

The following are questions and comments that JFK Airport Committee members asked during the meeting on June 28th. The questions have been copy edited so they were understood by FAA personnel in order to provide a response.

1. A member of the LGA Roundtable asked about the continuous descent approach. He took videos of planes descending and asked why are they coming in at 2000 ft. and not 4000 ft.? He questioned FAA at the LGA Airport Committee meeting on June 21, 2017, and FAA stated it takes a long time to bring bigger planes down but he was not happy with the answer. Why are airplanes at a very low altitude to land?

LGA has instrument approaches to all four runway ends. The majority of LGA's Instrument procedures are designed to align aircraft on the extended runway centerline at the Initial Fix (approximately 10 miles from landing threshold.) Depending on the runway in use, the aircraft are established at altitudes between 2700 to 3000 feet for stabilized descent to the runway. Air Traffic rules allow controllers to turn and descend aircraft inside 10 miles, when needed for safety, separation and efficiency.

In order for the FAA to investigate a specific issue, we would need date, time and location to provide an analysis on the video.

2. How do they measure the height or the altitude; is it in relation to sea level or communities?

Air Traffic Control Issues Altitudes based On Mean Sea Level (MSL)

3. Why are they bringing in planes flying closer together? On a particular foggy day, they were 30 seconds apart. What are the separation standards? Also, the DNLs are over 70. When are they going to reduce the DNL? (The member who asked this question lives in old Howard Beach.)
 - a. Aircraft spacing is based on distance and demand, not time. When the arrival demand is high, there is a greater need to have aircraft at the minimum spacing to minimize delays. Basic separation for level flight requires Air Traffic to keep aircraft a minimum of either three miles lateral separation or a minimum of 1000 feet vertical separation between aircraft. Separation standards increase to four, six, or 10 miles when a smaller aircraft is behind a larger aircraft to account for wake turbulence. Wake turbulence is a disturbance in the air that forms behind an aircraft wingtip that can remain for up to three minutes after the passage of that aircraft. Wake turbulence from the larger aircraft can destabilize the smaller aircraft, similar to a smaller vehicle or motorcycle following behind a tractor trailer.
 - b. This question was forwarded to the Port Authority of New York and New Jersey (PANYNJ) for formal response because Airports are responsible for the noise impact on the communities they occupy. The PANYNJ established an Aviation Noise Office staffed by a dedicated team, responsible for collecting and reviewing the noise data, while also responding on an enhanced basis to community complaints. The Port Authority has also streamlined its noise complaint hotline system at 800-225-1071, making it easier for residents to lodge specific complaints about aircraft noise.

4. A member stated there is a direct flight pattern over Woodmere Bay, and airplanes get lower and lower and have been louder over the last few months, comparing the sound to a bomb. She also receives calls to her office that fuel is all over their outdoor furniture.

Aircraft track data was reviewed for 2009-2013, 2016, and 2017; elevations for arrivals and departures were consistent from year to year (2014-2015 data was not reviewed due to airport construction). This data was compared to historic data and it revealed that the aircraft are at the same altitudes as they have flown in the past. Aircraft performance is impacted by numerous variables including temperature. During summer months, higher temperatures cause aircraft to climb slower than in cooler temperatures and therefore, noise exposure may be slightly longer in duration.

Fuel dumping is only conducted during emergency situations. Fuel dumping for these emergency situations usually occurs at higher altitudes which allow the fuel to dissipate before reaching the surface. If you suspect an operator of inappropriately dumping fuel in your area, please provide a complaint at the following location:

<https://hotline.faa.gov/>

Hotline complaints will be routed to the appropriate Flight Standards District Office for investigation.

5. When NextGen is fully implemented, how many more flights will residents have to endure, what is the percentage, and have we taken that into account?

Nextgen is a multi-billion-dollar technology modernization effort that will make air travel safer, more flexible and more efficient. The term NextGen refers to the FAA's ongoing efforts to modernize our air traffic management system. It is not a single entity but rather NextGen encompasses dozens of innovative, transformative technologies, procedures and policies that combine to reduce delays, increase efficiency and produce fewer aircraft exhaust emissions. As to an increase in the number of flights - JFK is a slot constrained airport. This means that the airport has a restriction on the hourly number of scheduled takeoffs and landings often referred to as slots. It would take a change to the rule that governs those restrictions to increase the number of slots. NextGen is more about solving the problems where we have constraints in the system it is not about adding more arrivals or departures – rather how to make them safer and more efficient. It is about better communication and movement of aircraft on the surface to ensure fewer bottlenecks, but not about adding more aircraft to the surface. The improvements that are being made are intended to help the volume of the system flow better, not to increase the flow.

6. A member from Floral Park stated and questioned that flights were at 1600-2100 ft. altitude and was for 7 days straight. It has gotten worst and cannot sleep through the night with 2-3 planes every 4-5 minutes. What is the equitable solution or distribution?

Floral Park receives traffic when the airport is landing on runways 22L and 22R . Aircraft on instrument flight begin final descent at 1800 ft. or higher approximately 6 miles from the runway.

The PANYNJ began a runway rehabilitation project early this year on runway 4R/22L. The construction is being completed in phases to help reduce impacts on air traffic, operators and the surrounding communities. Phase One started February 27, 2017 through June 1, 2017, with a full closure of the runway. Phase Two, from June 1 to September 4, 2017, runway 4R/22L will remain open and available during normal, active hours of operations with nightly closures. The final phase beginning after Labor day thru November 17, 2017, runway 4R/22L will remain closed for operations. This could have a temporary impact on some Floral Park residents when aircraft are arriving runway 22R.

We would need specific information regarding the timeframe in question to investigate any deviation to typical operation.

To handle air traffic demands, all runway configurations are used in accordance with runway selection criteria. Runway selection is based on what runways are available, safety factors such as weather and the wind, operational efficiency and noise consideration. To address equitable distribution of noise, air traffic reviews previous day's operation to see if there is an opportunity to utilize different runways.

7. What are the benefits of NextGen to surrounding communities, where are these assertions coming from, what is the source documentation? How much if any funding went to identify or researching NextGen and how it impacts the communities?

Key NextGen benefits are enhanced safety, increased efficiency, and predictability; getting passengers to their destinations on time to make connections; reducing aircraft exhaust emissions, and reducing the number of people exposed to significant aircraft noise. Associated with NextGen, we are researching new noise-reducing aircraft technologies and noise-mitigating operational procedures to provide additional benefits.

The technologies and infrastructure themselves do not impact communities. It is the application/implementation of these technologies and procedures at specific locations that can affect communities. Therefore, we study and document the potential impact of proposed application/implementation of technology at a specific location, as part of FAA's compliance with Federal requirements under the National Environmental Policy Act.

NextGen is multibillion dollar undertaking for almost 10 years. Given the magnitude of this endeavor, it is difficult to identify the complete NextGen budget structure to provide a specific answer to the second part of this question. Some information pertaining to this question can be reviewed at the following links:

<http://www.faa.gov/nextgen/>
<http://www.faa.gov/nextgen/communityengagement/>

8. Planes fly closer together. Airplanes purposely stay low when they arrive, but when they take off, they ascend quickly and then stay at altitudes of 2000-5000 feet. Why are planes being kept at a low altitude, thus creating noise? This started about 5-6 years ago. Additionally, airplanes do not stay over water. Why do they come back over land?
 - a. See answer 3a.

- b. Arrivals are descended to altitudes to ensure aircraft are on the Instrument Landing System (ILS) glide slope for final approach. However, the arriving aircraft must be 1000 feet (based on separation standards) below traffic departing JFK airport and must climb above the descending traffic. An instrument landing system operates as a ground-based instrument approach system that provides precision lateral and vertical guidance to an aircraft approaching and landing on a runway. The pilot controls the aircraft so that the glide slope indicator remains centered on the display to ensure the aircraft is following the glide path of approximately 3° (degrees) above horizontal (ground level) to remain above obstructions and reach the runway at the proper touchdown point (i.e., it provides vertical guidance).
- c. Traffic departing must be directed in an area where the least arrivals or other traffic affecting the departures from climbing to higher altitudes. Departure gates have been established to direct the flow of departure traffic over areas where the departures can be given the best climb rates with other traffic in the area. Aircrafts have to come back over land in order to establish centerline for the runway they are arriving.

9. How are we addressing security with NextGen? I am concerned about possible hacking of NextGen technologies.

Cybersecurity is an important priority for the National Airspace System (NAS), which has been designated as critical infrastructure by Presidential Executive Order, requiring greater protection. This includes protection from a myriad of different threats such as intrusion from outside sources, insider threats and the possibility of inadvertent downloading of viruses. The FAA has a Cyber Steering Committee (CSC) which includes agency representatives from Air Traffic Organization (ATO), NextGen, Security and the Department of Transportation's (DOT) Chief Information Security Officer. The group identifies cybersecurity priorities and develops strategies that affect the whole agency. This is just one of the steps taken to protect the NAS.

10. This member stated they live next to the runway. Why do airplanes land at the tip of the runway when there is so much runway to use; thus, coming close of at least hundreds of feet to homes? What is the displaced threshold and where is it?

- a. A displaced threshold is a runway threshold located at a point other than the physical beginning of the runway. Arriving aircraft must land at or beyond the displaced threshold. Moreover, the threshold is the first useable landing point of a runway and the landing location is determined by the pilot. All aircraft do not have the same performance specifications. Aircraft are grouped by similarity in performance capability. Larger, heavier aircraft will use more runway to land. Smaller, lighter aircraft use less runway. JFK serves a multitude of aircraft from different groups and specifications.
- b. Runway 4R/22L is the primary landing runway and has no displacement. Runway 4L has a displacement of 460ft, runway 22R displacement is 3,424ft, runway 13L displacement is 907ft, and runway 31R displacement is 1,027ft. Runway 13R has a displacement of 2,043ft, and runway 31L has a displacement of 3,263ft.

- 11.** Regarding Performance Based Navigation (PBN), did the FAA or PANYNJ allow a non-government entity to perform independent studies? It seems it was done by government, therefore, do you allow outside studies by an independent body to analyze the data?

If you are referring to technical analysis in support of the PART 150 study, we would have to defer to the PANYNJ for details how the study is being conducted and which consultant they selected to perform the study.

If you are asking if the public can hire a consultant to build a procedure...the answer is that the public can hire a third party Instrument Flight Procedure (IFP) Service Providers to build a procedure. The type of procedure the service provider can build is limited to what is known as a Required Navigation Procedure (RNP ARR). This type of procedure requires a certain level of equipage on the aircrafts that fly the procedure. The Airlines must be certified to use the procedure once the procedure is developed. Understand, the FAA does not provide funding for procedural development of this nature. Any cost associated with the development and maintenance of the procedures rest with the requesting party.

- 12.** What are they (NextGen) saying about flights during inclement weather, do they have tech now that allows flights during bad weather?

NextGen technologies like Corridor WX Information System, Route Availability Prediction Tool, etc., will provide enhanced predictability for better routing of aircraft during adverse weather.

Air traffic control's number one priority is safety. Today when weather conditions deteriorate, runways with the precision instrument landing system (ILS) procedures provides controlled stabilized descent ability to complete landing.

- 13.** Does an increase in capacity correlate with an increase in emissions (more planes flying more emissions)? Videos state that emissions are reduced. Is there any data?

Planes are becoming more fuel efficient and the newer jets have reduced fuel burn which means less emissions. If the fleet mix is being modernized while growing, then emissions could be going down or staying level. However, if there is no turnover in the fleet, then a growth in operations would lead to a growth in emissions. Emissions are reduced when planes fly efficiently. The less time spent idling on the tarmac, the less a plane will emit. NextGen is intended to improve route efficiency and help manage aircraft on the surface. Newer aircraft have more fuel efficient designs. The use of biofuels also helps to reduce carbon emissions.

See following link for additional information:

http://www.faa.gov/nextgen/update/progress_and_plans/environment/

In addition, this question was shared with PANYNJ for any additional information they may be able to provide.

- 14.** Based on the current administrations view on climate change, does the FAA feel they have responsibility to the citizens being that the President feels we are not a priority? We fear what will come out of his administration is that public concerns will be diminished? Technology is out there, such as stealth (which no one hears) and drones in order to make airplanes quiet. So why can't the FAA take that technology for the benefit of the citizens near airports? Can FAA borrow from the military?

FAA maintains noise certification standards for new production aircraft but does not have the authority to force technology on airlines in order to change fleet. Through collaboration with aircraft and engine manufacturers, the FAA does, however, look for opportunities to encourage improvements in quieter and more efficient aircraft. Through the Continuous Lower Energy, Emissions and Noise (CLEEN) Program, FAA works with cooperating aircraft and engine manufacturers to accelerate the development of new aircraft and engine technologies and advance sustainable alternative jet fuels with the goal of reducing noise, emissions, and fuel consumption.

The FAA is not aware of any military technology capable of reducing noise exposure to airport communities.

- 15.** NextGen creates the line going into the airport. Will FAA be able to move that line so that there will not only be one path and create fair share equity? Can the line be moved so one neighborhood doesn't receive all the noise?

a. The FAA Air Traffic Organization is one of the entities that has provided the PANYNJ with recommendations for the PANYNJ Part 150 to address noise issues. The community and FAA can also work through the roundtables to develop recommendations. Many of the proposals are Performance Base Navigation (PBN) procedures which is one of many tools that fall under NextGen umbrella. These PBN recommendations includes:

- i. Dispersal Heading for departures off the same runway
- ii. Redirecting departure headings to over water
- iii. Offset procedures for Nighttime arrival operations over highways or industrial areas.

b. Once a route is established it cannot be shifted however multiple routes can be developed (transition from a common point on a Standard Terminal Arrival Route (STAR))

- 16.** NextGen engines are supposed to be quiet, and certain European airlines are using but not being forced to upgrade immediately, why have airlines not gone to the new engines? Claims that the engines are quieter but planes are larger.

Engines are developed by manufacturers, not NextGen. The term NextGen when used in context with engines being manufactured today means engines comprised of the latest technology. When FAA uses the term NextGen we are referring to a multi-billion-dollar technology modernization effort. While the word is the same it has different meanings.

The question regarding why Airlines have adapted the newer engines for use in their fleet will have to be posed to individual airlines.

17. Noise meters were installed two years ago near LGA. I have been living in Woodmere for 60 years and the flight pattern has not changed.

This question was shared with PANYNJ for response.

18. We understand the PANYNJ has a complaint board. What is the standard and where do the complaints go? How do you want the public to address/submit the complaints?

This question was shared with PANYNJ for response.

19. We don't want planes and we understand that is not possible. So what is possible to mitigate the noise?

This question was shared with PANYNJ for response.

20. What has been done or can be done about soundproofing schools?

This question was shared with PANYNJ for response.

PANYNJ Responses:

3. Why are they bringing in planes closer? And on a foggy day, they are 30 secs apart, what are the separation standards? The DNLs are over 70, when are they going to reduce the DNL (member lives in old Howard Beach)

First Part responded by the FAA.

The Part 150 Noise Compatibility Planning Study for JFK airport is well underway. The first phase of the Study involving generation of Noise Exposure Maps (NEMs) has been completed (FAA formally accepted the 2016 and 2021 NEMs in May 2017) and the Study has moved into the next phase, development of the Noise Compatibility Program (NCP). The NCP phase involves the evaluation of potential strategies for noise abatement, noise mitigation, and noise program management

The goal of noise abatement measures is to shrink the area within the 65, 70 and 75 DNL contour lines or shift the lines over more noise-compatible land uses such as waterways, industrial/commercial areas, or vacant land. The Port Authority is evaluating a number of proposed strategies for modifying aircraft operations at JFK that could assist in meeting those goals. The abatement strategies under consideration were suggested by the Technical Advisory Committee (TAC) of the Part 150 Study, the public, and the FAA. In addition, the Port Authority is coordinating with FAA (the New York Terminal Radar Approach Control (TRACON)), to determine which of the proposed strategies may be feasible to implement. Once strategies that may be feasible to implement have been identified, then the extent to which their implementation would change the DNL 65, 70, and 75 DNL contours would be evaluated per Part 150 regulation.

13. Does the increase in capacity correspond with the increase in emissions, more planes flying more emissions? But videos state that emissions are reduced. Member wants data.

Air emissions at airports come from a variety of sources: aircraft operations in the air and on the ground, vehicles, fuel systems, heavy duty equipment (e.g., construction equipment), energy usage of airport buildings, and others. Port Authority has been taking measures to reduce overall emissions at its airports, including replacing diesel-powered equipment with electric, requiring new structures to meet national sustainable construction standards (including energy efficiency), providing electric vehicle charging stations at its public parking facilities, improving airport roadway networks to reduce travel time, and the like.

At the same time that Port Authority is implementing measures to reduce emissions, recent technological advances in the design of jet engines and aircraft themselves (improved aerodynamics, reduced weight) are improving fuel efficiency and, therefore, reducing air emissions from aircraft operations. Airlines and the federal government are also exploring potential new fuel sources such as biofuels to reduce the greenhouse gas emissions (GHG) from their operations.

Improving the management of air traffic can also lead to reduced emissions at airports. The FAA, in collaboration with other government agencies, is developing the next generation air transportation system (NextGen). Implementation of NextGen is expected to decrease

aviation's contribution to GHG emissions by reducing aviation system-induced air traffic congestion and delay and making other improvements in air traffic management. According to the FAA, NextGen's modernizations to air traffic management will increase the efficiency of aircraft operations in the air and at airports, thereby reducing fuel consumption and the associated air emissions.

https://www.faa.gov/nextgen/update/progress_and_plans/environment/

16. NextGen engines are supposed to be quiet, and certain European airlines are using but not being forced to upgrade immediately, why have airlines not gone to the new engines? Claims that the engines are quieter but planes are larger.

FAA has imposed requirements to reduce aircraft noise since the late 1960s, and those requirements have become more stringent over time. Under FAA regulations, aircraft are categorized into different "stages" based on noise levels. The higher the stage, the quieter the aircraft. The noise standards for aircraft are developed internationally and implemented in the U.S. by FAA. The FAA has undertaken a phase out of older, noisier civil aircraft, resulting in some noisy aircraft no longer being in the fleet. While older (and louder) aircraft remain in the worldwide fleet, only those that meet current noise certification levels are permitted to operate in the United States.

A coordinated global phase-out of noisier Stage-2 aircraft over 75,000 lbs. was completed in the United States on December 31, 1999. This phase-out resulted in significant improvement in community noise exposure. The International Civil Aviation Organization (ICAO) defined noise levels for aircraft manufacturers to certify Stage-4 aircraft designs beginning in January 2006. This resulted in an average of 10 decibels (dB) noise reduction when compared to Stage-3 level aircraft. In 2016, the FAA began a process to establish a more stringent noise standard (known as Stage-5) to apply to new airplanes certified after December 31, 2017 (or December 31, 2020 for airplanes weighing less than 121,254 pounds). The Stage-5 noise standard would be cumulatively 17 dB lower than Stage-3 noise levels, and 7 dB lower than Stage 4 noise levels

Reductions in aircraft noise, both from engines and airframe, is expected to continue as aircraft manufacturers, engine manufacturers and others advance their research in areas such as improvements in engine airflow and shielding, and aerodynamic airframe design - along with performance enhancements and procedural changes.

17. Noise meters were installed 2 years ago near LGA, living in Woodmere for 60 years and the flight pattern has not changed.

Noise monitoring data is not used to modify flight paths. Rather, the purpose of noise monitoring in communities near airports is to:

- Determine the contribution of aircraft noise to the *overall* noise that a community is exposed to
- Provide information to the community about aircraft noise and operations
- Monitor trends in aircraft noise in a given community
- Generate monthly noise monitoring summary reports to disseminate to community stakeholders

- Monitor compliance with the noise departure limit of 112 PNDB (and only from the permanent noise monitoring sites)

19. PANYNJ complaint board, what is the standard and where do the complaints go? How do you want the public to address/submit the complaints?

There are two primary means of filing an aircraft noise complaint with PANYNJ: (1) by completing and submitting the form on the Port Authority's website (<http://www.planenoise.com/panynj/daPRAbr9/>), and, (2) by leaving a voicemail on the airport noise complaint hotline (1-800-225-1071).

Noise complaints are recorded and processed with the help of the Port Authority's PlaneNoise complaint management system. Each noise complaint received is verified for accuracy, compiled in a database, analyzed, and mapped for reporting. Monthly noise complaint reports are sent to FAA and community members for information, including statistics such as total number of complainants and complaints, mapped complaint locations, monthly complaints comparison, etc.

20. What is possible? We don't want planes and we understand that is not possible, so what is possible to mitigate the noise?

In response to growing community concerns about aircraft noise, the Port Authority is currently conducting a Noise Compatibility Planning Study pursuant to Part 150 of FAA's regulations. A Part 150 study is a voluntary process that airport operators can follow to evaluate noise exposure and identify potential measures to abate and mitigate noise.

A Part 150 Study has two distinct phases: development of Noise Exposure Maps and development of a Noise Compatibility Program. The Noise Exposure Map (NEM) *identifies* all noise incompatible land uses within the DNL 65+ dB contour and the location of noise sensitive facilities such as schools, hospitals/health care centers, places of worship, and historic resources. The Noise Compatibility Program (NCP) is *a plan for reducing the number of incompatible land uses around an airport*. A large part of the NCP involves working with stakeholders to identify appropriate noise abatement and mitigation measures.

Using the NEM maps developed in the first phase of a Part 150 study, the goal of the NCP is to propose measures to abate aircraft noise and/or improve land use compatibility in areas surrounding the airport, specifically, those areas exposed to Day-Night Average Sound Level (DNL) 65 decibels (dB) and greater due to aircraft operations. The types of strategies evaluated during the NCP phase include the following:

NOISE ABATEMENT STRATEGIES: strategies for modifying aircraft operations to abate noise (see discussion in response to Question 3).

More information on the noise abatement strategies under consideration can be found on Port Authority's website (see the link below to TAC meeting presentation and summary):

<http://panynjpart150.com/AdminPages/GetProjectFile.asp?a=JFK&f=JFK%20TAC%20Meeting%20No.%2010%20Presentation%20-%20December%2014,%202016.pdf>

<http://panynjpart150.com/AdminPages/GetProjectFile.asp?a=JFK&f=JFK%20TAC%20Meeting%20No.%2010%20Summary,%20December%2014,%202016.pdf>

LAND USE STRATEGIES: land use strategies to obtain and maintain compatible land uses around airports. Noise mitigation measures are intended to mitigate or correct for existing incompatible land uses. Potential measures are described in presentations on Port Authority's website.

<http://panynjpart150.com/AdminPages/GetProjectFile.asp?a=JFK&f=JFK%20TAC%20Meeting%20No.%2011%20Presentation%20-%20February%2015,%202017.pdf>

<http://panynjpart150.com/AdminPages/GetProjectFile.asp?a=JFK&f=JFK%20TAC%20Meeting%20No.%2011%20Summary,%20February%2015,%202017.pdf>

PROGRAMMATIC STRATEGIES: strategies that would be needed to develop programmatic measures within the NCP phase of a Part 150 Study. Programmatic measures focus on the development and implementation of programs to monitor, abate, and mitigate noise, as well as communicate noise information to aircraft operators and communities. More information on the programmatic strategies can be found on the project website (see the link below to TAC meeting presentation and summary):

<http://panynjpart150.com/AdminPages/GetProjectFile.asp?a=JFK&f=JFK%20TAC%20Meeting%20No.%2012%20Presentation%20-%20April%2019,%202017.pdf>

<http://panynjpart150.com/AdminPages/GetProjectFile.asp?a=JFK&f=JFK%20TAC%20Meeting%20No.%2012%20Summary,%20April%2019,%202017.pdf>

21. What about soundproofing the schools, what has been done or can be done about that?

The Port Authority voluntarily conducted a soundproofing program for schools in the vicinity of Port Authority airports between 1988 and 2012. To date, 23 schools in the vicinity of JFK have been sound insulated to reduce noise impacts. Typical sound attenuation treatments included windows and doors replacement, and installation of air conditioning system. Total program expenditures for the 23 schools exceed an estimated \$88 million, which was paid for in part with FAA grants through the Airport Improvement Program. Based on the Port Authority's recently approved Noise Exposure Maps (NEM), there are only four schools that were not treated as part of the School Soundproofing Program. All schools within the DNL 65 are listed in Table 5-6 of the Final JFK Part 150 Study NEM Report (see the link below to final JFK NEM report). The schools that were sound insulated as part of the School Soundproofing Program are delineated via a footnote in Table 5-6.

<http://panynjpart150.com/AdminPages/GetProjectFile.asp?a=JFK6&f=Final%20Noise%20Exposure%20Map%20Report%20-%20JFK%20Airport.pdf>

The Noise Compatibility Program phase of the Part 150 study for JFK is still underway, and potential noise mitigation strategies are being evaluated as the study continues.