

5 Airports with cool bridge taxiways

- A Monitor Desk Report

Date: 02 December, 2023



Bridges across roads, railways, and rivers are a common feature of transport networks around the world, but they are sometimes found at airports, too.

Bridges allow airports to expand despite the presence of major roads, or otherwise challenging topography. They also provide passing motorists with a unique close-up view of aircraft.

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Airport bridges normally accommodate either a taxiway or a runway. Both bridges are similar in structure, but a runway bridge is likely to experience different stresses and, therefore, include additional support in the form of steel girders.

These unique architectural features must be built to withstand heavy aircraft weights, also taking into account future aircraft developments.

The heaviest passenger aircraft currently in service is the Airbus A380, which has a maximum take-off weight of 575 tons, and while this is unlikely to be surpassed anytime soon, future-proofing the bridge design can save expensive redevelopments later on.

While they might sound like complex constructions, airport bridges are nothing new, with the earliest dating back to 1953 at Los Angeles International Airport (LAX). This article focuses on five unique airport bridges around the world, from the oldest to the newest.

1) Los Angeles International Airport (LAX)

Opened: 1953

The first airport bridge of its kind opened in 1953 at Los Angeles International Airport (LAX), when Sepulveda Boulevard was re-routed and returned to its straight path through a tunnel underneath the airport's two runways (25L and 25R). The bridge was built at a cost of \$3.5 million (approximately \$57 million today), and at the opening ceremony, the first 100 motorists to pass through the tunnel were given commemorative souvenirs.

The six-lane tunnel underneath the bridge was technologically advanced for its time, with fans and ventilation pumps to refresh the air. However, more recently, a build-up of exhaust soot has led to the tunnel being closed periodically for cleaning.

2) Chicago O'Hare International Airport (ORD)

Opened: 1967

Chicago O'Hare International Airport (ORD) opened its first aircraft bridge in 1967, when it was the busiest airport in the world (a title it held on to for more than 20 years). The bridge crossed the Kennedy Expressway, which linked the airport with downtown Chicago, and provided aircraft with a direct link between the terminal buildings and runways 27 and 32R. Still in use today, the tweet below shows just how close the aircraft are to the traffic below as they pass over the bridge:

The idea for the bridge was conceived in 1963, and it was designed to withstand weights of up to 365,000 lb. However, by the time it became operational four years later, aircraft weights had increased significantly, with the bridge needing to be reinforced as a result.

3) Sydney Kingsford Smith Airport (SYD)

Opened: 1967

The first aircraft bridge outside of North America opened in 1967 at Sydney Kingsford Smith (SYD). As the runway was being extended out into Botany Bay, part of the additional infrastructure was built on a bridge over General Holmes Drive. The road tunnel goes six feet below sea level, with special precautions taken to prevent flooding. At the time it was constructed, local newspaper Leader described it as being "one of the biggest road tunnel projects in Australia."

Passing motorists are treated to close-up views of a variety of aircraft operating at Australia's busiest airport, ranging from QantasLink's Boeing 717s to the mighty Airbus A380s belonging to the likes of Singapore Airlines and Qantas.

4) Madeira Airport (FNC)

Opened: 2002

Not strictly a taxiway, but too impressive not to be included in this list, one of the most unique runways in the world can be found at Maderia Airport (FNC). Its runway has been extended twice since the airport opened in 1964, with the most recent extension taking place between 2000 and 2002, which added 9,124 ft to the runway's length.

However, available land to build on was scarce due to the island's mountainous terrain, so this was achieved by building the runway on a bridge 187 ft above the sea, supported by 57 pillars. The impressive structure went on to win the "Outstanding Structure Award" in 2004 from the International Association for Bridge and Structural Engineering.

5) Amsterdam Schiphol Airport (AMS)

Opened: 1967 and 2021

While the first 2,132 ft-long airport bridge at Amsterdam Schiphol Airport was completed in 1967, a further bridge over the A4 highway was unveiled in December 2021, turning the airport's only remaining single-lane taxiway (Quebec) into a dual-lane taxiway. The new bridge measures 820 x 196 ft and forms part of a series of modifications

currently being made to the airport's infrastructure. The construction process can be seen in this video from Amsterdam Schiphol Airport:

The aim of the latest airport bridge was to enhance both safety and operational efficiency by creating a more manageable flow of aircraft. The next stage of the project, estimated to be completed in 2025, is to connect the new dual taxiway to the rest of the airport's taxiways. When it opened, the Chief of Projects & Assets Officer at Royal Schiphol Group, Hanne Buis, said, "By making Quebec a dual taxiway, we are resolving two issues at once - the situation will be more manageable for Air Traffic Control the Netherlands, who direct the taxiing aircraft, and planes will no longer have to wait in line. We are, therefore, increasing safety at Schiphol and improving our service at the airport at the same time. The completion of the new aircraft bridge is a fantastic milestone in the dual taxiway Quebec project."

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