How to Solve the Problems Created by NextGen

FAA first began using the word 'NextGen' in early 2006, effectively as a brand-name to sell a program that serves commercial passenger airlines. NextGen is being pushed by FAA, the airport authorities, and the airlines as well as industry lobbyists, with ample support from Bill Shuster in the U.S. House of Representatives (who is known to be in a relationship with one of the lobbyists).

The benefits of NextGen are grossly exaggerated; the costs of NextGen, especially to local communities, are routinely ignored. NextGen can also be seen as an enormous wealth-redistribution. Some gain while others lose; those within the industry benefit from tens of billions spent setting up the program, but local communities and individual citizens are increasingly disempowered while being subjected to increased impacts.

The NextGen goal is to maximize the number of flights that can be handled each hour at major hub airports. This will enable the airlines to slightly increase profits. Today, we are down to four major airlines (American, Delta, United, Southwest) and two major but much smaller airlines (Alaska and JetBlue). All of these airlines (except Southwest) contract and codeshare with regional carriers that use smaller aircraft to feed passengers to the major hubs. Most routes are monopolies or near-monopolies. We are witnessing a concentration of the industry, with most airports downsizing, but a tiny few 'hub' airports seeing growth.

There are substantial problems being created and intensified by the implementation of NextGen procedures, including:

1. Departing flights are being turned lower and closer to the airport, even before the end of the runway, to shave a minute or two from the departure (though, often, these minutes get added on later, with enroute delay turns at cruise altitude). The low-turning departures are impacting communities that had not previously experienced airport-related noise and air pollutant impacts.
2. At the busiest hub airports, arriving flights are worked by ATC into long conga lines, flying low and slow and loud over tens of miles of residential communities. Why? Because there are too many arrivals in too small a time window, so controllers override the designed NextGen automations and instead use traditional radar vectoring methods to manage the excess traffic.
3. Pilots are being pressed to rely more on flight automation, with the airplane now doing all navigation from takeoff to landing. Flight automation is narrowly concentrating flights onto thin routes, greatly intensifying impacts upon those under these concentrated routes.
4. Essentially all noise mitigation agreements are being abandoned; many of these agreements, crafted with local communities, had struck a fair balance for two- or three-decades.
5. Overall, NextGen is a wholesale implementation of non-stop streams of air traffic, with a total disregard for impacts.[1]

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[1] FAA and other industry players are claiming many people see reductions in aviation noise impacts by use of automation under NextGen. But, they are simply concentrating flights into narrow – and lower – repetitive routes, and the people under these routes are being battered. Sadistically, FAA ignores the concentrated impact of these changes.

Some Background Information

DNL: FAA's Failed Noise Metric: FAA maintains that aircraft noise is not significant until it crosses a noise threshold of DNL65. This is in contrast to the aviation impact policies in nearly all other nations, which set the threshold at 55 decibels, a much quieter sound level.

DNL65 does not effectively ascertain impact for two reasons: the sound level is too loud at 65 decibels, and even if quieter (such as the DNL55 threshold, which is the predominant standard worldwide), use of 'averaging' over a long timeframe, as is done in FAA's DNL process, yields a number that does not correlate with the real impacts upon real people. In other words, that excessively long timeframe fails to identify the substantial adverse impacts created by repetitive flight patterns, such as are happening via NextGen route concentration.[2]

Reducing the impact threshold to DNL55 would be a step forward, but DNL as a metric would remain a huge failure. Why? For the reasons noted above ... especially, that FAA's use of noise modeling based on DNL yields noise impact numbers based on full year averaging, but these numbers completely fail to correlate with the real adverse impacts caused by repetitive flight patterns.

In view of new route precisions and repetitions related to NextGen, that new legislation needs to fully drop DNL and direct FAA to a new metric. The new metric needs to establish that, if flights (either arrival streams or departure streams) are scheduled or likely to continue at near-minimum spacing for more than three hours straight, noise mitigation measures must be imposed, and if they cannot be imposed, than capacity restrictions must be used. Those noise mitigation measures must ensure no location endures more than 3-hrs of impact under either stream, and no more than two 3-hr-max windows per calendar day.

So, a first area of FAA failure is how the agency is perpetuating the practice of relying on the faulty DNL metric, which fails to correctly assess impacts.

Impactful Repetitive Flight Patterns: Under NextGen, repetitive flight patterns can run for hours and days and even weeks. They typically involve a nearly nonstop stream of arrivals or departures. These flows are FAA's intent, at the few main hub airports where FAA is assisting airlines to maximize profits by maximizing 'runway throughput'. These arrival and departure streams become saturated and typically include flights spaced one-minute apart, sometimes even tighter. The noise under these arrival and departure streams obstructs normal and necessary human activities - basic stuff like thinking, conversing, and sleeping.

Ironically, the heavy propaganda by FAA and industry continues to falsely claim that NextGen offers enormous 'green' benefits. Elected officials and regular citizens alike are being duped. We are supposed to ignore the impacts and inefficiencies, just as we are supposed to believe the NextGen routes are shortening flight distances (which have primarily

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[2] This would be like having toxic hazardous waste at a swing set in a playground, but choosing to assess the exposure using an average over the entire playground. The average risk might appear insignificant, but the risk at the swingset would be extreme, and the dangerous exposures would happen.

been direct for decades). No federal agency should be involved in the business of propaganda. FAA is long overdue for reform.

So, <mark>a second area of FAA failure</mark> is this: nationwide, in the past three years, it has become absolutely clear that NextGen is worsening repetitive noise impacts.

<u>Regulatory Capture, and FAA's Refusal to Manage Capacity</u>: Another area of FAA failure is that, since this is a captured federal agency, they serve the regulated airlines and airport authorities with essentially zero regard for everyone else, which includes millions of regular people, living in homes, attending school, working or recreating outside on nice days in their local communities. A key manifestation of this regulatory-capture failure is FAA's refusal to impose needed capacity limits.

Lacking capacity limits, airports like LGA and JFK are being used (especially by Delta and JetBlue) to fly in passengers, sort them out in the terminals, and fly them out. For example, on 2/24/2017, there were 19 BOS-JFK passenger arrivals, and 38 BOS-LGA passenger arrivals. According to BTS data, roughly 40% of passengers arriving from Boston do not come to NYC; they only pass through these airports on their ways to other destinations. So, FAA is allowing the airlines to add congestion where congestion is already advanced. This would be like taking a major freeway onramp prone to backing up, and adding connecting lanes in and out to draw even more drivers to access a mall or stadium; i.e., it is stupid to add traffic where traffic is already saturated, as this only guarantees more times when the conga lines (e.g., Arc of Doom) get stretched out, creating more continuous impact upon people below.

The rules that have evolved (in no small part due to Congress, whose members tend to serve the aviation lobby), favor airlines and airport authorities, and encourage further concentration into a limited number of hubs. This is bad policy, and the rules need to be changed to discourage excessive hubbing. A truly efficient aviation system would minimize fuel consumption while also maximizing the number of airline passengers who can take a nonstop flight, flying direct from Origin to Destination.

These bad rules evolved this way NOT because congressional reps conceived new ideas and passed new laws, but because these reps were manipulated by FAA and the other players (airlines, lobbyists, airports, etc.). Just look at the money; the industry players stand to gain by carefully coordinating their message and pressing Congress each year; they want Congress to spend more money, and in turn the industry players make campaign donations, to help fund reelection campaigns. Congress is routinely voting on proposals that are crafted and pitched by industry experts, not by concerned legislators. Because the elected officials are overwhelmed with an enormous array of OTHER legislation, they are simply unable to develop needed expertise in any one area, so they are easily manipulated toward approving whatever legislation is offered, so long as it appears to have support from all industry partners as well as FAA.

So, <mark>a third area of FAA failure</mark> is simply the agency's refusal to manage airport capacity. To enable this failure, FAA & industry have manipulated Congress to deny local control; local impacted citizens and local airport officials are not allowed to assert authority and impose safe policies that best serves the local community.

Some Solutions

To solve this, FAA needs to impose much lower arrival limits per hour (or even per 10-minute interval). A logical way to accomplish this would be to change the fee structure FAA imposes on each departure. For example, push the airlines to price tickets proportionate to itinerary distance traveled, and with added ticket charges for stopping at hub airports; i.e., if a passenger gets a ticket from BOS-BUF (Buffalo), fees should disincentivize use of JFK, LGA or EWR as a transfer hub, and ensure the best ticket price is also the direct flight. The airline would be more efficient, and the passenger would get a much better flight experience, if fewer BOS-NYC flights happened, and more BOS direct to other airports flights happened. And, this would be very good for the environment; e.g., a BOS-JFK-BUF flight covers 19% more distance than a direct BOS-BUF flight, thus burns nominally 19% more fuel, getting a ticketed passenger from BOS to BUF.[3]

As a key element of solving the growing NextGen problems, Congress needs to impose legislation to compel FAA to create new rules. FAA will ***NOT*** do this on their own, as they serve the industry, not the people. So, we need elected officials to demand the FAA to clean up this growing mess.

Here's a table offering some possible solutions…

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- Immediately reduce the threshold for impact from DNL65 to DNL55.[4]
- Change the noise metric, away from the flawed DNL. Assess noise impacts based on the average noise level in a much smaller time window, such as three hours (a plausible new metric might be called 'DNL3').[5] For example, what is the average noise impact on the residents of Malverne, if ATC at JFK launches 3-hours of nonstop departures off runways 4? What is the DNL3 over Shoreline, Vashon Island, or Beacon Hill, during a busy KSEA south flow? What would the modeled DNL3 contours look like, and how many hundreds of thousands of people would be impacted?
- Empower local citizens with data, so they can help FAA fix the impact problems. For example, Congress needs to compel FAA to post annual data showing the percentage of passengers who fly in and fly out of each major airport, without ever leaving the airport. If 40% of passengers are passing through JFK or SeaTac, this presents an opportunity for reducing flights by as much as 40%, which would substantially reduce local impacts, helping to restore quality of life lost in many residential communities.
- Empower local communities with local authority to deploy noise mitigation strategies that reduce impacts, so long as the strategy does not create a reduction in local aviation safety. If a community feels a need to ban use of jets at an airport surrounded by homes, they should be allowed to impose that ban. After all, it is their airport, serving the local community; it is not FAA's airport.

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[3] This pattern of excessive fuel burn happens throughout the airline passenger system, even with 50%, 60%, and higher excess fuel burns … all because industry players make more profits by pushing more hubbing.
[4] Presently, FAA automatically dismisses noise increases as 'insignificant' – and fails to look any further – if the DNL remains below a very impactful DNL65 level.
[5] A 'DNL3' value would represent the average sound-level during a 3-hour time window, with a 10dB penalty added on operations during defined nighttime hours.