

Jfk new york airport operations essay sample

[Transportation](#), [Airlines](#)



Introduction

John F. Kennedy (JFK) International Airport is in Queens County in the southern part of the New York City. The airport is about 19km Lower Manhattan and it is the airport that is used by the majority of the international passengers to get to United States. In addition to this JFK is also leading in terms of the freight that is getting to the country in terms of value. The port authority of New York and New Jersey is in charge of the management of the airport in addition to the management of Network Liberty and LaGuardia, the two other major airports which are in the metropolitan area of New York. There are ninety airlines that operate out of JFK including Delta Air Lines and American Airlines and JFK (Kerry, 2007)

Terminals

The passenger terminals at JFK are arranged in a pattern that resemble letter U with the centre part being reserved for parking, hotels and a variety of other airport facilities. There is a connection of the terminals with AirTrain and access road system.

Terminal 1 which has a total of 11 gates was build as an Eastern Airlines hub and there was a demolition of the terminal with the reopening of the new one in 1998. Terminal 2 opening took place in 1962 and was to serve Northeast Airlines, Northwest and Braniff. The terminal has 11gates and now has been taken over by Delta Airlines (Kerry, 2007)

Terminal 3 which have a total of 11 gates, it was built for Pan American in 1960 with an expansion in 1970 to carter for the introduction of 747. This

terminal is currently being used entirely by Delta Airlines and there is a connection to Terminal 2.

Terminal 4 is an international terminal which has the capability handling Airbus A380. The development of this terminal was done by LCOR Inc and its management is under Schiphol Group. This was the first terminal in America that was managed by a foreign operator and is a main international arrival gateway at the airport. This terminal with 17 gates has a building which occupies an area of 139000sq m, it was opened in 2001 and it cost \$1.4 billion.

Terminal 5 which are also called TWA Flight Centre is the one that is currently serving JetBlue Airways and it has 26 active gates. Terminal 6 which has 14 gates was built in 1970. With the opening of a temporary complex by JetBlue there was an addition of 7 extra gates with a result of an increase in flight capacity. BOAC and Air Canada were behind the building of Terminal 7 in early 1970s. There was an agreement between the Port Authority and British Airways to expand the terminal. American Airlines began an eight-year program whose aim was to replace the outdated and cramped terminals 8 and 9 with a modern facility. The new Terminal 8 officially opened its gates in August 2007 though it had been handling some flights for 2 years.

Weather conditions

The weather conditions vary greatly at the JFK airport depending on the season. There are heavy thunderstorms during the spring and summer

seasons and this affect the airport activities. During the winter seasons there is wind and winter snow, all this weather condition calls for investments in different state of art equipment and experience for the pilot for the airports activities proceeding with no major disruption.

Easing terminal congestion

One way of easing terminal congestion is by use of remote baggage check in. In this system the passenger does not need to carry his luggage around after checking out of a hotel or before leaving the airport. Certified Airline Passenger Services CAPS are the pioneer of these services in major airports. By the passengers submitting a small fee they are able to check in their luggage two to 12 hours before the departure time of the aircraft they are boarding. The passengers will then be given the boarding passes, have seat assignment, baggage claim checks done and then the baggage is transported and delivered to the required airline (Kerry, 2007).

This system has been in place from the year 1999 with the change in the federal law in the Air Carrier Standard Security Program (ACSSP) which has led to the allowing of airport check in and baggage acceptance to be done off the airport. It is requirement by FAA that such a service should be a duplication of the system in existence at the airport.

In this system the screening of the bags for security purposes is not omitted and it still takes place at the airport but CAPS employees who are in charge of accepting the luggage direct some mandatory security questions, which are normally asked airline employees, to the luggage owner. This service is

beneficial to airports in that they undertake the plan of capacity enhancement programs. However this remote service must have sorting place inside the airport restricted.

Runways

There are four parallel runways at JFK airport that run next to central terminal area. These are 22R, 4R-22L, 13L-31R and 13R-31L, with 13R-31L being the commercial runway that is second longest in North America with a length of 14, 572 ft. The runway that is longest in US is at Denver International Airport with a length of 16000 ft. (BNET)

The length of runway 4R-22L is 8400ft and it has a width of 200ft. These runway has Instrument Landing System (ILS) at both ends, in addition to touchdown zone (TDZ) lighting and the Approach landing system.

Runway 4R is of category III A/L ILS runway and on this runway it is possible to make a landing with a visibility of 180m and more than this for aircrews that are more qualified. The first ever installation of the EMAS, (Engineered Material Arresting System) in North America was done at the northeast end side of the runway in the year 1996. The bed of this runway is made of cement cellular materials which can decelerate and bring the plane to a stop incase it overruns the runway. Runway 4L-22R is 3460m and its width is 46m and has an installation of ILS on both ends that makes it possible for landing with a visibility of three-quarters of a mile.

The length of runway 13L-31R is 3000m long and its width is 46m and there is ILS equipment at both ends. There are other visual aids that 13L has that

include Visual Lead-In Lighting System (LDIN) and Approach Slope Indicator System (VASI)

As much as the airport has four runways there is a limitation of operation to three due to the fact that the air space in New York is shared. For maximum efficiency at the runways either two runways are used for arrival and one for departure or vice versa. With the mixing of arrivals and departures during the day there is reduction in the benefit of optimizing the runways that are active in favor of departure or arrivals (BNET, 2008)

Runway 13L-31R is 10,000 feet (3,000 m) long by 150 feet (46 m) wide and is equipped at both ends with ILS and ALS systems. Runway 13L has two additional visual aids for landing aircraft, a Visual Approach Slope Indicator System (VASI) and a Lead-In.

Cargo handling

JFK is the most busy international air freight gateway by the value of shipments in US and the second in the whole world. In terms of value, 21% of all the U. S. international air freight and 11% by weight passed through the airport in 2003. With London, Frankfurt, and Brussels being JFK top three trade routes, the airport becomes the major air cargo hub that is between United States and Europe. It should be noted however most of the European airports acts as an intermediate in the global supply chain. The major destination of the cargo that flies out of JFK is London, Seoul, and Tokyo, while the top origin of the cargo that come into the airport are Seoul, Hong Kong, Taipei and London in that order.

Some of the merchandise that passes through JFK includes electrical machinery, knit apparel, footwear, plastics, medical instruments and paper.

The total number of cargo air carriers which undertake their operation at JFK comes to about 100, which includes: Air China, ABX Air, Air France, Asiana, Aerologic, Atlas Air, CAL Cargo Air Line, Cathay Pacific Cargo, Cargolux among others (BNET, 2008).

The airport has cargo maintenance facilities which are situated at north and west of the main terminal area. The airlines that have dedicated cargo terminals at JFK are: UPS, Korean Air, United Cargo, Japan Airlines, Evergreen International Airlines, EVA air, DHL and Continental Airlines.

The airlines that are operating dedicated cargo terminals at the airport have been opening new facilities at the airport. There was the opening of a \$103 million cargo terminal by Korean Air Cargo in 2000, which was the largest facility of its kind on the East Coast that has a warehouse floor occupying an area of 5100 sq m and has a handling capacity of 200, 000 tons annually.

There was also the opening of a new state of facility by the American Airline's cargo division dedicated to priority parcel service facility located at Terminal 8. A 30 minute drop-offs and pick-up is offered by the new facility for priority parcel shipment in US.

Use of Senses Surface Management Technology at JFK

To enhance efficient operation at the airport there has been an investment in the use of senses Surface Management Technology at JFK airport. The contract was awarded to Senses Corporation by the Department of

transportation. The service will be provided to FAA (Federal Aviation Administration) at JFK. The Aerobahn service will be used by FAA to monitor and measure surface operation at the airport in order to address the possible changes that can be undertaken at the airport to eliminate the congestion that is being experienced at the port and delays in flights.

This technology brings a combination of scheduling of flights and operational information that correspond together with the ground surveillance data obtained from the airport's surface surveillance system in order to provide a real-time, surface operation view that is highly accurate. At the airport, Airport Surface Detection Equipment, Model X (ASDE) systems gives the information about the position of the Aerobahn. With this technology in place it will be possible for the FAA Aerobahn users to have access to a real-time surface operations and a playback mode of the same at the port, and the overall result of this is a better understanding of how effective the existing policies are.

The following are some of the specialized tools that are accessible to FAA user through Aerobahn

- Taxi View -This is important in provision of the real-time condition displayed by an aircraft when taxiing on the surface. With the TaxiView it is possible for the departure queues to be observed, and at the same time make an observation of actual arrival demand, and make a contrast of the demand with the number of available gates for an arriving aircraft.

- OpsView- This delivers real-time robust information and also historical information which is used in the analysis and reporting, with the major reason being to mitigate the impact of any future occurrence.
- QuickView- This offers an assessment of the airfield operations that is quick and accurate an example being the real-time status of arrival and departure of flights. QuickView's alerting system are capable of delivering an alert that is visual incase a performance threshold that is configured, like taxi in and taxi out times are either met or exceeded with a particular aircraft so to manage ground operations proactively. This technology is already in use in North America, Europe and Asia where it provides airports and airlines with a view of the status of airside that are critical.

Taxiways and other equipments

There is over 40km of taxiways dedicated to facilitating the movement of aircrafts in and around the field. The taxiways have a standard width of 23m and 7.6m of heavy duty shoulders and the same measurement of pavement for erosion control. The taxiways are made of asphalt concrete composition that measures about 460mm in thickness and there is also lighting at the centerline of the taxiways. The illumination sign system that has been constructed on the runways gives the required information to taxiing aircraft (BNET, 2008).

There is a 98m tall Air Control Tower that is located at Terminal 4 ramp-side which began a full FAA operations in 1994. There is Airport Surface Detection Equipment (ASDE) radar which is placed on the top tower while a

power at the airport is generated by electric cogeneration plant that is gas fired. All the passenger terminals in the airports are heated or cooled by use of thermal energy that captured as a waste from the plant. Engine overhaul building, 32 million gallon that stores aircraft fuel and seven aircraft hangers are some of the aircraft facilities found at the airport.

Conclusion

To address the issue of congestion that is being experienced at the JFK airport it is clear that there are steps which can be taken within the airports itself while the other steps involve the aviation industry in the whole of New York city. At the port level the solution is through embracing new technology and adopting new ways of doing things like using the remote baggage check in. There should be efficiency of performance when there is a change in the way of doing things in order for the positive outcome to be realized. There is also a need to expand the terminals to allow for quick checking in of passengers.

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