AIR ACCESSIBILITY IN NORTHERN CANADA: PROSPECTS AND LESSONS FOR REMOTER COMMUNITIES

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ABSTRACT

This paper assesses the impact of Canada's air transportation policy on air accessibility of remote and arctic communities in a context of liberalization of the aviation industry. The central objective is to examine policy's impact on essential air service – travel and shipment. An observational study of the federal government's National Airports Policy (NAP) of diverting smaller airports to local entities is conducted using airport cases both inside and outside the National Airports System (NAS) covering 12 communities in Ontario (Ont.), Manitoba (Man.), British Columbia (B.C.), Quebec (Que.), the Northwestern Territories (NWT), and Yukon Territory (YT). The paper also evaluates the impact of Airports Operations and Maintenance Subsidy Program (O&MSP) and investigates the impact of several federal government departments in assuring air accessibility to remote areas. It is argued that: (a) local management allows for greater

entrepreneurship and leads to some efficiency gains, (b) remote and arctic airports seem to be unable to sustain and operate their infrastructures without receiving local or federal contributions, and (c) Health Canada, Indian and Northern Affairs Canada (INAC), and Inuit organizations, such as the Makivik Corporation through its subsidiaries carriers First Air and Air Inuit, play a significant role in making air travel accessible. It concludes that, although the decentralization strategy and the subsidy mechanisms are benefiting remote communities, Canada's policy success is constrained by its failure to incorporate changing conditions, loss of focus, and flaws in performance evaluation.

1. Introduction

The importance of air transportation in Canada's remote and arctic regions is well recognized. Canada has an immense geography and there are important differences between urban, remote and arctic Canada. Outside of urban major centers, population concentration declines and access to services and its cost increase. It is estimated that, in 2006, rural Canada covered 99.8% of the nation's territory and accounted for 24% of its population (Dolea, 2009).

Meeting the diverse needs of its population with land transportation infrastructure is extremely challenging: the cost and effort of the construction, operation and maintenance of low traffic density all weather-roads or railways is considerable or insurmountable. Thus, and as a consequence of the climate, vast distances, and environmental concerns, remote Canada is highly dependent on aviation to transport passengers and freight on a year-round basis. Air accessibility is the most efficient and economic mean of hindering the detrimental impacts of isolation - limited access to public services and consumer goods, and high living costs. The infrastructure costs are low and service is available year round. However, the operational of air transport are still significant.

In response to the inequalities in demand for air transportation and worldwide liberalization of the aviation industry, and more specially U.S. deregulation, there have been substantial developments in air transportation policy in Canada in recent decades. These developments commenced with a movement towards deregulation and decentralization, founded on the general consensus that the provision of transportation infrastructure should be more financially self-sustaining (Stambrook, 2006). Yet Canada's policy has not neglected areas self-sufficiency is unattainable and there is the need for additional support: the National Airport Policy (NAP) and Transport Canada (TC) in *Straight Ahead: A vision for Transportation in Canada* identified and established remote and arctic services as national priorities (TC, 2003).

Most of the policy debate concerning the impacts of deregulation and the reform of the airport governance structure is centered on larger infrastructures (Carney & Mew, 2003, Forsyth & Society, 2004, and Gillen & Morrison, 2005) and regional airports (Dion, Slack, & Comtois, 2002). This paper focuses the discussion on the provision of basic air accessibility for small remote communities in Northern Canada. It summarizes the main policy developments since the 1970s and investigates the impacts of several federal government departments and of the mechanisms put in place to support air service in remote regions. An observational study of the federal government's NAP is conducted using airport cases both inside and outside the National Airports System (NAS). Methods include interviews with people responsible for implementing national policy, and the analysis of documentation – policy documents, studies undertook by TC, Statistics Canada, and ICAO and WTO-OMT, contribution agreements, and other Internet documents.

The remainder of the paper is organized as follows. In section 2 Canada's air transportation policy framework and deregulation are discussed. In section 3, the methods used for the analysis of the policy impacts are described. Section 4 presents the data and some characteristics of the communities. In section 5 a comparative analysis of the communities is performed. Section 6 presents the results, and finally, section 7 concludes.

2. Canada's air transportation policy framework and deregulation

Since the 1960s, Canada's Government distinguished between two categories of airport infrastructure: those that were capable of self-sustainability and those requiring continuous subsidization. The system as a whole was nonetheless expected to be self-sufficient and cross-subsidization was in place: airports under-recovery of costs from users were sustained by the Consolidated Revenue Fund. Moreover, Canada's cross-subsidization policy relied on the government owned airline Air Canada and regional carriers with the "public duty" of serving remote communities (Button, 1990, and Christopher & Dion, 2002), and, from 1974, the Air Transportation Tax (AAT) additionally funded operational costs.

In 1978, the U.S. Congress approved the U.S. Airline Deregulation Act (ADA), meaning the end of economic regulation of the aviation industry. Growing demand from carriers for less regulation and more competition and the U.S. policy changes forced Canada's progressive liberalization during the 1980s. Deregulation was formalized with the new National Transportation Act in 1988 (Christopher & Dion, 2002).

During this period, the revolutionary though slow process of transfer of airports began. This process was also one of decentralization. The Government kept the ownership and operation of several infrastructures, but leased, contracted out and had three territorial governments operating others under special agreements. Likewise, the Government subsidized airports owned by other operators and operated airports owned by others (Dion, S lack, & Comtois, 2002, Gillen & Morrison, 2005, and Small, 1993). The Airport Capital Assistance Program (ACAP) funded partly by lease revenues was established by the NAP and implemented in 1995 to "provide assistance to airports in financing capital projects related to safety, asset protection and operating cost reduction" (Departmental Evaluation Services, 2004).

The NAP also divided airports into 5 categories: those in the National Airports System (NAS), regional/local airports, small, remote and arctic airports. Remote and arctic airports are those that provide the only year-round reliable transportation link for isolated communities; small airports do not have scheduled air service; regional/local

handle commercial service under 200,000 passengers per year. All the provincial and territorial capitals are included on the NAS, regardless of geographical remoteness or demand size.

In respect to basic air service for remote communities, Canada followed a different direction than the U.S. choosing to maintain light regulation in its Northern region - north of the line of demarcation at roughly 50-55 degrees, and a phased long-term process of deregulation (Small, 1993, and Button, 1990). The system was considered "too fragile and immature to sustain wide-open competition" (Christopher & Dion, 2002). The new National Transportation Act of 1986 made official the retention of a modified form of regulation for the north and remote areas of Canada, and the National Transportation Law of 1988 established a Federal Government's direct subsidy program based on competitive bidding to support the air services in this region (ICAO/WTO-OMT, 2005). This form of regulation was only removed by the Canada Transportation Act (CTA) of 1996 (Christopher & Dion, 2002), and different programs were instituted on a provincial basis (ICAO/WTO-OMT, 2005). Thirteen infrastructures – Sandspit (B.C.), Fort Chipewyan (Alberta), Churchill, Norway Horse (Man.), Moosonee (Ont.), Îles-de-la-Madeleine, Lourde-de-Blanc-Sablon, Eastmain River, Wemindji, Waskaganish, Kuujjuaq, Chevery and Scheffervill (Que.) – were specifically excluded from the transfer process. At the time, eight arctic airports were transferred to the territorial governments.

Despite the conscious phased liberalization, service to small and remote communities was jeopardized with the airline restructuring process, consisting of the merger of Air Canada and Canadian Airlines in the late 1990s. In response to this event, the Government adopted a "dominant carrier" policy supporting both service and infrastructure. The protection of basic air service for isolated communities was assured by several air carrier impositions to prevent service disruption[1]. On the infrastructure's

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[1] The dominant carrier and any wholly-owned affiliates the following: (i) continuance of existing service to small and remote communities for a three-year period, unless a new or existing carrier would start providing this service of a similar quality at a reasonable price; (ii) replacement of an independent carrier that ceased to provide scheduled air services for a one-year period. Additionally, there was the requirement for all air carriers to give 48 hours notice to the Canadian Transportation Agency prior to initiating a service disruption (Standing Committee on Transport, Government of Canada, 1999).

side, funding was to be a Government's commitment "where the cost of operation would be prohibitive in the absence of government support": ACAP funding and eligibility were reviewed and expanded (Standing Committee on Transport, Government of Canada, 1999).

Following the continuance period, regional airlines assumed the role of main air service providers in remote Canada. In 2007, the following carriers were serving remote and arctic communities: Air North, Canadian North, First Air, Aklak Air, Kenn Borek Air, Arctic Sunwest, Buffalo Airways, Air Tindi and North-Wright Airways. In 2009, there were 9 air carriers competing in Canada's North, including West Jet and Canadian North (TC, 2009).

3. Methods

This paper evaluates the performance of the Canada's National Airports Policy (NAP) implementation. Social and economic policy's impacts were examined from the perspective of Transport Canada (TC), airport operators and local governments, under several headings including passenger and cargo, and medical evacuations (MedEvac) traffic statistics. A case study approach using a mix of qualitative and quantitative methods was followed.

Qualitative methods included: (a) interviews with people responsible for implementing national policy, airport and airline managers, and (b) analysis of documentation – policy documents, studies undertook by Transport Canada, contribution agreements, and Internet documents. Due to data limitations, subsidy was qualitatively evaluated in the form of type of support.

Quantitative methods included: (a) the analysis of the airports' catchment area measured by 5 indicators – population, average annual income and average family income, employment level and sector of employment, (b) remoteness measured by distance to alternative transportation centers.

Mixed methods were adopted for service evaluation using 6 indicators – traffic, frequency, schedule, number of destinations, number of carriers, and airfares.

Information, including background data information such as ownership, management, and access to federal support, was collected for ten of the twenty-four airports included in the National Airports Policy (NAP) remote and arctic categories (42%) – Sandspit (B.C.), Churchill (Man.), Moosonee (Ont.), and Kuujjuaq, Schefferville, and Wemindji (Que.), and Inuvik and Yellowknife (N.W.T.), and Watson Lake and Whitehorse (Y.T.), and two additional airports – Havre St. Pierre and Natashquan (Que.), in the regional/local category.

4. Data

Section 4 presents the data and some characteristics of the communities. Data will include NAP category, an indicator for isolation, population served, passenger and cargo traffic for the year 2010, ownership and management structure and form of federal support to air transportation. Additionally, other relevant information such as the importance of tourism activity for the community, presence of MedEvac services and coverage by the other specific Federal Programs of assistance for remote communities is also presented.

5. Analysis: air service evaluation at the community level

In section 5 a comparative analysis of the communities is performed. The analysis was divided into two parts: (a) Federal government departments and air accessibility of remote areas, and (b) Inuit organizations and air accessibility of remote areas.

The comparison investigates the role of national, regional, private entities and organizations and Inuit corporations on air transportation to small remote communities. The analysis will cover aspects such as the market structure (analysis of the number of carriers, number of available destinations, fares, type of discounted travel, etc.); overall

effectiveness (availability of service, schedule and frequency), and efficiency (history of funding and the mechanisms of the Airports Capital Assistance Program and of the Airports Operations and Maintenance Subsidy Program).

6. Results

Section 6 presents the results. Some examples of the results achieved are here presented.

For most remote communities, commercial scheduled air service was provided by only one airline, and the maximum number of commercial airlines serving one community was two.

These carriers are regional commuters, such as Exact Air, Calm Air, Kivalliq, and Aviation Air Labrador, mostly using low speed transport aircraft and small commuter turboprop propulsion aircraft with a capacities ranging from 9 to 19 seats. The use of small aircraft matching capacity with community demand improves efficiency and saves federal subsidies.

Some of the carriers are collectively owned by Inuit Corporations, as it is the case of Air Inuit, owned by the Inuit of Nunavik, through the Makivik Corporation.

Inuit Organizations are also responsible for special agreements with airlines granting preferred pricing for transportation services for its beneficiaries. First Air, the largest provider of passenger and cargo services to Canada's northern communities in Nunavut, Nunavik, and Northwest Territories, provides an example of this kind of settlement: it offers preferred passenger and cargo rates to facilitate the shipment of tools and equipment for the beneficiaries of the Kivalliq Inuit Association (KIA).

Transport Canada's financial support for operations of remote infrastructures is consistent with its strategic objectives and its policy, as stated on the document "Straight Ahead: a vision for Transportation in Canada". It is also aligned with the

Federal Government goals of addressing the needs of rural and remote Canada by providing infrastructure to support communities' development.

Operation of these infrastructures requires continuous financing assistance.

Transport Canada does not have funding coordination between the three modes of transportation: air, rail and maritime.

TC policy is effective in the sense that all remote airports are open on a year-round basis, are in compliance with safety regulations.

Air transportation infrastructures contributed to the socio-economic development of the communities.

The level of detail of the data available is insufficient to compare the three management approaches and to conclude about their efficiency gains or conduct a benchmarking analysis in order to suggest best-practices.

Since the introduction of the NAP, all remote airports increased their revenues and most were able to reduce their operation costs.

There is no apparent advantage in a specific management approach: airports receiving Municipality O&M Program contributions have lower operation costs, whereas those managed by TC tended to have revenues.

7. Conclusions

The conclusion summarizes the results achieved based on the observational study. It is argued that: (a) local management allows for greater entrepreneurship and leads to some efficiency gains, (b) remote and arctic airports seem to be unable to sustain and operate their infrastructures without receiving local or federal contributions, and (c) Health Canada, Indian and Northern Affairs Canada (INAC), and Inuit organizations, such as

the Makivik Corporation through its subsidiaries carriers First Air and Air Inuit, play a significant role in making air travel accessible. It concludes that, although the decentralization strategy and the subsidy mechanisms are benefiting remote communities, Canada's policy success is constrained by its failure to incorporate changing conditions, loss of focus, and flaws in performance evaluation.

Moreover conclusion discusses the methodology's limitations, unresolved questions and potential error analysis of the data, explaining why the causes for some effects and results could not be further investigated at this time.

The last section of the conclusion includes a brief description of recommendations for air transportation policy in remote regions based on the findings of this investigation.

Some examples of these recommendations are here presented.

- Improve coordination in funding across all transportation modes.

- Review the criteria used in the "remote designation" and clearly define objectives of any funding program specific to these infrastructures.

- Development of performance measures for program evaluation of airport funding and implementation of a performance evaluation plan.

- Review of the fee structure, specifically of those airports with below average revenues.

- Execution of a comparative cost analysis of the three management approaches in order to identify potential efficiency gains (operation costs reductions).

Acknowledgments

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