



Reviving and Repurposing the Iconic TWA Flight Center

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Abstract

The Trans World Airlines (TWA) Flight Center, at John F Kennedy International Airport, New York is one of the most iconic buildings of the 20th Century. Designed by architect Eero Saarinen, the futuristic design was widely considered symbolic of the Jet Age.

This paper presents a brief overview of the historic building structure, and describes how a series of structural alterations are being made to transform the former airline terminal head-house into the lobby and reception areas within a new hotel and conference center development. It details how creative design can be used to deliver adaptive re-use projects which move beyond basic restoration to deliver elegant structural solutions to address the future and continued life of existing buildings.

The latest 3D technology was leveraged throughout the project, including point cloud scanning, combined with Revit models of the structure constructed from record drawing information.

Keywords: Concrete Shell, Eero Saarinen, Historic Structures, Extending Service Life of Existing Structures, Strengthening and Repurposing of Structures, Underpinning, BIM, Aviation

1 Introduction

Constructed in 1962, The TWA Flight Center is an instantly recognizable landmark of the 20th century but has laid empty for over 15 years. As part of the construction of the Jet Blue Terminal 5 in 2008, much of the functioning parts of the old terminal were demolished, so that today only the head-house and two flight tube connectors remain.

The ambitious plan to convert the building into a new hotel and conference center will allow future generations to experience this remarkable structure once again. Arup has provided Structural Engineering design services from concept design through construction.



Figure 1 Photo of TWA Flight Center c.1962 (Photo Credit Ezra Stoller)