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AIR CARGO FACILITIES

During the 1980s and the 1990s, the cargo sector of air transport underwent fast technological change and remarkable growth development in the following 40 years. Modern airports often require designs that accommodate cargo and passenger operations, providing desirable proximity on the airside while separating passenger landside automobile and bus traffic from cargo-related heavy truck and commercial vehicle traffic. Air cargo is a strong component of air transport that tends to be concentrated at cargo hubs, rather than being equally spread across the airport network. Until the deep recession that started in 2008, air cargo had been generally regarded as a major contributor of profit to the airlines. During periods of recession, cargo revenues and cargo traffic are found to contract disproportionately in comparison with passenger revenues and traffic. However, passenger airlines which also concentrate on carrying cargo claim that cargo operations are competitively profitable even when fully allocated costs are considered but especially profitable on a marginal-cost basis.

In many ways, the functions performed by the cargo terminal are very similar to those that take place in the passenger terminal, even though the aspects of the two areas are strikingly different. The cargo terminal serves four principal functions: conversion, sorting, storage, and facilitation and documentation.

Although most airports are capable of handling air freight in some capacity, the size and form of the cargo terminal facilities vary substantially. The degree of sophistication provided depends on the following factors: mix and flow characteristics of the cargo, characteristics of the surface and air vehicles, materials handling, documentation, and communication techniques, degree of mechanization.

In conversion, the size of a load is changed by combining a number of small loads into a larger unit, such as a pallet or container, which can be more easily handled airside. A conversion also almost certainly takes place in flow patterns. The landside flow is characterized by the continual arrivals or departures of small loads, which may form either the entire load or part of the load of a truck. These loads are batched into individual aircraft loads.

The sorting function occurs as the terminal accepts loads consisting of cargo bound for a number of different destinations, combines them, and forms aircraft loads for individual destinations.

Storage is necessary to permit load assembly by conversion and sorting, since flow rates and patterns on the landside and airside are quite dissimilar.

Finally, facilitation and documentation are conveniently carried out at the cargo terminal, where frequently a physical transfer takes place between the surface and air carriers and such governmental controls as customs are normally performed. The efficient operation of a large, modern cargo terminal is vitally dependent on modern documentation procedures.

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