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NAV CANADA'S PROVISION OF AIR NAVIGATION SERVICES IN NORTHERN AND REMOTE AREAS

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Abstract

NAV CANADA, the world's first fully commercialized air navigation system (ANS), was created in 1996. This paper examines the Canadian government's decision to commercialize the ANS, the safeguards provided for stakeholders in the northern regions of the country and early developments in the commercialized ANS. In particular, the paper describes two issues of importance to air transport in the Northwest Territories and Yukon. The shift from a ticket tax (Air Transportation Tax) to a user fee structure based on maximum take off weight led to increases in air fares, freight rates and consumer prices. An aeronautical study on proposed changes to levels of service revealed the need for a system approach to establish safe and efficient levels of aviation weather, air traffic control, and flight information services in the north.

INTRODUCTION

In 1996, Canada became the first nation to fully commercialize its air navigation system (ANS). Other jurisdictions had placed their ANS under a government controlled and owned entity, but the Canadian solution went further. The assets and personnel were transferred from Transport Canada (TC) to a non-share corporation called NAV CANADA, governed by a board of directors drawn from stakeholder groups. Transport Canada retained a purely regulatory role, ensuring that safety standards were maintained.

In the process of negotiating the transfer, some argued that the nascent ANS corporation should only be responsible for the southern airspace, while TC should continue to manage the northern and remote areas, where low traffic densities and high operating costs make full cost recovery for the system infeasible. This view was rejected, and the ANS transferred in its entirety. Northern stakeholder groups were alarmed that this might mean that full cost recovery would be implemented in their fragile economy. They lobbied for exemptions in the ANS Act¹ that would protect northern interests.

This paper concerns the lobbying process, the safeguards in the ANS Act, and the early issues in implementing a commercialized ANS in the northern and remote regions.²

Origins of Commercialization

In the federal budget of 1994, the government stated its intention to study the potential for commercialization of the ANS in order to improve efficiency and achieve long-term savings for the Crown. This was part of a comprehensive rethinking of government involvement in transportation, which included commercialization of port facilities or transfer to provincial control, transfer of airports to local operating authorities, and the privatization of Canadian National Railways and Air Canada.

In part, the government was responding to the views of its stakeholders. The air traffic controllers union (CATCA), the airline pilots' unions, the Air Transport Association of Canada (ATAC) which represents air carriers, and the Canadian Business Aircraft Association (CBAA) had lobbied for the ANS to be run as a business. The Royal Commission on National Passenger Transportation³ and a ministerial task force had also proposed commercialization.

At the time, the ANS employed over 6000 people, including 2300 air traffic controllers, 1000 Flight Service Specialists, and 1100 electronics technicians. TC maintained 105 Flight Service Stations and 55 control towers, as well as the radio aids to navigation (navaids), radar, and data processing systems required for the work.⁴ The system provided services for the world's second largest country, and a considerable portion of the North Atlantic. Annual expenditures were \$800 million.⁵

The system was funded by an Air Transportation Tax (ATT) which was levied on passenger tickets. This raised about \$550 million in 1994. Revenues from fees on international flights generated another \$50 million. The remainder of the expense was funded from general tax revenues.⁶

The user community felt that the system was underfunded and unable to keep up with future requirements. Fiscal restraint in the federal government gave little comfort that new appropriations

would be found soon. There was a perception that government procurement, staffing, training, and labour relations processes were too cumbersome and added unnecessary cost to the system.

Structure of the Corporation

The term “commercialization”, as is it used by the Canadian government, refers more to a series of desirable traits than to a specific structure. A commercialized ANS would manage resources and people efficiently, be responsive to user needs and be able to rapidly adopt new technologies, make decisions on commercial principles, and have access to capital markets.⁷ Several models were discussed for the new entity, including a Special Operating Agency of government, a Crown Corporation, a government-owned company-operated enterprise, a mixed enterprise, a not-for-profit corporation, and a fully privatized enterprise.⁸

In the end, a not-for-profit corporation, reporting to a stakeholder Board of Directors, was chosen. NAV CANADA was incorporated as a non-share capital corporation. All profits generated must be reinvested in the corporation, used to pay down debt, or repaid to the users in the form of decreased fees. The Board is composed of five members nominated by the industry, two by unions, three by the federal government, and four by the board itself, plus a Chief Executive Officer.⁹ Directors are required to be Canadian citizens, but may not be elected officials or civil servants of any level of government, or employees or directors of organizations that are major suppliers to or customers of NAV CANADA.

The ANS consultation process began in late summer of 1994 and included meetings with the Northern Air Transport Association (NATA), the primary organization of northern aviation operators. Although not all operators participate in NATA, the “majors” -- Canadian North, NWTair, and First Air -- are members, as well as many smaller fixed wing and helicopter operations.

Northern and Remote Regions

The “northern and remote regions” referred to in the document include the Northwest Territories (NWT), Yukon Territory, northern Quebec, and the northern parts of several other provinces.¹⁰ The area is sparsely populated, consisting of widely scattered small settlements, most of which are wholly dependent on air transport for re-supply in the long winters. The NWT population is 65,000.

The low population and large distances involved create a low traffic density for air transport operators. High operating costs are often barely covered by revenues. Often there is little effective competition because, while there may be low barriers to entry, the low traffic volumes do not allow a second operator to fly profitably. The typical northern operator makes profit, if at all, on freight, rather than passengers. Fresh food costs are subsidized by a program called “food mail”.¹¹

The north is still economically dependent on the southern tax base. Its economy, based on natural resource extraction and harvesting of wildlife, is not sufficient to sustain it. Living costs are very high, and transportation costs are a major component of goods prices.

The discussion papers which formed the basis for public consultation contained a clear recognition that a subsidy program of some kind was inevitable and acknowledged the need to “insulat[e] an ANS corporate entity from the potentially costly and conflicting roles of managing in commercial and social environments simultaneously.”¹²

The ANS Act

As a result of determined lobbying by territorial governments and northern operators, the ANS Act included safeguards, but territorial governments felt that they were also given verbal assurances that the north would not be made worse off by the commercialization. Another source of comfort for the northern stakeholders was that John Crichton, the President of ATAC, headed the NAV CANADA Board of Directors, even before its official inception.¹³ Mr. Crichton had many years of association with First Air, which operates the most extensive route system in the north, including long-haul jet routes from the south, and smaller volume turboprop services throughout most of the Northwest Territories.

The assurances contained in the Act are encapsulated in the Summary, which presumably provides guidance to the intent of the document. Among the key components of the enactment is: “the preservation of air navigation services to northern and remote communities, including a special process involving provincial and territorial governments for service reductions proposed by NAV CANADA”. The actual assurances are more specific. With respect to charging principles, the legislation states that: “charges for designated northern or remote services ... must not be higher than charges for similar services utilized to a similar extent elsewhere in Canada”.¹⁴ This reflects the most central concern of the stakeholders at the time, which was that the ANS operator would attempt to extract full cost recovery at the site level, leading to costs on many routes that were too high for the delicate market to bear. The complete dependence of northern communities on air transport was also recognized. Northern and remote services are guaranteed as part of the requirement to provide “Humanitarian or Emergency Flights” in the event of a work stoppage by NAV CANADA employees.

The Act imposed a notification and consultation requirement on NAV CANADA. When it proposes a termination or reduction of services which will affect “a significant group of users or residents in a material way”, it must notify affected parties of its intent. The Corporation may only proceed with such changes if, within 45 days, it has received no notice of rejection from the provincial government.¹⁵ In the event that a province does reject the proposal, or the users have rejected it, the Corporation may only implement it with the approval of the federal Minister of Transport. The Corporation is not entitled to compensation if the Minister does not approve the change in service.

The Ministers of Transport or Defence may also direct the Corporation to provide new service at northern or remote locations, but in this case, the crown must compensate NAV CANADA for any losses sustained in complying with the direction.

The legislation also required the Corporation to set out, within one year after the transfer date, its Level of Service (LOS) Policy. This must then be applied consistently, although it may be revised from time to time. Where services are requested in excess of the LOS Policy, these may be provided if users are in favour of it, but at additional expense to them.

THE LEGISLATION IN PRACTICE

The ANS Act imposed a rapid timetable on NAV CANADA. It had to develop and publish LOS Policies by the first anniversary of transfer, as well as announcing a fee structure that would be phased in as the Air Transportation Tax (ATT) was phased out.¹⁶

Fees and Charges: The Issues

The first test of the legislation came in early summer of 1997, when NAV CANADA announced its proposed fee structure for Phase One. On the surface, the changes made were uncontroversial, at least with the major carriers who operated in the southern domestic airspace and internationally. The proposal shifted the charging basis from a tax based on passenger tickets (ATT) to a fee based on maximum take off weight (MTOW) of the aircraft and distance.¹⁷ At the same time, terminal charges were assessed on aircraft departing aerodromes served by NAV CANADA units.¹⁸

The new fees were to be introduced in two phases. During Phase One, planned to commence on 1 November 1997, the large commercial aircraft were to be charged one half the fee, with the remaining costs met by ATT. By November of 1998, full fee implementation would take place, and the ATT would be reduced to zero. In the second phase, smaller aircraft would also be charged fees.

The Act recognized the need to switch from a tax base to a fee structure. It included a number of constraints on the nature of fees, such as safeguards against discriminatory imposition of costs, while attempting to allow the Corporation as much flexibility as possible in going about its business. NAV CANADA was also constrained by International Civil Aviation Organization (ICAO) charging principles, and by the need to be consistent with international practice.

The ATT applied only to passenger services. Scheduled or charter carriers generated significant revenues for the government (and in the transition period, NAV CANADA) through this ticket tax,¹⁹ while all-cargo operators using the same type of aircraft were not charged. The major scheduled carriers objected to the “free-riding” of cargo operators. General aviation and operators using aircraft of less than 8 tonnes were also exempt from ATT.

Northern operations have certain structural features which made the transition to MTOW-based fees more complex. They generally use larger aircraft than would be used on similar southern routes. Route segments are longer, and the paucity of alternate airports for weather diversions implies a need for greater range. Since profitability for northern carriers is largely a function of the freight they carry, they tend to use combi configurations. Almost all aircraft carry significant freight loads northbound, but there is next to no southbound freight.

A northern operator, therefore, typically carries a section or two of passengers and a number of freight pallets northbound, and returns with a low passenger load factor, but no freight. Under the previous regime, the ATT applied to the passengers, but not the freight, and was similar whether the aircraft was southbound or northbound.

Under the NAV CANADA fee structure, a southern operator’s total ticket price may decline because the MTOW-based fee and terminal fees are offset by reductions to ATT. For the northern operator, since relatively fewer passengers are carried, the ATT reduction does not come close to offsetting the MTOW-based fees and, as operators were quick to point out, are applied equally to aircraft which are southbound, carrying no freight to off-set costs.

A second concern was raised by the imposition of terminal charges at Community Aerodrome Radio Stations (CARS). NAV CANADA provides ANS services through ATC towers and Flight Service Stations (FSS). It also funds CARS, which are operated by territorial governments. The three types of service are very different. Towers provide separation between aircraft and control ground vehicles,

but provide only limited weather services. Flight Service Stations provide an aerodrome traffic advisory service, manage ground vehicle movements, and provide a broad range of flight planning and weather briefing services. CARS provide basic traffic advisories and weather information, but no weather or flight planning briefings. The primary purpose of the CARS is to provide the weather observations necessary to support a terminal forecast (TAF), and current weather for arriving and departing aircraft. The CARS system is staffed by observer/communicators who are recruited in their own communities. The system serves the basic need for reliable weather observations, at a relatively low cost, and using a northern and largely native workforce.

Some users objected to the requirement that they pay the same user fees at CARS as were charged at international airports, where ATC terminal units existed. Service levels had been dropping in the north even while Transport Canada was still operating the ANS. NATA complained that, while these terminal and enroute charges might be appropriate in the south, where a full range of services including weather and ATC radar were available, it was unreasonable to pay the same fees for the relatively spartan services provided in the north.

Carrier Reaction and NAV CANADA Response

The publishing of the new fee structure drew a rapid response from the northern flyers. NWTAir, in its initial CBC radio interview, suggested that this would result in a 20 per cent increase in freight rates. Certainly, NWTAir was likely to see a large impact. Their fleet consisted of several B737 combi aircraft equipped for gravel runways, and a Hercules transport aircraft. The size of the aircraft, and the relative importance of freight to the bottom line, made them particularly vulnerable. Other carriers and stakeholders were quick to enter the skirmish. Transportation costs are always a political “hot button” in the north, and politicians and native groups reacted with increasing alarm.

NAV CANADA reacted with some degree of surprise to these assertions. Any carrier for whom freight was a major component of the business would feel some impact, but it was felt that this would be a small increase, relative to other costs. The proposal also had the potential to reduce overall ticket prices for the major carriers, as cargo operations were now required to carry their share of the burden. The generally higher operating costs of smaller carriers would mean that the increases, as a percentage of revenue, would tend not be significantly different than they would be for the majors. Finally, if NAV CANADA succeeded in reducing system costs, these savings would eventually be passed down to the users. On the whole, the equity and transparency of the system were both improved by the proposal.

The protections afforded under the Act for intervention by territorial/provincial Ministers of Transportation provided a basis for a concerted effort led by the Government of the Northwest Territories (GNWT). The NWT was clearly the most affected jurisdiction, and the government sought support from other provincial transportation ministries. It coordinated its response with that of NATA, and the individual carriers. Another ally was the federal Department of Indian Affairs and Northern Development (DIAND), whose food mail subsidy program was “capped” by budget restraint measures. Any increase in fees would not be buffered, and would be borne by consumers in the least economically developed region of the country.

Arctic Airports (GNWT) invited NAV CANADA to present a briefing on its proposals at a meeting of the Airline Consultative Committee. The northern carriers put forth their position rather forcefully, and were supported by the Assistant Deputy Minister of Transportation, Arctic Airports, and the department’s transportation planning group.

NAV CANADA had doubts that the impact was nearly as high as some stakeholders felt it was.²⁰ The carriers, in the height of the profitable summer season, had limited resources to do the sort of route by route analysis that was required. NAV CANADA, on the other hand, did not have the financial data required for the work. Eventually, the parties shared their analyses, and came to the conclusion that the initial indications were high. First Air would later attribute price increases of 3 per cent on passenger tickets and 5.5 per cent on freight to the impact of Phase One fees.²¹ The airline indicated that, in late 1997, its scheduled services were running at a loss.²² By NAV CANADA's calculations, the net impact on First Air's operations would be around 3 per cent of operating revenues, representing an additional cost to northern consumers of \$2 million per year.²³

On August 13th, NAV CANADA announced changes to the proposal. The implementation of Phase One fees was deferred until March 1998 to allow the carriers more time to reprogram their computer reservation systems for the tax changes. CARS were exempted from terminal charges for the period from March 1 until November 1, 1998, and NAV CANADA indicated that this exemption might later be extended, based on the results of user consultations. The aircraft size to which Phase One fees applied was raised from 5.7 metric tonnes to 8 tonnes, again until November 1, 1998.²⁴ These changes did not address the main cost issue, which was the impact of switching from the ATT to user charges based on MTOW. The exemption of CARS terminal charges was of greatest significance to First Air, which has the largest route system in the NWT.

The second phase user charges are a more difficult matter, both in terms of equity and ease of administration, and will require considerable consultation with stakeholders. The Phase Two fee structure applies to smaller aircraft of types used by bush operators and private aviators. It is to be implemented in November 1998, at which time NAV CANADA will operate on a full cost recovery basis and the ATT will be reduced to zero.

In this case, NAV CANADA is faced with a conundrum. Ideally, it would charge small operators on a charging formula similar to the one established for the larger aircraft. Practically, however, this presents the problem of significantly increasing bureaucratic overhead and complexity for a relatively small increase in revenues. One approach under discussion is some form of flat fee, but this is not without pitfalls. Small operators and private pilots are very sensitive to the magnitude of the fees, while the large operators, who pay the largest share, may not wish to subsidize the system and, to some extent, their competition.

Another scenario was a tax/levy on aviation gasoline, which would be paid to NAV CANADA. This would provide a user charge based on activity without the administrative complexity of a per-use charge, but many of the aircraft in commercial operation are turboprops, so some arrangement such as a flat fee would still be required. This method also charges the operator whether the NAV CANADA service is used or not. Helicopter operators may seek a different formula than fixed-wing, since their bush operations often make little use of NAV CANADA services. No matter what formula is used, however, it will not satisfy all stakeholders. The consultation for phase two fees is to be completed by the summer of 1998, for implementation in November.

Levels of Service Policy: The Issues

The rapid timetable in the Act also required NAV CANADA to consult with stakeholders and to publish a Levels of Service (LOS) Policy by the first anniversary of ANS transfer. The LOS issues

were vital to NAV CANADA's rationalization program nationwide, but the north was, again, strongly impacted.

Level of Service implies a set of services to be provided at a location, and is linked to traffic levels. For example, annual movements above 60,000 justify an ATC tower, while a FSS is justified by traffic exceeding 40,000 movements, but less than 60,000.²⁵ By these criteria, the tower at Yellowknife, the capital of NWT, was barely viable. The tower in Whitehorse Yukon's capital, recorded only 42,575 movements in 1996, though in earlier years this total had exceeded 50,000.²⁶ Complexities in traffic management were cited as a rationale for retaining the facility.

None of the FSS in the NWT met the movements criteria. Transport Canada, when it operated the ANS, had earmarked the majority of the NWT's Flight Service Stations for closure. In the early 1990s, it had closed the FSS at Coppermine (Kugluktuk) and Tuktoyaktuk, replacing them with CARS facilities. Of the remaining 11 FSS, 5 (Cambridge Bay,²⁷ Yellowknife, Fort Simpson, Fort Smith, and Hay River) had been identified as candidates for closure in 1994. The FSS slated to remain in service were retained for "safety and special considerations". Traffic at the Mackenzie valley sites slated for retention in 1994 had dropped marginally since then.

The LOS also ignored the existence of CARS. While the NAV CANADA-operated facilities were mentioned in the policy, no reference was made to CARS. The 32 CARS operated by the GNWT greatly outnumbered the FSS, and only Yellowknife is served by a tower. CARS is, arguably, the standard level of service in the north. NAV CANADA indicated that CARS was not in the LOS because it was not established on activity-based criteria. There were also legal issues involved.

GNWT Reaction and NAV CANADA Response

The difference in treatment of the CARS program extends beyond the fact that it is delivered by the territorial governments, rather than by NAV CANADA itself. Some NAV CANADA personnel openly resented the fact that the Corporation had been saddled with the northern airspace, and felt that some CARS existed more for the purposes of job creation in their communities than to serve any operational requirement. Certainly, the CARS program had involved some social development motivations on the part of the GNWT.

CARS had, however, been activity-based, though not in the sense that NAV CANADA uses the term. CARS was originally conceived as a means of delivering the basic support necessary for flight planning and the conduct of an instrument approach. They were located at "Arctic B & C" airports, which had, in turn, been established at communities that had stable populations of 100 or more and scheduled air service.

Some stakeholders felt that by denying that CARS represented a level of service, the Corporation made its own future requirements less stringent. If there were no CARS LOS, then it followed that modifications in the delivery of CARS services were a purely operational decision on the part of the Corporation, and would not require broad public consultation. CARS would be argued to be merely the sum of its parts; and were any part (such as weather observations) no longer required, or available more cheaply in some alternate form of delivery, then this could be implemented with little difficulty. An earlier attempt by Transport Canada to replace manned weather stations with automated sensors (AWOS) had failed because of technical shortcomings of the devices. A moratorium was in place on

AWOS deployment but, despite repeated assurances, stakeholders were sensitive to the safety implications of any potential loss of human weather observations.

The public consultations required by the Act were met by publishing the proposed LOS on the Corporation's web site in September. NAV CANADA had presented its initial draft policy to NATA in June, but was unable to present the final draft to NATA and the GNWT before late October. At this time it argued that it was too late for amendments, since the policy had to be published by the end of the month to meet the statutory requirement. The GNWT and NATA responded with letters indicating that they believed that CARS represented a *de facto* level of service.

The issue of CARS LOS may have been addressed by the Corporation in public statements that it would not change a level of service, or *the manner of delivery* of a service, without an Aeronautical Study. It has also publicly stated that it will not deploy AWOS, even if the moratorium is lifted, without consultations with its customers.

Aeronautical Study: The Q850 Risk Management Process

The final major provision of the Act was a prescription for broad public consultation when the Corporation wished to change a LOS. While the Act required this only for reductions in the LOS,²⁸ NAV CANADA has indicated that the process which it will use for reductions will be applied for all proposed changes, including the commissioning of new sites, increases in the LOS, or changes in means of delivery.

The Aeronautical Study is an application of Canadian Standards Association's risk management standards. The *Q850: Risk Management* framework and *Q634: Risk Analysis Requirements and Guidelines* outline processes for identification of safety and economic risks, public consultation, and mitigation of risks considered significant by stakeholders. These were developed by incorporating some of the best practices in international risk management.

A study is divided conceptually into six phases which aim to identify needs, issues and concerns of stakeholders (broadly defined), evaluate the risk associated with change in service, identify the mitigation strategies which may address these issues, and control and monitor the changes. These phases may be repeated where more information or analysis is required, and the process aims to achieve a high degree of communication with stakeholders.

Fort Simpson Aeronautical Study

The Fort Simpson proposal seemed rather innocuous on the surface. NAV CANADA wished to remove the midnight shift at the FSS so that it could bolster staffing at another station. The study ran into difficulties almost immediately, however, because economic interests in the community were angered at the potential loss of a person-year of salary. The community had lost a considerable number of jobs in the previous year as the result of a GNWT austerity program, and merchants and politicians were sensitive to any reduction in spending in the community. Any perceived service reduction to the community would also, it was argued, make it more difficult to attract investment.

NAV CANADA has no mandate to subsidize local economies and was likely prepared to weather the storm on the service reduction, however unexpected difficulties were raised in the consultation process. These were identified first by Arctic Airports (GNWT), and later by the carriers. The first was that the

maintenance of the airfield is compromised if there is no 24-hour presence. Fort Simpson has a paved runway and, in the event of freezing rain, urea must be applied within the first half hour to be effective as an anti-icer. If ice is allowed to form, it may be many days before the runway is fully serviceable. FSS and the GNWT had a protocol that the specialists would notify the airport manager immediately of freezing precipitation during “the quiet hours”. Since the airport is some distance from the town, some arrangement would have to be made to avoid “losing the runway” to freezing rain. The maintenance of the runway is the GNWT’s responsibility as airport operator, but there are both efficiency and safety implications for the stakeholders.

There would also need to be a protocol established for medical evacuation flights (medevacs). If Fort Simpson weather is not available, the nearest airfield with 24-hour weather reports is Hay River, but it is too distant for its altimeter to be used for an instrument (IFR) approach to Fort Simpson. IFR medevacs would require a weather observation and current altimeter setting before departure from Yellowknife.

The most surprising finding, however, was almost unrelated to operations at Fort Simpson. While the station traffic on the midnight shift is low, it remains in use as an IFR alternate, especially for the busiest station in the north, Yellowknife. Hay River, located on Great Slave Lake, is closer to Yellowknife and has an instrument landing system, but lacks commercially available jet fuel. Therefore, Fort Simpson, 200 nautical miles distant from Yellowknife, is the preferred flight plan alternate. No pilot is likely to divert to an alternate where there is no fuel supply for the aircraft.

The operational effect of the reduction in hours was that no weather observations would be available to support a terminal forecast (TAF). While an Area Forecast can be used for an IFR alternate, the legal approach minima are considerably higher than they are with a TAF. Without 24-hour weather observations to support a TAF, Fort Simpson would be available as an alternate less often. This, carrier representatives argued, implied significant increases in fuel uplift for IFR aircraft, which presented an unacceptable financial burden on the operators. Pilots suggested that it would reduce safety by increasing the pressure on the captain to land in Yellowknife, regardless of the weather conditions.

The “North of 60” Aeronautical Study

The Fort Simpson process reinforced the point made by many experienced “Arctic hands”, both inside and outside the Corporation. The north, because of its limited infrastructure, must be viewed as a system, rather than as a collection of parts. A piecemeal approach tends to the conclusion that most of the sites do not require their current level of service. When viewed as elements of a system, however, the importance of the web of services across the vast territory becomes clearer. The consultative process of the Aeronautical Study was successful in identifying this issue.

Successful consultation, however, did not solve NAV CANADA’s problems. The long expected rationalization of services had reduced its long-run training requirements, and management had reacted accordingly. In the short run, however, delay in implementing the program had left NAV CANADA with a severe staff shortage. As well, the Corporation was expected by its stakeholders to reduce costs.²⁹ There was clearly a need to reduce services in some sites and perhaps to redeploy resources to better meet user requirements. Carrier representatives at the Fort Simpson consultations, for example, had used the occasion to press the case for increased hours of operation at Cambridge Bay, the hub of the central Arctic. This was beyond the scope of the study.

Before the Fort Simpson Aeronautical Study was concluded, NAV CANADA changed its approach. At the fall 1997 Airline Consultative Committee meeting, NAV CANADA announced a comprehensive Aeronautical Study of the northern ANS. The Fort Simpson study, and a similar study on Resolute Bay, would be rolled into the larger study, although decisions at these sites would be made as early as possible, for operational reasons. The Terms of Reference document was presented to NATA and the GNWT on 20 October.³⁰ The study would encompass Yukon and Northwest Territories, but would exclude northern Quebec, which had its own distinct operating features. Sites in the northern sections of the prairie provinces might be examined as parts of the “system”, where these were discovered to affect northern operators, but would not fall within the scope of the study itself.

The Aeronautical Study Team would include members of government of the NWT and Yukon, a member from the Northern Air Transport Association, as well as members of the Safety and Service Design (S&SD), Air Traffic Services, and Technical Services divisions of NAV CANADA. A risk management team with head office and regional NAV CANADA representation would support the study team. This group would be responsible for research and the generation of cost-benefit analyses using complex economic modeling software, and for the development of risk mitigation strategies for issues raised in the Aeronautical Study Team’s public consultations. The initial consultations to identify “needs, issues and concerns” took place in December of 1997. The “North of 60” study is expected to be completed in the third quarter of 1998.

CONCLUSIONS

The unique problems facing aviation in the northern and remote areas of Canada were addressed in the legislation that transferred control of the ANS to NAV CANADA. The drafters of the legislation were faced with a need to ensure the viability of air transportation, while allowing NAV CANADA the flexibility to conduct its business in a commercial fashion.

The transition from a ticket tax to a user fee based on aircraft weight impacted the north disproportionately because of the operational characteristics of northern aviation and has indirect effects on other non-aviation related systems such as nutritional subsidy programs. While consumer costs may actually decline as a result of transition in the south, the fragile northern economy will see increases. The initial impact will be felt in March 1998, with a second impact of similar magnitude in November 1998. These increases will compound already high transportation costs. As rationalization takes place in future years, northern users will benefit from any cost reductions at the same rate as southern users.

Services provided may well decrease at the same time as costs increase. Two separate processes are at work, and the pricing of services is outside the scope of the team that is responsible for the Aeronautical Study. Users, and the consumers they serve, see these issues as related. NAV CANADA will have to communicate its views well to overcome stakeholder resistance. Initial overstatement of impacts by carriers may have made this issue more difficult, but both NAV CANADA and the carriers have worked constructively to ascertain the true impacts.

It will be difficult for users to make informed decisions on the services that are required, when the costs of the options are not known. The temporary exemption of CARS from Phase One fees was a concession to northern carriers, but it makes choosing the appropriate level of service more difficult where FSS closures and other service options are being considered.

The technical nature of the issues at hand makes it difficult for consumers, who ultimately pay for the system through ticket prices and shipping costs, to take a meaningful part in the discussion. Communities have concerns about employment and development that are legitimate, but are not within the mandate of NAV CANADA. The involvement of the territorial government is therefore very important.

The ANS Act provides the territorial Minister of Transportation with a mechanism to elevate any NAV CANADA reduction in service to the level of the federal Minister of Transport for a decision. The political level may not be the most favorable forum for NAV CANADA. It is therefore in its interest to make the best use of the Aeronautical Study process, and to achieve some degree of agreement among the affected users and communities.

ENDNOTES

1. Statutes of Canada 1996, Chapter 20, An Act respecting the commercialization of civil air navigation services (hereafter *ANS Act*).
2. The author currently manages the NWT CARS program, which is administered for NAV CANADA by the Government of the Northwest Territories. In 1997, he also represented the Consumers' Association of Canada on the federal Transport Minister's Committee on Air Policy Issues. This paper and its conclusions are those of the author and do not necessarily represent the views of the Government of the Northwest Territories, NAV CANADA, or the Consumers' Association of Canada.
3. Canada Communications Group. *Directions*. Volume 1, pp. 126-127.
4. *The Study of the Commercialization of the Air Navigation System in Canada*, (hereafter identified by volumes TP12202E-TP12206E) TP12203E, Appendix A.
5. Costs and prices in this paper are expressed in Canadian dollars.
6. TP12203E: 6
7. TP12202E: 9
8. TP12202E: 20-24
9. *Commercialization of the Air Navigation System: The Canadian Experience*, page 8.
10. The communities are specified in Schedule A of the *Department of Transport Agreement*, between NAV CANADA and Transport Canada.
11. The Federal Department of Indian Affairs and Northern Development (DIAND) runs this program.
12. TP12204: 12. This concern reflected the sentiments of the Airways Corporation of New Zealand, which had prepared a working paper on the international experience (TP12205E), and which operated as a State Owned Enterprise in a much more interventionist government structure.
13. On November 18, 1997, Crichton became President and CEO of NAV CANADA. He resigned as President of ATAC and Chairman of the Air Transport Security Corporation, as these would conflict with his new duties.
14. ANS Act: 35. (1) (g)
15. The Act uses the word provincial in most cases, but this is understood to also include the two territorial governments of Yukon and NWT.
16. Users have pointed out that the tax is not eliminated, but merely reduced to zero, implying the ability of future governments to raise it again. This remains a concern in an industry already subject to heavy taxation.
17. The proposed enroute charging formula was $\$0.02174 \times \text{Distance} \times \text{MTOW}^{0.9}$ in Phase One.

18. The proposed terminal charge was $\$7.74 \times \text{MTOW}^{0.9}$ in Phase One.
19. The ATT calculation for a domestic or transborder flight is a fixed fee of \$6.00, plus 7 per cent of the price of the airfare, to a maximum of \$55.00. International (other than US) flights are charged a \$55.00 fee.
20. NWT Air was later quoted as estimating the range from 20-30 per cent, and this range became widely quoted ("New Fees mean 'staggering' jump in air freight rates", *Nunatsiak News*, August 1, 1997, p. 3).
21. "First Air Prices Take Off" in *News/North*, 24 November 1997, p. A23. The NAV CANADA increases were to take effect on 1 March 1998. At the same time, the airline also announced tariff increases of 3 percent on passenger fares and 4.5 per cent on cargo, effective 1 January 1998, which it attributed to overall economic conditions in the north.
22. "Our Fares are Going Up in the New Year. We'd Like You to Know Why." Paid advertisement *News/North*, 1 December 1997.
23. *User Charges: Presentation to Northern Air Transportation Industry, Northern Governments*, 26 November 1997.
24. NAV CANADA News Release No. 17/97, 18 August 1998.
25. The policy is actually more complex, recognizing unique characteristics such as traffic complexity and the mix of commercial and non-commercial traffic. While the activity criteria were occasionally applied rigidly under Transport Canada, NAV CANADA uses these as the basis for initiating Aeronautical Studies.
26. Statistics Canada. 1996. *Aircraft Movement Statistics. Annual Report*.
27. Cambridge Bay FSS was closed in 1995 and replaced by a CARS.
28. ANS Act: 18
29. In September 1997, the Corporation expressed its intention to reduce costs by \$135 million by the year 2000. This was to be accomplished largely through the reduction of management and administrative overhead (NAV CANADA. *Shaping Our Future: 1997-2000 Statement of Corporate Direction: overview*).
30. NAV CANADA 1997 *Aeronautical Study Terms of Reference, Airport Advisory and Flight Information Services Provided in Northern and Remote Areas*. Some details were added on the basis of comments made at the initial consultation meeting with NATA on 20 October 1997.

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