

Air Transportation Infrastructure

Abstract

The air transportation infrastructure consists of airports, aerodromes and the civilian Air Navigation System (ANS). There are approximately 1775 aerodromes in Canada. Aerodromes are facilities where aircraft can take-off and land. On the map, they are categorized into three types of aerodromes: land airports and aerodromes (for rotary-wing or fixed-wing aircraft); water bases (for float planes); and heliports (for helicopters). The National Airport System (NAS) is comprised of 26 airports with an annual traffic of 200 000 passengers or more as well as airports serving national, provincial or territorial capitals. These airports serve approximately 93 percent of all passenger traffic and about 98 percent of cargo traffic in Canada and are the points of origin and destination for almost all international air service. These major airports comprise one component of the National Airport Policy (NAP). The NAP also includes regional and local airports, small airports, arctic airports and "other" airports. The regional and local airports, which serve scheduled passenger traffic, generally handle fewer than 200 000 passengers each year. Small airports have no regularly-scheduled air service and serve local interests, such as general aviation and recreational flying. Civil arctic airports are owned by provincial or territorial governments. Other airports are all other airports not directly regulated through the NAP.

The National Transportation Act (NTA) of 1987 ushered in a new era of competition between modes of transportation, accompanied by increasing deregulation and commercialization of the transportation infrastructure. The NTA ensured through legislation that competition would be the primary mediating force within and between modes of transportation. This resulted in the increased deregulation of the transportation sector to further competitiveness, which has had significant impacts on air transportation. In July 1994, the NAP was implemented resulting in the transfer of the 26 largest and busiest airports in Canada to Canadian Airport Authorities. All but a few of the 126 other airports owned and operated by Transport Canada would be offered to local or provincial governments, airport commissions, or private interests and business. The Canada Transportation Act (July 1, 1996) furthered the trend with new legislation leading to further deregulation and commercialization. In November 1996, air navigation services were privatized and Nav Canada became the owner and operator of Canada's ANS.

The neo-liberal economic principals that underlie many of the changes to the regulation of air transportation, which include greater reliance on market forces and profits to ensure competitiveness and service, have led to the denationalization and privatization of state owned companies, through deregulation. Deregulation is the restructuring of the existing regulatory apparatus. These regulatory changes have been reflected geospatially. Formerly, carriers were geographically concentrated at

particular nodes, which were essential linear nodes, comprised of a large number of point-to-point routes. Since the late 1970s, large airlines have reoriented these networks around hubs. A hub is generally a larger airport offering multiple connections or services. This eventually developed into a hub-and-spoke network, where the hub is a central airport that flights are routed through, and spokes are the routes that planes take from the hub airport. This involves the synchronization of flights from hubs to spokes at regular intervals during the day. It is interesting to note, however, that many traditional network carriers are decreasing their reliance on hub and spoke networks and are increasing point-to-point services to respond to the model employed by, and competition from, most low-cost carriers. In November 2006, Canada announced its new “Blue Sky” policy, committing to proactively pursue opportunities to negotiate more liberalized agreements for international scheduled air transportation. As a primary objective, Canada would seek to negotiate reciprocal “Open Skies”-type agreements, similar to the one negotiated with the United States in November 2005, where it is deemed to be in Canada’s overall interest.

The four largest airports in Canada are Lester B. Pearson International (Toronto), Vancouver International, Pierre Elliott Trudeau International (Montréal) and Calgary International. In 2005, passenger traffic at all major airports was 94 million passengers; of those 94 million passengers, the four largest airports received 64 million passengers or 68% of all passenger traffic. In 2006, there were 2311 airline licences issued to 1580 foreign and domestic airlines operating in Canada. Domestically, Air Canada and its partner Jazz were the largest airline in 2006 followed by WestJet. There were 45 airlines that provided service to remote communities and smaller niche markets.

The ANS comprises seven Area Control Centres (ACC) in Gander; Moncton, Montréal, Toronto, Winnipeg, Edmonton and Vancouver; 42 Air Traffic Control Towers (ATCs), 63 Flight Service Stations (FSSs), as well as more than 1400 enroute and terminal ground-based navigational aids (not shown on the map). ACCs provide air traffic control services to ensure efficient flow of traffic between origin and destination. Each ACC normally divides airspace into a sector to particular controllers or teams of controllers. ATCs house air traffic controllers, providing flight information to pilots approaching and departing airports and provide flight information to aircraft within controllers’ designated airspace. FSSs provide resources for flight planning, aeronautical information, enroute and airport advisory services, control services, etcetera for pilots.

Map Sources

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<http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=50F0001G&CHROPG=1&lang=eng>

Transport Canada (Air)
<http://www.tc.gc.ca/eng/air-menu.htm>

Transport Canada (Annual Reports)
<http://www.tc.gc.ca/fra/politique/menu.htm>

Other

Canadian Aeronautical Communications Website



<http://www.canairradio.com/index.html>

NAV Canada

<http://www.navcanada.ca/NavCanada.asp?Language=en&Content=ContentDefinitionFiles/default.xml>

