

POLAR ROUTES OFFER NEW OPPORTUNITIES

Nonstop flights between North America and Asia via the North Pole, while long recognized as advantageous, have only now become practical. Increased access to Russian airspace, the gradual liberalization of bilateral agreements, and growing demand for international service to and from China are among the factors that have helped make the new routes viable.

Although the new cross-polar routes take international flights over previously untraveled territory, commercial airlines have been flying in the polar region north of the Arctic Circle for more than 40 years. In 1954, Scandinavian Airlines System (SAS) inaugurated DC-6B service from Copenhagen to Los Angeles via Sondre Stromfjord. In 1957, SAS began polar service from Copenhagen to Tokyo via Anchorage. From that time through the mid-1980s, flights through the polar region increased as Anchorage became the primary stopping point for passenger traffic between Europe and East Asia. In 1983, Finnair inaugurated the first nonstop service from Europe to Japan by flying from Helsinki north through the polar region and down the Bering Strait to Tokyo.

Today, hundreds of flights operate each week over the interior of Russia en route between Europe and Asia. Similarly, a large volume of traffic crosses the Atlantic north of Iceland and the Arctic Circle on flights between Europe and the West Coast of North America.

Development of the new cross-polar routes began in 1994 when the Russian government initiated work with the airlines and the international community to establish a series of polar routes through its airspace. By mid-1998, the four cross-polar routes were defined and made available for demonstration flights. The first official polar route flight by a commercial airline was conducted in July 1998. U.S. and Asian airlines then conducted more than 650 demonstration flights under special arrangements with Russian authorities. Today, airlines operate nonstop 747 and 777 service to destinations in Asia via the polar routes.

Benefits.

The opening of the polar routes benefits airlines and passengers in several ways. The required flight distances from North America to Asia are substantially reduced, allowing new city pairs to be connected with direct service. As a result, airlines are able to bring even better service to passengers by offering nonstop flying from North America to more Asian destinations.

The more direct routing also provides significant time and fuel savings. Flight times are reduced by an hour or more, and fuel requirements are reduced by several thousand pounds. The savings are even greater if a polar route eliminates the need for an intermediate stop. The combined effect of these savings is reduced operating costs, lower emissions levels, and more competitive fares for passengers.

For example, a flight from New York to Hong Kong via a conventional route requires at least one intermediate stop for fuel. Given the conventional airways, nonstop service is impractical because the circuitous routing results in flights of more than 7,900 nmi. With the new cross-polar routes, the Hong Kong flight can be flown nonstop because of more direct routing and reduced headwinds in the polar region (fig. 1, p. 12, and fig. A).

As a general rule, cross-polar routes provide time and distance savings only on flights from North America to Asia. On the return flight, the polar tracks are less advantageous than conventional, more southerly routes, which typically benefit from strong tailwinds.

The main cross-polar route, known as Polar 1, generally offers efficient routing from West Coast cities such as Vancouver and Los Angeles to destinations on the Indian subcontinent. The other main cross-polar routes, Polar 2, 3, and 4, generally are for flights connecting cities in eastern and central North America with destinations in China and East Asia. Several interlinking airways among the four major routes provide additional flexibility (fig. 1).

Current markets served by nonstop polar routes include New York and Newark to Hong Kong, Chicago

to Hong Kong and Beijing, Detroit to Beijing and Shanghai, and Vancouver to Delhi.

Continued development.

Several challenges must be met before the polar route system will be able to accommodate the expected traffic growth for these routes. Improvements in communications and surveillance capabilities will increase the efficiency and capacity of the system.

The governments of Russia, China, Canada, and the United States are continuing to develop the polar route system through the ongoing activities of the Russian-American Coordinating Group for Air Traffic. Support from the airlines through the International Air Transport Association has been very important and will continue to be critical to the future development of the polar route system.

