AIRTRAIN, NEW YORK, USA

OVERVIEW

LOCATION: JFK AIRPORT, NEW YORK
SCOPE: INTRA-URBAN
TRANSPORT MODE: LIGHT RAIL
PRINCIPAL CONSTRUCTION: GRADE
NEW LINK: YES

PRINCIPAL OBJECTIVES

STRATEGIC TRANSPORT LINK
INCREASED CAPACITY
ALTERNATIVE TO CAR
REDUCED TRAVEL TIMES
REGENERATION (EMERGENT OBJECTIVE)

PRINCIPAL STAKEHOLDERS

CLIENT: PORT AUTHORITY OF NY & NJ
CONTRACTOR:
AIR RAIL TRANSIT CONSORTIUM
FUNDER: PORT AUTHORITY OF NY & NJ
REGULATOR: FEDERAL AVIATION ADMIN.

PLANNING AND IMPLEMENTATION

PLANNING START DATE: 08/1995
CONSTRUCTION START DATE: 05/1998
OPERATION START DATE: 12/2003
MONTHS IN PLANNING: 33
MONTHS IN CONSTRUCTION: 67
PROJECT COMPLETED: 12 MONTHS BEHIND SCHEDULE

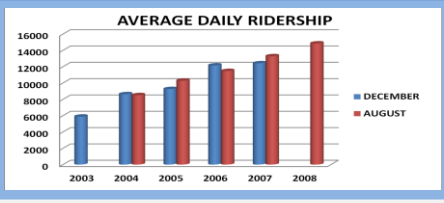
COSTS (IN 2010 USD)

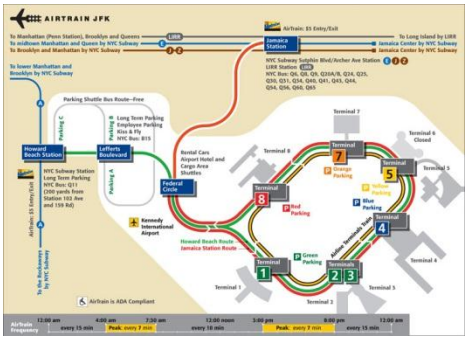
PREDICTED COST: 2.14BN
ACTUAL COST: 2.22BN
PROJECT COMPLETED:
4% OVER BUDGET
FUNDING: 100% PRIVATE

INFRASTRUCTURE QUANTITIES

LENGTH: 13.5KM
NUMBER OF STATIONS: 10
COST PER KM (2010 USD): 0.17BN

PATRONAGE





INTRODUCTION

The Airtrain is a double-track light rail service linking the terminals in JFK Airport via a 2.9km loop, with two spurs of 4.8km and 5.3km to regional transport hubs. It opened in 2003.

The Airtrain serves ten stations: six within the central terminal area of the airport; three in the car rental and long-term parking areas (of which one is an existing station on the city subway network); and one existing station for rail, subway and bus services.

The project included extensive development at the latter two stations. It is part of the Port Authority of New York & New Jersey's term Airport Improvement Program and is associated with a broader vision for the economic regeneration of the Jamaica area in Queens.

BACKGROUND

The main objective of the project was to improve access to, from and within JFK Airport, facilitating the forecast substantial growth in passenger numbers following airline deregulation, whilst providing an alternative to access by car and improving journey times. The objective of regeneration around Jamaica Station emerged during the process of building support amongst local communities.

The Port Authority was first mandated to provide a rail link to the airport in 1962. Despite successive reports and proposals, obstacles including funding issues, a lengthy regulatory process and local opposition blocked progress. In 1978, the Metropolitan Transport Authority introduced a 'train to the plane' service to Howard Beach Station, with a bus shuttle link to the airport, but this was discontinued in 1990. In the same year, a Federal Act allowed airport operators to fund eligible airport improvements through a Passenger Facility Charge (PFC) levied on airline passengers.

The Port Authority began planning an ambitious Automated Guided Transitway (AGT), a 35km direct link to the city centre, in 1992/93, but opted instead for the smaller Airtrain proposal in 1995. Opposition continued from the Mayor of New York (who supported the original aim of providing a 'one seat ride' to the city centre), the Air Transport Association and local communities. However, the PFC funding mechanism allowed the Airtrain to proceed without state or city funding, resolving much of the political opposition to the project. Its use required Federal Aviation Administration approval.

TIMELINE

CONCEPTION: 1962: PORT AUTHORITY (PA) HAS MANDATE FOR AIRPORT LINK

CONCEPTION: 1968: MTA RECOMMENDS RAIL LINK TO CITY CENTRE

PRECURSOR: 1978: 'TRAIN TO THE PLANE' SERVICE INTRODUCED

INCEPTION: 1990: FEDERAL ACT INTRODUCES PASSENGER FACILITY CHARGE

PRECURSOR: 1990: 'TRAIN TO THE PLANE' SERVICE DISCONTINUED

CONCEPTION: 1993: PA SCOPING AUTOMATED GUIDED TRANSITWAY (AGT) SYSTEM

INCEPTION: 1995: DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS) ON AGT SYSTEM SUBMITTED

INCEPTION: 1995 (AUG): FAA AGREES TO USE OF PFC FOR AIRTRAIN SCHEME

CONTROVERSY/DELAY: 1996: ATA OPPOSITION - FAA APPROVAL ON HOLD

INCEPTION: 1997: FINAL EIS ON AIRTRAIN SCHEME, INCLUDES APPRAISAL OF ALTERNATIVE OPTIONS

CONTEXT: 1997: PA BEGINS CONSTRUCTION OF AIRTRAIN AT NEWARK AIRPORT

INCEPTION: 1998: FAA APPROVAL

CONSTRUCTION: 1998 (MAY): CONSTRUCTION BEGINS (DBOM CONTRACT)

INCEPTION: 1999: CITY COUNCIL APPROVAL. FINAL FAA APPROVAL INCLUDES PLANS FOR JAMAICA STATION

CONSTRUCTION: 2001: CONSTRUCTION BEGINS AT JAMAICA STATION

ACCIDENT/DELAY: 2002: FATAL ACCIDENT DURING TEST RUN

CONSTRUCTION: 2003: CONSTRUCTION COMPLETE

DELIVERY: 2003 (DEC): LINE OPENS

FAA approval was dependent on eligibility criteria and came in several stages. Another crucial element was the city council's permission for the Port Authority to use the right of way on the Van Wyck highway, thus minimising the impact on local residential communities and remaining within the FAA's eligibility criteria.

The 1997 Environmental Impact Statement included an appraisal of alternative options for improving access to the airport. During construction, a community outreach program was set up, delivering local area improvements and awarding contracts to local businesses.

CHARACTERISTICS

The Port Authority was the client, awarding a Design, Build, Operate and Maintain contract to the Air Rail Transit Consortium (a joint venture of Bombardier Transportation, Skanska USA, STV Inc., Alcatel Canada, and Perini Corp). The estimated cost increased from USD 1.1bn in 1996, to USD 1.6bn in 1998 (USD 2.14bn in 2010 prices), including the DBOM contract of USD 1.2bn. The final cost was USD 1.88bn (USD 2.22bn in 2010 prices), 4% over budget.

Trains have been designed to also operate on the rail and subway tracks, allowing a 'one seat ride' to be developed in the longer term. The need to maintain normal traffic conditions on the heavily congested highway network was a constraining factor in construction.

TIMELINE ISSUES

The Port Authority's decision to proceed with the Airtrain, instead of the more ambitious AGT project, and the introduction of the PFC funding mechanism were the key events enabling progress.

The use of a DBOM contract allowed simultaneous design and construction, reducing construction time. However, a fatal accident during a test run caused a one-year delay to the opening.

FUNDING

The PFC was the main source of funding (70% or USD 1.4bn), the Port Authority's capital funds providing the remainder (30% or USD 0.6bn). Operating costs are covered by fare revenues and the avoided costs of bus shuttle services.

Actual ridership numbers have been lower than forecast but have increased steadily since the project's opening. Intra-airport and staff trips are free, and their inclusion in traffic forecasts has made comparisons between forecast and actual traffic difficult.