Issue: “JFK is not the airport passengers expect when arriving in one of the greatest cities in the world”…


- JFK has insufficient terminal and gate capacity
- Decades of ad-hoc expansion with no master plan have resulted in a disconnected airport
- Access is unreliable and challenging and internal roadway networks are confusing
- Inefficient and aging Cargo Facilities
- Peak period overcrowding occurs in on-Airport transportation options
- Projected growth will continue, with 59 million passengers in 2016 with forecasts reaching 100 million by 2050
- As passenger demand increases, the already congested airfield, terminals, roadway and parking systems will be further strained
- Failure to appropriately meet demand will have economic consequences
Vision Objectives:

- Create a more unified, interconnected terminal layout
- Simplify the on-airport roadway network
- Centralize parking facilities
- Ensure world-class amenities
- Airside improvements to reduce ground delays
- Develop state-of-the-art cargo facilities
- Increase AirTrain JFK capacity
- Improve roadway access (VanWyck expansion) and expand rail mass transit (“one seat ride”) to JFK
Redevelopment Planning Authorization—$50M

PA Board Authorization – Feb. 2017

• Vision Plan

• Airfield Capacity

• Master Plan Studies
  • Roads & Utilities
  • Terminal 1 Replacement
  • Terminal 4 Phase III
  • Terminal 7 Replacement
  • Terminal 8 Parcel M+
  • Cargo Development

• Aviation Support Facilities (Separate Efforts)
  • Fuel Farm
  • AirTrain Expansion Fleet
  • CoGen
  • Airport Access
JFK Redevelopment

- Airport Access
- Cargo
- AirTrain Enhancements
- Terminals
- Roads & Utilities

© Your Code

THE PORT AUTHORITY OF NY & NJ
JFK Redevelopment Efforts & Issues

1. 3rd Party Terminal Development Proposals for T1, T4, T5, T7 & T8 being Evaluated.

2. Aviation Demand Forecast for JFK submitted and approved by FAA.

3. Master Plan Team evaluating “ring road” options. Securing data to further analysis.

4. Master Plan Team performing CTA modeling efforts

5. Aviation initiated development of updated Terminal Development Standards

6. Master Plan Team collaborative dialog w/ MTA LIRR w/regard to One-Seat Ride Potential

7. Master Plan Team collaborative dialog w/ NYSDOT w/regard to VanWyck Managed Use Lane
JFK Vision Plan
1. Van Wyck Expressway Managed Lanes Program - NYDOT
   a. Public Scoping Meeting: Sept 2017

2. One Seat Ride – MTA LIRR

3. JFK AirTrain Capacity Enhancements – PA

4. Jamaica Station Modernization - MTA
North Cargo Area
- APD Cargo Village Concept
Aeroterm Proposal – Cargo Warehouse Facility

Relocated Taxiway “CA” and “CB” - Full ADG VI Compliance
Other Redevelopment Program Areas

1. Aviation Fuel Storage and Distribution

2. Kennedy International Airport Cogeneration (KIAC)
   a. ConEd Brownsville Grid Proposal
   b. Long Term Redevelopment (KIAC 2.0)
Questions ?
NYSDOT - Access to JFK

MTA - One Seat Ride

One-Seat Ride Options to JFK

AirTrain Connection
Least expensive option; would compete with commuter service

LIRR Main Line

Jamaica

Grand Central Terminal

Penn Station

Manhattan

2nd Ave Subway Extension to Airport
24/7 service, but not express

3rd Avenue Express
Express service extending beyond city center; higher costs for non-rail tunnels

LIRR Airport Express
Non-stop express; would prevent elevated park

Super Express
Fast service via new tunnel, very expensive, complicated to build

KIAC – Power & Thermal Energy
North Cargo Area Development

JFK Fueling

AirTrain Capacity Enhancements
Air Traffic Obstruction Evaluation Familiarization

Title 14 of Code of Federal Regulations (CFR) 14 Part 77 Obstruction Standards

Presented to: JFK Airport Committee
By: Chris Shoulders, OEG
Date: March 5, 2018
Overview

- **Mission/Authority**
- **Obstruction Evaluation Stakeholders**
  - Flight Standards
  - Technical Operations
  - Flight Procedures
- **CFR 14 Part 77 Surfaces**
- **CFR 14 Part 77 Approach Surface Penetrations**
  - Permanent Structure
  - Trees & Vegetation
- **CFR 14 Part 77 Penetration Procedure**
Mission

• **Federal Aviation Administration**: Provide the safest, most efficient aerospace system in the world.

• **Air Traffic Obstruction Evaluation Group**: Conduct aeronautical studies to protect navigable airspace and airport capacity
Authority

• FAA JO 7400.2L, 5–1–2 AUTHORITY

• a. The FAA’s authority to promote the safe and efficient use of the navigable airspace, whether concerning existing or proposed structures, is predominantly derived from Title 49 U.S.C. Section 44718.

• b. Title 14 of the Code of Federal Regulations (14 CFR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace, was adopted to establish notice standards for proposed construction or alteration that may result in an obstruction or an interference with air navigation facilities and equipment or the navigable airspace.
Obstruction Evaluation Stakeholders

Frequency Management
- Flight Procedures
- Flight Standards

Office of Airports
- Technical Operations
Obstruction Evaluation Process

After verification of data, all stakeholders are required to provide comment:

- No Objection
  Favorable Determination

- Objection
  Notice of Presumed Hazard (NPH)

NPH is a pre-decisional notification that the FAA has concerns and invites sponsor’s input or negotiations. The sponsor has 30-days to change the structure (i.e., reduce height), terminate the study or request further study.
Part 77 Obstruction Standards

Obstacle would require further FAA study if:

• (1) A height of 499 feet AGL at the site of the object.

• (2) A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

• (3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

• (4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal Airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.

• (5) The surface of a takeoff and landing area of an airport or any imaginary surface established under §77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.
§77.19 Civil Airport Imaginary Surfaces
§77.19 Approach Surface Evaluation

Aeronautical Study: 2018-AEA-2640-OE
Latitude: 40 38 22.69 N
Longitude: 73 44 36.22 W
Site Elevation: 8 Feet
AGL: 80 Feet
AMSL: 88 Feet
THLD 31R Elevation: 11.8 Feet
§77.19 Approach Surface Evaluation

Calculations

Centerline Distance: 4550 Feet
Primary Distance: 4350 Feet

4350 / 50 = 87 Feet Rise

The AMSL height of the slope at the obstacle:

\[
\frac{87 \text{ Feet Rise} + 11.8 \text{ Thld Elevation}}{98.8 \text{ AMSL}}
\]

Since the height of the structure is 88 feet AMSL, the hotel does not penetrate.
§77.19 Approach Surface Evaluation
Trees and Vegetation
§77.19 Approach Surface Evaluation

Trees and Vegetation

- Primary Distance: 869.05 Feet

- $869.05 / 50 = 17.38$ Rise

- 17.38 Rise

- +11.2 Thld Elevation (Rwy 22R)

- 28.58 AMSL

- Any tree height exceeding 28.58 AMSL will penetrate the Part 77 Approach Surface.
Obstruction Evaluation Process

FAA JO 7400.2 K, 6-3-3
DETERMINING ADVERSE EFFECT

If a structure first exceeds the obstruction standards of Part 77, and/or is found to have physical or electromagnetic radiation effect on the operation of air navigation facilities, then the proposed or existing structure, if not amended, altered, or removed, has an adverse effect if it would:

- Require a change to an existing or planned IFR minimum flight altitude, a published or special instrument procedure, or an IFR departure procedure for a public-use airport.
- Require a VFR operation, to change its regular flight course or altitude.
- Restrict the clear view of runways, helipads, taxiways, or traffic patterns from the control tower cab.
- Derogate airport capacity/efficiency.
- Affect future VFR and/or IFR operations as indicated by plans on file.
- Affect the usable length of an existing or planned runway.
Obstruction Evaluation Process

FAA JO 7400.2K 6–3–4
DETERMINING SIGNIFICANT VOLUME OF ACTIVITY

The type of activity must be considered in reaching a decision on the question of what volume of aeronautical activity is “significant.”

For example, if one or more aeronautical operations per day would be affected, this would indicate regular and continuing activity, thus a significant volume no matter what the type of operation. However, an affected instrument procedure or minimum altitude may need to be used only an average of once a week to be considered significant if the procedure is one which serves as the primary procedure under certain conditions.

FAA JO 7400.2K 6–3–5.
DETERMINING SUBSTANTIAL ADVERSE EFFECT

A proposed structure would have, or an existing structure has, a substantial adverse effect if it causes electromagnetic interference to the operation of an air navigation facility or the signal used by aircraft, or if there is a combination of:

a. Adverse effect as described in paragraph 6–3–3, Determining Adverse Effect; and
b. A significant volume of aeronautical operations, as described in paragraph 6–3–4, DETERMINING SIGNIFICANT VOLUME OF ACTIVITY would be affected.
Questions