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AVIATION SAFETY IN CANADA

Report of the Standing Committee on Transport, Infrastructure and Communities

Hon. Judy A. Sgro
Chair

JUNE 2017

42nd PARLIAMENT, 1st SESSION

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THE STANDING COMMITTEE ON TRANSPORT, INFRASTRUCTURE AND COMMUNITIES

has the honour to present its

FOURTEENTH REPORT

Pursuant to its mandate under Standing Order 108(2) and the motion adopted by the Committee on Thursday, December 1, 2016, the Committee has studied aviation safety and has agreed to report the following:

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AVIATION SAFETY IN CANADA

INTRODUCTION

Air transportation is experiencing strong growth worldwide and Canada is no exception. Moreover, Canada's geography and its distance from other major cities in the world make air travel essential for many Canadians.[1]

This is why public confidence in the safety of Canada's air transport system is so important. Furthermore, this confidence is essential in maintaining the viability of the air transportation sector. Recognizing this, the Standing Committee on Transport, Infrastructure and Communities met from April to June 2017 to study the safety of the Canadian civil aviation system.[2] During this period, the Committee heard 47 witnesses and received 11 briefs with regards to the following subjects:

- personnel;
- enforcement and monitoring of legislation;
- equipment and infrastructure;
- flight operations;
- accident intervention; and,
- security.

This report presents the views of these stakeholders and makes recommendations to the federal government to ensure Canada's strong aviation safety performance.

BACKGROUND

Despite the significant press dedicated to aviation accidents and emergencies, scheduled commercial aviation is the safest mode of transportation.[3] Globally, between 2011 and 2015, the annual number of fatalities recorded on scheduled commercial flights has varied widely, as one or two significant crashes can dramatically change accident statistics. The number of recorded accidents[4] has, however, been trending lower.[5]

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1 Transport Canada, *Pathways: Connecting Canada's Transportation System to the World*, Volume 1, Ottawa, Transport Canada, 2015, p. 185.

2 Standing Committee on Transport, Infrastructure and Communities (TRAN), "Aviation Safety," *Work*.

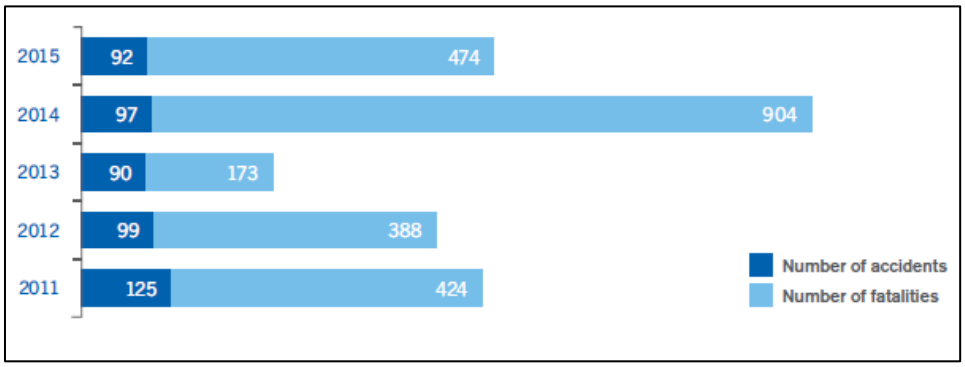
3 Ian Savage, "Comparing the fatality risks in United States transportation across modes and over time," *Research in Transportation Economics*, Vol. 43, 2013, p. 18.

4 The International Civil Aviation Organization defines an "accident" as: "An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which: a person is fatally or seriously injured, the aircraft sustains damage or structural failure or if the aircraft is missing or is completely inaccessible." See definition of Accident in Chapter 1 of Annex 13 to the *Convention on International Civil Aviation*.

5 International Civil Aviation Organization, *Safety Report*, 2016 Edition, Montréal, n.d.

Figure 1 shows the number of accidents and fatalities on scheduled commercial flights globally between 2011 and 2015.

Figure 1 – Global Accident Records: 2011–2015 Scheduled Commercial Flights



Source: International Civil Aviation Organization, *Safety Report: 2016 Edition*.

In Canada, the safety performance of the aviation sector has also seen steady improvement. From 2006 through 2016, the number of aircraft accidents[6] in Canada involving Canadian-registered aircraft[7] dropped from 258 accidents in 2006 to 193 in 2016[8]. The accident rate,[9] which takes into account the level of activity in terms of hours flown, also declined between 2006 and 2016, dropping from 6.6 accidents per 100,000 flying hours to 4.5 in 2016.[10] Figure 2 shows the number of accidents and accident rates in civil aviation from 2006 to 2016.

6 The Transportation Safety Board of Canada defines aviation accident as an accident resulting directly from the operation of an aircraft where a person is killed or sustains a serious injury, the aircraft sustains structural failure or damage that adversely affects the aircraft's structural strength, performance or flight characteristics and would normally require major repair or replacement of any affected component or the aircraft is missing or inaccessible. See Transportation Safety Board of Canada, *Statistical Summary – Aviation Occurrences 2015*, Gatineau, April 2016.

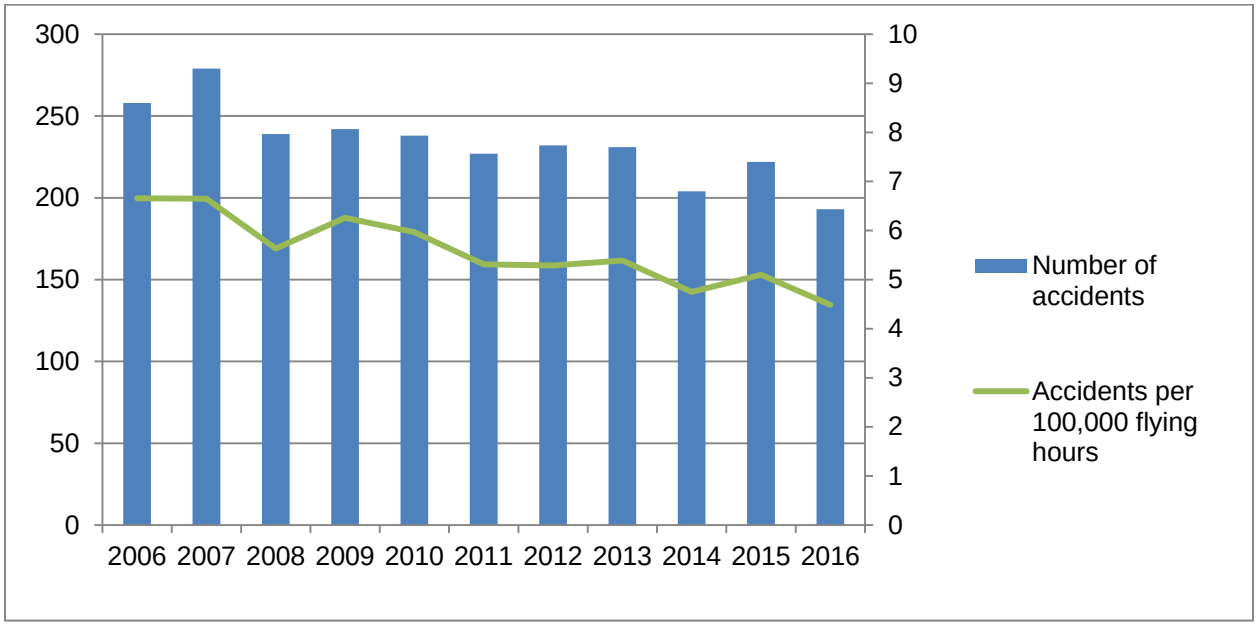
7 Includes commercial and private operations, but excludes ultralights and other similar aircraft types.

8 Transportation Safety Board of Canada [TSB], *Statistical Summary – Aviation Occurrences 2016*, Preliminary information as of March 30, 2017, information provided to the Standing Committee on Transport, Infrastructure and Communities [TRAN], 4 April 2017 and TSB, *Statistical Summary – Aviation Occurrences 2015*, Gatineau, April 2016.

9 Excluding ultralights, balloons, gyroplane, gliders, dirigibles, hang gliders and similar aircraft types.

10 TSB (2017).

Figure 2 – Accidents and Accidents Rates Involving Canadian-registered Aircraft (per hours flown, excluding ultralights and other aircraft types), 2006–2016



Source: Transportation Safety Board of Canada, *Statistical Summary – Aviation Occurrences 2016*, Preliminary information as of March 30, 2017, information provided to the Standing Committee on Transport, Infrastructure and Communities, 4 April 2017 and Transportation Safety Board of Canada, *Statistical Summary – Aviation Occurrences 2015*, Gatineau, April 2016.

Focusing on commercial aviation,[11] the number of accidents in Canada declined from 128 accidents in 2006 to 62 in 2016[12]. In that period, there were 242 fatalities resulting from commercial aviation. The majority of these fatalities (60%) occurred in accidents involving air taxi operations,[13] with a total of 156 fatalities attributed to this sector. By comparison, accidents involving airline[14] and commuter[15] operations were responsible for 12 (4.6%, all in 2011) and 27 (10.4%, all before 2014) fatalities over the same period. Foreign-registered aircraft were responsible for 7 (2.7 %) fatalities in that

11 Commercial operators include carriers that offer a "for-hire" service to transport people or goods, or to undertake specific tasks such as aerial photography, flight training, or crop spraying. See TSB (2016).

12 TSB (2017) and TSB (2016). Includes Canadian and foreign-registered aircrafts.

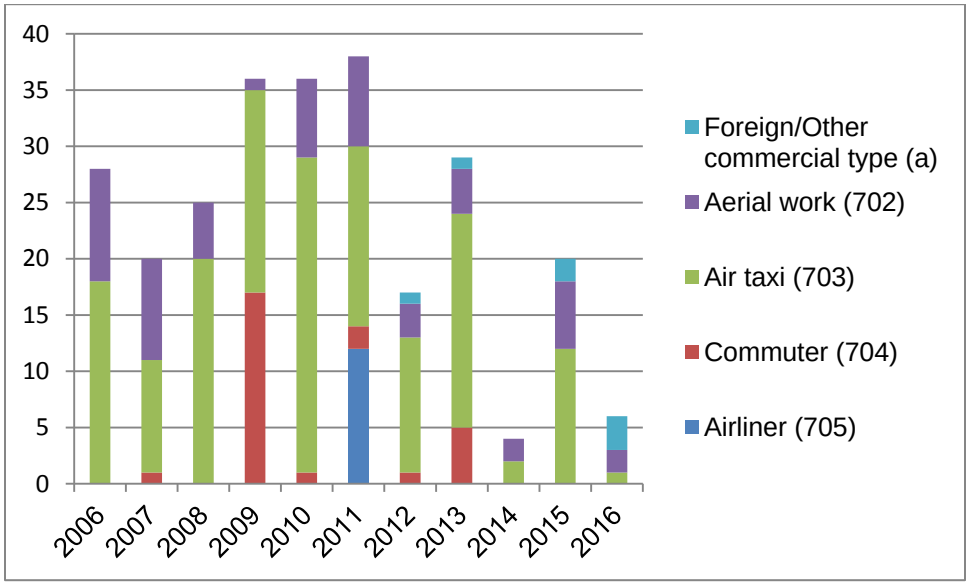
13 A commercially operated aircraft used in an air transport service or in aerial work involving sightseeing operations, in which, among other things, the aircraft is a single engine aircraft or cannot transport more than 9 passengers. See Transportation Safety Board of Canada, *Statistical Summary – Aviation Occurrences 2015*, Gatineau, April 2016.

14 A commercially operated aircraft used in an air transport service or in aerial work involving sightseeing operations, in which, among other things, the aircraft can transport more than 20 passengers. See Transportation Safety Board of Canada, *Statistical Summary – Aviation Occurrences 2015*, Gatineau, April 2016.

15 An aeroplane used by a Canadian air operator, in an air transport service or in aerial work involving sightseeing operations, in which, among other things, the aircraft cannot transport more than 19 passengers. See Transportation Safety Board of Canada, *Statistical Summary – Aviation Occurrences 2015*, Gatineau, April 2016.

period. Figure 3 shows the number of fatalities in Canada for commercial aviation between 2006 and 2016.[16]

Figure 3 – Number of Fatalities in Commercial Aircraft Accidents in Canada by Operator Type (CARS section) per year, 2006–2016



Source: Transportation Safety Board of Canada, *Statistical Summary – Aviation Occurrences 2016*, Preliminary information as of March 30, 2017, information provided to the Standing Committee on Transport, Infrastructure and Communities, 4 April 2017 and Transportation Safety Board of Canada, *Statistical Summary – Aviation Occurrences 2015*, Gatineau, April 2016.

Canada has a strong and improving aviation safety performance record. Despite this record, some stakeholders have voiced concerns that past safety performance may not be indicative of future performance and have suggested various courses of action to reduce the likelihood of an aviation accident occurring in Canada. The following sections of this report relay these concerns and suggestions.

PERSONNEL ISSUES

Fatigue Management

Background

When discussing safety in any mode of transportation, the question of fatigue is omnipresent. The Chair of the Transportation Safety Board of Canada (TSB) told the Committee that the TSB "recognizes that fatigue is a hazard in any mode of transportation that operates 24-7. [The TSB] always look[s] for fatigue in our investigations, whether it

16 TSB (2017).

was present or not, and, if it was, whether or not it contributed to an occurrence."[17] In the air mode of transportation, the management of fatigue is of a singular importance.

Professor Gregory Belenky, a Research Professor at Washington State University and expert on sleep and human performance, identified three main sleep-related factors that affect the performance of all individuals: time awake, time of day/circadian rhythm and time on task.[18] While mitigation measures, such as having extra pilots, better sleep facilities, opportunities for naps and avoiding take-offs and landings between the hours of 4 a.m. and 6 a.m., may allow for safer long-distance flights, "[t]he most important recommendation is adequate sleep because sleep isn't just a mitigation, it's the fundamental thing upon which all this rests."[19]

Fatigue Management Regulation in Canada

The bulk of civil aviation regulation in Canada takes place within the framework of the *Canadian Aviation Regulations* (CARs).[20] The CARs set maximum hours of duty for flight crew, subject to a number of different conditions and over a number of different time periods. Generally speaking, a commercial aircraft piloted by a pilot-in-command, a co-pilot and their crew, may fly up to 14 consecutive hours in a 24-hour period to a maximum of 120 hours over the course of 30 days and 1,200 hours over the course of 365 days.[21] Flights may be extended up to 20 hours with the use of "augmented" flight crews, in order to allow for crew members to rest when they are not on duty.[22]

Transport Canada issued a *Notice of intent to amend the* Canadian Aviation Regulations in the *Canada Gazette* with respect to fatigue and fit for duty requirements on 8 August 2015. The department thereafter issued a draft of the proposed regulations on 25 March 2017.[23] Media have recently reported that these proposed regulations might come into force in the near-term.[24] The amended regulations would introduce time-of-day sensitivity to maximum duty times and rest periods, in addition to differentiating flights by duration and whether the crew will be piloting the aircraft under visual flight rules or instrument flight rules.[25] By way of comparison, the draft regulations allow for a range of maximum flight duty times of between nine and 13 hours in a 24-hour period, based upon

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17 House of Commons Standing Committee on Transport, Infrastructure and Communities (TRAN), *Evidence*, 42nd Parliament, 1st Session, 4 April 2017, 1120 (Kathleen Fox, Chair, Transportation Safety Board of Canada). All *Evidence* cited hereafter is from the 42nd Parliament, 1st Session unless otherwise noted.

18 TRAN, *Evidence*, 4 April 2017, 1205 (Professor Gregory Belenky, Research Professor, Washington State University, As an Individual).

19 Ibid., 1240.

20 *Canadian Aviation Regulations* [CARs], SOR/96-433, s. 602.02(a).

21 Ibid.

22 Ibid, s. 604.101.

23 *Notice of intent to amend the* Canadian Aviation Regulations, *Canada Gazette*, Part I, Vol. 151, No. 12, 25 March 2017, p. 1318.

24 Ashley Burke, "Pilot fatigue rules set to move forward despite safety concerns," *CBCnews*, Ottawa, 7 June 2017.

25 CARS, 700.28.

the time of day, the flight duration and the number of flights scheduled in a given flight duty period.[26] Flight crews are limited to a maximum flight duty time of 112 hours in 28 days or 1,000 hours in any 365 days.[27]

The draft regulations also allow air carriers the possibility of obtaining an exemption to maximum flight duty times on a particular route if, through their fatigue risk management system (FRMS), the airline is capable of demonstrating that fatigue risk is safely managed.[28] The draft regulations provide a procedure for the submission of a safety case that quantifiably shows, through pilot activity data and risk assessment, that fatigue risks are suitably managed on the flight subject to an exemption request.[29]

Lastly, the draft regulations create a maximum duty time for flight crew members, including minimum lengths of time that a flight crew member must be free from duty. Maximum duty time is set at 2,400 hours in 365 days, 60-70 hours in 7 days and 192-210 hours in 28 days, subject to fulfilling minimum off-duty requirements.[30]

Witness Testimony

From the perspective of the Air Canada Pilots Association and the Airline Pilots Association International (ALPA), the draft regulations fall short of their expectations and diverge from what was initially submitted by the Canadian Aviation Regulation Advisory Council in its *Notice of Proposed Amendment* (NPA) on 15 September 2014.[31] The draft regulations also allow for a longer implementation period for air taxis and commuter operations. Consequently aerial work[32] is completely excluded from fatigue management regulation.[33] Representatives of the associations signalled concerns to the Committee about the potential for an airline's FRMS to be used to bypass maximum duty time limits without requiring formal approval or oversight by the regulator.[34] The representative from ALPA also recommended that the original changes included in the NPA of 2014 be implemented for all commercial aviation operations and that expansion of FRMS wait until maximum flight duty times have been fully implemented.[35]

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26 Ibid.

27 Ibid., s. 700.27.

28 Ibid., Division IV – Fatigue Risk Management System.

29 Ibid., s. 700.109.

30 Ibid., s. 700.29.

31 Transport Canada, *Notice of Proposed Amendment: Flight Crew Fatigue Management*, Canadian Aviation Regulatory Advisory Council, 15 September 2014.

32 CARS, s. 101.01(1) "aerial work means a commercial air service other than an air transport service or a flight training service; (travail aérien)." Examples include crop dusting and the use of helicopters to position equipment.

33 TRAN, *Evidence*, 2 May 2017, 1230 (Captain Dan Adamus, Canada Board President, Air Line Pilots Association, International).

34 TRAN, *Evidence*, 2 May 2017, 1230 (Captain Dan Adamus, Canada Board President, Air Line Pilots Association, International).

35 Ibid.

Representatives of the helicopter industry and northern airline operators both argued that given the structure of their operations, it may be difficult to comply with the maximum flight time restrictions and minimum rest periods to acclimatize to a different time zone. Pilots in northern or remote locations generally fly in to work from other parts of Canada and distances between time zones are smaller in Northern Canada.[36] The representatives also argued that the draft regulations fail to consider the use of purpose-built housing in remote and northern communities to accommodate pilots and help mitigate fatigue.[37] They also noted that there is no recognition in the draft regulations that during the summer months, daylight hours are significantly longer in northern locations, allowing for different fatigue and time-of-day sensitivities than would exist in other parts of Canada.[38]

Robert Deluce, Porter Airlines' President and CEO, as a large air carrier, expressed concerns that their flight crew numbers would need to be increased by roughly 10%[39] or 650 flights per month be eliminated in order to comply with the proposed regulations.[40] Among aviation industry groups generally, witnesses discussed the need for "right-sized" regulation that acknowledges that while all individuals experience fatigue, different categories of aviation will have different factors that lead to fatigue and that fatigue mitigation measures that correspond to the needs of the respective operating environments should be implemented.[41]

In addition to commentary related specifically to pilot fatigue, the Committee also heard testimony with respect to the importance of adequately managing fatigue at all levels within the commercial aviation industry, as fatigued aircraft maintenance engineers, aircraft controllers, and even baggage handlers can all pose serious risks to aviation safety.[42]

In order to ensure that an evidence based approach to fatigue management is undertaken using the latest scientific approaches and recognizing the diversity of Canadian aviation operations, the Committee recommends:

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36 TRAN, *Evidence*, 11 April 2017, 1210 (Glenn Priestley, Executive Director, Northern Air Transport Association).

37 TRAN, *Evidence*, 4 April 2017, 1200 (Fred Jones, President and Chief Executive Officer, Helicopter Association of Canada); *Evidence*, 2 May 2017, 1200 (Captain Aaron Speer, Vice-President, Flight Operations, Bradley Air Services Limited, First Air).

38 TRAN, *Evidence*, 4 April 2017, Helicopter Association of Canada, 1205.

39 TRAN, *Evidence*, 4 May 2017, 1210 (Robert Deluce, President and Chief Executive Officer, Porter Airlines Inc.).

40 Ibid., 1225.

41 TRAN, *Evidence*, 4 April 2017, 1200 (Helicopter Association of Canada); *Evidence*, 6 April 2017, 1105 (Rudy Toering, President and Chief Executive Officer, Canadian Business Aviation Association); *Evidence*, 4 May 2017, 1225 (Porter Airlines Inc.); *Evidence*, 2 May 2017, 1145 (First Air).

42 TRAN, *Evidence*, 6 April 2017, 1225 (Captain Matthew Hogan, Flight Safety Division and Chair, Air Canada Pilots Association).

That Transport Canada use its proposed regulation for fatigue management, based on scientific evidence and with safety as a primary concern, for the purpose of soliciting comment and advice, while pursuing consultation with stakeholders, in order to find ways to take into account the specific operating conditions of certain regions.

Flight Attendant Staffing

Background and Regulation

Flight attendants form part of a flight crew and are subject to specialized training[43] and maximum duty-time requirements.[44] The CARs also specify the minimum number of flight attendants required on an aircraft, which is currently set at one flight attendant for every 50 passengers or no flight attendant for flights with fewer than 20 passengers where two pilots with ready access to the passenger cabin.[45] Airlines are also subject to performance requirements and there must be a sufficient number of flight attendants to meet minimum emergency evacuation times, as set out in the CARs, which require the opening of half of the emergency exits and deploying associated exit slides within 15 seconds of an emergency event taking place.[46]

The current regulations governing the 50:1 ratio of passengers to flight attendants came into force on 3 August 2015 (the previous ratio was set at 40:1).[47] Aircraft are normally staffed at a 50:1 ratio by the aircraft manufacturer to certify maximum seating capacities, as this is the most common flight attendant staffing ratio internationally.[48] The 50:1 ratio was proposed in 2002 by the Air Transport Association of Canada in recognition that aircraft are certified at this ratio and that both American and European airlines have safely operated with this ratio of flight attendants.[49] In 2013-2014 Transport Canada began to authorize exemptions for airlines that could demonstrate mitigating features and procedures that would ensure that a higher ratio of passengers to flight attendants would not compromise safety.[50]

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43 CARs, s. 604.145.

44 CARs, ss 604.98 and 604.99.

45 Ibid., s. 604.221.

46 Ibid., ss 604.221(4)(5)(6) and 604.224.

47 *Regulations Amending the Canadian Aviation Regulations (Parts I, VI and VII — Flight Attendants and Emergency Evacuation)*, SOR/2015-127, 5 Jun 2015, in *Canada Gazette*, Part II, Vol. 149, No. 12, 17 June 2015, p. 1652.

48 Ibid., p. 1668.

49 Ibid., p. 1678.

50 Ibid., p. 1669.

The Committee recommends:

That Transport Canada review Interim Order No. 5 Respecting Flight Deck Occupants in consultation with stakeholders to ensure it is fulfilling its objectives.

Witness Testimony

Representatives from Unifor and the Canadian Union of Public Employees (CUPE) recommended to the Committee that the previous ratio of 40:1 be reinstated. Both unions suggested that the change in the passenger to flight attendant ratio has exposed airlines to dramatically increased risk in an effort to realize what amounts to minimal cost savings.[51] The representative from CUPE suggested that without a sufficient number of flight attendants to staff all emergency exits on an aircraft, passengers are required to determine whether an aircraft door can be safely opened in the event of an emergency. The Committee was told that accident studies have shown that passengers are not sufficiently trained to make this decision and may risk putting passengers in danger if they incorrectly decide to open an obstructed door.[52]

Mr. David Clark, the representative from the Union of Canadian Transportation Employees, also testified that contrary to the United States, flight attendants in Canada have primary responsibility for the evacuation of passengers and fire response within an aircraft; fire crews are not authorized to enter an aircraft.[53] Mr. Clark suggested that understanding the responsibilities of flight attendants and fire crews in the United States and Canada, is particularly relevant because of this different responsibility.[54] At Canadian airports reporting fewer than 150,000 aircraft movements, no onsite firefighting capability is required, meaning municipal fire services would be called in an emergency.

Given the additional safety functions incumbent upon Canadian flight attendants, the Committee recommends:

That the federal government revise the 50:1 passenger to flight attendant ratio in consultation with stakeholders and experts on flight attendant ratios, while keeping the security of Canadians as a top priority.

Adequacy of Training Programs

Professor Jonathan Histon stated before the Committee that "[t]he task of getting an airplane or helicopter off the ground and to its destination safely is one that requires

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51 TRAN, *Evidence*, 6 April 2017, 1210 (Jordan Bray-Stone, Health and Safety Committee Chairperson, Airline Division, Canadian Union of Public Employees).

52 Ibid., 1210.

53 TRAN, *Evidence*, 9 May 2017, 1150 (David Clark, Regional Vice-President, Pacific, Union of Canadian Transportation Employees).

54 Ibid.

contributions from an immense range of talent: mechanics, controllers, ground crew, flight crew, and all the broader systems behind them."[55] With a margin for error that can be "terribly unforgiving," as described by Mr. Matthew Hogan of the Air Canada Pilots Association,[56] proper training is essential. Mr. Edward McKeogh, President of Canadian Aviation Safety Consultants offered that increasing opportunities for pilots to fly at altitude without interventions such as autopilot, in addition to additional opportunities for continuing professional education would improve pilot responses to unplanned situations.[57] Commercial airline pilots undergo significant levels of hands-on training prior to receiving their Commercial Pilots Licences with mandated in-cockpit flight and in-class training.[58] All pilots are required to fully meet flight test requirements, only some of which may be tested on a flight simulator.[59] Following training, pilots will generally spend many years working at smaller airlines or flying in the military prior to joining larger airlines such as Air Canada, which requires a minimum of 2,000 flying hours on fixed-wing aircraft.[60]

While the use of flight simulators is restricted when training for a commercial pilot's licence, their use in ongoing flight training for licensed pilots[61] and in training commercial pilots on new aircraft is now standard practice, with many airlines using simulators as a primary means of training seasoned commercial pilots on new aircraft.[62] According to Mr. Denis Guindon, Director General of Aviation Safety Oversight and Transformation at Transport Canada:

> The way we look at the business today is to try to train the pilot to the best capacity to be able to answer to any type of emergency he may face. We don't want to do that in airplanes. We used to do that 30 or 40 years ago, but with the avenue of airplane now, we even qualify the pilots in simulators, and their first real flight is with 300 passengers in the back of the airplane, because the simulators of today are that good.[63]

55 TRAN, *Evidence*, 4 April 2017, 1215 (Jonathan Histon, Adjunct Professor, University of Waterloo and Lecturer, University of Western Ontario, As an individual).

56 TRAN, *Evidence*, 6 April 2017, 1205 (Air Canada Pilots Association).

57 TRAN, *Evidence*, 2 May 2017, 1140, 1210 (Edward McKeogh, President, Canadian Aviation Safety Consultants).

58 *Canadian Aviation Regulations*, s. 401.06; Transport Canada, Standard 421 – Flight Crew Permits, Licences and Ratings;

59 Transport Canada, TP 13462 – Flight Test Guide – Commercial Pilot Licence – Aeroplane.

60 Air Canada, Career Opportunities: Working at Air Canada.

61 Transport Canada, "Flight Test Guide – Competency Check (Private Operators) – Second Edition," 1 January 2017.

62 TRAN, *Evidence*, 2 May 2017, 1245 (Air Line Pilots Association, International).

63 TRAN, *Evidence*, 11 April 2017, 1110 (Denis Guindon, Director General, Aviation Safety Oversight and Transformation, Department of Transport).

This increased use of simulators was not universally accepted by witnesses, however; some groups suggested that the use of simulators fails to fully reproduce the element of risk that is inherent in flying.[64]

In order to adequately address training requirements for new and experienced pilots, the Committee recommends:

> **That the Minister of Transport examine best practices for flight training, striking a balance between in flight and simulator based training and certification for pilots. And that in his study, the Minister take into account recent technological advances, as well as seek input from industry and pilot associations.**
>
> **That Transport Canada reviews its decision to allow Transport Canada and Transportation Safety Board pilots to renew flight certifications using only simulators.**

OVERSIGHT AND ENFORCEMENT OF THE ACT

During the Committee's hearings, witnesses raised two issues related to oversight and enforcement: the implementation of safety management systems and compliance inspections, as well as the implementation of TSB recommendations by Transport Canada.

Safety Management Systems and Compliance Inspections

Safety management systems (SMSs) received considerable attention during the Committee's study. While some witnesses praised them, others criticized their implementation in the aviation industry.

Background

An SMS is a plan designed to foster a culture of safety within an organization. It is also designed to increase employees' safety awareness in their daily activities and to establish formal lines of communication within the organization to share information about hazards. In principle, an SMS is intended to identify risks before they escalate into safety problems.[65]

SMSs have been used in various industries in Canada, including transportation, for just over 15 years.[66] Rapid traffic growth, technological change, the limited resources of regulators and constraints on infrastructure investment have all driven the need for a more

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64 TRAN, *Evidence*, 2 May 2017, 1210 (Edward McKeogh, President, Canadian Aviation Safety Consultants); 1150 (Steve Maybee, Vice-President of Operations, Edmonton Airports, Canadian Airports Council); 1150 (Harry Gow, Immediate Past President, national, Transport Action Canada).

65 Allison Padova, *Safety Management Systems: A Better Approach for Transportation?*, Publication No. 2013-77-E, Ottawa, Parliamentary Information and Research Service, Library of Parliament, 15 August 2013.

66 Padova (2013).

effective approach to safety.[67] Furthermore, research prior to SMS implementation had shown that organizations could be compliant with regulation, while also failing to manage their risks at acceptable levels.[68]

The International Civil Aviation Organization (ICAO) first recommended that SMSs be adopted for aviation in 2000.[69] Transport Canada was the first civil aviation authority in the world to require the use of SMSs.[70] SMSs were one of the recommendations made by the Hon. Virgil P. Moshansky following his inquiry into the cause of a crash by an Air Ontario aircraft in 1995 near Dryden, Ontario.[71] As a result, major airlines[72] (since 2008), airport operators (since 2008) and air navigation service providers (since 2009) must establish an SMS pursuant to the CARs.[73] Transport Canada is assessing whether to extend SMS requirements to other civil aviation sectors, including air taxi and commuter operators and companies that maintain their aircraft.[74]

In a brief to the committee, Transport Canada said that 90% of the kilometres travelled by paying passengers are operated by airlines that have implemented an SMS.[75]

Witness Testimony

According to the Chair of the TSB, "strict compliance with minimum regulations isn't, in and of itself, sufficient to ensure safety or reduce risk."[76] That is why, according to the President and Chief Executive Officer of the Air Transport Association of Canada, establishing SMSs in the aviation sector has "fostered within companies a safety culture that already existed but that is now more ubiquitous."[77] The TSB believes that "when properly implemented, safety management systems can help any commercial operator in any mode of transportation better manage its safety risk."[78]

However, some of the stakeholders heard by the Committee criticized Transport Canada for relying on SMSs to ensure aviation safety. It was suggested that the

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67 Transport Canada, "Background," *Safety Management Systems (SMS)*.

68 Ludwig Benner Jr., « What Is this Thing Called a Safety Regulation? », *Journal of Safety Research*, vol. 14, 1983, p. 139 to 143.

69 Padova (2013).

70 Padova (2013).

71 TRAN, *Evidence*, 6 April 2017, 1125 (Hon. Virgil P. Moshansky, as an individual).

72 These are airline operators with aircraft able to accommodate 20 or more passengers. *Canadian Aviation Regulations*, SOR/96-433, ss. 107.01 and 705.07.

73 *Canadian Aviation Regulations*, s. 107.01.

74 Transport Canada, "Implementation Schedule," *Safety Management Systems (SMS)*.

75 Transport Canada, *Transport Canada Civil Aviation Safety Program*, brief presented to the Committee on 11 April 2017.

76 TRAN, *Evidence*, 6 April 2017, 1135 (Kathleen Fox, Chair, Transportation Safety Board of Canada).

77 TRAN, *Evidence*, 6 April 2017, 1120 (John McKenna, President and Chief Executive Officer, Air Transport Association of Canada).

78 TRAN, *Evidence*, 6 April 2017, 1130 (Kathleen Fox).

department is "auditing" SMS documents rather than inspecting for regulatory compliance.[79] To some witnesses, that is not enough. The Hon. Virgil P. Moshansky noted that "SMS was never intended to replace direct operational oversight."[80] Rather, witnesses said SMSs should supplement other means of ensuring aviation safety, including regulatory compliance inspections.

However, other stakeholders believe that the implementation of SMSs has not reduced regulatory oversight, but changed the process by making operators responsible for it. Mr. Glenn Mahon, Director of Operations of St. John's International Airport, said that, with the implementation of SMSs, "airports now conduct inspections and maintenance of their airfields on a daily basis. Throughout that process—a proactive process—they identify deficiencies and areas where corrective actions are needed, and that feeds through a specific process."[81] As some witnesses explained, the change in the way regulatory compliance audits are done have led to changes in the roles and functions of Transport Canada inspectors.[82]

This change has not been seamless. In his 2008 report on Transport Canada's oversight of civil aviation, the Auditor General of Canada noted that the department had not identified the impact of implementing SMSs on the work of its aviation safety inspectors.[83] Mr. Jean-Marie Richard, an aviation safety consultant, trainer and former inspector with Transport Canada, said in a brief to the Committee that the department's oversight program was "put in place without adequate training for inspectors to apply it and without any warning to the industry."[84] In a 2012 report on civil aviation oversight, the Auditor General of Canada said that "[a]lthough Transport Canada has made it a priority to speed up its progress in achieving these strategies, the six-year period it has taken to implement the reorganization and the ongoing resistance among some inspectors have hampered the Department's efforts to fully implement the new surveillance program."[85] Mr. McKenna of the Air Transport Association of Canada said that the changes brought about by establishing SMSs on inspections and oversight were not well received by all Transport Canada inspectors.[86]

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79 TRAN, *Evidence*, 4 May 2017, 1120 (Steve Maybee, Vice-President of Operations, Edmonton Airports, Canadian Airports Council).

80 TRAN, *Evidence*, 6 April 2017, 1110 (Hon. Virgil P. Moshansky).

81 TRAN, *Evidence*, 4 May 2017, 1130 (Glenn Mahon, Director of Operations, St. John's International Airport, Atlantic Canada Airports Association).

82 TRAN, *Evidence*, 4 May 2017, 1120 (Steve Maybee and John McKenna, President and Chief Executive Officer, Air Transport Association of Canada).

83 Office of the Auditor General of Canada (2008).

84 Jean-Marie Richard, *Brief for the Standing Committee on Transport, Infrastructure and Communities Concerning the Aviation Safety Study*, 2 May 2017.

85 Office of the Auditor General of Canada, "Oversight of Civil Aviation — Transports Canada," chapter 5 in the *2012 Spring Report of the Auditor General of Canada*, 2012, para. 5.75.

86 TRAN, *Evidence*, 6 April 2017, 1120 (John McKenna).

Witness Recommendations

Some witnesses suggested that Transport Canada should increase the use of inspections and audits for regulatory compliance as part of its civil aviation oversight program. According to the Hon. Virgil P. Moshansky, SMSs are insufficient and Transport Canada inspectors should return to traditional oversight inspections.[87] The TSB, also noting issues with Transport Canada's oversight, suggested to the Committee that the department needs to review the "balance between inspections and audits for compliance with regulations […] and audits of the effectiveness of safety management systems."[88]

However, Mr. Richard told the Committee that Transport Canada's current oversight program, when conducted correctly, already includes audits for regulatory compliance in addition to audits of SMSs."[89] Yet the Auditor General of Canada stated in his 2012 report on civil aviation oversight that most inspections are not consistently conducted according to established methodology, mainly because the inspectors did not understand how to apply the new methodology following the implementation of SMSs.[90] On this issue, Mr. Richard told the Committee that better trained inspectors would no doubt improve the quality of aviation safety oversight.[91] Mr. Richard also mentioned that the implementation of SMSs in 2008 would have required more inspectors.[92] Yet, as Captain Greg McConnell, National Chair of the Canadian Federal Pilots Association suggested, it seems that the number of inspectors has "remained relatively stable."[93]

The Chair of the TSB also recommended that the requirement for SMSs should be extended to all air operators.[94] According to the TSB, SMSs "can go even further than strict compliance with regulations, in terms of helping companies manage safety."[95] This opinion seems to be shared by other witnesses, including the representative of the aviation industry, Mr. McKenna.[96] However, Transport Canada is concerned that the implementation of SMSs may be an excessive burden on smaller air operators and that other means could more effectively improve safety in this sector.[97] Nonetheless, the TSB believes that SMS requirements can be adapted to smaller operators.[98]

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87 TRAN, *Evidence*, 6 April 2017, 1130 (Hon. Virgil P. Moshansky).

88 TRAN, *Evidence*, 4 April 2017, 1145 (Kathleen Fox).

89 TRAN, *Evidence*, 2 May 2017, 1245 (Jean-Marie Richard, Aviation Safety Consultant, as an individual).

90 Office of the Auditor General of Canada, 2012, paras. 5.51–5.53.

91 TRAN, *Evidence*, 2 May 2017, 1250 (Jean-Marie Richard).

92 TRAN, *Evidence*, 2 May 2017, 1250 (Jean-Marie Richard).

93 TRAN, *Evidence*, 2 May 2017, 1240 (Captain Greg McConnell, National Chair, Canadian Federal Pilots Association).

94 TRAN, *Evidence*, 4 April 2017, 1145 (Kathleen Fox).

95 TRAN, *Evidence*, 4 April 2017, 1135 (Kathleen Fox).

96 TRAN, *Evidence*, 4 May 2017, 1105 (John McKenna).

97 TRAN, *Evidence*, 11 April 2017, 1150 (Laureen Kinney, Assistant Deputy Minister, Safety and Security, Transport Canada).

98 TRAN, *Evidence*, 4 April 2017, 1135 (Kathleen Fox).

Therefore, the Committee recommends:

That the implementation of a Safety Management System becomes mandatory for all commercial operators, including the air taxi sector.

That Transport Canada:

a. **establish targets to ensure more on-site safety inspections versus Safety Management System audits;**

b. **use poor results from Safety Management System audits (including whistleblower input) as a 'flag' for prioritizing on-site inspections;**

c. **Review whistleblower policies to ensure adequate protection for people who raise safety issues to foster open, transparent and timely disclosure of safety concerns.**

That the government make sure that Safety Management Systems are accompanied by an effective, properly financed, adequately staffed system of regulatory oversight: monitoring, surveillance and enforcement supported by sufficient, appropriately trained staff.

That Transport Canada review all training processes and training materials for civil aviation inspectors to ensure they have the resources to perform their duties effectively.

Implementation of Transportation Safety Board of Canada Recommendations

Background

The TSB was created in 1990 to investigate transportation accidents and identify risks to the transportation system. The TSB conducts independent investigations in order to make findings as to the causes and contributing factors of transportation accidents, identify safety deficiencies as highlighted by these accidents and make recommendations to eliminate or reduce such deficiencies. In these investigations, the TSB does not determine civil or criminal liability.[99]

Since 1990, the TSB has investigated 973 aviation accidents or incidents in Canada.[100] As a result, the TSB has made 181 recommendations to improve aviation safety in Canada. Most TSB recommendations are directed at Transport Canada, but also at air operators, manufacturers and other domestic and foreign regulators. Parties subject to a TSB recommendation are not required to implement it. However, federal ministers

99 TSB, *Mandate*.

100 TSB, *Aviation investigation reports*.

must advise the TSB of any action they propose to take in response to a recommendation that concerns them or provide a reason if no action will be taken.[101]

The TSB assesses departmental responses, including Transport Canada's, to its recommendations once a year until they are assigned a "fully satisfactory" rating.[102] As of 30 September 2015, the TSB reported that 63% of its recommendations had been rated fully satisfactory.[103]

Table 1 – TSB Assessments of Response to Air Recommendations from 29 March 1990 to 30 September 2015

Rating	Number	Percentage
Fully satisfactory	**160**	**63%**
Satisfactory intent	9	4%
Satisfactory in part	57	22%
Unsatisfactory	26	10%
Unable to assess	1	0%
Not yet assessed	2	1%
Total	255	100%

Source: Transportation Safety Board of Canada, Presentation to the Minister of Transport The Honourable Marc Garneau, P.C., M.P, 26 November 2015.

Witness Testimony

The Committee heard that the TSB is concerned about the slow progress made by Transport Canada in addressing a number of its recommendations.[104] This concern is shared by Mr. David Clark, Regional Vice-President of the Union of Canadian Transportation Employees.[105]

To illustrate the situation, the TSB Chair, Ms. Kathleen Fox, said that, of all the recommendations directed to Transport Canada by the TSB since 1990 for all modes of transportation, 52 have still not been rated fully satisfactory and are now more than 10 years old and 29 are more than 20 years old. In the aviation sector, 32 recommendations are more than 10 years old.[106] According to Ms. Fox, Transport Canada had developed an action plan

101 *Canadian Transportation Accident Investigation and Safety Board Act*, S.C. 1989, c. 3, subsection 24(6).

102 TRAN, *Evidence*, 4 April 2017, 1130 (Kathleen Fox).

103 TSB, *Presentation to the Minister of Transport The Honourable Marc Garneau, P.C., M.P.*, 26 November 2015.

104 TRAN, *Evidence*, 6 April 2017, 1120 (Kathleen Fox).

105 TRAN, *Evidence*, 9 May 2017, 1140 (David Clark, Regional Vice-President, Pacific, Union of Canadian Transportation Employees).

106 TRAN, *Evidence*, 4 April 2017, 1120 (Kathleen Fox).

a few years ago to implement a number of TSB recommendations. However, the implementation was constantly delayed, and many of these recommendations are still active.[107]

Transport Canada gave a number of reasons why some TSB recommendations had yet to be implemented. Ms. Laureen Kinney, Assistant Deputy Minister, Safety and Security, Transport Canada, explained that technology had made some recommendations obsolete and that other recommendations were too complex to implement. She admitted, however, that Transport Canada had been too slow to act on a number of recommendations.[108]

Witness Recommendations

Implementing many of the TSB recommendations takes time, especially because regulatory amendments are needed. This process involves not just Transport Canada but also Justice Canada and the Treasury Board.[109] An expedited regulatory process could help speed up the implementation of TSB recommendations.[110]

In its report, *An Update on Rail Safety*,[111] the Committee recommended that an expedited process for responding to TSB recommendations be established. The Committee also recommended that an enhanced reporting system be adopted to prevent recommendations from languishing, without action. These recommendations could also apply to the aviation industry.[112]

Therefore, the Committee recommends:

That Transport Canada establish an expedited process for responding to Transportation Safety Board of Canada air safety-related recommendations, including the backlog, and that an enhanced reporting system be adopted to prevent recommendations from languishing, without action, on the Transportation Safety Board Active Recommendations list regarding aviation.

That Transport Canada invite the International Civil Aviation Organization to conduct a comprehensive audit of Canada's civil aviation oversight system.

That Transport Canada undertake an air safety review and report its findings back to Parliament.

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107 TRAN, *Evidence*, 4 April 2017, 1130 (Kathleen Fox).

108 TRAN, *Evidence*, 11 April 2017, 1125 (Laureen Kinney).

109 TRAN, *Evidence*, 4 April 2017, 1120 (Kathleen Fox).

110 TRAN, *Evidence*, 4 April 2017, 1120 (Kathleen Fox).

111 TRAN, *An Update on Rail Safety*, Sixth Report, 16 June 2016.

112 TRAN, *Evidence*, 4 April 2017, 1120 (Kathleen Fox).

That the federal government produce an annual compliance report on Transport Canada's implementation of any measures identified in the audit conducted by the International Civil Aviation Organization.

ISSUES RELATED TO EQUIPMENT AND INFRASTRUCTURE

Implementation of Runway End Safety Areas

Since 2007, the TSB has been concerned by accidents caused by unstable approaches and runway overruns. To address this concern, the TSB has made a number of recommendations, including requiring major Canadian airports to implement 300-metre runway end safety areas[113] – or other engineered materials arresting systems.[114] This practice is recommended by the ICAO.[115]

The current Canadian standard requires major airports to have 150-metre runway end safety areas. While a number of Canadian airports have voluntarily implemented 300-metre runaway end safety areas – for example, at Montréal's Pierre-Elliott-Trudeau airport[116] – the TSB reports that many other airports have not.[117]

Representatives of Canadian airports told the Committee that measures other than runway end safety areas would be more effective in preventing runway overruns. Mr. Steve Maybee from the Canadian Airports Council said that runway end safety areas are a last resort for runway overruns. He said it would be better to address the problem of unstable approaches and avoid runway overruns altogether.[118]

Therefore, the Committee recommends:

That the federal government implement the Transportation Safety Board of Canada and International Civil Aviation Organization recommendation on 300-metre runway end safety areas.

SECURITY SCREENING OF NON-PASSENGERS AT AIRPORTS

Background

Security screening of passengers and employees at airports, as well as the rollout of a transportation security clearance program began in earnest following the Air India

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113 "The objective of a runway end safety area is to have an area free of objects, other than frangible visual aids required to be there by function, so as to reduce the severity of damage to an aircraft overrunning or undershooting the runway, and to facilitate the movement of rescue and fire fighting vehicles." Transport Canada, *Aerodromes Standards and Recommended Practices* (TP 312), 5th edition, revised in July 2015.

114 TRAN, *Evidence*, 4 April 2017, 1120 (Kathleen Fox).

115 TSB, *Recommendation A07-06*.

116 TRAN, *Evidence*, 1 June 2017, 1125 (Pierre-Paul Pharand, Vice-President, Airport Operations, Infrastructure and Air Services Development).

117 TSB, *Recommendation A07-06*.

118 TRAN, *Evidence*, 4 May 2017, 1155 (Steve Maybee).

bombing in 1985.[119] Early security clearance initiatives involved conducting background checks and requiring airport workers to undergo security screening prior to entering restricted areas. Today, the security clearance program involves the concerted efforts of airport authorities, Transport Canada, the Canadian Air Transport Security Authority (CATSA), the Royal Canadian Mounted Police, the Canadian Security Intelligence Service, as well as domestic and international law enforcement agencies.[120]

Laureen Kinney, Assistant Deputy Minister, Safety and Security, at Transport Canada told the Committee that Transport Canada runs daily Canadian Police Information Centre (CPIC) background checks on the 193,000 workers who have been granted security clearances at Canada's airports and seaports.[121] This continuous screening allows Transport Canada to respond quickly in the event an employee is suspected of crimes in Canada and other jurisdictions or has been identified as having ties to organized crime. During the 2016-2017 fiscal year 48 transportation clearances were suspended, 20 clearances were cancelled, and 448 applications for clearance were refused, either because criminal background information was found, or because insufficient information was provided by the applicant to complete the background check.[122]

The Committee recommends:

That Transport Canada examine the various security databases upon which security clearances rely to ensure they are as current as possible

As a result of changes to international aviation standards in 2013, Canada was required to implement additional security measures for non-passengers at airports (i.e., airport and airline workers, maintenance staff and in-airport retailers).[123] The implementation of these security enhancements was made in June 2014 and non-passengers are now required to pass through a CATSA checkpoint prior to entering a restricted area of the airport.[124] The additional screening of non-passengers was not initially contemplated in CATSA's mandate and additional funds to cover this expense have been allocated through supplementary estimates. For the 2017-2018 fiscal year, appropriations for non-passenger screening amounted to approximately $132 million.[125]

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119 Transport Canada, *Evolution of Aviation Security in Canada since 1985*.

120 Transport Canada, *Transportation Security Clearance Program Policy: Part II – Standards*, s. II.19.

121 TRAN, *Evidence*, 11 May 2017, 1130 (Laureen Kinney, Assistant Deputy Minister, Safety and Security, Transport Canada).

122 Ibid., 1210.

123 International Civil Aviation Organization, *Security*; *Convention on International Civil Aviation*, 9th Edition, Document 7300/9.

124 *Regulations Amending the Canadian Aviation Security Regulations, 2012 (Non-Passenger Screening – Phase 1)*, SOR/2014-161, 19 June 2014, in *Canada Gazette*, Part II, Vol. 148, No. 14, 2 July 2014, p. 1981.

125 Supplementary Estimates A.

Witness Testimony

Witness testimony relating to the security screening program for non-passengers was largely positive. Many witnesses noted the high degree of collaboration and coordination among all of the parties that contribute to airport security in Canada.[126] Committee discussion related to reports in the news media about radicalized airport employees[127] also served to illustrate that the security clearance program works as intended, with security clearances revoked in the event that an airport employee poses a safety or security risk.[128] Representatives from Transport Canada also noted that a security clearance can be revoked in as little as 30 minutes in the event that such an action is required.[129]

Criticism of the non-passenger screening and security clearance programs concerned the often long delays in receiving security clearances and the ongoing issue of adequately funding CATSA to provide non-passenger screening services. Notably, Mr. Daniel-Robert Gooch, President of the Canadian Airports Council said:

> While we have tremendous respect and support for the work that CATSA does, funding for CATSA is the single biggest operational challenge that airports face today.… In fact, in fiscal year 2015-16, the revenue from the ATSC was nearly $110 million more than what was provided to CATSA to fulfill its mandate. However, passengers are forced to stand in longer and longer lines waiting to be screened.[130]

Although, as discussed above, non-passenger screening has been addressed through additional appropriations made to CATSA, airport authorities noted the significant costs incurred by them to install improved non-passenger screening checkpoints and provide increased security personnel in secure and non-secure areas of their airports.[131] Aéroports de Montréal indicated that they had spent upwards of $50 million to construct four security checkpoints for non-passengers[132] and that 5-7% of the authority's operating costs are currently spent on private security services, which represents approximately $10 million in spending per year.[133]

In addition to suggesting a need for increased funding for CATSA, airport authorities also noted that the delays for security clearances, currently within the range of

126 TRAN, *Evidence*, 1 June 2017, 1100 (Philippe Rainville, President and Chief Executive Officer, Aéroports de Montréal).

127 Ibid., 1115.

128 TRAN, *Evidence*, 11 May 2017, 1235 (Assistant Commissioner Joe Oliver, Technical Operations, Royal Canadian Mounted Police).

129 Ibid., 1155 (Transport Canada).

130 TRAN, *Evidence*, 11 May 2017, 1120 (Daniel-Robert Gooch, President, Canadian Airports Council).

131 TRAN, *Evidence*, 1 June 2017, 1100 (Aéroports de Montréal).

132 Ibid.

133 Ibid., 1135.

three to five months,[134] were far too long and required authorities to expend resources on performing their own background checks prior to issuing temporary security clearances for new airport employees.[135] This delay was identified to be, in part, related to a backlog at Transport Canada in processing applications. Increased funding is forthcoming to improve turnaround times, although it was admitted by Transport Canada that reviewing airport security clearance applications represents "a very heavy program [and] it takes a lot of process."[136]

In order to ensure that CATSA is able to sustainably meet its mandate, the Committee recommends:

> **That the government increase the financing of the Canadian Air Transport Security Authority, in particular by making sure that the revenues from the fees paid by travelers are allocated to the Canadian Air Transport Security Authority.**

ISSUES CONCERNING THE NORTH

Background

Canada has a number of airports serving remote and northern communities. In these locations, air travel is often the only reliable year-round means of transportation for residents and goods. For these communities, air transportation is critical.

Despite this importance, transportation infrastructure in the North lags compared to other parts of the country. For example, the Committee was told that Canada's North, which accounts for about 40% of the country's area, has roughly 100 runways, 10 of which are paved.[137] In addition, these small airports often do not have the range of services available at other Canadian airports.[138]

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134 TRAN, *Evidence*, 11 May 2017, 1130 (Jennifer Sullivan, Director, Corporate Safety and Security, Greater Toronto Airports Authority, and Chair of the Security Committee, Canadian Airports Council).

135 TRAN, *Evidence*, 1 June 2017, (Aéroports de Montréal).

136 TRAN, *Evidence*, 11 May 2017, 1200 (Transport Canada).

137 TRAN, *Evidence*, 11 April 2017, 1210 (Glenn Priestley, Executive Director, Northern Air Transport Association).

138 Transport Canada (2015), p. 61.

Witness Testimony

The North's antiquated air infrastructure and the unsuitable regulations for flight operations in the North were raised during the Committee's study by certain witnesses[139] and during the most recent review of the *Canada Transportation Act*[140].

As to antiquated infrastructure, the Northern Air Transport Association (NATA) notes in its brief that:

- the lack of long, paved runways in most northern airports requires air operators to use aging aircraft because the ""gravel kits" for the commonly used jet aircraft have not been manufactured for close to 30 years"[141];
- the lack of 24-hour weather information requires operators to have several back-up plans in case of changing weather conditions; and
- older instrument approach procedures cause numerous missed approaches.[142]

Mr. Glenn Priestley, Executive Director of NATA, said the antiquated air infrastructure in the North increases the risk of air operations and therefore affects the ability of air operators to provide services in this region.[143] This opinion is shared by Mr. Aaron Speer, Vice-President of Bradley Air Services Limited/First Air, an airline serving the North.[144]

Concerns about antiquated air infrastructure in the North were also raised during the recent review of the *Canada Transportation Act*.[145] The 2016 report noted that the "lack of paved runways and the difficulties in obtaining essential weather information pose serious threats to safety."[146]

Moreover, the Auditor General of Canada, in a May 2017 report on civil aviation infrastructure in the North, noted essentially the same concerns as those identified by NATA in its brief. In his testimony before the Committee, the Auditor General said that Transport Canada did not have any plan to address infrastructure needs, even though

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139 TRAN, *Evidence*, 11 April 2017, 1210 (Glenn Priestley, Executive Director, Northern Air Transport Association) and TRAN, *Evidence*, 18 May 2017, 1110 and 1140 (Michael Ferguson, Auditor General of Canada, Office of the Auditor General of Canada).

140 Transport Canada (2015).

141 Glenn Priestley, *Written Brief on Northern Aviation System Safety: Presentation to the Standing Committee on Transportation, Infrastructure and Communities*, Northern Air Transport Association, 11 April 2017, p. 6.

142 Priestley (2017), p. 3.

143 TRAN, *Evidence*, 11 April 2017, 1210 (Glenn Priestley).

144 TRAN, *Evidence*, 2 May 2017, 1135 (Captain Aaron Speer, Vice-President, Flight Operations, First Air).

145 Transport Canada (2015).

146 Transport Canada (2015), p. 66.

these issues go back 10 years.[147] He said what he was looking for was for "Transport Canada to put together a plan that would identify and perhaps inventory all the types of issues that need to be dealt with, and put together a plan for how that would be dealt with."[148]

As to regulations on flight operations, Mr. Priestley of NATA said that Transport Canada does not understand air services in the North. He believes this has resulted in "a set of regulations that will provide no measurable improvement in overall system safety, but will increase costs."[149] Mr. Speer of Bradley Air Service/First Air gave examples of situations in which compliance with the regulations could, in his opinion, increase the risk for flight operations in the North. Mr. Priestley highlighted NATA's concern that Transport Canada set up a better consultative process with northern aviation stakeholders for all future regulatory reviews.[150]

Therefore, the Committee recommends:

That Transport Canada develop a plan and a timeline to address the specific operating conditions and infrastructure needs of airlines serving Northern Canada and small airports.

147 TRAN, *Evidence*, 18 May 2017, 1110 and 1140 (Michael Ferguson, Auditor General of Canada, Office of the Auditor General of Canada).

148 TRAN, *Evidence*, 18 May 2017, 1120 (Michael Ferguson).

149 TRAN, *Evidence*, 11 April 2017, 1210 (Glenn Priestley).

150 TRAN, *Evidence*, 11 April 2017, 1210 (Glenn Priestley).

LIST OF RECOMMENDATIONS

APPENDIX A
LIST OF WITNESSES

Organizations and Individuals	Date	Meeting
As an individual	2017/04/04	52
Gregory Belenky, Research Professor, Washington State University		
Jonathan Histon, Adjunct Professor, University of Waterloo Lecturer, University of Western Ontario		
Helicopter Association of Canada		
Fred L. Jones, President and Chief Executive Officer		
International Association of Machinists and Aerospace Workers in Canada		
Carlos DaCosta, Canadian Airline Coordinator		
Transportation Safety Board of Canada		
Kathleen Fox, Chair		
Jean L. Laporte, Chief Operating Officer		
Yanick Sarazin, Manager, Standards and Quality Assurance, Air Investigations		
As an individual	2017/04/06	53
Virgil P. Moshansky		
Air Canada Pilots Association		
Matthew Hogan, Captain Chair, Flight Safety Division		
Air Transport Association of Canada		
John McKenna, President and Chief Executive Officer		
Canadian Business Aviation Association		
Rudy Toering, President and Chief Executive Officer		
Canadian Union of Public Employees		
Jordan Bray-Stone, Chairperson, Health and Safety Committee Airline Division		
Unifor		
Jerry Dias, President		
Air Canada	2017/04/11	54
Samuel Elfassy, Managing Director Corporate Safety, Environment and Quality		
Department of Transport		
Denis Guindon, Director General Aviation Safety Oversight and Transformation		

Organizations and Individuals	Date	Meeting
Department of Transport	2017/04/11	54
Laureen Kinney, Assistant Deputy Minister Safety and Security		
Aaron McCrorie, Director General Civil Aviation		
NAV CANADA		
Larry Lachance, Vice-President Safety and Quality		
Northern Air Transport Association		
Glenn Priestley, Executive Director		
WestJet Airlines Ltd.		
Darcy Granley, Vice-President Safety, Security, and Quality		
As an individual	2017/05/02	55
Jean-Marie Richard, Aviation Safety Consultant		
Air Line Pilots Association International		
Dan Adamus, Canada Board President		
Canadian Aviation Safety Consultants		
Edward McKeogh, President		
Canadian Federal Pilots Association		
Greg McConnell, National Chair		
First Air		
Aaron Speer, Vice-President, Flight Operations Bradley Air Services Limited		
Aerospace Industries Association of Canada	2017/05/04	56
Mark Beauregard, Vice-President Regulatory Affairs		
Atlantic Canada Airports Association		
Glenn Mahon, Director of Operations St. John's International Airport		
Canadian Airports Council		
Steve Maybee, Vice-President of Operations Edmonton Airports		
Canadian Council for Aviation and Aerospace		
Robert Donald, Executive Director		
Porter Airlines Inc.		
Robert J. Deluce, President and Chief Executive Officer		

Organizations and Individuals	Date	Meeting
Transport Action Canada	2017/05/04	56
Harry Gow, Immediate Past President National		
Canadian Federation of Aircraft Maintenance Engineers Associations	2017/05/09	57
Stephen Farnworth, Vice-President Aircraft Maintenance Engineers Association of Ontario		
Union of Canadian Transportation Employees		
David Clark, Regional Vice-President Pacific		
Canadian Air Transport Security Authority	2017/05/11	58
Neil Parry, Vice-President Service Delivery		
Canadian Airports Council		
Daniel-Robert Gooch, President		
Jennifer Sullivan, Chair of the Security Committee and Director, Corporate Safety and Security, Greater Toronto Airports Authority		
Canadian Security Intelligence Service		
Brian Rumig, Assistant Director Operations		
Department of Transport		
Laureen Kinney, Assistant Deputy Minister Safety and Security		
Marie-France Paquet, Director General Intermodal Surface, Security and Emergency Preparedness, Safety and Security Group		
Mario Saucier, Acting Director General Aviation Safety		
Royal Canadian Mounted Police		
Joe Oliver, Assistant Commissioner Technical Operations		
Office of the Auditor General	2017/05/18	60
Martin Dompierre, Principal		
Michael Ferguson, Auditor General of Canada		
James McKenzie, Principal		
Lucie Talbot, Director		
Aéroports de Montréal	2017/06/01	62
Pierre-Paul Pharand, Vice-President Airport Operations, Infrastructure and Air Services Development		
Philippe Rainville, President and Chief Executive Officer		

APPENDIX B
LIST OF BRIEFS

Organizations and Individuals

Air Canada Pilots Association

Apex Aviation Ltd.

Canadian Aviation Safety Consultants

Canadian Union of Public Employees

Dow, **James**

Grymonpre, **Dylan**

International Association of Machinists and Aerospace Workers in Canada

Moshansky, **Virgil P.**

Northern Air Transport Association

Richard, **Jean-Marie**

Unifor

REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the Committee requests that the government table a comprehensive response to this Report.

A copy of the relevant *Minutes of Proceedings* (Meetings Nos. 52, 53, 54, 55, 56, 57, 58, 60, 62, 65 and 66) is tabled.

Respectfully submitted,

Hon. Judy A. Sgro
Chair

NDP Supplementary opinion

The New Democrats have long supported strengthening safety measures across all modes of transportation. That is why, in response to the many issues raised about aviation safety, we proposed this subject to the committee for study.

We are pleased the parties gave their unanimous consent to study this priority issue. We support the recommendations in the majority report and will press the Minister of Transport to take action on them to ensure the safety of Canadians.

However, we are submitting this supplementary opinion to make three recommendations overlooked by the majority report.

First, we recommend that an independent public inquiry be held on all aspects of aviation safety. Second, we recommend that budget cuts to the federal aviation safety program be ended. Third, we recommend that the government end the confidentiality of internal process bulletins and policy documents related to aviation safety inspections. Finally, although we are happy with the consensus on the 1:40 ratio for flight attendants, we wish to reiterate the NDP's traditional position on this matter.

Recommendation 1: We recommend that the federal government hold an independent public inquiry on all aspects of aviation safety.

In our second hearing of witnesses, the Hon. Justice Virgil Moshansky, whose expertise and reputation are well established, recommended that a commission of inquiry be formed to review aviation safety in Canada. According to Mr. Moshansky, Transport Canada's current approach is so inadequate that the federal government should launch an investigation under the *Inquiries Act*. He notes in his brief that "*Transport Canada has now totally abandoned traditional hands-on regulatory oversight, in-flight inspections and audits across the aviation system (thereby eliminating expensive Inspector personnel)*."

Other stakeholders also supported this recommendation, including the Canadian Federal Pilots Association: "*We concur with Justice Virgil Moshansky's recommendation for a commission of inquiry into aviation safety oversight. We agree that it's long overdue*." Instead of having to carry out inspections on the ground, Transport Canada inspectors need only verify documents. This approach is especially alarming because it violates ICAO requirements.

Recommendation 2: We recommend that the federal government end the budget cuts to the aviation safety program and provide stable funding.

Budget cuts have deprived the aviation safety program of the resources it needs to fulfill its mission. According to Justice Moshansky, "*What has happened in the meantime is cost-cutting, which has resulted in inadequate funding of Transport Canada's oversight regime. There are inspectors now who haven't flown an airplane for a year, or some even longer than that*." That's why only half of the planned inspections, planned evaluations and program validation inspections have been done.

The NDP asked a question in the House about aviation safety inspections. Minister Garneau answered, and I quote, "Our department conducted 10,000 inspections last year." Yet a Transport Canada document shows that the total number of planned inspections was around 6,200 and that the number of inspections that were actually done was around 5,500.

The other result of budget cuts is that aviation safety inspections are more and more reactive and less and less preventive. Transport Canada document states that for 2016-2017 the number of inspections in response to accidents was nine times higher than preventive inspections. Successive governments believe that self-regulation is an accident prevention system, but the statistics clearly show otherwise. Moreover, there are so many reactive inspections that they cut into resources for preventive inspections.

Recommendation 3: We recommend that the government end the confidentiality of internal process bulletins and policy documents related to aviation safety inspections and make them available on the Transport Canada website, except in situations where national security is at risk.

Decisions to cancel or amend aviation safety inspection procedures are made through internal process bulletins. These Transport Canada internal documents are often not accessible to parliamentarians or to the public, despite their impact on the quality of the work of aviation safety inspectors. The NDP believes that parliamentarians and the public should be able to see these documents.

Justice Moshansky sounded the alarm by saying, "*Transport Canada did not publish those decisions in the Canada Gazette. They did not inform Parliament, MPs, or the public. These decisions were made by internal memo alone. They are now public only because a concerned party released them. I'm tabling with your committee the internal process bulletin 2016-09, in both official languages, where these decisions are documented*."

Reminder: The NDP reiterates its commitment to prioritize passenger safety by re-establishing the 1:40 ratio for flight attendants.

We are pleased that the Liberals and the Conservatives are not closing the door on the 1:50 flight attendant review and that we have found ways to include this subject in the report through expert consultation.

However, of all priorities, passenger safety in an emergency is certainly number one. In the event of an aircraft evacuation, all exits should be supervised by a flight attendant. Yet current regulations allow airlines to allocate one flight attendant for 50 passengers. This ratio is clearly insufficient to ensure passengers' complete safety in the event of turbulence, cabin decompression, an on-board fire or an emergency evacuation.

Transport Canada's decision suggests that economic viability takes precedence over passenger safety. Emergency exits left unattended because of a lack of flight attendants present an unnecessary and unacceptable risk to passengers and crew. According to Jordan-Bray Stone, "*Many studies by aviation investigation branches and government commissions over the years have cited the fact that passengers simply are not in a position mentally, and they certainly lack training, to properly assess exits in an emergency, and that this lack of situational awareness and ability to act and make life-threatening decisions in a split moment has very real consequences*."