies exist that can reliably screen palletized or containerized cargo, and that technologies used elsewhere may not meet Canadian standards when used properly. **[ATIP REMOVED]**.

2.2.2. Achievement of Immediate Outcomes

The Air Cargo Security Program appears to be well aligned with the outcomes associated with Transport Canada's fourth Strategic Outcome (SO 4), a Secure Transportation System. Because the Air Cargo Security Program is still being implemented, however, it is too early to assess whether or not Transport Canada is achieving its intermediate or ultimate objectives. This evaluation focused on the Program's first immediate outcome—the extent to which the Air Cargo Security Program has established the foundation for a secure supply chain for domestic, transborder and international air cargo departing from Canadian airports. This outcome was assessed using five indicators:

- Implementation of air cargo security measures;
- Industry participation;
- Opinion of Program staff and stakeholders;
- Awareness of the secure supply chain; and
- Co-operation and interoperability.

Implementation of Air Cargo Security Measures

Finding:	[ATIP REMOVED].

[ATIP REMOVED].

Finding:	The Program has the infrastructure in place to begin capturing operational intelligence on the movement of freight through the secure supply chain and the deployment of screening technologies and personnel as of April 1, 2011. However, it is not clear that the Program will have enough information to manage the risks associated with a shortage of screening capacity at specific points in the supply chain or weaker than expected participation by shippers or freight forwarders.

Opportunities for refinement may also exist with regard to the monitoring of the SMRAC. The Program is currently developing an infrastructure that will allow it to collect information about the deployment of screening technologies by air carriers and Participant Program members, and to validate how and to what extent industry is screening the requisite percentage of cargo. As of April 1, 2011, the Program could be in a position to begin tracking a number of key metrics:

- **Program Participant Screening Technologies:** The Cargo Security Compliance Form used by Transport Canada's Air Cargo Security Inspectors to assess freight forwarders in the Participant Program will note whether or not each participant conducts screening, by what method, and the number and model of approved technologies deployed at each site. The Program is working to

integrate the Cargo Security Compliance Form into the second release of SSCIMS by **[ATIP REMOVED]**, allowing for electronic collection and data mining of this information.

- **Air Carrier Screening Technologies:** As of April 1, 2011, the Air Carrier Inspection Checklist used by Transport Canada's Air Cargo Security Inspectors at air carrier sites will verify that carriers are screening cargo using approved methods, and validate that the appropriate level of rescreening is taking place. While the Program plans to integrate the Air Carrier Inspection Checklist into SSCIMS, this version of the checklist does not record the number or models of approved technologies deployed at each site.

- **Shipment-Level Screening and Chain of Custody Data:** As of April 1, 2011, each shipment of goods that moves through the secure supply chain will be accompanied by a Cargo Security Form that will document where, when and by whom each shipment was received, secured and transported. **[ATIP REMOVED]**.

- **Flight-Level Compliance Data: [ATIP REMOVED]** Transport Canada can require the carriers to demonstrate their compliance with the Act and its regulations, and could use this authority to request data on additional randomly selected flights to augment the data collected by Inspectors.

In 2010–11, the Air Cargo Security Program made significant progress with regard to the collection of operational intelligence, and plans are in place to collect much of the information needed to monitor the movement of freight through the secure supply chain or the deployment of screening technologies at air carrier and freight forwarder sites across Canada. However, there are instances in which data collection mechanisms or reporting requirements could be modified to support more robust analysis. A 2010 compliance audit of the pilot project requested by the program noted:

Without a mechanism to measure the performance of the secure supply chain, the program will be unable to measure its effectiveness, take corrective action as necessary, and demonstrate its effectiveness to international partners.

In the years to come, the Program will need this type of operational intelligence to manage the risks associated with a shortage of screening capacity at specific points in the supply chain or weaker-than-expected participation by industry.

Industry Participation

Finding:	Although the Participant Program allows freight forwarders to screen cargo, they are not currently doing so. At the present time only air carriers have the equipment and trained personnel to screen air cargo.

Although air carriers are ultimately responsible for all the cargo they carry, the purpose of supply chain security is to enable industry to secure cargo at the most efficient point in the supply chain, often well before it reaches the airport. At this time however, almost all Canadian air cargo is still secured by air carriers rather than by freight forwarders, shippers or dedicated screening companies. The evaluators observed a number of issues that may need to be addressed before other supply chain members can make a significant contribution to the minimum screening percentages outlined in Table 7.

While freight forwarders *are* joining the program, a number of Transport Canada Inspectors and freight forwarders interviewed indicated that freight forwarders are not currently searching or screening cargo, and that they have no immediate intention to do so. These interviewees expressed concern that until

the Participant Program is extended to shippers, freight forwarders will not benefit from Program membership or be in a position to contribute to its goals.

The 2010 compliance audit cited above also revealed issues with data management and freight forwarder compliance, most notably a lack of commitment on the part of participants, a lack of clarity in the interpretation of the minimum required elements and missing information from Cargo Security Plans. The audit's conclusions included the following:

> The audit reveals a significant level of non-compliance in [Cargo Security Plans] CSPs to the AIF [Acceptance and Inspection Form] criteria. This can be explained in part by missing information due to a CSP template that may not have sufficiently prompted companies to provide company specific information, and the large number of annexes that were not attached to the CSPs and were not submitted separately in [Secure Regulatory Advisory System] SRAS. A smaller number of companies included statements in their CSPs that indicated they were not willing to accept full responsibility for the security of air cargo.

In interviews, a number of air carriers and larger freight forwarders expressed similar concerns that the community of freight forwarders is not taking the Program or its rules seriously enough, and that Transport Canada is not doing enough to enforce its rules.

Opinion of Program Staff and Stakeholders

Finding:	**Government and industry stakeholders indicated that the Air Cargo Security Program is moving in the right direction, and that a secure supply chain for air cargo is emerging.**

In November and December 2010, Evaluation and Advisory Services interviewed 13 air carriers, 10 freight forwarders, seven Air Cargo Security staff members, six Transport Canada Inspectors and five officials from the Canada Border Services Agency. While some concerns were noted, most respondents indicated that the Air Cargo Security Program was moving in the right direction, and that a secure supply chain for air cargo is emerging in Canada.

- **Air Carriers**: The majority of carriers interviewed agreed that the program had been effective in establishing the foundation for a secure supply chain for air cargo, and that this was a positive development for the industry. However, a number of carriers expressed concern that the freight forwarder community was not sufficiently engaged with the program, and may not be ready to implement the new screening requirements as they are phased in.

- **Freight Forwarders:** The majority of freight forwarders interviewed indicated that the Program has been relatively effective in establishing the foundation for a secure supply chain. They agreed that the Program has been instrumental in raising awareness among industry players with respect to air cargo security issues and program requirements. Although this may reflect a lack of understanding of current program legislation, some freight forwarders indicated that a more solid foundation can be achieved by making participation in the Air Cargo Security Program mandatory for all freight forwarders.

- **Air Cargo Security Program Staff:** The staff interviewed indicated that the Program's strategy of coupling a secure supply chain with mandatory screening requirements was consistent with international best practices, and the only economically efficient way to secure all of Canada's air cargo. Program staff also stressed that air cargo security only became an ongoing program in 2010–11, and that that in 2009–10 Transport Canada did not have a mandate to implement an ongoing program.

- **Transport Canada Air Cargo Inspectors:** Responses from Inspectors were mixed. Some indicated the foundation has been implemented, while others said that the foundation is not there in any meaningful sense because the program is not yet targeting the shippers who originate cargo.

Awareness of the Secure Supply Chain

Finding:	Although Canada's air cargo security regime received negative media coverage in relation to the Air India inquiry, in instances where Transport Canada actively communicated its secure supply chain initiatives to the public, the tone of the coverage tended to be positive, and the level of confidence tended to be higher.

Evaluation and Advisory Services conducted a media scan and content analysis of 650 air cargo security-related articles published in Canadian newspapers between 2005 and 2010. Using an algorithm that considered the placement of air cargo-related references within each story and the potential circulation and audience reach of those stories, the media scan determined that air cargo security was a moderately prominent issue by Canadian standards.[4] As Figure 9 outlines, there were three significant spikes in media coverage related to air cargo security. In 2006 and 2007, the launch of the Air India Commission garnered significant media attention, and the testimony heard in 2007 generated a number of articles commenting on air cargo security as an outstanding problem. In the summer of 2010 there was a coverage spike following the May 24, 2010 announcement of $95.7 million for air cargo security and the June release of the Air India Commission's report. In November of that year, following the October 29, 2010 interception of bombs on two all-cargo planes flying from Yemen to the United States, coverage of the air cargo security issue rose again.

Figure 9: Air Cargo Security Media Coverage (2005–2010 and 2010 alone)
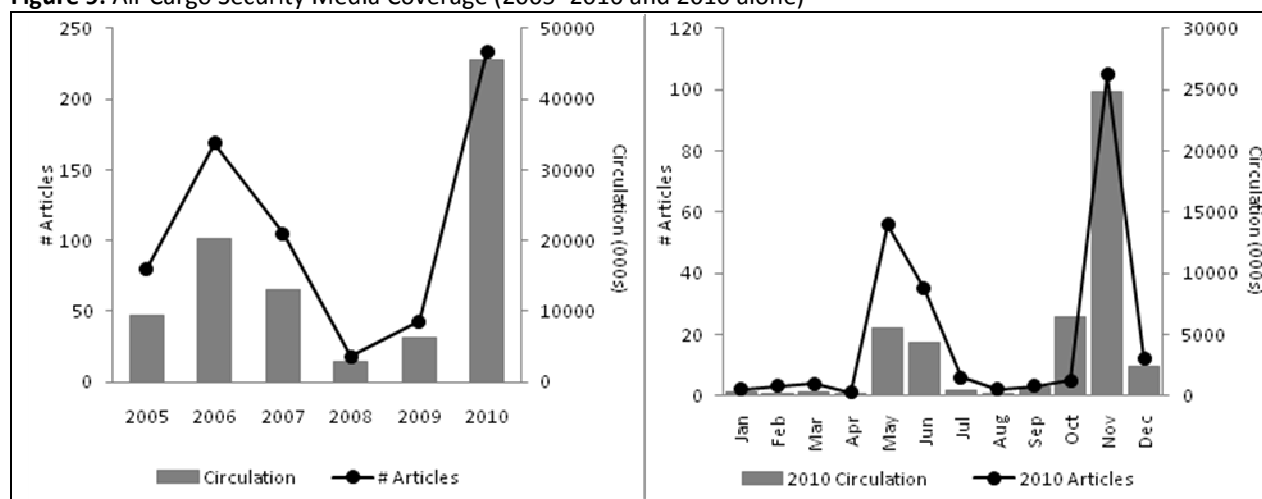
Air India Inquiry (2006–2007)

Ottawa Citizen, Aug. 16, 2006: *You Get Screened, But Many Don't: Airport Security in Canada is Like a House Where the Front Door is Locked, but the Back Door is Ajar and the Windows are Wide Open.* While passenger baggage is screened**, air cargo currently goes on board passenger aircraft without a security check.** Three months ago the government announced that it was starting a study on how best to inspect air cargo and it hopes to have the results available within two years. How long has it been since 9/11? It would be easy for the casual observer to blame the Canadian Air Transport Security Authority (CATSA) for the insecurity of Canadian airports, but this is in fact a Transport Canada problem. Transport Canada creates the regulations that CATSA must follow. Unless they're going to make the same searches on the bottom halves of the planes as they do on the tops, one wonders if the current practice is more for public relations than for security.

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[4] Prominence is based on the frequency of keyword mentions, circulation of the publication, keyword position in the stories and position of the stories in the publications.

Windsor Star, Sept. 16, 2006: *Air Safety Crackdown*. All checked luggage goes through a five-layered security screening process, which includes X-rays and explosive detection equipment. In the event a suspicious article is found, screening officers will open the luggage in front of the passenger. As of Jan. 1, 2006, all passenger luggage in Canada is screened by explosive-detection equipment. More than 60 million pieces of luggage are screened every year. **Mail and cargo is loaded on to airplanes without being checked or screened. The government is starting to study how to best inspect air cargo. Results of that study are expected within two years.**

Saskatoon StarPhoenix, June 7, 2007: *Air Freight a 'Huge Gap' in Security, Inquiry Told.* Kathleen Sweet, a lawyer, author and retired U.S. air force lieutenant-colonel, said **air freight, and the workers who load it, are "a huge gap" in aviation security**. She said the gap must be closed before another terrorist strike like the June 23, 1985, Air India bombing, which killed 329 people. "We have to do it. There is just too much access to the cargo hold," testified Sweet, who heads a company called Risk Management Security Group. "My unfortunate theory is unless we get on this quickly, a plane's going to go down, it's going to be in the cargo hold and everybody's going to be fighting the next war."

Calgary Herald, June 2, 2007: *Senator Calls Lack of Action on Airport Security 'Real Shame'; Air India Inquiry Told Workers Seldom Screened*. Kenny, chairman of the Senate committee on national security and defence, said workers can take lunches, gym bags or tool boxes right up to planes without anyone looking inside . . . **Kenny's committee issued a scathing report on airport security in March, noting that air cargo is not searched** and private planes and small floatplane airports are vulnerable to terrorists.

Announcement of New Funding for Air Cargo Security – 2010

Montreal Gazette, May 25, 2010: *New Rules for Air Cargo; Better Security: $96M in Upgrades for our Airports.* The new project will see increased screening of the cargo done by shippers, freight forwarders and air carriers. These "shippers, freight forwarders and air carriers will use newer and more effective technologies and processes to screen cargo" as a part of the new plan.

Vancouver Sun, May 26, 2010: *Companies Responsible for Cargo; Transport Canada Turns Inspection of Air Freight Over to Shippers*. **Kenny doesn't think the funding will be enough to ensure adequate security**. "It's five years, it's $20 million a year. There are 7,000 shippers in Canada and 750 freight forwarders. Freight moves 24 hours a day, seven days a week," he said. Air Canada would not comment on whether the funding would cover the costs of becoming compliant, and referred financial questions to Transport Canada.

Edmonton Journal, May 25, 2010: *Airport Cargo Security Gets a Boost; Beefed-Up Screening Procedures Target Terrorism, Minister Says.* Liberal Senator Colin Kenny said in an interview Sunday: "I must say I have some difficulty with that. **The whole issue of trusting the supply chain is problematic.** A supplier may or may not have a secure plant. They have to give it to a trucker and how reliable is that trucker? . . . It probably passes through a number of hands before it gets to the airport."

Discussion of Canadian Air Cargo Security Following the October 29, 2010 Cargo Bomb Plot

CBC.ca News, Nov. 1, 2010: *Canada Bans Air Cargo from Yemen*. Officials on both sides of the Atlantic say they're reviewing air cargo security. In many countries, **including Canada, air cargo is often not screened as rigorously as passengers and luggage. "If they can send explosives through air cargo, they can do a tremendous amount of damage to planes, material and even to people**," said Peter St. John, an aviation security expert in Winnipeg.

Fredericton Daily Gleaner, Nov. 9, 2010: *Toner Cartridges Banned*. Andre Gerolymatos, a Simon Fraser University professor specializing in security and terrorism, said **the new set of rules indicate the government is being "proactive." "These are very good measures that'll certainly go a long way in deterring people from using packages to get explosives through,"** he said. "But they'll always try another way. We are reacting and logically so, but we have to anticipate what the next round will be," he said.

Montreal Gazette, Nov. 11, 2010: *Toner Cartridge Ban Insignificant: 'Political Gesture.'* Rule designed to placate nervous flyers, prof says" – "**I don't want to be dismissive and say they're unimportant, but they're kind of (the) flavour of the day**," he said. "It's ridiculous for us to assume that any piece of technology or any kind of procedure is going to eliminate security threats all the time. (Threats) evolve too quickly, people are too inventive."

Source: Transport Canada, Evaluation and Advisory Services

A majority (57 per cent) of the articles surveyed focused on the threat of a terrorist attack or the use of screening technologies to mitigate those threats. Federal spending on air cargo security and the development of a secure supply chain were also mentioned, but only in about 18 per cent of the articles surveyed. Most of the articles surveyed used a negative in tone in their discussion of air cargo security. Negative coverage was particularly notable in relation to the Air India Report, which criticized Transport Canada's Known Shipper rules and identified air cargo as a neglected and vulnerable element of Canadian aviation security (see Figure 10). In contrast, positive coverage followed the announcement of additional funds for air cargo security, and there were a number of positive references to the secure supply chain.

Figure 10: Tone and Prominence of Air Cargo Security Media Coverage
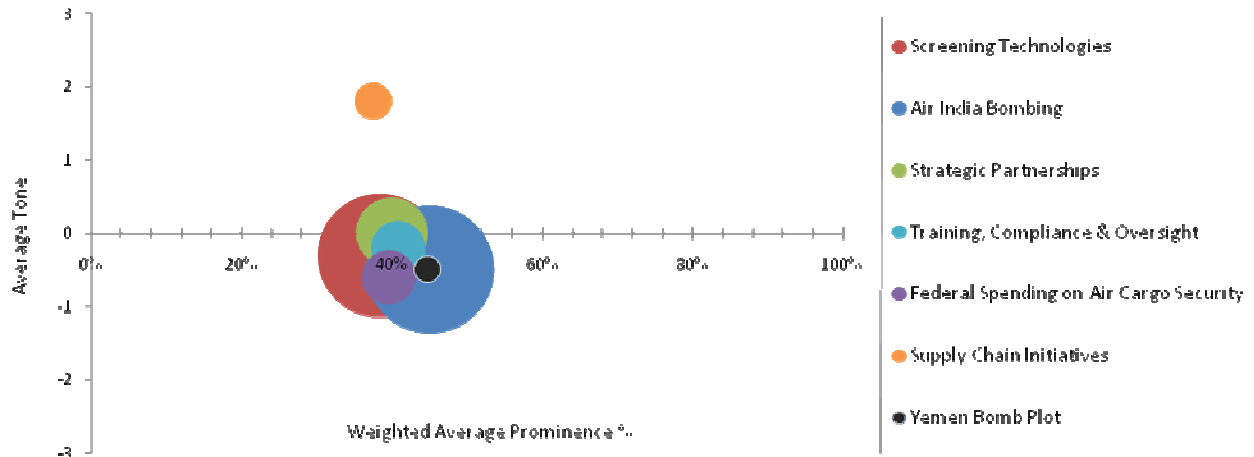
Source: Transport Canada, Evaluation and Advisory Services

Most of the media coverage on air cargo security was not driven by Transport Canada; it was in reaction to the Air India Report and the Yemen incident. Such articles tended to be negative in tone, and did not reflect an awareness of recent changes to air cargo security. While fewer in number, the articles published on government spending on air cargo security or the Program's supply chain initiatives tended to be positive in tone, especially if government spokespeople were used to promote the issue. The media analysis suggests that in instances where Transport Canada actively communicated its policies and plans, the general tone of the articles tended to be positive. This suggests a level of journalistic receptivity to Transport Canada's messaging, and may indicate that communications designed to raise public awareness of the Department's secure supply chain programs could be well received by the media and the public.

Co-operation and Interoperability

> **Finding:** Both staff and stakeholders commented on a lack of harmony ("interoperability") between TC and Canada Border Service Agency (CBSA) requirements, causing duplication of efforts

[ATIP REMOVED]. CBSA operates a number of Trusted Trader programs, such as the Partners in Protection (PIP) and the Free and Secure Trade (FAST) programs. Because these programs are based on a secure supply chain model similar to the one being developed for air cargo, Treasury Board Secretariat directed CBSA and Transport Canada to work together to eliminate redundancy and duplication. **[ATIP REMOVED]**.

In the early years of the Air Cargo Security Program, CBSA and Program staff acknowledged that the relationship between the two departments was not well defined, and that there were instances in which they duplicated effort and missed opportunities to co-operate as completely as possible. Until recently, the collaboration between Transport Canada and CBSA has focused on information sharing. CBSA has experience vetting secure supply chain members, and has already collected and analyzed a wealth of operational intelligence about importers and exporters that Transport Canada can take advantage of.

Since 2007, CBSA has provided Transport Canada with input into the policy and regulatory development processes and with commercially available data regarding applicant companies. The two organizations are in the process of finalizing an agreement that will allow CBSA to share data from its Trusted Trader Programs (namely, Partners in Protection and FAST) with Transport Canada.

While overlaps and similarities exist between CBSA's Trusted Trader Programs and the Air Cargo Security Program, those overlaps are not universal. As noted previously (see Figure 6), air cargo represents less than 13 per cent of Canada's combined imports and exports, and CBSA is required to pay significant attention to other modes of transportation used to move goods. CBSA staff also acknowledged that their interest and expertise is limited to firms engaged in transborder and international trade, and that they do not collect intelligence on domestic shipping (see Figure 11).

Figure 11: Overlaps between Air Cargo Security Program and CBSA
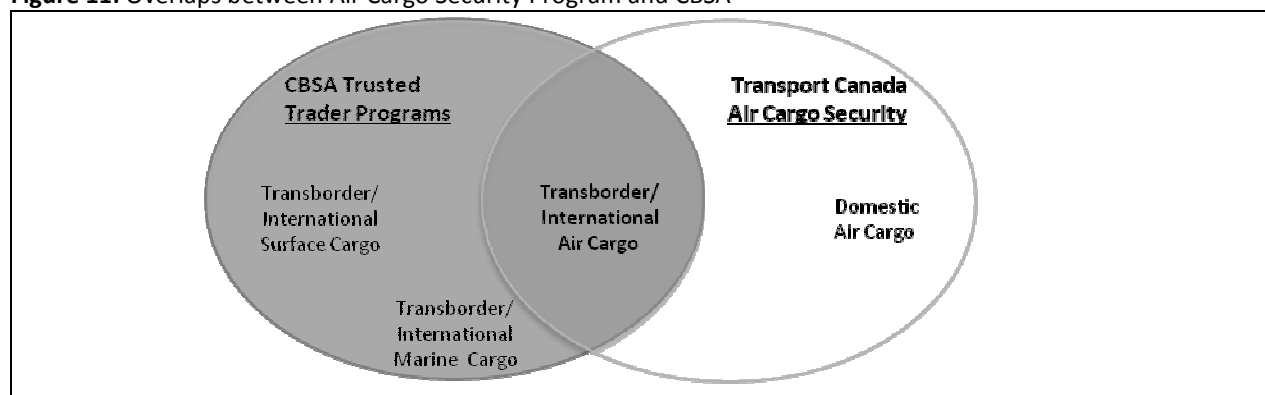
Source: Transport Canada, Evaluation and Advisory Services

CBSA staff indicated that increased co-operation, mutual recognition and interoperability between its Trusted Trader Programs and the Air Cargo Security Program would reduce redundancies and costs to industry. In particular, CBSA staff saw joint Transport Canada–CBSA inspections, or mutual recognition of each other's site validations, as an important opportunity.

In interviews, air carriers expressed concern that warehouse-level inspection and enforcement operations were not sufficiently harmonized, and that CBSA and Transport Canada appeared not to be communicating with each other at the working level in the regions. Specifically, air carriers are looking for better co-operation between government agencies at the operational level at airports, cargo warehouses, or other locations in the secure supply chain. The air carriers interviewed indicated that there should be better co-operation between Transport Canada's cargo screening and CBSA-mandated export controls. Freight forwarders echoed the concerns of air carriers with regard to operational co-operation and expressed additional concern that overlapping requirements between Transport Canada and CBSA were imposing a wasteful administrative burden, potentially slowing the movement of freight, and in some cases negatively impacting relationships with their customers.

2.2.3. Demonstration of Efficiency and Economy

The efficiency and economy of the Air Cargo Security Program was assessed against three indicators:
- Air Cargo Security Program costs
- Relative cost of current and alternative policy models
- Opinions of Air Cargo Security Program staff and key stakeholders

Finding:	**There are indications that the Air Cargo Security Program is operating efficiently and that its policy model and overall approach are in keeping with international best practices.**

There is a strong international consensus that it is faster and less costly to screen air cargo early in the supply chain rather than at the airport. In interviews, a number of air carriers concurred that the only way to efficiently and economically screen 100 per cent of air cargo to the standards outlined in SMRAC was to do so early in the supply chain. Air Cargo Security Program Staff and industry stakeholders argued that air-side screening at the new standard would be too slow and too costly, and could result in bottlenecks of cargo waiting to be screened.

Most of the costs associated with screening air cargo have been assigned to the private sector. In 2010–11, the Government of Canada will spend $19.5 million on air cargo security. This figure is approximately one-thirtieth of the $595.1 million that CATSA will spend in the same period to support pre-board screening, hold baggage screening, non-passenger screening and restricted area identity cards. If Canada is to take meaningful action on the air cargo security issue, it is unlikely that the federal government can find a less costly policy model. Further, a recent audit of Aviation Security Directorate indicated that the Air Cargo Security Program was generally well managed.

More specifically, the evaluation noted a number of key cost savings:

- **Program Design:** Aside from Canada's discredited Known Shipper system, the current Air Cargo Security Program appears to be based on the next-least-expensive policy model. Transport Canada decided not to operate screening equipment at the federal government level or subsidize its use by the private sector. These costs will be borne by industry, and the 2010 Speech from the Throne committed the federal government to ensure that these private sector investments yield "measurable results."

- **Secure Supply Chain Management System:** Until March 31, 2010, SSCMS was outsourced to an external provider at an average monthly operating cost of $259,780. The interim in-house system implemented in 2010–11 has an average monthly operating cost of $17,299. The Program is currently implementing a permanent in-house system that is predicted to have a monthly operating cost of $17,659, reducing the operating cost of the SSCMS by $2.9 million per year when compared to the outsourced system.

- **Research and Development:** Transport Canada's co-operative research and development activity with the U.S. significantly leverages Canada's investments in air cargo security research. Canada funds approximately 10 per cent of the overall cost of the *Cooperative Activity Agreement*, but benefits from the all the research produced. Also, co-operation with trading partners may improve technical harmonization and create opportunities to influence international norms and standards.

Section 3: Conclusions

There is a clear and ongoing need for a federal air cargo security program to protect Canada's national security and economic interests. The Minister of Transportation is responsible for implementing both the *Aeronautics Act* and the *Convention on International Civil Aviation*, and Transport Canada is the most appropriate home for this program. The Air Cargo Security Program effectively delivered its expected outputs under Canada's Economic Action Plan*,* which included strengthened security measures, management of the secure supply chain and the establishment of mandatory air cargo screening standards. Further, the fundamental regulatory and operational components of a secure supply chain for outbound air cargo are now in place. Finally, there is evidence to suggest that the Program made prudent use of resources in achieving its outcomes.

As the Program moves forward, the evaluators noted four opportunities for refinement.

1. The program's authorities and regulatory measures are built around three planning scenarios outlined in the 2004 threat/risk assessment: **[ATIP REMOVED]**. Although a new threat/risk assessment *was* conducted in November 2010, Aviation Security does not appear to have a systematic mechanism for validating or reassessing its planning scenarios. Also, there does not appear to be a methodology for introducing new planning scenarios, retiring scenarios that are no longer relevant, or handing off scenarios that are determined to be the responsibilities of other Transport Canada programs or other government agencies.

    [ATIP REMOVED]. A centralized approach to threat management would help aviation security align its spending to its risks, and ensure that the management of each risk has been assigned to a specific team. This issue was also identified by a recent audit of Transport Canada, Aviation Security, and the program committed to implement an Integrated Risk Management (IRM) framework by 2012.

2. By February 2015, air carriers will be responsible for ensuring that 100 per cent of air cargo departing Canadian airports will be secured in accordance with the new, more stringent, regulatory measures. To meet these targets efficiently, air carriers, freight forwarders and shippers will all need to play an active role in securing air cargo. However, freight forwarders do not appear to be searching or screening air cargo at this time, even though they are allowed to under the program. Participant freight forwarders are able to maintain the security of any pre-screened cargo they receive, but they are not currently contributing to the 100 per cent targets.

    When the evaluation was conducted, only air carriers were searching and screening air cargo. **[ATIP REMOVED]**.

3. The Air Cargo Security Program made significant progress with regard to the collection of operational intelligence in 2010–11, and has plans to collect much of the information it will need to monitor the movement of freight through the secure supply chain and the deployment of screening technologies at air carrier and freight forwarder sites across Canada. However, the program needs to ensure that it will have enough information to monitor the effectiveness of the secure supply chain, the risks associated with a shortage of screening capacity at specific points in the supply chain, or weaker-than-expected participation by shippers or freight forwarders in key regions.

4. Greater interoperability with CBSA at the administrative and operational levels would increase the overall performance (efficiency and effectiveness) of the Program. The interoperability issues that

currently exist are multi-faceted. At the head office level, there are opportunities to streamline administrative and security vetting processes for participants in Transport Canada and CBSA programs. In parallel, industry representatives saw duplication of administrative requirements and overlaps at the warehouse level in the regions as potentially slowing the movement of freight. The Air Cargo Security Program is aware of the need for improved interoperability with other federal departments and agencies. **[ATIP REMOVED]**.

The Air Cargo Security Program made effective use of the authorities and funds allocated to it in 2009–10 by engaging with industry and establishing the foundation for a secure supply chain for air cargo. Since the announcement of an ongoing program in 2010, Air Cargo Security has aggressively worked to bring Canada's air cargo security regime in line with international standards. While the Air Cargo Security Program appears to have industry and international support, it will not be fully implemented until 2015, and it will be a number of years later before the its true impact can be measured.

Section 4: Recommendations and Management Action Plan

4.1. Recommendations

Based on evaluation findings and conclusions,

1. **The Air Cargo Security Program should conduct its threat/risk assessments in a more systematic and regular fashion. Air Cargo Security threat/risk assessments could be integrated into an Aviation Security-wide threat management framework that considers threats faced by the entire Canadian civil aviation system.**

2. **[ATIP REMOVED].**

3. **The Air Cargo Security Program should put in place a strong Performance Measurement Strategy and ensure it is collecting enough operational intelligence about the secure supply chain to assess the impact and effectiveness of its security measures and regulations.**

4. **The Air Cargo Security Program should find ways to improve interoperability with other government departments and agencies and, wherever feasible, reduce the compliance burden on industry by eliminating duplications and 'red tape.'**

4.2. Management Action Plan

Recommendation	Proposed Action with Expected Completion Date	OPI
1. The Air Cargo Security Program should conduct its threat/risk assessments in a more systematic and regular fashion. Air Cargo Security threat/risk assessments could be integrated into an Aviation Security-wide threat management framework that considers threats faced by the entire Canadian civil aviation system.	Aviation Security is producing an Integrated Risk Management (IRM) framework, of which air cargo threats and risks will be an integral part. Milestones and timelines are as follows: • Develop IRM policy and governance framework document. Roll out will be aligned to available resources and internal reallocation. **Target Date: [ATIP REMOVED].** • Provide program-level risk management guidance documentation which outlines the program's overarching approach to risk and tools for risk management. **Target Date: [ATIP REMOVED].** Provide training and/or awareness, where required, for integrated risk management for all staff and management within the AvSec Directorate. **Target Date: [ATIP REMOVED].**	ACS and AvSec Policy and Operations
2. **[ATIP REMOVED].**	**[ATIP REMOVED]** **Target Date: [ATIP REMOVED]** **ATIP REMOVED]** **Target Date: [ATIP REMOVED]** **ATIP REMOVED]** **Target Date: [ATIP REMOVED]**	ACS Program Design
3. The Air Cargo Security Program should put in place a strong Performance Measurement Strategy and ensure it is collecting enough operational intelligence about the secure supply chain to assess the impact and effectiveness of its security measures and regulations.	Submit draft performance measurement strategy to the Head of Evaluation for review. **Target date: July 2011** Finalize the Performance Measurement Strategy **Target date : October 2011**	ACS Business Planning

Recommendation	Proposed Action with Expected Completion Date	OPI
4. The Air Cargo Security Program should find ways to improve interoperability with other government departments and agencies and, wherever feasible, reduce the compliance burden on industry by eliminating duplications and 'red tape.'	Establish an interdepartmental Air Cargo Security Interoperability Working Group to explore opportunities to enhance the coordination and alignment of program policies and operations relevant to air cargo and related matters. Key partners include CBSA, CATSA, Health Canada, PHAC, DND, CIC, CSIS, RCMP, Canada Post, etc. **Target Date: March 2011** **[ATIP REMOVED]** **Target Date: [ATIP REMOVED]**	ACS Program Planning & Assessment

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