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The Honourable Judy A. Sgro

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● (0850)

[*English*]

The Chair (Hon. Judy A. Sgro (Humber River—Black Creek, Lib.)): I'm calling to order this meeting of the Standing Committee on Transport, Infrastructure and Communities.

Pursuant to the order of reference of Wednesday, November 28, 2018, we are doing a study of challenges facing flight schools in Canada.

With us as witnesses today, from the Air Transport Association of Canada, we have Darren Buss, the vice-president.

From the Canadian Airports Council, we have Daniel-Robert Gooch, president.

And from the Northern Air Transport Association, we have Glenn Priestley, the executive director.

Welcome to all of you.

Good morning to committee members. Thank you all for being here on time this morning.

We'll turn it over to whoever would like to begin.

Mr. Buss from the Air Transport Association of Canada, would you like to begin? You have five minutes. Go ahead, please.

Mr. Darren Buss (Vice-President, Air Transport Association of Canada): Thank you very much.

Good morning, and thank you very much for the opportunity to be here today to discuss the challenges faced by Canadian flight schools in meeting the needs of the Canadian aviation industry.

As you know, I'm here representing the Air Transport Association of Canada, or ATAC for short. Since 1934, ATAC has been the national association for commercial aviation in Canada. We're the voice of almost 200 member companies engaged in all kinds of commercial aviation all across Canada. That includes 50 flight training organizations that, together, deliver about 80% of all commercial pilot licences issued in Canada.

The recommendations I have [*Technical difficulty 8:49:46 - 9:36:48—witnesses' briefs taken as read—Editor*]

Overview

ATAC welcomes this opportunity to present recommendations to the House of Commons' Standing Committee on Transport, Infrastructure and Communities. The recommendations presented here fall into four broad categories:

1) Support student pilots

2) Support flight schools

3) Support research

4) Support outreach

This document also contains background information on topics such becoming a pilot, and the typical pilot career path.

About ATAC

Founded in 1934, the Air Transport Association of Canada (ATAC) serves as Canada's national trade association for commercial aviation and flight training industries, as well as aviation industry suppliers. Our membership is comprised of about 200 companies engaged in commercial aviation all across the country, including 50 flight training schools that together deliver approximately 80% of all commercial pilot licenses issued in Canada.

Representing ATAC on flight training and labour market issues, including the current pilot shortage, is Darren Buss. Darren has an airline transport pilot license and 13 years experience as a professional pilot. He holds the title of Vice President at ATAC, and also sits on the board of directors at the Canadian Council for Aviation and Aerospace (CCAA). Since graduating from the Aviation and Flight Technology program at Seneca College in 2005 he has flown for air operators in Alberta, Manitoba, Saskatchewan, and Ontario, steadily gaining responsibilities as a pilot, training pilot, and manager. Darren holds a Bachelor of Science degree in Mathematical Science (specializing in Computer Science) from McMaster University, where he also studied Materials Engineering, and previously worked as a software developer.

Recommendations

1. Implement Government Backed Student Loans for Flight Training [Support Students]: Lack of financing is the most often cited reason why people discontinue flight training or choose not to pursue it at all. Making financing available would bring more people into aviation, and also give policy-makers a tool to incentivize people into jobs where they are most needed, such as flight instruction and medevac. A similar incentive program already exists for medical personnel working in remote areas.

ATAC is consulting with commercial banks to create a student loan product for pilots. It is clear that banks are not willing to do this unless the loans are backed by government. Fortunately, a relatively small investment by government would result in a nation-wide student loan program for pilots that could then be used to incentivise pilots into jobs where they are desperately needed. ATAC estimates that less than $5 million per year, over a 10-year program, would be sufficient to do this. This is based on the following:

• 600 commercial pilots trained annually (domestic only)

• Worst case, all those pilots borrow the full cost of training ($75,000)

• 600 pilots/year x $75,000/pilot = $45 million/year borrowed from bank

• Modelled loan default rate is 10%, therefore approximately $4.5 million/year goes to default

2. Approve the Proposal to extend SWILP to Pilot Training [Support Students]: Student Work Integrated Learning (SWILP) is an excellent skill development program that has helped thousands of students acquire work-related skills. A proposal has been made to extend the applicability of this program to include pilots wishing to become flight instructors or floatplane pilots. This would increase the number of available flight instructors and therefore Canada's capacity to train more pilots. This proposal has received wide praise from both industry and government, but it has not yet been implemented.

3. Help Flight Schools Invest in New Technology and Infrastructure [Support Flight Schools]: The typical Canadian flight school operates aircraft that are older than the pilots who fly them. Newer aircraft are often quieter and more fuel-efficient than older aircraft. They are also more similar to the modern transport aircraft that student pilots will be expected to operate when they join the workforce, which makes them more effective trainers. Simulators are another game-changing technology that is in short supply at most flight schools due to the fact their cost is similar to a new aircraft.

New single-engine training aircraft typically cost around $400,000 USD. Multi-engine trainers typically start around $700,000 USD. Certified flight training devices (FTDs), commonly called simulators, start at about $300,000 USD for a single-engine aircraft and go up to several million for larger aircraft. Ideally, flight schools operate 7 single-engine aircraft for every multi-engine aircraft, and as many simulators as they can afford and have the space for. These are huge capital expenses for small businesses that operate on very tight margins.

A government program of matching spending on eligible purchases including aircraft, simulators, and facilities expansion (for simulators) would almost immediately increase capacity to train new pilots by enabling flight schools to make these critical investments. Giving preference to aircraft manufactured in Canada would also stimulate aerospace manufacturing in Canada. For example, the government program could offer $1 for every $1 spent by a flight school on aircraft and simulators built outside of Canada, and $1.20 for every $1 spent on products manufactured in Canada.

As a rule of thumb, every aircraft added to a flight school's fleet allows that school to train an additional 7 pilots per year.

4. Establish Approved Training Organizations (ATO) [Support Students & Flight Schools]: The *Canadian Aviation Regulations* (CARs) are the regulatory foundation for all aviation activities in Canada. They have remained largely unchanged since they were introduced in 1996. Since then, many things have changed, including advancements in simulator technology and a shift towards evidence and competency-based training techniques. The wording of the CARs, rooted in the thinking of the early 1990's, effectively prevents these advances from being used in ab-initio flight training only because they were not envisioned CARs were written. The CARAC process for changing the CARs is slow and difficult, but there is another way.

Aviation Training Organizations (ATO) is a framework used in other jurisdictions around the world that allows flight schools to demonstrate compliance with the desired result of the regulations using a different means of achieving it. For example, if the regulations state that an applicant for a private pilot license shall have completed a minimum of 45 hours of flight training, including a maximum of 5 hours in an approved simulator, an ATO might demonstrate that completing 20 of the 45 hours in an approved simulator produces pilots that are at least as competent. Using this approved syllabus, the ATO can conduct training that produces better pilots, less noise and less pollution, often at lower cost. ATO trained pilots must meet the same standards and pass the same assessments as their non-ATO counterparts. ATO may also open the door to using evidence and competency-based techniques in ab-initio training, which would further improve efficiency.

ATAC has been working with Transport Canada on an ATO framework for several years. Every year we hear that it is close to being ready. ATAC believes it would be in the best interest of the general public as well as pilots and the aviation industry for a carefully designed ATO framework to be approved as soon as possible.

5. Support Research Activities [Support Research]: Good data drives good decisions. Rigorous study of what prevents people, particularly those from underrepresented groups such as women and indigenous people, from choosing careers in aviation would be helpful in making decisions on the best way to allocate funding.

ATAC recommends that the government allocate resources, either internally or through an organization such as the Canadian Council for Aviation and Aerospace (CCAA), to complete such a study.

6. Support Outreach Activities [Support Outreach]: Any long-term solution to the current labour market shortage must include outreach to people not currently involved in the aviation industry. This includes youth, workers from other industries displaced by layoffs or wishing to change career, and people outside of Canada who may wish to immigrate.

ATAC recommends that the government make funding available to associations, such as ATAC, who are in a position to organize outreach events across Canada and internationally.

Aviation Labour Shortage

Canada faces a critical shortage of pilots and demand is expected to grow for the foreseeable future. Industry must increase annual domestic flight training output approximately 50% to meet the expected demand by 2025. Traditional recruiting methods are not sufficient; we must attract and retain a broader section of eligible workers. Only 7% of pilots are female. Fewer are aboriginal. Lack of access to financing for initial training costs is a major barrier for many.

Professional pilot training typically costs about $75,000. Little or no financing (government or otherwise) is available to cover this cost. Access to financing would bring more people into aviation, and enable incentive programs for high demand jobs.

Becoming a Pilot

One of several paths to becoming a professional aeroplane pilot in Canada is by enrolling in an integrated Commercial Pilot License – Aeroplane/Instrument Rating (CPL(A)/IR) integrated course at a Transport Canada certified flight school. These courses last between 9 and 36 months, with the typical duration being 18 months. They must include at least 400 hours of ground school instruction, and 190 hours of flight time, all of which must also meet a number of sub requirements. Students in an integrated program must successfully complete the knowledge requirements and pass flight tests for the Private Pilot License (PPL), Commercial Pilot License (CPL), multi-engine class rating, and the Group 1 Instrument Rating. Upon completion the student will be qualified to operate single pilot multi-engine aeroplanes in commercial air services, however, with no work experience job prospects are limited. Cost for this training varies, but $75,000 is representative.

The most common way for new commercial pilots to gain experience is to become flight instructors. To become a flight instructor, the new commercial pilot must complete an additional 30 hours of flight time and 25 hours of ground instruction. This additional training typically costs about $10,000.

The highest license a pilot can obtain is the Airline Transport Pilot License (ATPL), which has historically been required to obtain employment at a regional or national airline. The requirements of the ATPL are typically met in the course of working as a pilot in the early part of one's career. These include passing two written exams, and completing 1500 hours of flight time. With an ATPL in hand, a pilot's career is limited only by his or her ability and aspirations.

The 'Typical' Pilot Career Path

New commercial airplane pilots today have three choices when it comes to getting their first job:

1. Become a flight instructor

2. Work for an air operator in a remote area. In the current labour market these operators are desperate for pilots, however, many have insurance or contractual requirements that prevent them from hiring pilots with less than a minimum number of hours (often 500 hours). Some remote operators may also require a float rating at a cost of about $10,000.

3. Direct-entry first officer with a regional airline. Some regional airlines now have partnerships with select flight schools where a fixed number of the top graduating students are offered direct-entry flying positions with that airline. This is a recent change made necessary by the current labour shortage.

● (0855)

Mr. Daniel-Robert Gooch (President, Canadian Airports Council): Madame chair, members of the committee, it is a pleasure to appear before you again today to speak to an area of growing concern to many of the communities our airports serve — a shortage of qualified commercial pilots, which is leading to reliability problems on important regional air routes. This is the aspect of flight schools that I will focus my comments on.

I am president of the Canadian Airports Council, which represents 54 airport operators, including 25 of the 26 NAS airports and 29 operators of regional airports.

It goes without saying that airports don't hire pilots, nor do they determine what air services are operated from which communities. In the deregulated air transport sector we have had since the 1980s, these are decisions made by private airlines, including large network carriers and their regional affiliates but also a dozen or so independent regional air carriers. And most air routes are not subsidized.

This context is important, because communities really are vulnerable to market conditions and the decisions made by air carriers on whether they will fly to their community, how often, and for how much.

Canada's airports make up a system of independent, but interdependent airports. An aircraft that takes off from Toronto Pearson or YVR has to land somewhere, and so problems for one group of airports impact many others. That being said, the pilot shortage is being most acutely felt in Canada's regional air service markets throughout the country. British Columbia, New Brunswick, northern Ontario are just three regions that are being impacted, with regularly scheduled flights being cancelled often enough that travellers looking to buy a ticket for one of these routes have to ask themselves just how badly they need to get where they are going on time.

I'll give you an example of this. Allen Dillon, a frequent flyer and CEO of a cyber security firm in New Brunswick was recently profiled by the CBC. He takes more than 100 flights a year and now has to catch much earlier flights just to ensure he can make his meetings on time because he is finding a major delay or cancellation about 40% of the time. It's like shutting down a major highway on a regular, but unpredictable basis.

This is a serious concern. Airlines make service decisions based on the financial strength of a given route. If travellers lose confidence in a route and traveller numbers fall, how long does that route stay around?

The shortage of pilots is not unique to Canada, it's a global concern and Canada competes in a global market for talent. And the concern is not just limited to pilots either. According to the Canadian Council for Aviation and Aerospace labour market report released in the spring, of an aviation sector that employs about 154,000 people today, some 55,000 new workers will be required in this sector by 2025, including other skilled workers like maintenance technicians and air traffic controllers. Based on current educational program capacity, only a quarter of that demand will be filled by domestically trained graduates.

In terms of pilots specifically, the labour market report suggests Canada will need about 7,300 pilots by 2025. We're only producing about 1,200 new pilots a year and nearly half of these are international students who typically return to their country of origin. Only 70% of these new pilots even stay in the industry. These factors taken together mean we're only really producing about 500 new pilots a year, which will lead to a shortage of about 3,000 pilots by 2025.

Moreover, our colleagues in the regional air carrier community are concerned that proposed regulatory changes to air crew duty times will significantly add to the shortfall.

When we consider the impact that a shortage of pilots is already having on air service in some communities, this future is a big concern, which is why this study is timely.

There are plenty of ideas on how to fix this, including more financial support options for prospective students, changes to how these programs are viewed vis a vis financial support by government, creating better options for foreign students who may want to stay to pursue an aviation career in Canada, and improving access to simulators and other technological tools. But we will leave it the experts in these fields to weigh in on those ideas, as I do want to address the second part of the committee's study — whether the infrastructure available to flight schools meets the needs of the schools and the communities where they are located.

I've spoken with you about the financial challenges faced by small regional airports, where the Airports Capital Assistance Program is the only infrastructure investment fund available for safety and security related projects, and its funding is limited to about $38 million a year. This is an important program, but funding is insufficient for the airports already eligible, which doesn't include general aviation airports without commercial service.

Flight schools are located throughout Canada, at both commercial and general aviation airports. Some of these are located in urban areas, where they are close to prospective students but also close to residential communities, homes and schools.

Flight schools by their nature involve a lot of activity close to the base airport, including take offs, landings and rotations. This activity contributes to the concern of residents in some communities around aircraft noise.

As this committee heard recently, aircraft noise in residential communities near airports is a complex issue to manage, and one that is best dealt with on the ground in the community, as it is a very local issue. A flight school may be a concern for some airports with unhappy residents. Another airport with a different community configuration may welcome them with open arms.

I'm happy to take any questions the committee may have.

● (0900)

Mr. Glenn Priestley (Executive Director, Northern Air Transport Association): Good morning.

We would like to thank the committee for including the Northern Air Transport Association on this important study of flight training resources in Canada.

NATA was formed over forty years ago to support the economic development of northern and remote Canada. Northern operators have always faced unique challenges that are very different than what is experienced in southern Canadian aviation. The attraction, recruitment and retention of adequate flight crew including maintenance personnel has been an ongoing challenge.

The traditional northern aviation labour market model was southern trained Canadian pilots, would seek aviation jobs in Canada's north. Often this was seasonal employment requiring aviation workers to return or be replaced. There was an annual flight crew and maintenance personnel production level that usually provided a surplus of labour that developed a worker over a 2-5 years of work experience to become industry competent. There was a challenge to retain those now skilled workers. This challenge is increasing for reasons that are well known.

Northern and remote operators predominately use turbine engine equipped aircraft, often operating into short, unpaved airstrips. There are also operators offering air service with what would be considered traditional float or ski equipped aircraft. Examples of specialized operations including medivac, fire fighting, air survey. To fly these missions, pilots need to be highly skilled, with specific mission competencies. Few flight schools in Canada provide this type of preparatory training for northern operational realities.

NATA operator members are reporting it is taking longer to provide the training necessary for entry level new hire pilots to meet the proficiency requirements for pilots to be legal flight crew in accordance with the Canadian Aviation Regulations. Operators are raising concerns regarding the lack of basic knowledge and skills of new hires that should have been covered in commercial pilot flight training.

The new reality is flight instructors and pilot examiners have reduced operational and instructional experience and NATA wants to work with the regulator to find solutions. For instance, the current regulations concerning flight training are too restrictive. There are more than enough flight training units in Canada, but there is a lack of instructors with the applicable experience because it is difficult for current, or retired pilots to become involved in a flight training program.

It is important to note that while there is a national commercial pilot licensing standard, there is no national commercial pilot training standard. This allows for flexibility in training delivery to the licensing standard. NATA believes there should be sector specific standards and any occupational standards that help improve the aviation worker competencies should be made available to the entire industry and should be supported by the regulator. There should be incentive funding for companies to support industry use of occupational standards to develop competency-based training.

Most training in Canada is focused on producing pilots for southern flying jobs. There are very successful programs in Southern Canada that are streaming pilot graduates into direct entry pilot positions. Due to the changing operational environment, and specialized skill sets this does not work for northern and remote operators.

To insure a competent workforce, many air operators-members are developing partnerships with flight training providers as well as sponsoring selected personnel for career development. For instance, in Whitehorse, a NATA air operator member also offers a full-service flight training with an aviation college diploma program. Having students train in proximity of real air operations needs better recognition of crediting aviation experience. This includes partnership with northern operators offering mentoring and workplace training support for northern based students and workers.

On October 2, 2018 at the Transport Canada Civil Aviation Labour Shortages Forum, the Minister of Transport addressed the challenge of attracting the next generation of aviation workers, especially non-traditional workforce groups such as females, indigenous and other under represented visible minorities. While the forum focused primarily on southern Canada flight crew shortages and solutions, it is important to emphasize; Northern and remote aviation stakeholders are experiencing a shortage of personnel for all aviation related occupations. However, there are various barriers that need to be considered to develop a program that would be successful in attracting, training and retaining northern youth for aviation related occupations.

Any skill development program needs to be sensitive to geographical and cultural realities. It is problematic for students to have to leave their home and community to go to a school far away for a long period of time. There is an opportunity for more Industry sponsored federally funded On the Job mentoring and training, customized for specific cultural needs and company specific skill development requirements.

The overriding concern is the access to vocational tuition funding.

The federal government should change tuition tax deductibility rules to be more inclusive of aviation flying, technical skills upgrade training and work experience. Registered Education Savings Plan (RESP) tax deduction status should be revised to offer more incentive to the contributor.

There needs to be funding programs to encourage employers to establish in company mentoring program and sponsor local public-school aviation career awareness initiatives. There are so many excellent programs that have been developed with federal funding but are under utilized.

Attached to this Written Brief, is NATA Resolution 2018-5- outlining the need for a northern and remote focused aviation labour skills committee, as well, included is a summary and reference document to three territorial labour market analysis supporting the comments made in this submission. The limited labour needs information for flight crew identifies the need for more northern and remote aviation sector specific demographic analysis. In conclusion, NATA's 43rd northern and remote aviation conference is taking place April 28-May 1, 2019 in Yellowknife.

On behalf of the Northern Air Transport Association I would like to invite the committee to attend our conference to continue this important discussion on aviation labour-skills development.

Thank you.

● (0935)

Mr. Matt Jeneroux (Edmonton Riverbend, CPC): [*Technical difficulty resolved—Editor*]

on fuel. I would imagine, then, that it's likely the students who would end up paying for a higher cost on fuel. Can you correct me if I'm wrong?

Everybody can weigh in on some of this.

Mr. Darren Buss: For my part, I wouldn't care to comment on how businesses allocate their funds or pay their fees, but certainly there's room for discussion on decreasing taxes on fuel, particularly in Ontario.

Mr. Matt Jeneroux: Would a carbon tax, a tax on fuel, increase the cost of a flight school, the cost for a student to attend?

Mr. Darren Buss: I can't say that definitively. I would say that would be up to each individual business.

Mr. Matt Jeneroux: Mr. Gooch, do you have any comments?

Mr. Daniel-Robert Gooch: I don't really have anything to add there. The carbon tax is not one that our organization has taken a position on.

We've looked at our industry broadly, in terms of what our priorities are, and I think we've articulated them at this committee fairly frequently in the past. Carbon tax is not one that we have taken on as an issue to work on.

Mr. Matt Jeneroux: Mr. Priestley, would you comment?

Mr. Glenn Priestley: I have no comment.

Mr. Matt Jeneroux: It's funny, because we had the minister here last week saying that he hadn't heard from anybody that a carbon tax is detrimental.

Just thinking logically, the price of fuel has gone up, so that would then impact the flight schools in terms of the costs of actually flying. I would struggle to think that it wouldn't be a major prohibitive factor in the cost for students to come there.

It's something to consider. I certainly think that as we go through the course of this study, it's something that I know will be a burden for many others out there.

Thank you.

The Chair: Mr. Badawey is next.

Mr. Vance Badawey (Niagara Centre, Lib.): Thank you, Madam Chair. I'm going to split my time with Mr. Fuhr.

The first question is with respect to the training program.

You mentioned, Mr. Buss, the government programs and matching spending on eligible purchases. Currently, what organization is actually matching this spending? Is it the airport itself? Is it the association?

Mr. Darren Buss: There's no matching spending right now. For all capital expenses, it would be up to the business to front 100% of the costs.

Mr. Vance Badawey: Are the airports that normally have the training centres individually owned? I know that in my area, they partner with municipalities. Municipalities are sometimes then looked to by the organization to do a lot of the capital spending.

Do you see it as a challenge for most of the smaller airports that the municipalities simply don't have the wherewithal to put that financial capital in place?

Mr. Darren Buss: It's possible.

As you know, there are a wide variety of municipalities that host flight schools. Some have more means than others. I would say that as far as infrastructure investments and facilities and whatnot go, that might very well be a good source of revenue to look at.

I could be wrong, but I don't see a municipality investing in aircraft or simulators.

● (0940)

Mr. Vance Badawey: Some do. I was one of them.

Mr. Darren Buss: Okay. That's good to know.

Mr. Vance Badawey: With that said, is there the opportunity, if you're partnered with a municipality, to in fact tap into some of the existing infrastructure programs that are in place? They could be science and technology, innovation, R and D, or just basic infrastructure programs.

Mr. Darren Buss: I would love to know more about that. Maybe you and I can talk afterward.

Mr. Vance Badawey: Absolutely.

My second question, before I go to Mr. Fuhr, is on the current pilots. Have the association or the bodies that you work with given any incentive to existing pilots to do training? That's question number one.

Question number two is, with reference to that, does it also give those pilots an opportunity to upgrade their own licensing while they're actually training, with respect to what the requirements are?

Mr. Darren Buss: When you say an opportunity to do training, do you mean an opportunity to become a flight instructor, or to do training for oneself?

Mr. Vance Badawey: I mean both.

Mr. Darren Buss: Okay.

Training for oneself is always done in the context of the company you're working for, and it is paid for by that company. If I work for Sunwing and I fly a 737, Sunwing is going to pay for my 737-type training annually. That's the only thing that's applicable to that pilot at that time.

In terms of incentives for pilots to come back and become flight instructors after they've already been in the industry, that's something that we're working on. We're trying to determine the best and most effective way of doing that.

Mr. Vance Badawey: Great. Thank you.

Mr. Fuhr can continue.

Mr. Stephen Fuhr (Kelowna—Lake Country, Lib.): Thank you very much.

I want to quickly talk a little bit more about the airport capital assistance program, because it is part of the infrastructure.

I remember Trail came to see the Pacific caucus in Kelowna. They ended up getting a pretty nice-sized grant from the federal government to resurface their runway, which they were very happy about.

Can you tell us what you think that program needs to be boosted to? Do you know what the need is, Mr. Gooch?

Mr. Daniel-Robert Gooch: I know we're in the process of compiling some numbers on that now. I know it's $38 million, and it's been pretty much stalled at that for about 18 years.

I know we put a paper in to the Emerson review, and I believe it put the figure at about $75 million a year as being more appropriate for the need. I think it's probably between $75 million and $100 million. I know we are trying to get our arms around that, because construction costs are just continuing to go up. In certain parts of the country, the cost of making basic maintenance repairs is quite astronomical.

I think the need is around $75 million to $100 million.

Mr. Stephen Fuhr: Does that include airports across the country? Is there a different need in the north? I know that doing anything in the north takes longer and costs more. Does that include northern communities as well, or is that across the lower 49th?

Mr. Daniel-Robert Gooch: I'll let my colleague speak to the north, but ACAP has under 200 airports that are eligible for that program. There's a minimum requirement in terms of commercial service, and there's also a maximum in terms of passenger counts.

In the context of this discussion, you'll have airports that may have flight schools that are not eligible for ACAP because they have too much commercial traffic. On the lower end, the airports that only have general aviation, which would be many of the hosts of flight schools, are not eligible for ACAP at all. The program is really important to those airports that are eligible, but that eligible group of airports is not everyone, and the money is not quite there to support the demand for those that are eligible today.

Mr. Stephen Fuhr: Increased funding and maybe a revamp of eligibility would probably be warmly welcomed, I would imagine.

Mr. Daniel-Robert Gooch: Both of those certainly would be worth a review.

Now, when we gave you that number of $75 million to $100 million, that was based on the airports that are currently eligible, right? If you start looking at general aviation, that's another matter altogether.

Mr. Stephen Fuhr: Mr. Priestley, I would like you to weigh in on this really quickly, because the north is really important.

Mr. Glenn Priestley: I really like a program called the Medallion program. It's out of Alaska. It was formed after 9/11 when there was no insurance available and they had the highest accident ratio in the world.

It's based on skills development. They provide FAA and industry money together, collaboratively, and remember, it's not simulators—it's flight training devices. What we use doesn't move; a simulator moves.

They put in flight training devices at airports across Alaska. They use something like the ACAP funding, of which, by the way, the north gets about 10%, which is what Mr. Gooch saying correctly. It's about $38 million for the entire country. It's ridiculously low.

I think there's a better opportunity to use that money to work with outfits such as Alkan Air, the number one provider of medevac services for the Yukon, and with other medevac service providers. This is where we can put our medevac pilots in, and this is where we can use funding to have simulators—flight training devices—in airports, so that they can keep themselves current.

That's the Medallion program in Alaska. You get a medallion on your airplane, and if you don't belong to the Medallion program, you don't get government charters and you don't get government business.

I share that with you.

● (0945)

The Chair: Thank you very much.

Thank you to our witnesses for some very valuable information on this study.

We will suspend to switch our witnesses.

● (0945)

(Pause)

● (0950)

The Chair: I'm calling the meeting back to order.

We have with us now Dan Adamus from ALPA Canada, the Air Line Pilots Association, International; Mark Laurence, the national chair of the Canadian Federal Pilots Association; and Suzanne Kearns, associate professor, geography and aviation, University of Waterloo. Welcome to you all.

Mr. Adamus, would you like to start for five minutes, please?

Captain Dan Adamus (President, Canada Board, Air Line Pilots Association International): Certainly. Thank you, Madam Chair.

Good morning, everyone.

Thank you for the opportunity to appear today. I am Dan Adamus. I'm the ALPA Canada president for the Air Line Pilots Association, International, and I've been a commercial pilot for 35 years.

ALPA represents 61,000 professional pilots in Canada and the United States. I appreciate the opportunity to provide comment for the committee's study of the challenges facing flight schools in Canada.

ALPA is the largest non-governmental aviation safety and security organization in the world. In Canada, ALPA represents 5,500 pilots who fly for 12 airlines. Our pilots fly aircraft that carry both passengers and cargo.

I would like to offer you some insight today from the perspective of a professional pilot and as someone who has first-hand experience in a profession and industry that has changed considerably in the last number of decades, especially since deregulation of the airline industry in the late 1980s.

Since deregulation, pilot salaries have declined, and that is the primary reason we are now facing a pilot shortage. Make no mistake about it: this is Economics 101. If you pay them, they will come.

Being a pilot was once considered a lucrative job, but that has fallen by the wayside. Today, Canadian pilots, on average, are lagging behind their U.S. counterparts in pay by at least 20%. In addition, foreign carriers are attracting Canadian pilots with generous compensation packages. We estimate that well over 1,000 Canadian pilots are overseas flying with foreign airlines.

Furthermore, becoming a commercial pilot no longer has the same appeal that it had in the 1970s and 1980s, and we therefore need to start thinking outside the box. Recruiting young aviators is important, but equally important is ensuring a steady supply of flight instructors, as you have heard from other presenters.

Being a flight instructor is considered an entry-level job. As such, there is little incentive to remain teaching any longer than necessary, thus creating an issue for flight schools and, moreover, the industry.

Why is this? It's tied to the way pilots are paid: the bigger the plane, the bigger the pay. Seniority dictates who gets to fly the bigger airplanes, and seniority is not transferable among airlines.

For these reasons, flight instructors choose to leave at the first opportunity, to establish their position on a seniority list to progress to the larger aircraft.

To entice flight instructors to stay longer, we would suggest that the aviation industry align itself with other industries and recognize years of service and experience for pay purposes. Doing this would mean that flight instructor time would count toward their pay level if or when they decide to go to the airlines. This could also work in reverse, whereby a pilot late in their career may wish to finish their last few years as a flight instructor.

While I recognize this is a significant departure from the current practice and would require all stakeholders to buy in, it would help create a more stable and predictable career path for pilots and maintain Canada as a world leader in aviation.

Thank you, and I look forward to your questions.

● (0955)

The Chair: Thank you very much.

Go ahead, Mr. Laurence.

Mr. Mark Laurence (National Chair, Canadian Federal Pilots Association): Good morning, Madam Chair and committee members. Thank you very much for the invitation to appear.

The pilot shortage, as we've heard, affects flight schools and the industry as a whole. It also even affects Transport Canada, as it has difficulties attracting pilots to become inspectors.

When someone considers a career in aviation, they have to look at the investment of time and money to become qualified and then at what the return on that investment is going to be. Simply put, an investment in aviation is seen as a risky investment. There are other careers to chose from that may require a similar investment, but the return on that investment is much more certain.

I would say the pinnacle of the industry would be to become a captain flying the largest airplane at the biggest airline, and of course making the most money. For a person entering the industry, the chances of getting to that pinnacle of the industry are virtually nil. A very small percentage of people get there.

You have to look at what the next best-case scenario would be for someone joining the industry. That would be flying at a major airline, but that also comes with some downsides, which are significant. The first one is that your career hinges on your medical condition. If you get sick or have a problem, then you're done, and you have to find a new career.

The other parts are more lifestyle-related. As Captain Adamus mentioned, your schedule is based on seniority. If you do have seniority, you get to bid on the work you'd like and the time off you'd like. If you do not have seniority, you don't; you get the leftovers from the schedule. That adds to the challenge of planning your life outside of your work.

I'm not talking about safety here, but the hours of work are long and include early starts, late nights, flying through the night and crossing multiple time zones. It's not a healthy lifestyle. It's challenging enough to exercise regularly, eat well on the road and get the good sleep you need. Throwing in multiple nights away from home adds to the challenge of your life at home. When you're single and young, it doesn't matter, because you don't have the commitments and that's a little bit easier to take, but as you become older and start a family, those responsibilities make that even more difficult.

As we heard, starting out in the industry and getting training can cost a lot of money, up to $100,000. Your first job is either as a flight instructor or at a small airline to build hours and get experience so you can get that next job. One of my members laughed at me when I said the starting salary of a flight instructor is something near minimum wage, which is $30,000 a year. He didn't think it was that much, from his experience.

You're not working a 40-hour workweek in these starting jobs. You're paid by the hours you fly, generally, and the regulations allow you to work up to 72 hours a week, or up to 98, depending on which subpart you're working in. Again, putting safety aside, working those sorts of hours doesn't leave any time for life other than working and sleeping.

When you start out in the business, you're very vulnerable. You can't complain about anything with your employer. Financially you're vulnerable, as you need this job to pay the bills you've incurred. Your career is vulnerable, because you need to build these hours so you can carry on with your career. Your lack of experience makes you vulnerable to pressures to fly when you probably really shouldn't fly. Without that experience and confidence, you may not be able to say no and may not realize exactly how dangerous what you're being asked to do is.

Once you've accumulated that experience after a couple of years, you move up to your next job, the bigger airplane. It's not necessarily a step up in pay. You'll be going in at the bottom of that company's pay structure, so again, you may be going down to go up.

Then there's the traditional instability of the industry. Air operators come and go. When an air operator goes out of business and you've been there a few years, whatever seniority you've built up is gone, and when you go to the next operator, you're at the bottom of the list again.

There are some significant downsides to having a career as a pilot. There are upsides as well, but it seems that young people are weighing their options and choosing different careers that offer a similar economic reward but a better lifestyle. A couple of members of my association, who have a lot more experience in the industry than I do, summed it up like this to me: “The kids are smarter now than we were.”

Thank you very much for the invitation. I'm happy to answer any questions.

● (1000)

The Chair: Thank you.

Ms. Kearns is next.

Professor Suzanne Kearns (Associate Professor, University of Waterloo, Geography and Aviation, As an Individual): Thank you, Madam Chair.

I'd like to sincerely thank the committee members for the opportunity to speak to you all today and for your efforts on this important issue. Canada's air transport sector is vital to our economy and way of life, and yet the projected doubling of aircraft and flights internationally by 2036 creates a variety of both opportunities and challenges that can threaten to make the sector unsustainable.

Today I'll briefly introduce my background, and as my colleagues have stated much of the important background information already, I'll limit my comments to five key recommendations, which are outlined in more detail in the brief I've provided.

As a teenager, I was proud to be a Canadian air cadet in a program that provides free aviation education and flight training scholarships. The cadets program has provided a pathway for many young Canadians into aviation careers and is an important program for you to consider in your review.

I went on to earn my commercial pilot licence and multi-engine instrument ratings in both airplanes and helicopters, a college diploma in helicopter piloting, and my bachelor's and master's degrees in aviation disciplines. I then began working full time as an aviation university professor at the age of 24 and completed my Ph. D. while I was working full time. My Ph.D. is in education.

As an aviation professor, I teach undergraduate and graduate students in academic aviation topics, meaning not how to fly a plane but things like international aviation, safety management and aviation sustainability.

I conduct research. I've written four aviation books, including a book on competency-based education, and I hold leadership roles in several international aviation associations, primarily on issues associated with outreach and education.

My first recommendation is access to student loans for flight training costs.

Student loans do not cover flight expenses in most provinces. In a 2017 survey, aviation students reported that finances were the single most difficult part of pilot training programs, more than any of the knowledge or skill requirements. I know of many troubling stories: families mortgaging their home to support their child's education, students working full-time overnight shifts and sleeping in their cars to earn and save money, students dropping out only months before completion because they simply ran out of funds. In my opinion, affordable student loans for pilots would have the single greatest impact on the pilot supply issue.

My second recommendation is loan forgiveness for time served as a flight instructor or in northern and remote communities.

My colleagues have outlined the background of this issue, but if student pilots and northern communities cannot shoulder the expense of increasing the salaries for these positions, a loan forgiveness program could incentivize these professions without making them prohibitively expensive.

My third recommendation is that as only five to seven per cent of pilots are women and there is very little ethnic diversity in the field, pathways and incentives to support women and minorities in aviation careers would be very helpful. As a point of reference, the International Civil Aviation Organization held a global gender summit in August of this year, with a goal of reaching a fifty-fifty gender ratio in aviation by the year 2030. Equalizing the gender imbalance would have an immediate effect at ameliorating the supply issues.

My fourth recommendation is holistic and STEM-connected aviation education, beginning at the primary and secondary school levels.

Pilots are only one of several critical aviation professional groups that are experiencing a shortage. Maintenance professionals, air traffic controllers, airport managers, flight attendants and many others are in very high demand. I am the vice-chair of ICAO's Next Generation of Aviation Professionals program, which seeks to attract, educate and retain young professionals within aviation careers. We emphasize a holistic approach, meaning that we consider the entire range of professional groups that are experiencing shortages, rather than a profession-specific approach that looks at only pilots.

My final recommendation is exploration of competency-based training methodologies, which can improve the efficiency of *ab initio* or early pilot training, and regulatory credit for hours conducted in a flight simulation device toward the licensing criteria.

I just want to emphasize that the balance of resources within aviation has historically always been tipped toward the end of the pilot career pipeline. We haven't put the time, emphasis and research into investigating the challenges at the beginning of the pipeline.

Although meeting the needs of today is a challenge, it's also important to recognize that Canada has an opportunity to capitalize on the growth of the aviation sector and position itself as an international leader in this field. Canada is home to universities, manufacturers, operators and training organizations that are among the best in the world. Uniting these strengths under a national aviation innovation strategy could cement our standing as a country of chief importance in global aviation.

Thank you.

● (1005)

The Chair: Thank you very much, and congratulations, by the way, for your successes already. Who knows where that's going to take you?

We'll go on to Mr. Liepert.

Mr. Ron Liepert (Calgary Signal Hill, CPC): Gentlemen, when I heard your presentation this morning, I could only conclude that this sounds like the worst job in the world, the way you described it. If that's how the association sells itself, it's no wonder you have a shortage of pilots. I didn't hear one real recommendation, other than a bunch of complaints about how bad it is in industry.

What are you suggesting? Are you suggesting the government get back into the airline business? We already have some of the highest air fares for consumers in the country, and taxes all across the board that consumers have to pay. What's your suggestion as to solving this problem?

Capt Dan Adamus: I'll start off.

As somebody who represents the pilots you're talking about, there are some good days. I would submit to you that there's no better office in the world than the flight deck of an aircraft, but that's once you're up in the air and you're going. It's all the other stuff, and Mark outlined a good chunk of it. I didn't get into that; I knew that other witnesses were going to talk about it.

However, there are some challenges. It is not the profession that the general public likes to think it is, this glamorous job where you're making all kinds of money and laying over for 24 hours in an exotic city. That is not the case. It may have been in the seventies, but it's not like that anymore.

When young people are looking at a career choice, they look at the whole picture—the compensation package, the hours of work. When they compare it to other jobs out there, no longer is the pilot profession up there. It's down here, like everything else.

What I was submitting as an industry—and perhaps the government could help point the industry in this direction—is to change our pay models. The pay model we have right now is based on a seniority system, and Mark outlined this as well. If your company happens to go out of business and you have to start all over again and you have 20 years in the business, you're going back to year-one pay. There's no other industry that does that.

There's no predictability in our industry. There's no stability. We liken parents spending $100,000 for their child to take flight training as buying a $100,000 lottery ticket. They have no idea if there's going to be a return on the investment.

These are some of the things we wanted to outline to make sure that everybody is fully aware that this industry, the pilot profession, is not what it used to be.

Mr. Ron Liepert: You're suggesting that the government get in the middle of it and start putting regulations in place.

I think, for the consumers, deregulation has probably worked better than having a regulated industry, so what would be the outcome for consumers if the government did what you're suggesting?

Capt Dan Adamus: I'm not asking the government to re-regulate the industry, not even maybe. I agree that deregulation is best for consumers. What I'm asking is that the government may want to encourage all the parties in the industry—all the stakeholders—to get together to see if there's a different model.

As I mentioned, salaries in Canada compared to the United States are lagging by at least 20%, and 30% to 40% in some cases. The airline industry in the United States is as robust now as it has ever been, with record profits.

Mr. Ron Liepert: Well, okay, there are probably other reasons for that as well. One of the reasons that's always been stated is that in the United States you have 10 times the population. This is an expensive country to cover with airlines.

I don't want to sound like I'm defending the airlines; I want to make sure that anything we're considering is not going to significantly impact the consumer. As I say, today, with the combination of our taxes on fuel, the pending carbon tax and what seems to be increasing fees on an annual basis for airport authorities, I'm not sure how you can do some of the things you're suggesting and still maintain a system that doesn't have consumers paying exorbitant amounts to fly across this country.

● (1010)

Mr. Mark Laurence: I don't think I have an answer for you. However, I remember that in 1983 I went up to the military's aircrew selection in Toronto from Nova Scotia, and my ticket was either a $500 ticket or an $800 ticket on Air Canada. That was 35 years ago, and you can do it for less now.

I have a hard time with how that's possible. Things get more expensive as time goes by in general.

Mr. Ron Liepert: Okay.

The Chair: We'll go on to Mr. Fuhr.

Mr. Stephen Fuhr: Thank you all for coming.

I realize you have a limited amount of time and we're here to talk about the problems, but I think we all appreciate that being in aviation is a fantastic career. I certainly enjoyed my time in aviation.

I want to spend some time talking to Dr. Kearns about her experience in competency-based training. Other than reducing some of the barriers to entry, once we get them in there, we need to train them more efficiently—which probably would translate into things going a little more quickly—and utilize all the tools at our disposal to produce a more competent product at the end of the training cycle.

Could you drill into this a little more and maybe talk about where we are now with CPL and PPL and what you think we could do better in terms of competency-based training?

Prof. Suzanne Kearns: I think what's important to understand from a foundational perspective is that our licensing and training models are based on probably the World War II era's understanding of educational theory and methodology. It's very much an hours-based approach. It's sometimes also called a “prescriptive” approach, meaning that the regulator makes a list and says that you need to spend 50 hours doing this, and then 15 hours doing this type of flying....

The challenge, now that we've learned more about adult education and also just training in general, is that sometimes students will have mastered something and then are forced to do it for 10 hours more because the regulation requires them to—so there's this inefficiency built into the system—whereas if we could have instruction that's more tailored to that individual's needs, they could say, “Okay, I've already become competent in this skill set and now I can apply those hours to something that I'm actually weak in and need that time in.”

I believe it was in 2009 that a panel was formed as the international Flight Crew Licensing and Training Panel. They started looking at this issue because they recognized that on a global scale, our global capacity to produce pilots was not going to be able to meet our global need for pilots. We can project that many years in advance, because airlines are placing orders for the airlines of the future, so we have a way of projecting how many pilots we're going to need.

Simply, we do not have the global capacity to do that, so they wanted to look at innovative ways, including competency-based training. We did not create it in aviation. It's very popular in the medical profession. There's quite a wide body of research to look at.

What it means, basically, is that we look at a professional pilot and we write down the knowledge, the skills and the attitude they need to do their job. This creates competency statements that are formed into profession-specific frameworks. ICAO has these competency frameworks through all the major aviation professions.

Competency-based training uses those competency statements to determine when a student is finished training. Instead of someone being done when they've reached 50 hours, they're done when they can actually competently demonstrate the knowledge, the skills and the attitude.

Again, shifting the focus away from hours and towards actual competence allows for a variety of advantages: more efficient training and a smaller footprint, and training that's much more targeted towards the actual skill set of the job. Historically, someone would say that you've finished your classroom training, but when you start your job, some senior guy walks down and says, “Hey, now forget everything you've learned in training, because I'm going to teach you how it's really done.” Well, that is a bad system. We should be able to align the training with the actual real-world needs that people require.

That competency framework created the multi-crew pilot licence, which is a licensing framework that's very popular in the Asia-Pacific region. That allows pilots to be trained from nothing to become a first officer in 18 months. There's a very heavy use of flight simulation devices. They teach them from day one to be an airline pilot.

Mr. Stephen Fuhr: Thanks for that.

I've done a wide variety of training as a student and as an instructor. At what point, though, can you wind that back in the training process? Flying is very dynamic, and you're not always going to be exposed to everything that you'll ever see, even if it's in the training syllabus—or not.

What portion of the very early stages of training could we apply that to? I see it being used widely in advanced stages of flying training, because you'll have all basics under your belt. How far back could we wind that into the early stages?

● (1015)

Prof. Suzanne Kearns: The multi-group pilot licence program provides evidence that this can apply to the very earliest stages of training with no previous aviation experience. What it looks like is that we have a heavier use of flight simulation technologies to create very mission-specific training right from the very beginning.

From day one, instead of a memorization-based piece, you tell the students to prepare. They read the books ahead of time. Then, when they're there, they're in the simulator and working through very simple simulations that are very mission-specific. It's always targeted to a real-world objective. It builds up in complexity from that point forward.

Fundamentally, if you look at ground school right now, we teach them air law and then navigation and then general knowledge. They're very segregated. The research suggests that the reason we teach it that way is that it's easier to teach it that way. All the research suggests that the more segregated the content is, the longer it takes those learners to go into the real world and put that back together again.

There are all of these inefficiencies that we can tighten up to create a shorter training footprint. As well, students tend to like it a lot more.

Mr. Stephen Fuhr: Do you have any idea of how much shorter that training footprint would be in the earlier stages of, say, PPL or CPL?

Prof. Suzanne Kearns: I can only put it in the context of the model that's been proven in other parts of the world with the multi-crew pilot licence: going from no aviation experience to being a first officer in 18 months. I don't think a multi-crew pilot licence would apply here in Canada, but I think we can learn a lot of those lessons and apply them within our licensing structure to make it less focused on hours and more focused on the development of competencies.

The Chair: Mr. Aubin is next.

[*Translation*]

Mr. Robert Aubin (Trois-Rivières, NDP): Thank you, Madam Chair.

I want to thank the witnesses for joining us this morning.

I'll direct my questions to specific people, but the other witnesses should feel free to respond as well.

Mr. Adamus, I'll start with you.

In your opening remarks, you said that if salaries were better, there would likely be more pilots. You said that salaries have decreased by about 20% since deregulation. Assuming that salaries are restored to their pre-deregulation levels, would recruiting pilots in Canada still be an issue, given our flying time regulations, which are quite different from the regulations in the United States, for example?

[*English*]

Capt Dan Adamus: To put that on the table, I'll start by saying we're 20% behind what's currently paid on average to pilots in the United States. It's not since deregulation.

When a young person is looking at a career, there's no doubt money is a big part of that. If we were to increase the salaries, there is no doubt in my mind that a lot more young people would look into this industry. They would be able to look beyond some of the challenges that Mark has mentioned, which are all very valid, and they would be able to justify it. They'd be making this amount of money, so they can bite the bullet a little more. I think salaries play a big part in this.

[*Translation*]

Mr. Robert Aubin: I understand your comments, but in a labour shortage situation, the student pilots or the pilots who are looking for a job still have the upper hand in the negotiations. They probably have a number of job offers.

For the same pay, do the conditions for pilots in Canada drive pilots to work for foreign competitors?

Ms. Kearns, go ahead.

[*English*]

Prof. Suzanne Kearns: To reinforce it, Canada has an excellent infrastructure for flight education. Many countries do not. The Asia-Pacific region's growth in aviation is projected to be twice ours in North America over the next 20 years, yet many countries in that region of the world don't have the flight training capacity. We're seeing them offer three times the salaries of what we're paying our airline pilots here in North America, so we are seeing this movement of Canadian pilots into that part of the world.

As a quick plug, the carrot at the end of a person's career obviously matters, but I want to reinforce to the committee that I am past president of a group called the University Aviation Association. We represent about 150 colleges and universities that have aviation programs. On average, we see about a 50% attrition rate within our programs.

These bright young students love aviation, but they usually do not have the financial resources to complete that education. I think if we could tip or even equal that balance to support the beginning of the pipeline, there would be many advantages to that.

● (1020)

[*Translation*]

Mr. Robert Aubin: I'm probably one of the oldest people at this table. When we started our careers, I and a number of people in my generation were completely dedicated to the company we were working for. We imagined that we would work for the company our entire lives. However, this is no longer the reality for millennials today. While the salary will always be important, it may not be their main criterion. They consider quality of life and work-life balance to be very important.

Has the industry managed to adapt the working conditions to the desires of millennials?

[*English*]

Capt Dan Adamus: No, they haven't. I totally agree with you. I'm 56 years old and I'm in my 34th year with my airline. We probably won't see new aviators today being with the same airline for 34 years. They want choice and they want to be able to move around. That's why one of the things I was suggesting is that pay be based on experience and time: It's so you can move around without having to start all over again.

I know that Porter Airlines has done a very good job in constructing their pairings, the group of flights the pilots take on each day or couple of days. A lot of them will have overnights or just one-day pairings; females enjoy flying Porter so they can be home each night.

[*Translation*]

Mr. Robert Aubin: Mr. Adamus, I come from the education sector, where are all teachers are paid according to their education and experience. On paper, the system seems wonderful. However, if I lose my job at the age of 58 after gaining 25 years of experience, no other school will want to hire me specifically as a result of my education and experience. I would ask for too high a salary in comparison with a young person who has left school and who is starting at the bottom.

There's no magic solution in the current system or in the one that you're proposing. Could we find some middle ground?

Ms. Kearns, you seem to have a solution.

[*English*]

Prof. Suzanne Kearns: I think it's important to reinforce that there are more planes and pilots in general aviation in Canada than in the airline sector. General aviation includes remote operations and smaller operators. There's actually a larger group of pilots in that sector than in the airlines. A lot of those sectors, including flight instruction, have a lot more capacity to meet lifestyle needs of people who have small families or different things.

I think a challenge is that all pilots want to fly bigger and better. They all desire to work for airlines, and so the challenge is to make those other roles attractive. Also, I think it means reinforcing the idea that it's not just pilots. As with my career, there are many non-traditional aviation careers that allow you to still function in the industry that you're passionate about, and you can be removed from flying for certain phases of your life.

The Chair: Thank you very much.

I'm sorry, Mr. Aubin. We go on to Mr. Graham.

Mr. David de Burgh Graham (Laurentides—Labelle, Lib.): Thank you, Chair.

When I started flying, my instructor warned me about something called AIDS, aviation-induced divorce syndrome. It's funny to say that, because I started flying just after getting married and I got my licence just before getting divorced, so he was absolutely correct about that.

In 2015 there was an incident you're all familiar with, the Germanwings crash. A pilot had about seven years of training and was about to lose his medical certificate and therefore his career. What can we do to mitigate the risks for young pilots, young students? Do you have thoughts on that?

That's for everybody.

Mr. Mark Laurence: I don't know if you can deal with that Germanwings situation, really, but just in general, if it were easier for a person to pay for their training, if there were a tax break or something like that to help you get through that early stage, that would probably be of some benefit.

Capt Dan Adamus: Although I'm not 100% sure, I'm very confident that the Germanwings incident would not have happened in Canada, because there's an obligation on the medical examiner in Canada to report such an individual to Transport Canada. That was not the case over in Europe. I do believe that it's quite different.

Also, our pilots' association has a pilot assistance program. It's a very robust program that allows any pilot who has any concern with what's going on in their life, whether there are mental health issues, whether there are marital problems, whether there are financial or substance abuse issues. The program allows the individual to come forward in confidence to discuss the issue. If it's deemed to be something that would affect their medical, they are taken offline, but they are given the medical help that's needed. We have an almost 90% success rate in getting these pilots back to work after they go through their treatment.

As I said, we have a very robust program that does address that very issue.

● (1025)

Mr. David de Burgh Graham: Ms. Kearns, would you like to comment?

Prof. Suzanne Kearns: There's a wide body of research on aviation mental health. Basically, they'll give surveys to pilots in the general population with questions like “Do I sometimes experience stress?” or “Do I sometimes have anxiety?” Those findings suggest that within the pilot population, there's a tendency to deny any mental health issues.

I think that it stems back to the very earliest days of flight training, when pilots knew that if they lost their medical certificates, they would lose their careers. That made it much more difficult for them to seek help or even acknowledge that weakness.

I think there's a lot to be done to support mental health issues among the aviation population, and pilots specifically, to avoid those kinds of issues in total.

Mr. David de Burgh Graham: I appreciate that, except that I tend not to be stressed by anything because when I was learning to fly, they taught me how to keep everybody calm in the face of certain death. It's a good way of grounding yourself, as it were.

When Air Canada absorbed Canadian Airlines, how did the seniority transfer?

Capt Dan Adamus: That was done through an independent arbitrator, and I was not involved in that dealing.

Mr. David de Burgh Graham: It's a good illustration of the lack of crossover of experience from one airline to another, because as I recall, a Canadian Airlines pilot with 25 years of experience got something like three years of credit at Air Canada.

Do you have a view about that? It was long ago.

Mr. Mark Laurence: I just heard anecdotally that it wasn't a very pleasant experience. I think most of the CP guys have retired by now, so it's probably dealt with.

Mr. David de Burgh Graham: That's fair.

How do modern airline pilots feel about having younger pilots in the cockpit jump seats? We were talking about this in the previous panel. I have my PPL. I'm close to my CPL, but I don't have it. I would love to go in the cockpit when I'm flying, to get that experience and see what it's like and feel the experience that way, but since 9/11 we obviously can't do that.

How do pilots themselves feel about that?

Capt Dan Adamus: I think that's what got me interested in flying. I was always amazed at these planes in the sky, and I was able to get up front during a flight one day. In the early part of my career, we were always encouraged to bring passengers up front, for obvious reasons, and with 9/11, we all know what happened.

Our association has been lobbying Transport Canada to see if there's a way that we could have a captain approve others who have been properly vetted to enter our flight deck. For example, all of you have security background checks by virtue of your job as members of Parliament—

Mr. David de Burgh Graham: You'd be surprised at how little we have.

Capt Dan Adamus: —and a NEXUS cardholder has a security background check as well. These are some of the things that we've suggested to Transport Canada that perhaps we could look at in the future to allow more people back in the flight decks.

Mr. David de Burgh Graham: If we compare aviation to something like being a pharmacist, how does the upfront cost versus the income afterward compare? Do you have a way of quantifying that?

Prof. Suzanne Kearns: I don't have exact numbers, but in general, it's one of those things that's very heavily weighted towards the end of your career.

When I have been speaking to parents and their students who have really high averages, they'll legitimately ask me, “Why would I become a pilot when I have to invest an extra $75,000 to $100,000 above my university tuition when I have the grades to become an aerospace engineer and make six figures as soon as I graduate?” That's a really hard question to answer.

I think we need to be really strategic in making it a viable pathway for people to get into the profession.

The Chair: Go ahead, Mr. Iacono.

[*Translation*]

Mr. Angelo Iacono (Alfred-Pellan, Lib.): Thank you, Madam Chair.

Mr. Laurence, flight simulators are an important part of training for student pilots. Given the recent technological advances, we can expect better quality simulators to ensure a realistic flight experience.

How can the use of flight simulators address the shortage of instructors in flight schools? In addition, how would the increased use of flight simulators affect the quality of the training?

[*English*]

Mr. Mark Laurence: That's a good question.

I'm not an expert in flight schools. If you're talking about a full flight simulator, that's a $20-million thing, so that's out of reach of most flight schools. I'm not sure how much flight training devices cost. They certainly are good for doing procedural work, learning how to fly on instruments and that sort of thing, so there's a great value there.

I'm not really sure.

● (1030)

Mr. Angelo Iacono: Does anybody else have a guess?

Prof. Suzanne Kearns: Full flight simulators used by airlines are extremely expensive and out of reach for most flight schools, but there are lower-fidelity devices at around half a million dollars that provide enough fidelity for training purposes.

From a research perspective, we talk about cognitive fidelity being what matters, meaning that if it replicates the internal mental processes in training, that can often be more important than the actual physical fidelity of the simulator itself. These less expensive devices can be very effective in training. They also reduce noise and they allow students to fly in bad weather, which is a tremendous challenge here in Canada. It's more of a year-round training footprint. Noise emissions....

There are a lot of advantages for simulations.

[*Translation*]

Mr. Angelo Iacono: Okay.

Ms. Kearns, my next question is for you.

As a result of technological advances, students have the opportunity to take their courses online. In France, for example, students in flight schools can take part of their academic courses online.

What are the advantages and disadvantages of online training? How does online training affect the quality of the training?

[*English*]

Prof. Suzanne Kearns: My Ph.D. is in education, but specifically in structural design for online learning, so it's one of my research specialty areas. Last year I developed a course through the University of Waterloo partnering with ICAO. It's called "fundamentals of the air transport system", and it's a completely free course that introduces all the different sectors of aviation. It has now been completed by students in every global region—not just pilots, but all the professionals.

In looking at the history of e-learning and aviation, what became very clear was that early on they recognized that it was a lot cheaper. A lot of aviation companies were very quick to adopt that training without really understanding if it was effective in accomplishing the learning objectives that it should have. We saw the development of many, many ineffective e-learning courses, and it took quite a long time for the learning science to catch up and create principles of what works and what doesn't.

Today, even as we're talking about all the integrations of technology, I really want to emphasize that in general, the least expensive technology that accomplishes the learning objective is what we should do. It's what we call a task-to-tool framework: we figure out what the problem is and we find a tool that solves that problem. That's in contrast to what I think we've had a history of doing in aviation, which is going for the bright and shiny tool. We call that a tool to task: we find really cool technology and ask how we can apply it to aviation, and it's not really directly addressing a need.

I think there's also a lot of opportunity for e-learning for outreach purposes. I feel that elementary and secondary schools putting out aviation curriculums that are linked to STEM disciplines would have tremendous advantages. It has been shown that e-learning can be quite effective in *ab initio* and professional training as well, as long as it's implemented strategically.

Mr. Angelo Iacono: Therefore, you conclude that e-learning would be a solution for pilot shortage.

Prof. Suzanne Kearns: I think there are a lot of advantages and potential.

Mr. Angelo Iacono: Sure.

Capt Dan Adamus: Pilots have to do recurrent ground school once a year. It's a refresher on the systems on the aircraft—the electrical system, for example. Today it's all done by e-learning. I learn a lot more doing it that way than by sitting in a classroom.

Mr. Angelo Iacono: Thank you.

Madam Chair, I will give the rest of my time to Mr. Sikand.

The Chair: You have a minute and a half.

Mr. Gagan Sikand (Mississauga—Streetsville, Lib.): This is for anyone. Along those lines, I'm thinking about the trucking industry. They have a shortage of truckers, but you see the technology of autonomous trucking growing quite quickly. It is a commercial use, so I'm not talking about autonomous vehicles and everyday driving.

In the airline industry, I hear planes pretty much can fly themselves for most of the flight. Do you see an opportunity there for fewer pilots and more autonomous flight navigation?

Prof. Suzanne Kearns: “Not in the near future” is the short answer. Remotely piloted aircraft systems have their entire regulatory structure. That's the term the International Civil Aviation Organization uses for drones; they're remotely piloted. Autonomous aircraft are a piece of that.

In the case of things like Uber Air, some of the new technologies that use autonomous systems and some remotely piloted systems have a command and control link to a remote pilot station so that pilots could jump in if they need to, but all of that remotely piloted technology represents a destructive influence on traditional aviation, which we're still trying to manage and figure out.

International standards are not yet associated with remotely piloted aircraft systems. It's an emerging issue that probably will change things in the future.

● (1035)

Mr. Gagan Sikand: Mr. Adamus, I need just a yes or no. Could we not have a ubiquitous pay scale for pilots for the entire globe, given the nature of the work?

Capt Dan Adamus: I think we should start with Canada first.

The Chair: We should show some leadership.

We'll go on to Mrs. Block.

Mrs. Kelly Block (Carlton Trail—Eagle Creek, CPC): Thank you very much, Madam Chair. I'm hoping to share my time with my colleague Mr. Jeneroux.

I will perhaps piggyback on that last question from my colleague across the way. First, though, thank you so much for joining us today. I certainly appreciated not only your testimony but the testimony we heard from the previous panel and all the recommendations. I'm sure we're going to take the time to look through them very carefully.

I also appreciate that identifying and understanding the challenges facing an industry can, if the participants are willing, lead to turning them into opportunities and finding solutions. I think that's what we're trying to do.

Given the uncertainty that was highlighted through your testimony and the lack of predictability that results from the current salary model you were talking about, and also given the number of associations and stakeholders within your industry, my question is twofold.

Does it really require the government to take a lead role in the conversation towards a different salary model? What role would the unions play in that conversation?

Capt Dan Adamus: There has been some discussion with industry stakeholders on what I've talked about, but just this much. I think if we truly want to find some permanent solutions, somebody is going to have to give the industry stakeholders a nudge. I think the government has a role there.

Ms. Kearns mentioned earlier that perhaps this country needs an aviation strategy. Part of it could be for the industry to look at different pay models.

It's not going to be an easy task, and I'm the first to admit it, but we're certainly willing to do our part, because we want a made-in-Canada solution. The last thing we want as pilots is to say we don't have enough pilots, so open our borders and let other foreign pilots come in. I'm willing to do whatever it takes to get to that point.

Mrs. Kelly Block: Thank you.

The Chair: Go ahead, Mr. Jeneroux.

Mr. Matt Jeneroux: Thank you.

I'm curious if that perhaps could fall into the aerospace strategy that has long been awaited and long promised by the innovation minister. I think it was in June 2016 that he said he would table it, and we're still waiting for it.

However, I want to clarify something you said earlier with regard to somebody who has 20 years' experience coming into the industry essentially being paid the same as somebody who's brand new to the industry.

Help reconcile with me why that is. If you're an airline, are you jumping at these people who have 20 years' experience, versus the new grads, if you will? I would think that if you have 20 years' experience, you're a lot more attractive to an airline than if you're a new grad.

You said that, Mr. Adamus, and it still confuses me as to why that's the case.

Capt Dan Adamus: That is the exact issue that I was trying to bring up here. I'll give you a real-life example.

About four years ago, Kelowna Flightcraft had the Canada Post-Purolator contract. They'd had it for 20-some years. It was up for renewal. They lost it to Cargojet. At the time, Kelowna Flightcraft had approximately 150 pilots. Since they lost the contract, they had to lay off about 120 pilots. You had about 120 pilots out on the street looking for jobs.

Each individual airline has their own seniority list. It's not transferable. Those 120 pilots had to look for another job. Wherever they went, they were starting at year one. There's something fundamentally wrong with that.

Mr. Matt Jeneroux: Why would they start at year one? Who is paying them as year one? Is it the airline that has made that decision to pay them at year one, or is it through the association...?

● (1040)

Capt Dan Adamus: It's a combination, but they go in as a new hire and in an entry-level job, which is as a first officer on probably the smallest aircraft.

Mr. Matt Jeneroux: Can they appeal that?

Capt Dan Adamus: No. It's based on seniority, and they're the lowest on the seniority list.

Mr. Matt Jeneroux: Okay.

Prof. Suzanne Kearns: Just very quickly, this is a very airline-specific issue. Corporate and business aviation is entirely different. As well, general aviation is outside of the airline sector. They do not typically work on the same seniority list issue. This is specifically for airlines.

Mr. Matt Jeneroux: Okay.

The Chair: Mr. Badawey is next.

Mr. Vance Badawey: Thank you, Madam Chair.

We've heard not only here in this committee but in many committees that we're running into a human resources crisis in many different sectors. Mentioned earlier were the trucking industry, the marine industry, physicians, pilots and the trades.

My first question is with respect to your industry working with others to come up with any holistic solutions to the HR crisis.

Prof. Suzanne Kearns: I don't know that working with other industries outside aviation.... I don't know that we do that, typically, but I would suggest that within aviation there's such a diversity of types of jobs. We have everything from hospitality, which are flight attendant jobs, to maintenance engineers, which is very much a trade, all the way through to pilots, which of course is a professional skill that takes years to develop, and then everything in between.

Of course we need pilots, but I like to think of pilots as job facilitators. For every pilot we have.... I think Air Canada has maybe 3,500 pilots, but think of the tens of thousands of jobs that are linked to those pilot roles in having those aircraft in transport.

I don't know that we do cross-disciplinary recruitment and outreach the way we could, but I would suggest that there's a tremendous amount of diversity within aviation.

Mr. Vance Badawey: Before I pass my time over to Mr. Graham, I would suggest as a takeaway that the industry in fact look at working with other industries. I'll give you an example.

Look at the marine sector as an example, where we have the same challenge with engineers who work in the engine rooms. When we look at captains of ships and pilots of airplanes—and the list goes on—we see there is a connection with respect to the broader issue in relation to human resources and the solutions that would attach to same, which may be consistent across the board.

It makes it easier for government, therefore, to put programs in place to fund when those issues are consistent under those very programs. Yes, there might be anomalies with respect to the specifics of the industry, but those can be fleshed out in that collaboration and therefore addressed, hopefully, within a broader program, versus cookie-cuttering or siloing different programs to individual sectors. I would encourage this to happen so that we're therefore able to put incentives in place.

We're able to also match capital investments with those interests, whether that be with municipalities, regions, provinces or sectors.

Third, there are mechanisms that we can put in place to become an enabler for recruitment, as well as retention and upgrades for the individuals who are already in the sector.

Last, you can look at coming here to us not just when being called as a witness, but also as an association that is coming to us in a more frequent manner, so that we can actually keep pace in that way with the needs you have.

I'm just putting that forward after listening for the past few hours to a lot of what I've heard, and in terms of a takeaway, that might in fact be available for you.

With that, David, you're all set.

Mr. David de Burgh Graham: I think I have maybe 20 seconds or in that neighbourhood.

The Chair: You have 50 seconds.

Mr. David de Burgh Graham: I'll take 50.

We talked a lot, in the past panel especially, about having experienced pilots pass their knowledge on to new pilots. Just for the record, if I as a 200-hour pilot were in a push to make commercial, and I wanted a 25,000-hour pilot with 30 years' experience to train me, how much more would he cost me per hour than the current class 2 instructor I've got?

Capt Dan Adamus: Currently, you don't have flight instructors with that amount of experience, because they've moved on to larger aircraft. That's sort of the crux of the issue. We're saying that if we could somehow entice those pilots with all that experience to come back to teach, maybe in the latter part of their career, it would be a win-win for everybody, I think. That's one of the things we have to do as an industry as a whole.

The Chair: Thank you.

Thank you very, very much to our witnesses this morning. It was very informative.

Before I adjourn the meeting, we have the budget projections for motion M-177. I need someone to move adoption of the budget that's before you.

● (1045)

Mr. Matt Jeneroux: I have a question.

The Chair: Go right ahead, Mr. Jeneroux.

Mr. Matt Jeneroux: We seem to be flying in a number of people. There's one from Palm Springs for $1,500. There's one from Utopia—which is, I imagine, as I often refer to it, Edmonton Riverbend.

Voices: Oh, oh!

Mr. Matt Jeneroux: You may refer to it as somewhere else.

Did we look into whether there's video conference there? I would imagine there's video conference in a place like Palm Springs.

The Chair: I think so. Maybe they would rather it be done by video conference.

I'll ask the clerk to respond.

The Clerk of the Committee (Ms. Marie-France Lafleur): I do have a lot of people who want to come in person because they believe it's a very important issue and the message is different in video conference.

Also, we budget for them to come here, and then if they do appear by video conference and it's cheaper, at least we have the leeway and the money to—

The Chair: To make the change.

The Clerk: Exactly.

Mr. Matt Jeneroux: Do we suggest this to them? Do we say that video conferencing is an option?

The Clerk: Yes. I offer both.

The Chair: My understanding is that we encourage video conferencing as much as possible.

Mr. Matt Jeneroux: My second question is in terms of how many meetings we're looking at. I understand that four meetings has somehow been decided. Is that what we're thinking?

The Chair: We haven't finalized that, but based on our other studies, we were looking at four meetings being sufficient time. There seems to be a lot of interest in this issue.

Mr. Matt Jeneroux: If I may, Madam Chair, is there a subcommittee to this committee? I'm not privy to it, but it would seem that some of these decisions could be at least streamlined somewhat through a subcommittee meeting prior to coming to this one.

The Chair: Everything has to go back to the committee, though. So far we've managed to work out—

Mr. Matt Jeneroux: I just think we could streamline some of these things if a subcommittee—

The Chair: We don't spend a lot of time on committee business, but we do have a 15-minute block in our next meeting to look at what's outstanding and so on.

Mr. Matt Jeneroux: I would encourage a subcommittee meeting, perhaps, to look at some of these things.

The Chair: Well, we certainly can do that. There's no question about that.

Are there any further questions on the budget?

(Motion agreed to [*See Minutes of Proceedings*]

The Chair: It's approved.

The meeting is adjourned.