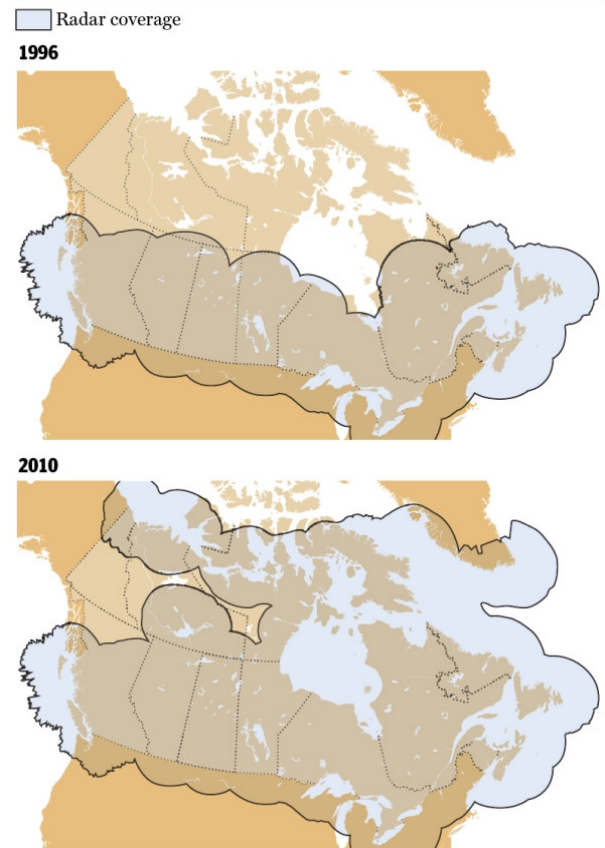


Canada's air navigation system is model for efficient privatization

Nav Canada as beacon



CANADIAN AIR RADAR COVERAGE



SOURCE: NAV CANADA

ANDREW BARR / NATIONAL POST

Nav Canada controllers handle flights at Toronto's Pearson International Airport

By Scott Deveau

When Jon Webster started flying to India for Air Canada 10 years ago, a typical connection between Toronto and New Delhi would cross the southern tip of Greenland, fly over Iceland, the British Isles, the Netherlands, through the Eastern European block and "the Stans" before reaching its final destination.

Not exactly the easiest route.

Since then, Canada has struck an agreement with Russia to allow flights across the Arctic and into each other's airspace. The result has been a 30% increase in Polar flights in the past four years to destinations in India, China and other Asian Pacific destinations.

"What it did was reduce flight times," says Mr. Webster, the Air Canada captain. "The last thing people want to do is spend more time in an airplane than they need to."

But simply being able to plot a course to fly over the Arctic on the way to Asia was not enough. Canada needed a dramatic reinvestment in its navigation infrastructure and technology to more efficiently link this country to the new hub of world economic growth.

Enter Nav Canada. A once troubled government asset, the country's civil air traffic controller was privatized 14 years ago and is now a shining example of how to create a global technology leader out of a hulking government bureaucracy. Nav Canada's efforts have flights moving more efficiently than ever through the skies above the country.

Many of the changes implemented by Nav Canada in recent years have gone unnoticed by the flying public. Certain flights are now shorter than they once were; aircraft no longer circle airports awaiting a runway; descents start further out and planes reach cruising altitudes more quickly; and flights to Asia now spend less time by jaunting over the Arctic than endlessly cruising the Atlantic or Pacific Oceans.

But while many of these changes have escaped the notice of passengers, the results are very tangible.

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Nav Canada estimates its efforts to modernize the aircraft navigation system in the country since it was privatized in 1996 have cut the fuel bill of airlines flying into Canada and above it by an estimated \$1.4-billion collectively, and helped cut 5.4 million tonnes of greenhouse gas emissions.

As its efforts ramp up in the coming years, Nav Canada estimates it will be able to save airlines a further \$2.9-billion on fuel by 2016, and reduce greenhouse gas emissions by an additional eight million tonnes, or roughly the equivalent average annual emissions of a country like Georgia.

Meantime, Nav Canada has won the respect of airlines for keeping its fees steady, and in some cases, like in 2006, even reducing them when it can.

Because of its successes, it has also been able to sell its proprietary technology to countries such as the U.K., Denmark and Australia as they look to modernize their own systems.

John Crichton, Nav Canada chief executive, makes no bones about why he thinks his organization has been able to make these improvements and emerge as a global leader.

"I don't think there's any question that the privatization was the best thing that ever happened," he said. "That really unleashed all the innovation."

Prior to the privatization, any improvements to the air navigation system were subject to the shortfalls of the federal government's budgeting, Mr. Crichton said. "One year you'd have some money and the next year you wouldn't have anything. It wasn't conducive to building a sustainable system."

Post-privatization, however, Nav Canada has been able to focus on expanding its reach, and, in turn, operating the airspace above Canada more efficiently.

Only a 9-million-squarekilometre patch of airspace north of the U.S. border was covered by radar when Nav Canada took over the service in 1996. That didn't mean that aircraft were not allowed to fly anywhere else, it just meant that when they did they were subject to certain rules that made their flying less efficient.

For example, an aircraft flying through an airspace without radar, or some other form of modern surveillance, must fly 80 nautical miles away from any other aircraft for safety reasons. A plane flying through coverage, however, can narrow that gap to just five nautical miles, allowing more aircraft in the vicinity and greater efficiency.

Since it took over the country's navigation system, Nav Canada has embarked on an initiative that aims to cover the entire Canadian airspace with some sort of surveillance, either through striking deals with the Department of National Defence to utilize their Northern Warning Radar systems, or by building so-called Automatic Dependent Surveillance-Broadcast [ADS-B] towers in strategic points, like around Hudson Bay to improve coverage.

ADS-B towers are about a tenth of the cost of radar to install, or roughly \$700,000 a station, but carry similar benefits to radar, allowing air traffic controllers to communicate better with aircraft.

"What we've been doing is, in the areas where there is no surveillance, primarily in the North, we've been adding it in, but using the new technology," Mr. Crichton said.

By the end of 2011, almost all of Canada will be covered either by radar or the ADS-B technology, he said. Those efforts include a partnership with Greenland that goes live early next year that will expand coverage for transatlantic flights between the southern tip of Greenland and the northern part of Labrador.

Greater coverage will allow Nav Canada to better orchestrate the thousands of aircraft it guides each day, optimizing their flight paths and altitudes along the way as well.

"If you can shave two or three minutes off an approach, and you consider that we handle 5,000 or 6,000 movements a day in terms of jet traffic, two or three minutes starts to add up day after day after day," Mr. Crichton said.

Air Canada's pilots are certainly noticing the changes, Mr. Webster said.

He said the country's largest carrier recently had one of its routes straightened between Cleveland, Ohio, and Toronto. It reduced the travel time by 15 minutes, allowing it to increase the number of connections between the cities by 75 a week.

"If you can reduce your flying time, you can also increase your connection times, which means you're now in a position to make those routes more viable," he said.

Aircraft also burn less fuel at higher altitudes, and the modernized system also allows Nav Canada to help aircraft reach their ultimate cruising altitude more quickly and essentially idle their engines on their approach at the right times to allow them to cruise into their final destinations using less fuel.

The country's air navigation system received \$100-million to \$200-million a year in annual subsidies from Ottawa before it was sold to Nav Canada, a private, not-for-profit corporation, in 1996 for \$1.5-billion. Part of the rationale for the privatization were lengthy delays at airports across the country, including Toronto's Pearson International, as a result of inefficiencies in the system.

"We're allowed to charge whatever our costs are.... It's sort of like a co-operative," Mr. Crichton said. "We make money, make no mistake about it. But when we make money, we either reduce our charges or use it for investing in our network or paying down debt."

The fact Nav Canada has not only managed to save airlines money on fuel but also cut its fees has garnered it the respect of the industry along the way.

Calin Rovinescu, Air Canada's chief executive, commended Nav Canada for its efforts to modernize the country's navigation systems during a speech in Montreal earlier this year, while condemning the United States and the European Union, which still operates as a patchwork of nationalized systems, for their lack of leadership on the issue.

Nav Canada also won the International Air Transport Association's Eagle Award earlier this year for its efforts, in particular its constant consultation with the industry.

"Nav Canada is probably one of the most progressive [air navigation service providers] in the world," said Steve Lott, an IATA spokesman. "We have seen some bad examples, especially on the airport side, where privatization results in a company coming in that is only focused on the bottom line and not interested in talking to their airline customers, or dealing with passengers, and are only interested in double-digit profit margins.

"With an airport or an air traffic authority, they're essentially monopoly providers, so that can go both ways."

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