



NextGen Advisory Committee (NAC) June 27, 2018 Meeting Summary

The first meeting of the newly chartered NextGen Advisory Committee (NAC) was held June 27, 2018 at Department of Transportation (DOT) Headquarters in Washington, DC. The meeting discussions are summarized below. Reference the attachments for additional contextual information.

List of attachments:

- Attachment 1: NAC Briefing
- Attachment 2: Attendance List
- Attachment 3: Public Statements
- Attachment 4: *Approved Phase 2 Addendum to Priorities for Improving Operational Performance in the Northeast Corridor (NEC) through CY2021 Report*

Opening of Meeting / Introduction of NAC Members

Following administrative announcements, NAC Chairman Mr. Dave Bronczek, FedEx President and Chief Operating Officer (COO), opened the meeting and allowed NAC members around the table to introduce themselves (reference Attachment 2 for the complete attendance list).

Official Statement of Designated Federal Officer (DFO)

DFO Mr. Dan Elwell, Acting FAA Administrator, presented the Federal Advisory Committee Act (FACA) notice that governs public meetings. In reference to the portion of the statement that addresses public comments, Mr. Bronczek indicated that community input is important and that he is happy to have public comments. Mr. Elwell agreed and reviewed the rules for the public comments.

New Charter

Mr. Elwell provided an overview of the new NAC Charter. He said that RTCA is no longer a federal advisory committee responsible for meeting facilitation activities. Vendors will have the chance to compete for these services. He added that under the new charter, DOT Secretary Ms. Elaine Chao requested that Mr. Bronczek continue to serve as NAC Chairman. Mr. Bronczek provided insight into his decision to continue as NAC Chairman, highlighting important issues to him such as fuel and carbon initiatives, community noise issues, and NEC improvements. Mr. Elwell said that he is happy Mr. Bronczek agreed to stay.

Continuing the discussion of the new charter, Mr. Elwell said that today's meeting is the start of a new NAC under the new charter. Any work products under the previous NAC require a

motion to approve carrying over (e.g., tasking, working groups). He thanked NAC members for their patience during the transition and reiterated that the FAA appreciates NAC, NAC Subcommittee, and working group efforts, as they help modernize the NAS and benefit aviation as a whole. He said that he wants to maintain the momentum. Mr. Bronczek emphasized that as the transition continues, there will be more industry involvement necessary.

FACA Overview

Ms. Alexandra Randazzo, Managing Attorney, FAA Office of Chief Council, provided an overview of the FACA requirements that the NAC operates within. Meetings are open to the public unless there is a motion to close or partially close the meetings. She reviewed situations where the public requirement is not triggered, such as a meeting of two or more NAC or subordinate body members to research or analyze facts or draft information for discussion. Additionally, any discussions related to administrative efforts (planning, etc.), including those with the FAA, are not subject to the public requirement.

She continued that the NAC must authorize the establishment of any subcommittees. Any recommendations from a subcommittee or working group are not subject to the public requirement, but must be provided to the NAC for deliberation where the public requirement applies. The NAC will make the determination of what requirements to formally provide to the FAA. Mr. Randazzo also reviewed the FACA stipulations for confidential or personal information, meeting materials, and record keeping obligations. Mr. Elwell indicated that the FAA highly values NAC inputs and advice. He clarified that while subcommittees and working groups are not subject to same public disclosure, everything they do is reported in the public setting of the NAC. Mr. Elwell emphasized the importance of interaction within a public forum.

Oral Statements

Next, Mr. Bronczek invited the members of the public present to provide oral statements. Please reference Attachment 3 for the oral statement materials. The following citizens provided statements:

- Anne Hollander, Co-Chair, Policy Committee, Montgomery County Quiet Skies Coalition, addressed the NAC requesting more community representation on the NAC and/or a dedicated forum for addressing community impacts; recommending the NAC make recommendations on noise, not commission more studies; asking the NAC to examine current metrics used to ascertain whether noise causes significant impacts; and recommending that flight procedure designers be trained to consider noise.
- Paul Verchinski, Member, DC Metroplex BWI Community Roundtable, stated the 65 DNL should be updated, that roundtables aren't helpful and have no basis in legislation, and requested community input be considered as a design input.

Mr. Bronczek thanked both speakers for their time and indicated that public engagement would be discussed later in the agenda.

Chairman's Report

Mr. Bronczek welcomed attendees and thanked DOT/FAA for hosting the meeting. He also thanked RTCA for its work in the prior iteration of the NAC. He acknowledged the presence of two new members:

- Mr. Vivek Lall, Vice President Strategy & Business Development, Lockheed Martin Aeronautics Company
- Mr. Warren Christie, Senior Vice President, Safety, Security and Fleet Operation, JetBlue Airways

He focused his report on a few key issues he said would define success including community involvement, equipage, and NEC efforts. Additionally, FAA funding and air traffic controller (ATC) hiring are important issues. He reviewed the agenda items to follow. He reported that NEC efforts are the top NAC priority, but that the other main priorities—Data Communications, Performance Based Navigation, Multiple Runway Operations, and Surface and Data Sharing—are also important.

Outcome: NAC Members passed a motion to carry forward previous NAC work products.

FAA Report

Mr. Elwell said that he and Mr. Bronczek had previously discussed how to make NAC meetings more meaningful. He indicated that the NextGen Priorities Quarterly Report was sent in advance of the meeting so that the group could instead focus on actively discussing improving operations in the NEC. He reviewed progress on some Phase 1 recommendations, including New York Center's implementation of redesigned airspace and completion of designs for realigned offshore airways to further optimize airspace throughput for all New York Metro traffic departing or arriving through offshore airspace. He also noted that the FAA is developing a roadmap that incorporates elements of trajectory based operations (TBO) for the NEC, with the goal of increased throughput and better predictability.

Next, Mr. Elwell asked that Ms. Teri Bristol, FAA Air Traffic Operations (ATO) COO, provide additional remarks on Phase 1 progress. Ms. Bristol started with a status on air traffic controller hiring and training. She reported that the FAA is at 94% of its hiring goal, with 1,701 new hires this year. She indicated that it has been a challenge to attract and retain controllers in the New York area, but due to new training initiatives and Long Island area hiring legislation, she is excited about future progress.

Ms. Bristol then provided an update on operations in the NEC. She said that the FAA is working closely with industry to use existing tools, especially during the severe weather season. Through strong collaboration and coordination focusing on throughput in New York, she said that delays are down. The NEC commitments aim to broaden the collective toolset. The *Phase One Interim Report*, which the NAC approved last October, contained FAA-Industry joint commitments on 24 initiatives supported by 45 milestones. Ms. Bristol indicated that to date,

13 of the 45 milestones are complete. She reviewed progress on some of the remaining items. She mentioned that the FAA is using the Integrated Departures and Arrival Capability (IDAC) at four New York area towers. The feedback from the operations staff has been positive and has resulted in more efficiently inserting departures into the overhead stream. She added that the Joint Analysis Team (JAT) is working to quantify the benefits. She said that the FAA is now receiving surface data elements from Delta Air Lines, American Airlines, JetBlue Airways, and United Airlines, but that it will need additional industry commitments to realize the full benefits of the Terminal Flight Data Manager (TFDM) system. Mr. Bronczek requested a report with this information detailed.

Action: Ms. Bristol will send Mr. Bronczek surface data sharing status (on airlines providing 11 data elements) and request of airlines for additional surface data required for terminal publication in order to realize TFDM benefits. [FAA POC: ATO and AVS]

Mr. Elwell continued the FAA report with an overview of NEC Phase 2. He said that the goal is to develop a joint set of commitments for the FAA and industry to accomplish through 2021. He added that Mr. Steve Brown, National Business Aviation Association (NBAA) COO, would be providing an overview of the *Phase 2 Addendum to Priorities for Improving Operational Performance in the Northeast Corridor (NEC) through CY2021 Report*, which lays out the commitments to meet the Phase 2 objectives. He emphasized that it is important that everyone understands the commitments and risks. Mr. Elwell introduced the speakers that would spearhead an active dialogue on how to better collaborate with local communities while making these improvements later in the agenda. He described the first aspect of risk as community engagement, emphasizing the need to proceed with performance based navigation (PBN) in a way that achieves public understanding and acceptance. He said the second risk is equipage of the regional fleet. He announced that Mr. Chip Childs, SkyWest Airlines President and CEO, would lead dialogue on how to encourage more rapid equipage and address the risk associated with equipage as it relates to benefits in the NEC later in the agenda. He added that Mr. Rick Domingo (FAA) would also provide an update on Automatic Dependent Surveillance-Broadcast (ADS-B) equipage rates.

Mr. Elwell then provided updates on several items discussed at the March NAC. He said that the FAA is still in the process of considering the Aircraft Owners and Pilots Association's request to reopen the ADS-B Out General Aviation (GA) Equipage Incentive Program. He added that he is looking forward to finding ways to increase equipage levels in the remaining time prior to the mandate.

Action: Mr. Elwell will provide the NAC with an update during its next meeting on the ADS-B Out GA Equipage Incentive Program. [FAA POC: ATO, AVS, ANG, APL, AGC, AFN]

Mr. Elwell asked that Mr. Carl Burleson (FAA) provide an update on space-based ADS-B. Mr. Burleson indicated that the FAA is very committed to advancing space-based ADS-B, but sees

many challenges—financial and otherwise. The FAA wants to work with industry and has additional meetings planned with airlines to continue discussions.

On the subject of the reprioritization of PBN funding, Mr. Elwell said the FAA is working to restore contract and support mechanisms that are essential to moving projects forward, in addition to aligning PBN projects with other priorities to balance priorities and risk mitigation. The FAA is also updating PBN work forecasts and is planning a metered resumption of projects.

Mr. Elwell said that Mr. Craig Drew, Southwest Airlines Senior Vice President, would provide a progress update on Data Communications, PBN, Surface and Data Sharing, and Multiple Runway Operations later in the agenda. He added that the FAA appreciates the working group efforts and Mr. Drew's leadership. In closing, Mr. Elwell said that he wants to continue the momentum, emphasizing that these meetings should drive issues forward.

During follow-on discussion among members, Mr. Steve Dickson, Delta Air Lines Senior Vice President, Flight Operations, posed the question of whether the NAC should pass a motion to reconstitute the NAC Subcommittee and other working groups. Mr. Elwell suggested an explicit motion for specificity. Ms. Pam Whitley (FAA) indicated that the working groups have identified how much work is left and the desire is to have the work finished in the October/November timeframe.

Action: Mr. Bronczek requested an agenda item for the next meeting that includes a disposition of all existing work groups, then a decision on what needs to continue at that time. [FAA POC: ANG]

Outcome: NAC Members passed a motion to reconstitute the work of the NEC, NAC Subcommittee, and four NextGen Integration Working Groups (NIWGs), then reevaluate at the October NAC meeting.

NextGen Priorities Report

Mr. Drew provided a status on the NextGen priorities through 2019, including Data Communications, PBN, Surface and Data Sharing, and Multiple Runway Operations. He indicated that the plan is for the working groups to finish recommendations and submit to the NAC for approval at the October meeting.

Mr. Drew began by congratulating the FAA, industry, and Data Communications team for achieving 50,000 data communications operations per week among US, international, and business carriers, in addition to general aviation. He specifically thanked Ms. Bristol and Mr. Paul Rinaldi, National Air Traffic Controllers Association (NATCA) President, for providing resources. He said that it is extremely important to continue integration of Data Communications with the NEC. With regard to Multiple Runway Operations, he said that an approved wake recategorization consolidated order has started to produce benefits. He expects this project to expand to three additional sites by the end of 2018 and six by 2019. Future work includes determining how to add more capacity.

He described PBN as a balancing act of three concerns—community acceptance, controller tools, and equipped aircraft. He said that PBN work is in progress, but the team is waiting on FAA resource information. He said PBN is the most vulnerable to miss the October delivery, but said the team will work hard over the summer. He described a look ahead on Surface and Data Sharing for 2021, which includes development of a TFDM program to focus on the NEC and increasing industry data sharing through System Wide Information Management (SWIM).

In closing, Mr. Drew expressed his thanks and appreciation for the work of the teams.

Northeast Corridor Phase 2 Recommendations

Mr. Brown provided an overview of the *Phase 2 Addendum to Priorities for Improving Operational Performance in the Northeast Corridor (NEC) through CY2021 Report* (reference Attachment 4). He described the recommendations as a fundamental approach to increasing NEC throughput. A key element was formulating compatible industry commitments to early FAA commitments, which go through 2021. In addition to industry commitments, the team included industry points of contact for each milestone. It also includes considerations for future NAC planning, such as outstanding efforts and investment synchronization. He described community involvement as one of the key risks and emphasized the importance of industry involvement in community engagement.

Mr. Brown provided a response to a prior NAC inquiry regarding the NextGen Airport concept. He emphasized the importance of avoiding point solutions, noting there should be more focus on network benefits and sharing improvements across entire region. He said that the NEC NIWG construct has been valuable. The NEC NIWG identified the key risks that need NAC focus to move NextGen forward in the NAS. He said the most critical element is making sure FAA and industry investments are synchronized. He described equipage and published procedures with community involvement as challenges to synchronization. He added that there is a need for continued collaboration and emphasized the importance of milestone monitoring, continued strategizing, etc.

Mr. Brown noted that the team has held initial planning and discussion around a potential Phase III for the NEC effort. This phase may highlight more advanced technologies that could facilitate greater efficiency for the NEC, such as enhanced visual flight systems, along with Ground Based Augmentation System (GBAS) / GBAS Landing System (GLS).

Mr. Bronczek praised Ms. Bristol and Mr. Rinaldi and their respective organizations (FAA and NATCA) for work on this effort.

Outcome: NAC Members passed a motion to approve the *Phase 2 Addendum to Priorities for Improving Operational Performance in the Northeast Corridor (NEC) through CY2021 Report*.

Mr. Mike Sinnett, Boeing Product Strategy and New Airplane Development Vice President, initiated some follow-on general discussion regarding using GBAS as an enabler for noise reduction in the NEC. Mr. Elwell indicated that the focus needs to be on getting aircraft enabled

to the right level to reduce congestion in the National Airspace System (NAS). Mr. Bronczek added that the NAC's primary focus going forward is NextGen implementation in the NEC.

Northeast Corridor Risk - Public Engagement – Guided Discussion 1

Mr. Bronczek introduced Ms. Jodi McCarthy (FAA), Ms. Jennifer Solomon (FAA), and Nancy Young (Airlines for America [A4A]) who led a guided discussion on FAA lessons learned and engagement plans going forward. Ms. Solomon initiated the discussion, indicating the goal is to help as many people as possible, while acknowledging that they cannot make everyone happy. She emphasized the importance of engagement from all stakeholders, not just the FAA.

Ms. McCarthy said that concentrated flight paths and associated noise will put NEC efforts at risk, adding that their staff is engaged in endless meeting requests, congressional office requests, correspondence, workgroups, and roundtables around the country. She said that they are trying to apply lessons learned moving forward to NEC work—working on how to work together strategically.

Ms. Young reviewed key points from the NAC PBN Blueprint Task Group recommendations the NAC adopted in 2016 that the FAA incorporated into community engagement efforts. This includes greater emphasis on earlier technical stakeholder engagement, collective communication on the local level with airports and community organizations/roundtables, and increased need to communicate with local elected and congressional staff offices. She reviewed a key point in the report that whether it can be fully achieved or not, outreach should have the goal of achieving community understanding and acceptance of the goal of the PBN procedure effort. She posed the question to the NAC of whether stakeholders agree this includes, but is not limited to the following:

- Early communication and meeting attendance from leadership with key local officials and community leaders to ensure the project has necessary support
- Ensuring engagement from additional and appropriate parts of the organization that would directly affect operations
- Continued focused communication and advocacy as the project progresses
- Continued communication and participation with local leadership as the project moves through design and into implementation

Ms. Young noted that while the PBN Blueprint recommendations provide helpful guidance, more needs to be done to execute, with the FAA in the lead and other stakeholders participating.

She posed the question of whether the efforts are on the right track—whether the NAC is still embracing these principles?

Mr. Bronczek kicked off member discussion, indicating yes it is, but in the new construct of the NAC there needs to be more involvement from the airlines on community involvement. He cited an example at Charles de Gaulle Airport where FedEx's early community involvement led

to a mutually beneficial outcome. He emphasized that there needs to be more involvement with community leaders, business leaders, and the FAA.

Mr. Rowayne Schatz, DoD Policy Board on Federal Aviation Executive Director, said that DoD has successfully engaged the community at the local level. He described having the personnel who own the mission at the local airports engaging as a key to success. Mr. Brad Pearce, National Association to Insure a Sound Controlled Environment (N.O.I.S.E.) President, offered his organization's resources for community engagement efforts. Mr. Bronczek emphasized that to be successful, the NAC as a collective body needs to listen and work with the local communities in a bigger way.

Ms. Ginger Evans, Chicago Department of Aviation Commissioner, complimented the NEC working group efforts for putting together a more comprehensive plan than expected. She added that community engagement needs to be very specific, emphasizing that if the community feels like you are doing what you can, you will get acceptance. She advised not to put the burden solely on the FAA. She described FAA guidelines as minimums and that communities can go beyond these minimums. She said there are certain situations where stakeholders need to think more broadly at the lower level. She concluded by recommending that discussion of metrics needs to come forward.

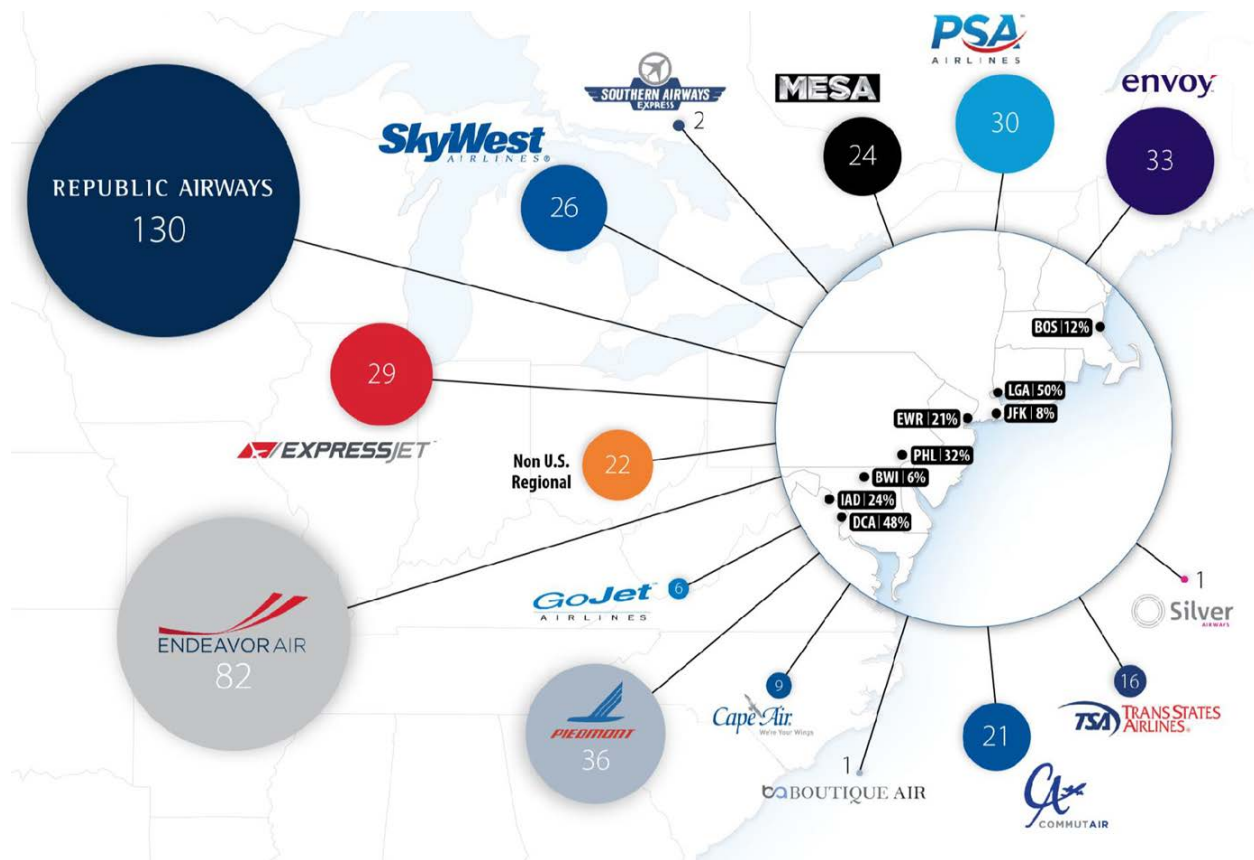
Action: Mr. Bronczek requested that community involvement be on the agenda at their next Airlines for America (A4A) Board meeting. [POC: A4A]

Mr. Bronczek said that the NAC has to work with the FAA to put NEC efforts in a higher profile category. Ms. Solomon said that the community lets the FAA know what its recommendation are, but that it needs to figure out how to make progress on the specific needs. Mr. Elwell said that any changes to the airspace need to be prompted by a request with all stakeholders agreeing what needs to change. Going forward, collaborative discussion may produce this type of request. Before any work begins, there needs to be an identified, discussed, and negotiated agreement. After a break, Mr. Elwell concluded by saying the FAA is committed to the PBN implementation process. He added that in the instances where the FAA has to do work for safety or technical reasons, it has to do everything in its power to engage all stakeholders.

Action: Due to the importance of community involvement to the success of the NEC, it will be an agenda topic for the next NAC meeting. [FAA POC: AOC, ATO, ANG, AEA]

Regional Fleet Equipage Risk to Northeast Corridor Benefits – Guided Discussion 2

Mr. Childs, representing the Regional Airlines Association, led a discussion on regional fleet equipage, influence, and drivers. The following graphic is a depiction of the 15 regional airlines with numbers of aircraft that operate in the NEC.



Mr Childs noted that the numbers presented represent the revenue lines. He reviewed the NEC regional airlines breakdown, emphasizing the tumultuous nature of regional work in the NEC such as pilot turnover and contracts. He also noted that there are four carriers wholly owned by major carriers (Endeavor Air, Piedmont, PSA Airlines, and Envoy). He said that he hopes the NEC equipage conversation is underway among those carriers, but in his view, he does not think that dialogue is happening. He described a dynamic element of regional equipage being that some participants are better prepared to meet equipage deadlines than others. Mr. Childs added that there needs to be stronger engagement about plans for NEC equipage. He said that the main takeaway is that there are many significant regional players in the NEC, but of those, 40-45% are regional airlines wholly owned by major carriers.

He provided an overview of the major carriers by total fleet. He said that there is a strong concentration of the top four players (Delta Air Lines, United Airlines, American Airlines, and JetBlue Airways) that each of them wholly own (with the exception of United Airlines). Each own a good amount of capacity in the NEC. He emphasized the importance of starting to have equipage conversations with major carriers.

Mr. Bronczek initiated a discussion on the equipage deadline. He expressed concern on whether the major carriers understand they will not have access to the airspace if they do not equip. Mr. Childs responded that his airline, SkyWest Airlines, found the same issue and was able to equip well ahead of the deadline, but coordination between the major carriers and their

regional partners, for various reasons, added delays to equipage schedules. Mr. Elwell confirmed to Mr. Bronczek that the airlines are all aware of the equipage deadlines.

Mr Childs reviewed the type of regional fleets flown in the NEC by carrier. He said that new aircraft produced by Embraer and Bombardier come well equipped to meet NextGen capabilities. However, there are many aircraft produced earlier that need help to get to compliance levels. He provided an overview of NextGen capabilities by fleet (reference the tables below for specifics), noting that certain aircraft have greater equipage needs than others. Business logic may requiring moving better-equipped aircraft into the NEC, and moving less equipped aircraft into less complex airspace.

| Embraer Fleet/Honeywell Platform | | | | | |
|---|-----|-----------------|-----------------|--------------|--------------|
| | | RNP-AR.3 | RNP-AR.1 | LPV | CPDLC |
| ERJ175 | 125 | SB | SB | SB | SB |
| ERJ145 | 113 | NOT AVAILABLE | NOT AVAILABLE | SB/STC/LRU's | SB/STC/LRU's |

| Bombardier Fleet/Rockwell Collins Platform | | | | | |
|---|-----|-----------------|-----------------|--------------|---------------|
| | | RNP-AR.3 | RNP-AR.1 | LPV | CPDLC |
| CRJ200 | 201 | STC/LRU's | NOT AVAILABLE | STC/LRU's | NOT AVAILABLE |
| CRJ700 | 127 | SB/STC/LRU's | SB/STC/LRU's | SB/STC/LRU's | SB/STC/LRU's |
| CRJ900 | 24 | SB/STC/LRU's | SB/STC/LRU's | SB/STC/LRU's | SB/STC/LRU's |
| CRJ900 - WAAS | 12 | SB/STC/LRU's | SB/STC/LRU's | Compliant | Provisioned |

He said that from the regional perspective, airlines are willing to make the right investments but that they need communication with the major carriers. He reported that Regional Airline Association aircraft are 33% ADS-B compliant as of June 1, 2018.

In closing, Mr. Childs summarized that regional airlines need clarity on Comm, Nav, and Surveillance equipment requirements. He added that new regional aircraft deliveries today are equipped for anticipated NEC demands, a large percent of regional carriers are wholly owned by major carriers, major carriers need to coordinate with independent regional carriers, and that it is good to have the FAA and local Certificate Management Offices (CMOs) engage on equipage. Mr. Elwell requested that Mr. Childs come back at the next NAC meeting and continue the regional equipage conversation with the majors and other regional partners to discuss more on this NEC risk item.

Action: Mr. Elwell requested that Mr. Childs continue to work on the NEC equipage risk item; to work with regional partners and mainline operators; and continue this as an agenda topic for the next meeting. [FAA POC: ANG]

ADS-B Equipage Status

Mr. Rick Domingo (FAA) provided an update on ADS-B equipage. He reported that as of June 1, there are over 50,000 aircraft with good installs and that the percentages are increasing. He said U.S. air carriers are at about 40% of the 5,000 aircraft equipped goal by January 1, 2020. He added that the FAA is looking for more engagement from the CMOs.

Summary of Meeting and Action Item Review

Meeting Outcomes:

- NAC Members passed a motion to carry forward previous NAC work products.
- NAC Members passed a motion to reconstitute the work of the NEC, NAC Subcommittee, and four NextGen Integration Working Groups (NIWGs), then reevaluate at the October NAC meeting.
- NAC Members passed a motion to approve the *Phase 2 Addendum to Priorities for Improving Operational Performance in the Northeast Corridor (NEC) through CY2021 Report*.

Meeting Actions:

| Action ID | Action Description | Lead/Participant |
|-----------|--|----------------------------------|
| NAC01-01 | Ms. Teri Bristol will send Mr. Dave Bronczek surface data sharing status (on airlines providing 11 data elements) and request of airlines for additional surface data required for terminal publication in order to realize TFDM benefits. | FAA ATO, AVS |
| NAC01-02 | Mr. Dan Elwell will provide the NAC with an update during its next meeting on the ADS-B Out GA Equipage Incentive Program. | FAA ATO, AVS, ANG, APL, AGC, AFN |
| NAC01-03 | Mr. Dave Bronczek requested an agenda item for the next meeting that includes a disposition of all existing work groups, then a decision on what needs to continue at that time. | FAA ANG |
| NAC01-04 | Mr. Dave Bronczek requested that community involvement be on the agenda at their next Airlines for America Board meeting. | A4A |
| NAC01-05 | Due to the importance of community involvement to the success of the NEC, it will be an agenda topic for the next NAC meeting. | FAA AOC, ATO, ANG, AEA |
| NAC01-06 | Mr. Dan Elwell requested that Mr. Chip Childs continue to work on the NEC equipage risk item; to work with regional partners and mainline operators; and continue this as an agenda topic for the next meeting. | FAA ANG |

Next Steps

Mr. Elwell thanked attendees for their engagement. He requested that Mr. Childs and the rest of the NAC members go back to their colleagues with the conversation on equipage, in addition to the focus on the NEC. Mr. Bronczek said that safety is at play here and these improvements are better for the entire system. Mr. Elwell continued that despite the safety

record using current equipment and approaches, the FAA is not complacent and is always considering the next phase/level. Mr. Childs agreed to take the conversation to the RAA. There was some follow-on conversation where Mr. Dickson suggested resource reallocation as a possible strategy to save money on ADS-B equipage mandates. He also mentioned that ongoing airport infrastructure projects outside the scope of NextGen across the country should be incorporated in discussions moving forward. Ms. Bristol mentioned that the FAA is aware many regional airlines fly to small and mid-size airports and it has already begun turnover of automation platforms to digital to ensure they could receive ADS-B out signals. Mr. Elwell said that the discussion today clearly directs the October discussion of NAC Subcommittee and working group tasking moving forward, with a special emphasis on community engagement and equipage. Mr. Bronczek added that the NAC will have to retire some of the items from the previous NAC and focus on these new ones.

Closing Comments and Adjourn

Mr. Bronczek adjourned the meeting.



Attachment 1



NAC Meeting

June 27, 2018

Agenda

| Time | Topic | Facilitator |
|---------------------|--|---|
| 8:30 – 8:35 AM | Opening of Meeting/Introduction of NAC Members | David Bronczek, FedEx Corp. |
| 8:35 – 8:40 AM | Official Statement of Designated Federal Officer (DFO) | Dan Elwell, FAA |
| 8:40 – 8:50 AM | Chairman's Report | David Bronczek, FedEx Corp. |
| 8:50 – 9:10 AM | FAA Report | Dan Elwell, FAA |
| 9:10 – 9:30 AM | NextGen Priorities Report | Craig Drew, SWA Melissa Rudinger, AOPA |
| 9:30 – 10:00 AM | Northeast Corridor Phase 2 Recommendations [For approval] | Steve Brown, NBAA |
| 10:00 – 10:30 AM | Northeast Corridor Public Engagement – Guided Discussion 1 | Jodi McCarthy, FAA Jennifer Solomon, FAA Nancy Young, A4A |
| 10:30 – 10:50 AM | Break | |
| 10:50 – 11:20 AM | Regional Fleet Equipage Risk to Northeast Corridor Benefits – Guided Discussion 2 | Chip Childs, Regional Airline Assoc. |
| 11:20 – 11:35 AM | ADS-B Equipage Status | Rick Domingo, FAA |
| 11:35 – 11:45 AM | Next Steps | Dan Elwell, FAA David Bronczek, FedEx Corp. |
| 11:45 – 11:55 AM | Summary of Meeting and Action Item Review | Craig Drew, SWA |
| 11:55 AM – 12:00 PM | Closing Comments and Adjourn | David Bronczek, FedEx Corp. |



Opening of Meeting and Introduction of NAC Members

David Bronczek, FedEx Corp.



3

PUBLIC MEETING ANNOUNCEMENT
Read by: Designated Federal Officer Dan Elwell
NextGen Advisory Committee
June 27, 2018

In accordance with the Federal Advisory Committee Act, this Advisory Committee meeting is OPEN TO THE PUBLIC.

Notice of the meeting was issued on June 8, 2018, and published in the Federal Register on:

June 13, 2018

Members of the public may address the committee with PRIOR APPROVAL of the Chairman. This should be arranged in advance.

Only appointed members of the Advisory Committee may vote on any matter brought to a vote by the Chairman.

The public may present written material to the Advisory Committee at any time.



4

FACA Overview

Alexandra Randazzo, FAA



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Oral Statements

Members of the Public



6

New Charter

Dan Elwell, FAA



7

Chairman's Report

David Bronczek, FedEx Corp.



8

FAA Report

Dan Elwell, FAA



9

NextGen Priorities Report

Data Communications

Multiple Runway Operations (MRO)

Performance Based Navigation (PBN)

Surface & Data Sharing

Craig Drew, Southwest Airlines

Melissa Rudinger, AOPA



10

Discussion



11

Northeast Corridor Phase 2 Recommendations

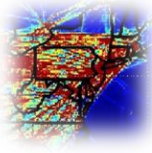
Steve Brown, NBAA

Warren Christie, JetBlue

Mark Hopkins, Delta Air Lines



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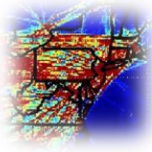


Summary of NEC Report

- Addendum to the March 2018 report
- Includes the FAA and Industry commitments through December 2021
 - Pre-implementation and implementation
 - Airport Initiatives and Advanced Technology
 - Completed milestones
- Considerations for future NEC planning
 - Outstanding initiatives
 - Synchronization of investments



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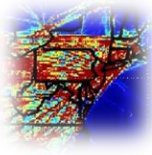


Industry Milestones

- Developed to complement the FAA's NEC plans
- Industry points of contact for each milestone
 - Provide responsibility and accountability, and continue the collaborative process between the FAA and Industry
 - Serve as Industry touch points for the FAA/NATCA NEC Collaborative Working Group
- Joint commitment to complete necessary concept assessments will support future implementations
- Partnership in Community Involvement activities



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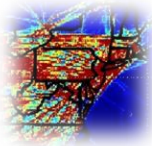


NextGen and the NEC

- NAC requested NEC NIWG to consider a NextGen Airport concept
- NEC NIWG recommends that we should not define or designate any NextGen airport
 - NextGen not a point solution but systems approach
 - Individual NextGen capabilities being deployed as we speak (in the NEC and elsewhere)
- To move NextGen forward in the NEC, NIWG has identified the key risks that need NAC focus

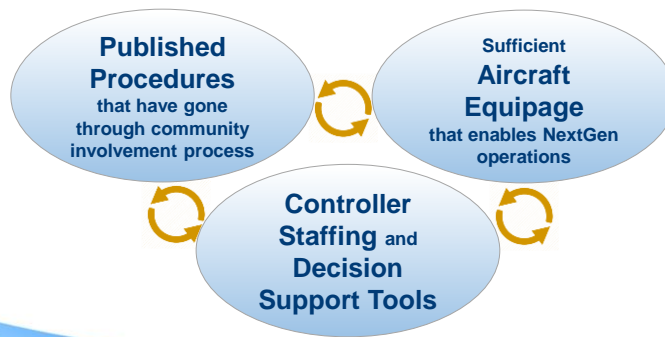


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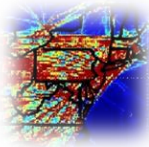


Collaboration and Transparency to Achieve NextGen in NEC

Synchronize FAA and Industry investments
 Moving toward agreed upon goals for NEC
 Increasing confidence that those goals can be achieved

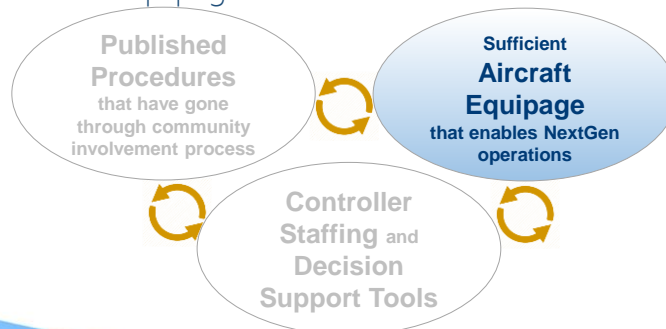


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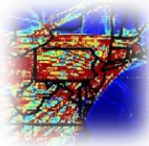


Challenge of Synchronization: Equipage

- Tools to accommodate mixed equipage?
- Incentives to equip (financial or operational)?
- Analysis needs: percent equipage necessary for PBN, benefits of equipage to inform business cases?

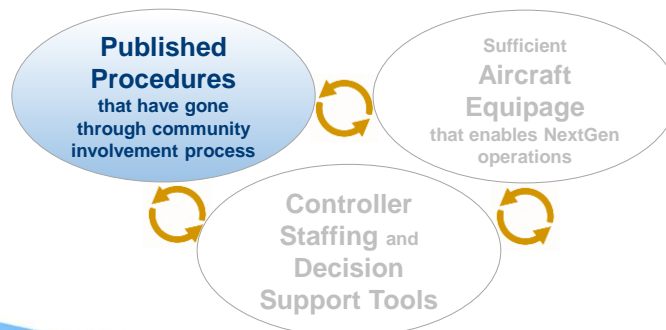


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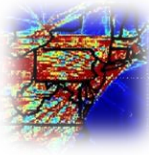


Challenge of Synchronization: Procedures & Community Involvement

- Strategy for Community Involvement?
- Industry roles & responsibilities for Community Involvement?
- Relationship to Part 150s and Roundtables?

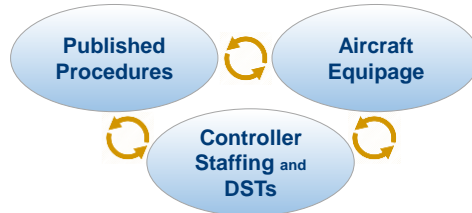


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Need for Continued Collaboration

- NEC workgroup should remain intact
- Continuity of the collaborative process is essential
- Monitoring of the numerous pre-implementation milestones and implementation commitments
- Regular coordination and collaboration
 - Industry expectations on concept assessments
 - Industry participation on community engagement



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Discussion and Consideration for approval of *Phase 2 Recommendations Addendum Report*

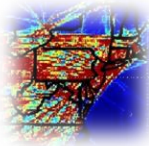


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Northeast Corridor Phase 2 Recommendations Backup Slides



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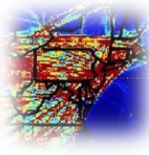


Implementation Milestones for the NEC through December 2021

- Implementing high altitude PBN routes supporting the whole NEC by providing increased airspace throughput
- Implementing PDRR/ABRR enhancements
- Improving arrival time-based management at PHL and EWR
- Improving departure management for flights destined to LGA
- Installing non-federal GBAS at JFK and LGA



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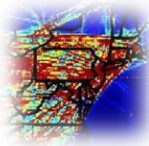


Examples of Pre-Implementation Milestones

- Concept assessments for two arrival runway operations at EWR, including 7110.308 operations
- Design and evaluation of PBN procedures to support deconfliction of New York airports
- Identification of enhancements to support data driven TFM decision making
- Viability assessment of ZDC high altitude airspace redesign
- Collaborative process for emerging NEC applications within the iTBO waterfall



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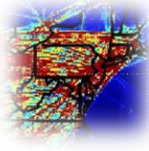


Industry Commitment to Community Involvement

- Industry will actively participate with the FAA in NEC community involvement efforts
- Industry roles can include:
 - Describing proposed initiatives and the associated benefits
 - Explaining operator and airport roles in development and implementation of procedures
 - Answering operator and airport specific inquiries and describing operator procedures and limitations
 - Discussing fleet advancements and expected noise source reductions



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Outstanding GBAS Recommendations

- Retaining current level of support per PBN NAS Navigation Strategy (2016)
- Supporting GLS Cat II operational approval for a Cat I system, or alternative Cat II approval, and leverage GBAS adverse all-weather capability
- Studying GLS options for noise abatement in the NEC by using higher GP angles not to exceed Autoland limitations
- Partnering with Airports and Industry in NEC to support training and advanced procedure development as more aircraft are equipped to take advantage of capability
- Supporting future industry investments in GLS Cat III capability



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NEC Initiatives - FAA

| Need Area | Milestone | Solution/Candidate | Timeframe | Targeted Benefit Pool |
|----------------------|-----------|---|---------------------|--|
| Efficient Departures | P | Conduct a feasibility study to create a process to reduce and/or eliminate passback MIT for departures from NY | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | P | Complete assessment for early TBFM pre-departure scheduling to determine which arrival airport and associated departure airports will execute this capability | Q2 CY18 | Improve Throughput: Increase use of existing capacity |
| | IM | Implement TBFM Pre-Departure Scheduling at selected airport | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | P | Conduct an analysis to determine the sequence of remaining airports to receive en route metering | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | IM | Implement DSP Enhancements | Q3 CY20 | Improve Throughput: Increase use of existing capacity Flight Efficiency: Improved Redistribution of necessary delay |
| | P | Determine viability and model ZDC airspace redesign alternatives to reduce traffic management restrictions | Q3 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | IM | Implement Eastern Seaboard high altitude PBN routes (including SID/STAR connectivity) through ZBW, ZNY and ZDC airspace | Q3 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | IM | Implement ZNY Offshore PBN Routes | Q4 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | IM | Implement PDRR/ABRR Enhancements | Q3 CY20 | Improve Throughput: Increase use of existing capacity Flight Efficiency: Improved redistribution of necessary delay |
| | IM | Improve departure management for flights destined to LGA | Q1 CY20 | Improve Throughput: Increase use of existing capacity |
| Deconflict LGA31 | P | Conduct Integrated Departure Route program (IDRP) prototype re-familiarization sessions | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | IM | Expand consistent usage of defined and existing capping and tunneling for departures/arrivals to/from the NEC | Q2 CY18- Q1 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Deconflict LGA13 | P | Complete concept assessment to deconflict LGA/EWR/TEB when on LGA 13ILS | Q1 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Deconflict LGA31 | P | Evaluate LGA31 RNAV approach design alternatives that approximate the LGA 31 EXPWY VIS approach and is usable for most operators | Q3 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |

P – Pre-implementation IM - Implementation



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NEC Initiatives - FAA

| Need Area | Milestone | Solution/Candidate | Timeframe | Targeted Benefit Pool |
|--------------|-----------|--|------------|--|
| EWR Capacity | P | Complete feasibility study for the modified missed approach for LGA22 | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Complete concept assessment for EWR 22L/29 arrival operations | Q2 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Perform feasibility and initial safety analysis for CSPO departure concepts | Q3 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Conduct CRDA feasibility analysis for EWR 22L/11 to lower minima | Q4 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Conduct CRDA feasibility analysis for EWR 4R/29 to lower minima | Q4 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | IM | Improve Arrival Time-Based Management (TBM) to EWR | Q4 CY21 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Stellines | | Conduct analysis to evaluate the impact and benefit of applying 7110.308 at EWR | Q1 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Complete training and Implement Vertical Climb Escape Route for TEB/HPM | TBD | Improved Throughput: Increasing existing capacity during specific operating conditions |
| LGA Capacity | P | Complete concept analysis for TEB RW19 RNAV SID for overnight operations | Q2 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Conduct an environmental review for the use of dispersal headings for LGA13 departures using the current GLDMN, TNNIS and NTHNS SIDs within the current limitations specified in each procedure's existing CATEX | Q2-Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| JFK Capacity | P | Evaluate design alternatives to the GLDMN/NTHNS RNAV SIDs to address noise concerns | Q2 CY19 | Address noise concerns |
| | P | Conduct feasibility assessment of EoR simultaneous operations to 13R RNP and 13L ILS | Q2 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |

P – Pre-implementation IM - Implementation



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NEC Initiatives - FAA

| Need Area | Milestone | Solution/Candidate | Timeframe | Targeted Benefit Pool |
|---------------------|-----------|--|-----------|--|
| PHL Capacity | IM | Implement SCIA to PHL 9R/17 | Q5 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Conduct safety assessment of SCIA operations with RNAV for PHL 9R/35 | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Complete review/update of adaptation for improving airborne metering to PHL | Q1 CY19 | Throughput: Increase use of existing capacity |
| | P | Complete TBFM refresher training for metering to PHL | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | IM | Improve airborne metering to PHL | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | IM | Implement CRDA application for PHL 27R/35 for RNAV approaches | Q1 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Separation & Access | IM | Improve Arrival Time-Based Management (TBM) to PHL | Q4 CY20 | Flight Efficiency: Improved Redistribution of Necessary Delay Improve Throughput: Increase use of existing Capacity |
| | P | Conduct concept exploration of simultaneous operations on widely spaced approaches to different airports | Q2 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Perform feasibility study of reduced Minimum Radar Separation (MRS) on final approach including collision risk, impacts on go around rate, and runway occupancy restrictions | Q1 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Data Driven TFM | P | Benefits assessment for gate docking technologies to improve surface management | Q3 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Complete study report of the NOD prototype trial | Q3 CY18 | Improve Throughput: Increase use of existing capacity |
| | P | Insert DRS info into the NOD prototype and make available to Industry | Q3 CY18 | Improve Throughput: Increase use of existing capacity |
| | IM | PANYNJ exchange flight data with FAA/airlines | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | P | RAPT Refresher Training for FAA personnel | Q2 CY18 | Improve Throughput: Increase use of existing capacity |
| | P | Conduct operational analysis to identify enhancements to improve data driven TFM decision making | Q4 CY19 | Improve Throughput: Increase use of existing capacity |

P – Pre-implementation IM - Implementation



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NEC Initiatives - Industry

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|---|--|--|------------------------|--|--|
| Efficient Departures | Process to reduce and/or eliminate passback MIT for departures from NEC | Industry will participate in feasibility study to create a process to reduce and/or eliminate passback MIT for departures from NY | Q1 CY19 | Q4 CY18 (End of Season Review) | PANYNJ (Ralph Tamburro) |
| | TBFM Pre-departure scheduling to PHL, EWR, BOS or LGA | Industry will provide examples of beneficial application of early TBFM pre-departure scheduling to PHL, EWR, LGA, and BOS | | Q4 CY18 (through TBFM customer mtg) | DAL (Mark Hopkins, Rob Goldman) AAL (Eric Silverman) |
| | | Industry will complete training of airspace user personnel to support TBFM pre-departure scheduling | Q1 CY19 | Q1 CY19 | UAL (Susan Pflingstler) |
| | En route metering for remaining NEC airports | Industry will provide input and review an analysis to determine the sequence of remaining airports to receive enroute metering | Q3 CY19 | Q4 CY18 (Sep or Oct NCF) | Industry NCF Chair (Mark Hopkins) |
| | ZDC airspace redesign (aka ZDC09) | Industry will provide input to routing designs for the ZDC airspace redesign alternatives to reduce traffic management restrictions | Q3 CY19 | Q3 CY19 | AAL (Wes Googe) |
| | Eastern Seaboard high altitude PBN routes (aka Atlantic Coast Routes) | Industry will continue to support ongoing design work and implementation Eastern Seaboard high altitude PBN routes (including SID/STAR connectivity) through ZBW, ZNY and ZDC airspace | Q3 CY20 | Q3 CY20 | AAL (Wes Googe) |
| | ZNY Offshore Airspace Redesign | Industry will support design and implementation ZNY Offshore PBN Routes | Q4 CY19 | Q4 CY19 | AAL (Wes Googe) |
| | PDRR with technology & process changes in place | Industry will evaluate the use multi-route TOSs to communicate departure and arrival trajectory preferences from/to PHL and NY area airports | Q3 CY20 (PDRR) | TBD | DAL (Mark Hopkins, Rob Goldman) UAL (Susan Pflingstler) AAL (Eric Silverman) A4A (Mike Cirillo) |
| Expand consistent usage of defined and existing capping and tunneling for departures/arrivals to/from the NEC | Airspace users to complete training to support capping and tunneling for departures/arrivals to/from the NEC | Q2 CY18 - Q1 CY19 | Q2-Q4 CY18 | DAL (Mark Hopkins, Rob Goldman) UAL (Susan Pflingstler) AAL (Eric Silverman) A4A (Mike Cirillo) | |

Note: A blank entry under "Corresponding FAA Date" reflects an Industry milestone that does not have a corresponding FAA milestone



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NEC Initiatives - Industry

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|------------------|---|--|------------------------|---------------------|---|
| Deconflict LGA13 | RNAV transition to LGA ILS 13 that deconflicts LGA/TEB/EWR | Industry will provide input and review the concept assessment to deconflict LGA/EWR/TEB when on LGA 13 ILS | Q1 CY19 | Q1 CY19 | DAL (Mark Hopkins, Rob Goldman) PANYNJ (Ralph Tamburro) |
| Deconflict LGA31 | LGA31 RNAV approach that approximates the LGA31 EXPWY VIS approach | Industry will provide input to evaluation of designs for LGA31 RNAV approach that approximates the LGA31 EXPWY VIS approach and is usable for most operators | Q3 CY19 | Q3 CY19 | JetBlue (Joe Bertapelle) DAL (Mark Hopkins) PANYNJ (Ralph Tamburro) |
| EWR Capacity | Modified LGA22 missed approach to deconflict with EWR29 RNAV GPS approach | Industry will participate in feasibility study for the modified missed approach for LGA22 | Q4 CY18 | Q4 CY18 | PANYNJ (Ralph Tamburro) & UAL (Glenn Morse) |
| | EWR 22L/29 Arrivals | Industry will provide input and review concept assessment for EWR 22L/29 arrival operations | Q2 CY19 | Q2 CY19 | UAL (Glenn Morse) |
| | EWR CSPO Departures | Industry will provide input and review feasibility and initial safety analysis for CSPO departure concepts | Q3 CY19 | Q3 CY19 | UAL (Glenn Morse) |
| | CRDA for EWR 22L/11 | Industry will provide input and review CRDA feasibility analysis for EWR 22L/11 to lower minima | Q4 CY19 | Q4 CY19 | UAL (Glenn Morse) |
| | 7110.308 at EWR | Industry will provide input and review of FAA evaluation of the impact and benefit of applying 7110.308 at EWR | Q1 CY20 | Q1 CY20 | UAL (Glenn Morse) |
| Satellites | CRDA for EWR 4R/29 | Industry will provide input and review of CRDA feasibility analysis for EWR 4R/29 to lower minima | Q4 CY19 | Q4 CY19 | UAL (Glenn Morse) |
| | Vertical Climb Escape Route | NBAA will provide expertise to design refinement for Vertical Climb Escape Route | | Q3 CY18 | NBAA (Heidi Williams, Dean Snell) PANYNJ (Ralph Tamburro) |
| | TEB RW19 RNAV SID | Industry will provide input and review concept analysis for TEB RW19 RNAV SID for overnight operations | Q2 CY19 | Q2 CY19 | NBAA (Heidi Williams, Dean Snell) PANYNJ (Ralph Tamburro) |



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NEC Initiatives - Industry

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|--------------|---|--|------------------------|---------------------|---|
| LGA Capacity | LGA13 departure dispersion using TNNIS, GLDMN, & NTHNS | Operators will participate in community engagement activities | Q2 - Q4 CY18 | Q2 - Q4 CY18 | DAL (Rob Goldman) |
| | Modify GLDMN/NTHNS RNAV SIDs to address noise concerns | Industry will provide input to the evaluation of the alternatives to the GLDMN/NTHNS RNAV SIDs to address noise concerns | Q2 CY19 | Q2 CY19 | DAL (Rob Goldman) |
| | | Industry will work with FAA to mitigate climb gradient concerns | Q2 CY19 | Q2 CY19 | AAL (Wes Googe) DAL (Rob Goldman) |
| JFK Capacity | Established on RNP for JFK 13R | Industry will provide input and review feasibility assessment of EoR simultaneous operations to 13R RNP and 13L ILS | Q2 CY19 | Q2 CY19 | JetBlue (Joe Bertapelle) PANYNJ (Ralph Tamburro) |
| | JFK surface construction to relocate and build new high speed exits | PANYNJ will create new high-speed exit on runway 31R to reduce Runway Occupancy Time (ROT) | | Q4 CY19 | PANYNJ (Ralph Tamburro) |
| PHL Capacity | SCIA with RNAV for 9R/35 | Industry will provide input and review safety assessment of SCIA operations with RNAV for PHL 9R/35 | Q4 CY18 | Q4 CY18 | AAL (Eric Silverman) SWA (Rick Dalton) |



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NEC Initiatives - Industry

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|---------------------------------------|--|---|------------------------|--|-------------------------|
| Reduced Separation & Increased Access | Simultaneous operations on widely spaced approaches to different airports | Industry will participate in concept exploration of simultaneous operations on widely spaced approaches to different airports | Q2 CY19 | Q2 CY19 | PANYNJ (Ralph Tamburro) |
| | | Industry will identify and prioritize applications in NY area for simultaneous operations on widely spaced approaches to different airports to expedite addressing deconfliction issues | Q2 CY19 | Q2 CY19 | PANYNJ (Ralph Tamburro) |
| | GBAS at JFK and LGA | PANYNJ will install Non-Fed GBAS at JFK and LGA | | Q4 CY19 | PANYNJ (Ralph Tamburro) |
| | Existing PBN procedures modified as needed to increase use and reduce pilot and controller workload | PANYNJ with industry will conduct a review of existing PBN procedures, determine operator issues, identify needed modifications, and prioritize needed changes | | Q1 CY19 | PANYNJ (Ralph Tamburro) |
| | Minimum Radar Separation (MRS) on final approach | Industry will provide input and review feasibility study of reduced Minimum Radar Separation (MRS) on final approach including collision risk, impacts on go around rate, and runway occupancy restrictions | Q1 CY20 | Q1 CY20 | UAL (Glenn Morse) |
| Effective NEC community involvement | PANYNJ with operators will partner with the FAA in developing a Community Involvement strategy for the NY area | | Q3 CY18 | PANYNJ (Ralph Tamburro) AAA (Mike Cirillo) DAL (Mark Hopkins) NBAA (Heidi Williams) | |



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NEC Initiatives - Industry

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC | |
|---|---|---|------------------------|--------------------------------|---|---------------------|
| Data Driven TFM | Data driven TFM decision making | Industry will provide input and review operational analysis to identify enhancements to improve data driven TFM decision making | Q4 CY19 | Q4 CY19 | Mark Hopkins | |
| | | Industry will engage in a collaborative process for emerging NEC applications for capabilities within ITBO scope/waterfall | Q4 CY19 | Q4 CY18 (start of FY19) | PANYNJ (Ralph Tamburro) AAA (Mike Cirillo) DAL (Mark Hopkins) AAL (Eric Silverman) Select regional carriers | |
| | | Industry will engage in a collaborative process for emerging NEC applications for SWAP 2019 | Q4 CY19 | Q4 CY18 (End of Season Review) | PANYNJ (Ralph Tamburro) AAA (Mike Cirillo) DAL (Mark Hopkins) AAL (Eric Silverman) Select regional carriers | |
| | Expanded number of operators sharing surface data with FAA to improve flow management | Southwest Airlines provide improved aircraft intent data via surface data elements | | | TBD | SWA (Rick Dalton) |
| | | FedEx provide improved aircraft intent data via surface data elements | | | Q4 CY19 | FedEx (Phil Santos) |
| Fight data exchange between PANYNJ with FAA/airlines for EWR, JFK, LGA, through CDM partnership | PANYNJ exchange flight data with FAA/airlines | | Q1 CY19 | Q1 CY19 | PANYNJ (Ralph Tamburro) | |



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NEC Initiatives – Airport Items

| Milestone | Solution/Candidate | Timeframe | Targeted Benefit Pool |
|-----------|---|-----------|--|
| IM | Extend PHL Runway 9R/27L by 1,500 feet and supporting taxiway improvements | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct assessment of additional PHL 27L high speed exits* | Q3 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct assessment of PHL 27R departure queue taxiway* | Q4 CY21 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct assessment of PHL taxiway extension for end around operations * | Q2 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct GBAS evaluation/assessment at BOS | Q4 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| J | Create additional BOS tower space for TFDM equipment to enable surface metering | Q4 CY21 | Improve Throughput: Increase use of existing capacity |
| IM | Extension of BWI International Concourse E | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct assessment of DCA north end hold pads | Q3 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |

P – Pre-Implementation IM – Implementation

* These three concept assessments are a result of proposed changes supported by local Air Traffic and operators. Operators, in particular American Airlines and Southwest Airlines, will continue to participate in these assessments with Philadelphia Airport.



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NEC Advanced Technologies

| Milestone | Advanced Technology Concept | Industry Recommendations | Commitment | Timeframe |
|-----------|---|--|--|-----------|
| P | Flight Interval Management | The FAA and Industry should conduct a review of results of 2017-2019 FIM demonstrations, including the cost and benefits, prior to the FAA's final investment decision. The review determines the final status of future recommendation on IM development and implementation. | Joint Industry/FAA milestone to review the relevant information and recommend next steps | Q3 CY20 |
| P | | The FAA should conduct a NEC-specific benefit study (including safety cases, demonstration data, etc.). This study should be followed by presentations for FAA and Industry Executive leadership, creating a critically important collective commitment to close the business case. | Project benefits at select NEC locations | Q3 CY20 |
| P | CDTI Assisted Pilot Procedure (CAPP) | The FAA should accelerate the development of operational criteria for the CAPP use, including conducting studies to determine lead/follow requirements, controller requirements, and defining the conditions under which CAPP procedure is allowable. | Joint Industry/FAA milestone to assess opportunities to expand the use of CDTI-assisted operations beyond CAVS | Q4 CY19 |
| P | Enhanced Flight Vision System (EFVS) | The FAA should complete benefits studies to determine requirements for reaching Cat II/III equivalent operations in the NEC. These studies should include the relative advantages to primary and secondary airports and how often arrival rates would improve if these benefits did exist. | Joint Industry/FAA milestone to project benefits at select NEC airports | Q4 CY19 |
| | | The FAA should complete studies to analyze the effects of mixed EFVS equipage aircraft operations in the NEC, including determining what level of equipage is required to begin realizing significant benefit. As EFVS installation is completely dependent on the operator, these studies will help define benefits for each specific carrier's operations, as well as the potential timeframe to achieve immediate return on the investment. | | |
| | Ground-Based Augmentation System (GBAS) | The FAA should: <ul style="list-style-type: none"> Retain current level of support per PBN NAS Nav Strategy Support GLS Cat II operational approval for a Cat I system, or alternative Cat II approval, and leverage GBAS adverse all-weather capability. Study GLS options for noise abatement in the NEC by using higher GP angles not to exceed Autoland limitations. Partner with Airports & Industry in NEC to support training and advanced procedure development as more aircraft are equipped to take advantage of capability. Support future industry investments in GLS Cat III capability. | TBD The FAA is still considering these recommendations | |

P – Pre-Implementation IM – Implementation



Completed NEC Initiatives

| Need Area | Milestone | Solution/Candidate | Timeframe |
|----------------------|-----------|--|-----------|
| Efficient Departures | P | Complete training and establish operating agreements to support EDC at ZNY | Q1 CY18 |
| | IM | Implement EDC at ZNY | Q1 CY18 |
| | P | Deploy/Relocate Equipment/Software to support IDAC deployment at 4 NY area Towers | Q1 CY18 |
| | IM | Implement TBPM IDAC at 4 NY Towers | Q2 CY18 |
| | P | Complete design of new PBN arrival and departure procedures for two airports from the ZNY oceanic transition sectors | Q1 CY18 |
| | I | Industry will participate in design activities associated with the new PBN arrival and departure procedures for the ZNY oceanic transition sectors | Q1 CY18 |
| Satellites | P | Complete design validation of Eastern Seaboard high altitude PBN routes (including SID/STAR connectivity) | Q2 CY18 |
| | P | Industry will participate in design activities associated with Atlantic Coast including SID/STAR connectivity | Q2 CY18 |
| JFK Capacity | P | Complete design and testing for Vertical Climb Escape Route for TEB/HPN | Q1 CY18 |
| | P | NBAA Resources or members to participate in design and testing | Q1 CY18 |
| JFK Capacity | IM | Relocate high-speed exits on JFK runway 4R/22L better location on runway to reduce Runway Occupancy Time (ROT) | Q1 CY18 |
| PHL Capacity | IM | Update the minima for existing SCIA procedure to PHL 9R/17 | Q3 CY18 |
| Data Driven TSM | I | JetBlue provide improved aircraft intent data via surface data elements | Q4 CY17 |
| | I | United Airline provide improved aircraft intent data via surface data elements | Q4 CY17 |
| | P | Commence 90 day trial of the use of the NOD Prototype for Common Planning Coordination and Awareness between FAA and airspace user | Q1 CY18 |
| | I | Industry provide input/feedback on use of NOD prototype | Q2 CY18 |
| | IM | Implement BOS Surface Viewer Tool at ZBW | Q2 CY18 |

P – Pre-Implementation IM – Implementation I – Industry



Northeast Corridor Public Engagement

Guided Discussion 1

Jodi McCarthy, FAA
Jennifer Solomon, FAA
Nancy Young, A4A



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Outline for Discussion

Discussion of Community Engagement in the
Context of the Northeast Corridor
What are the risks and the need to collaborate?

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Engagement in the NEC

- ▶ Today's discussion is going to center on specific examples for the work in the Northeast Corridor
- ▶ This discussion and the decisions we make will build and inform a larger discussion on how we address these challenges nationwide

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From the PBN Blueprint to Today

- ▶ FAA agreed with the 2015 recommendations of NAC PBN Blueprint Task Group and incorporated many of those elements into the formation of Community Engagement efforts
- ▶ Key points included:
 - ▶ Greater emphasis on earlier technical stakeholder engagement
 - ▶ Need to apply collective communication on the local level with airports and their associated community organizations/roundtables
 - ▶ Increased need to communicate with local elected and congressional staff offices to help them to understand:
 - ▶ The growth and demands on that particular part of the system
 - ▶ The very real need for the improvements in that city/region
 - ▶ The changes at that location must fit into the national airspace system
- ▶ It is imperative that a collaborative and cohesive message and leverage all the available resources of the group to ensure we are effective

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Reaffirming Commitment

- ▶ The PBN Blueprint Community Outreach Task Group report stated, “Outreach should have the goal of achieving community understanding and acceptance/advocacy of the goal of the PBN procedure effort.”
 - ▶ Do the stakeholders agree this includes, but is not limited to:
 - ▶ Early communication and meeting attendance from leadership with key local officials and community leaders to ensure project has necessary support.
 - ▶ Ensuring engagement from additional and appropriate parts of the organization that would directly affect operations.
 - ▶ Continued focused communication and advocacy as the project progresses
 - ▶ Continued communication and participation with local leadership as the project moves through design and into implementation.

41

Including Community Input

- ▶ To create positive good will and trust in the community would we consider a recommendation from the community that may minimally reduce efficiency?
 - ▶ Is it operationally feasible to fly certain quieter equipment during specific windows that we know cause complaints?
 - ▶ How do we get the right resources to make these small, but key changes that can help us create trust and goodwill?
 - ▶ How do we decide what might be a reasonable “trade” in efficiency for enhance acceptance?
 - ▶ If we can make a change then we need to jointly communicate that change was made as a response to a community concern in an effort to build and reinforce trust. How do we ensure we promote that work being included?

42

How Do We Educate and Ensure Continued Support?

- ▶ As discussed, tremendous resources are being diverted to respond to local and congressional correspondence and meeting requests. The FAA must respond to requests from members of Congress.
 - ▶ How do we ensure that elected officials and community leaders fully understand the changes we are making to the airspace and the need to make those changes?
 - ▶ How do we ensure support for continued modernization?

43

Value of NEC Campaign

- ▶ We know we have a very specific story to tell about the economic value of the work we are going to do in the Northeast Corridor:
 - ▶ How can we leverage our joint planned communications and marketing efforts in the specific Northeast Corridor regions and airports to promote the value and benefit to changes to that specific airport and to the region as a whole?

44

Discussion



45

BREAK



46

Regional Fleet Equipage Risk to Northeast Corridor Benefits

Guided Discussion 2

Chip Childs, Regional Airlines Association



47

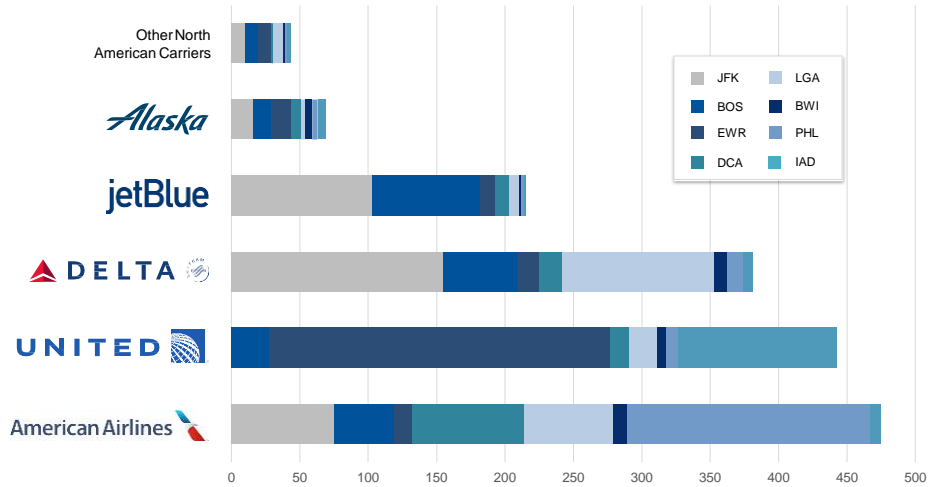
Northeast Corridor Regional Fleet Equipage Risk: NextGen Advisory Committee



Chip Childs
President & CEO

4

Mainline & Regional Totals by Origin



51

NextGen Capabilities by Fleet

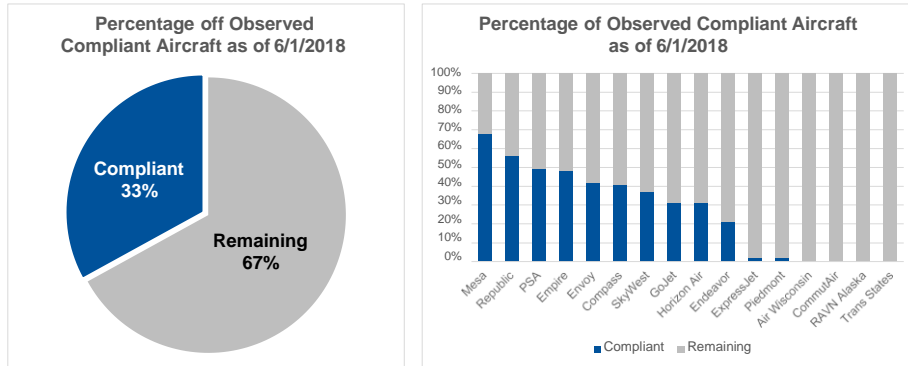
| Embraer Fleet/Honeywell Platform | | | | | |
|----------------------------------|-----|---------------|---------------|--------------|--------------|
| | | RNP-AR .3 | RNP-AR .1 | LPV | CPDLC |
| ERJ175 | 125 | SB | SB | SB | SB |
| ERJ145 | 113 | NOT AVAILABLE | NOT AVAILABLE | SB/STC/LRU's | SB/STC/LRU's |

| Bombardier Fleet/Rockwell Collins Platform | | | | | |
|--|-----|--------------|---------------|--------------|---------------|
| | | RNP-AR .3 | RNP-AR .1 | LPV | CPDLC |
| CRJ200 | 201 | STC/LRU's | NOT AVAILABLE | STC/LRU's | NOT AVAILABLE |
| CRJ700 | 127 | SB/STC/LRU's | SB/STC/LRU's | SB/STC/LRU's | SB/STC/LRU's |
| CRJ900 | 24 | SB/STC/LRU's | SB/STC/LRU's | SB/STC/LRU's | SB/STC/LRU's |
| CRJ900-WAAS | 12 | SB/STC/LRU's | SB/STC/LRU's | Compliant | Provisioned |

The CRJ fleet will require an STC and LRU's to meet compliance requirements.

52

RAA Part 121 ADS-B Compliance



- As of June 1, 2018 the percentage of aircraft observed compliant is 33% or 1 in 3 aircraft.
- MITRE's chart does not reflect carrier equipage plans.
- All RAA members have provided plans to achieve compliance by January 1, 2020.

53

Summary

- Equipage clarification - regionals need clarity on specific equipment requirements.
- All new regional aircraft deliveries today are equipped for anticipated demands in the northeast corridor.
- A large percent of the regional carriers in the northeast corridor are wholly owned by major carriers.
- Major carriers need to coordinate with independent regional carriers on this issue.
- Local FAA CMO could also continue to engage on FAA equipage.



54

Discussion



55

ADS-B Equipage Status

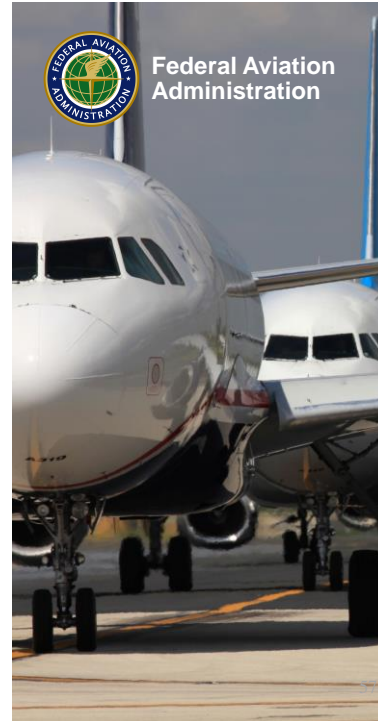
Rick Domingo, FAA



56

ADS-B Equipage Status

Rick Domingo, Acting Deputy Associate Administrator for Aviation Safety, FAA



June 2018 Equipage (good install) Monitoring

Rule Driven ADS-B Out Aircraft Detected by FAA network

| Category | As of 1-May 2018 (ATAT) | As of 1-June 2018 (ATAT) | Monthly Increase | | % of estimated fleet equipped [^] , as of 1-June-18 |
|--|-------------------------|--------------------------|------------------|--------|--|
| All Link Version 2 | 48,875 | 50,763 | 1,888 | 3.86% | |
| 1090ES | 41,841 | 43,575 | 1,734 | 4.14% | |
| UAT | 6,166 | 6,295 | 129 | 2.09% | |
| Dual | 868 | 893 | 25 | 2.88% | |
| US General Aviation (includes EXP & LSA) | 40,308 | 41,726 | 1,418 | 3.52% | 26.1% - 41.7% |
| US Air Carrier** | 2,040 | 2,194 | 154 | 7.55% | 36.6% - 43.9% |
| Intl General Aviation* | 2,914 | 3,036 | 122 | 4.19% | |
| Intl Air Carrier | 960 | 1,004 | 44 | 4.58% | |
| U.S. Military & U.S. Special Use*** | 308 | 374 | 66 | 21.43% | |

*Aircraft incorrectly reporting outside US ICAO block are included in Intl GA count.

[^]percentage range based on estimates of 5,000-6,000 US air carrier aircraft and 100K-160K US general aviation aircraft

ATAT - The ATAT was used to generate these numbers starting on June 1, 2016

** Horizon was added to this list on October 1, 2017

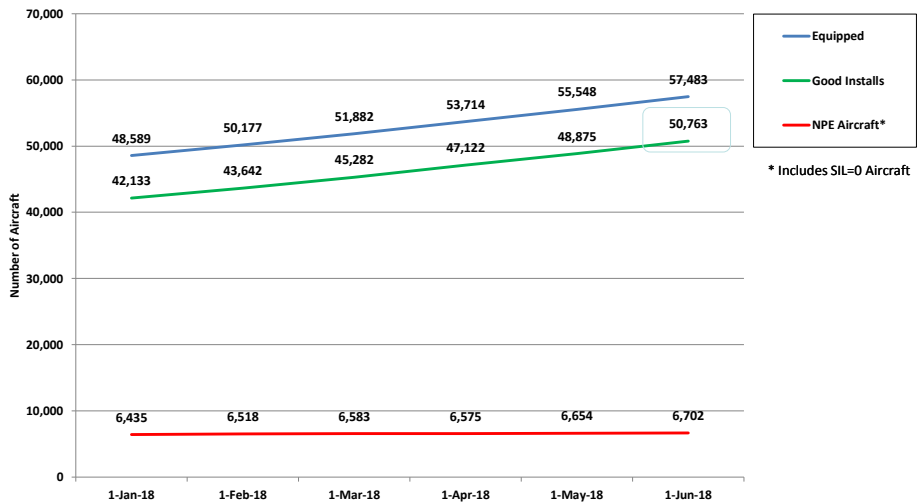
*** Starting Nov 2017, filtering for Mil & Special Use was adjusted to include aircraft with Other Flight ID issues as good install



Federal Aviation Administration

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All US Aircraft Equipage & Avionics Performance



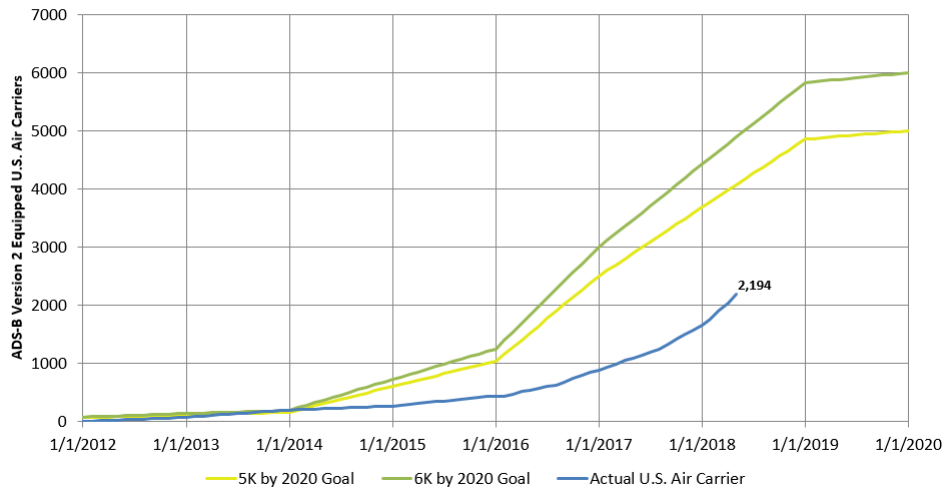
* Includes SIL=0 Aircraft

Data as of 6-1-18



Federal Aviation Administration

ADS-B Out Version 2 Equipage (good installs) U.S. Air Carriers Actuals vs 5K and 6K by 2020 Goals



Data as of 6-1-18



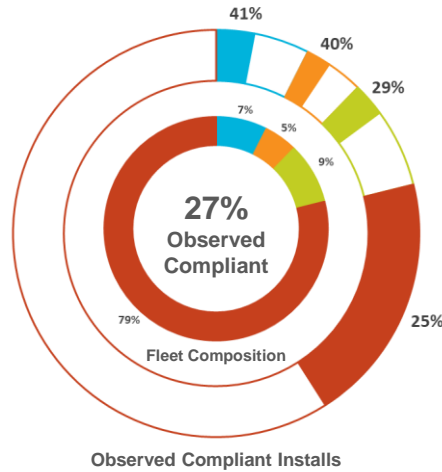
Federal Aviation Administration

US General Aviation Fleet ADS-B Out Observed Installs by Engine Type

GA fleet is decomposed into four types of aircraft based on engine type.

Fleet population includes roughly 143,000 aircraft.

- Turbojet
- Turboprop
- Multi Engine Piston
- Single Engine Piston



Inner circle depicts the fleet composition by engine type.

Outer circle depicts ADS-B Out equipage by engine type.

Colored fill indicates aircraft observed to be compliant.

White fill indicates aircraft that have not been observed to be compliant.

Discussion



Next Steps

Dan Elwell, FAA

David Bronczek, FedEx Corp.



63

Summary of Meeting and Action Item Review

Craig Drew, Southwest Airlines



64

Closing Comments and Adjourn

David Bronczek, FedEx Corp.



65

New Charter BACKUP



66

New Charter Taskings (Draft) NextGen Advisory Committee

1. Northeast Corridor: Joint Analysis Team (JAT) Assessment of Phase 1 Improvements

The FAA requests that the NextGen Advisory Committee establish a Joint Analysis Team (JAT) to reach an industry consensus on the performance impacts and benefits in the Northeast Corridor resulting from implementation of Phase 1 commitments.

2. Northeast Corridor: Finalize Phase 2 Recommendations

The FAA requests that the NextGen Advisory Committee provide Phase 2 recommendations for planning, implementation and industry commitments through calendar year 2021.

3. Finalize 2019-2021 Joint Implementation Rolling Plan

The FAA requests that the NextGen Advisory Committee provide status on recommendations for planning, implementation, and industry commitments, with regard to Data Communications, Surface and Data Sharing, Performance Based Navigation, and Multiple Runway Operations. The goal is to have a final report during the October (2018) NAC meeting.





Attachment 2



NextGen Advisory Committee (NAC) June 27, 2018 Attendance List

| Last Name | First Name | Affiliation | NAC Member |
|------------|------------|--|-------------------------|
| Allen | Dan | FedEx Corporation | |
| Attarian | Howard | United Airlines, Inc. | NAC Member |
| Baker | Mark | Aircraft Owners and Pilots Association | NAC Member |
| Barry | James T. | PASSUR Aerospace | |
| Bassarab | K. Royce | HNTB Maryland Aviation Administration | |
| Batchelor | David | SESAR Joint Undertaking | |
| Bechdolt | Anne | FedEx Corporation | |
| Bertapelle | Joe | JetBlue Airways | |
| Bolen | Ed | National Business Aviation Association | NAC Member |
| Bonds | Jonathan | United Parcel Service | |
| Bristol | Teri | Federal Aviation Administration | NAC Member (non-voting) |
| Broadus | Michael | Department of Transportation | |
| Bronczek | David | FedEx Corporation | NAC Member |
| Brown | Steve | National Business Aviation Association | |
| Brown | Lee | Landrum & Brown | |
| Bunce | Peter | General Aviation Manufacturers Association | NAC Member |
| Burleson | Carl | Federal Aviation Administration | |
| Burnham | Kris | Federal Aviation Administration | |
| Burns | Joe | Sensurion Aerospace | |
| Butler | Steven | Federal Aviation Administration | |
| Canoll | Tim | Air Line Pilots Association | NAC Member |
| Capezzuto | Vincent | Aereon | |
| Carey | Bill | Aviation Week | |
| Casey | Rich | Professional Aviation Safety Specialists | |
| Cebula | Andy | RTCA, Inc. | |
| Challan | Peter | Harris Corporation | |
| Childs | Chip | SkyWest Airlines | NAC Member |
| Christie | Warren | JetBlue Airways | NAC Member |
| Cirillo | Mike | Airlines for America | |

| Last Name | First Name | Affiliation | NAC Member |
|------------------|-------------------|--|----------------------------|
| Cochran | Walter | Leidos | |
| Collings | Chris | Harris Corporation | |
| Cook | Charles | JetBlue Airways | |
| Courtney | Shaun | Bloomberg Government | |
| Creasap | Donna | Federal Aviation Administration | |
| Croft | John | Federal Aviation Administration | |
| Cunha | Jason | Federal Aviation Administration | |
| Davis | Melvin Sanford | Cavan Solutions | |
| Dickson | Steve | Delta Air Lines | NAC Member |
| Doll | Lauren | FedEx Corporation | |
| Domingo | Rick | Federal Aviation Administration | NAC Member (non-voting) |
| Drew | Craig | Southwest Airlines | NAC Member |
| Dumont | Pete | Air Traffic Control Association | NAC Member |
| Edwards | Bailey | Federal Aviation Administration | NAC Member (non-voting) |
| Elwell | Dan | Federal Aviation Administration | NAC Member |
| Evans | Ginger | City of Chicago | NAC Member |
| Fanning | Eric | Aerospace Industries Association | NAC Member |
| Foyle | Dave | Federal Aviation Administration | |
| Goldman | Rob | Delta Air Lines, Inc. | |
| Gomez | Pamela | Federal Aviation Administration | |
| Henning | Jens Christian | General Aviation Manufacturers Association | |
| Hollander | Anne K | Montgomery County Quiet Skies Coalition | |
| Hopkins | Mark | Delta Air Lines, Inc. | |
| Hunt | Rob | Federal Aviation Administration | |
| Jackson | Rachel | Raytheon | |
| Johnson | Sasha | United Airlines, Inc. | |
| Kearns | Kathleen | Alterna Source, Inc. | |
| Keegan | Charles | Aviation Management Associates, Inc. | |
| Kenagy | Randy | Air Line Pilots Association | |
| Koch | Robin | Department of Transportation | |
| Kohut | Anne | Airport Noise Report | |
| Knott | Dave | Federal Aviation Administration | |
| Krahulec | John | Concept Solutions, LLC | |
| Krause | Heather | US Government Accountability Office | |
| Ladner | John | Alaska Airlines | NAC Member |
| Lall | Vivek | Lockheed Martin | NAC Member |

| Last Name | First Name | Affiliation | NAC Member |
|------------------|-------------------|---|----------------------------|
| Le | Kimberly | Federal Aviation Administration | |
| Lee | Marlene | Federal Aviation Administration | |
| Lenfert | Winsome | Federal Aviation Administration | NAC Member (non-voting) |
| Leone | Gregg | MITRE Corporation | NAC Member (non-voting) |
| Lopresti | Samantha | Federal Aviation Administration | |
| MacMaster | Ryan | Department of Transportation | |
| Martinez | Felix L | Deloitte | |
| McCarthy | Jodi | Federal Aviation Administration | |
| McGraw | Paul | Airlines for America | |
| McLean | Donna | Donna McLean Associates | |
| Merlo | Philippe | EUROCONTROL | |
| Miller | Robert | CSSI, Inc. | |
| Moloney | John | The Boeing Company | |
| Morrow | Clint Wayne | KB Environmental Sciences, Inc. | |
| Morse | Glenn | United Airlines, Inc. | |
| Narvid | Juan | Federal Aviation Administration | |
| Ngai | Eva | Federal Aviation Administration | |
| Nguyen | Minh | Federal Aviation Administration | |
| Novia | Robert | Federal Aviation Administration | |
| O'Keefe | Rush | FedEx Corporation | |
| O'Sullivan | John | Harris Corporation | |
| Parker | Edward | Federal Aviation Administration | |
| Pennington | Darrell | Air Line Pilots Association | |
| Pierce | Brad | National Association to Insure a Sound Controlled Environment (NOISE) | NAC Member |
| Planzer | Paul | Air Traffic Control Association | |
| Randazzo | Alexandra | Federal Aviation Administration | |
| Riegle | Leslie | Aerospace Industries Association | |
| Rinaldi | Paul | National Air Traffic Controllers Association | NAC Member |
| Ris | Will | Federal Aviation Administration | |
| Rodgers | Dr. Mark | CSSI, Inc. | |
| Rudinger | Melissa | Aircraft Owners and Pilots Association | |
| Sawyer | Dennis | The MITRE Corporation | |
| Schatz | Rowayne | Department of Defense | NAC Member |
| Schwab | Greg | Federal Aviation Administration | |
| Scott | Koress | Federal Aviation Administration | |

| Last Name | First Name | Affiliation | NAC Member |
|------------------|-------------------|---|-------------------------|
| Shea | John | National Association of State Aviation Officials | |
| Sinnett | Mike | The Boeing Company | NAC Member |
| Soloman | Jennifer | Federal Aviation Administration | |
| Sunderman | Jennifer | Regional Airline Association | |
| Stone | Kimball | American Airlines, Inc. | NAC Member |
| Stone, Jr. | Robert | United Airlines, Inc. | |
| Storm | Allan | Department of Defense | |
| Strande | Paul | Federal Aviation Administration | |
| Swayze | Richard | Delta Air Lines | |
| Tamburro | Ralph | Port Authority of New York & New Jersey | |
| Townsend | Brian | American Airlines, Inc. | |
| Tranter | Emily | National Association to Insure a Sound Controlled Environment | |
| Tree | Jon | The Boeing Company | |
| Verchinski | Paul | DC Metroplex BWI Roundtable | |
| Wendling | Kelle | Harris Corporation | |
| Whitley | Pam | Federal Aviation Administration | NAC Member (non-voting) |
| Woods | Jeff | National Air Traffic Controllers Association | |
| Wright | Janelle | Montgomery County Quiet Skies Coalition | |
| Young | Nancy | Airlines for America | |
| Zoiss | Ed | Harris Corporation | NAC Member |



Attachment 3



Public Statement 1:

**Anne Hollander, Co-Chair, Policy
Committee, Montgomery County Quiet
Skies Coalition**

Statement to the NextGen Advisory Committee
June 27, 2018

We submit these comments on behalf of the Montgomery County Quiet Skies Coalition, a group of citizens and community associations in Montgomery County, Maryland whose homes and daily lives are severely impacted by new flight paths and procedures into and out of Reagan National Airport (DCA). The channelized flight paths send over 400 disruptively loud, low-altitude flights over our homes, schools, parks, and businesses each day. MCQSC represents neighborhoods with approximately 7,500 homes, 20,000 residents, and numerous K-12 schools.

The implementation of “NextGen” has devastated the lives of residents in our communities. The harm is real - the noise is not “perceived” and the impact is beyond mere annoyance. People under channelized flight paths are no longer able to go about their daily lives in peace. They suffer from sleep deprivation, increased anxiety, loss of ability to concentrate, inability to work in their own homes, damage to their health from both the relentless noise and the emissions, and damage to the most important economic asset they own: their homes. In short, they feel like they have been robbed and continue to be victimized each and every day as flights roar overhead.

As the federal committee that advises the FAA about the implementation of NextGen, we believe the NextGen Advisory Committee should be working with urgency to address the collateral damage to underlying communities from NextGen.

According to the NextGen Advisory Committee’s *Blueprint for Success to Implementing PBN*, the input of community leaders is critical to the successful implementation of Performance-Based Navigation procedures. We couldn’t agree more. We believe that the current makeup of the NAC, which is dominated by industry representatives and which has only one community representative, is not consistent with that goal. In order to solicit appropriate community input nationally and foster a collaborative working relationship between the aviation industry and communities and their elected officials, we recommend that you include more community representation on the NAC and also establish a national forum for addressing community impacts. We are not looking to

decrease safety or efficiency, but we do know that these objectives can be met without focusing the entire burden of metroplex air traffic on only a few communities under the new channelized flight paths.

We further recommend that you address the following issues:

- Noise should be considered in tandem with flight procedure changes, not as an afterthought. NAC should recommend that flight procedure designers be trained to consider this.
- The current metrics used to ascertain whether noise causes significant impacts are completely insufficient to address the recurring impacts of noise from PBN procedures (i.e., channelized flight paths). NAC should make recommendations for updating those metrics in accord with 21st century aviation.
- Studies and data are helpful, but studies should not be used to indefinitely postpone more concrete recommendations to address impacts on underlying communities. It doesn't require hundreds of thousands of dollars to figure out that channelized flight paths disproportionately harm the people and communities underneath. NAC should address the harm from these existing paths before recommending further roll-out of PBN procedures in more communities around the nation.
- As mentioned above, NAC needs more community representation and/or a dedicated forum for addressing community impacts.

Thank you for the opportunity to provide these comments.

Anne Hollander, Janelle Wright, and Gretchen Gaston
Montgomery County Quiet Skies Coalition



Public Statement 2:

**Paul Verchinski, Member, DC Metroplex
BWI Community Roundtable**

NextGen Advisory Statement
June 27, 2018

GOOD MORNING

MY NAME IS PAUL VERCHINSKI AND I HAVE BEEN AUTHORIZED TO SPEAK ON BEHALF OF THE DC METROPLEX BWI COMMUNITY ROUNDTABLE. I AM A MEMBER OF THE RT.

YOU SHOULD HAVE A LETTER DATED SEPT 8, 2017 ON THE ISSUES AFFECTING QUALITY OF LIFE FOR THOSE IN BWI'S FLIGHT PATHS. YOU ARE BEING TASKED FOR ADVICE ON PUBLIC ENGAGEMENT. I KNOW A LOT ABOUT PUBLIC ENGAGEMENT HAVING BEEN THE DIRECTOR OF PLANNING FOR THE FEDERAL TRANSIT ADMINISTRATION. IF YOU WANT TO KNOW WHAT YOU SHOULD EMULATE, THE INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1992 IS A GOOD START.

THE NEXTGEN GPS IN THE SKY PUTS CONCENTRATED FLIGHT PATHS IN VERY NARROW CORRIDORS WHERE THERE WERE NONE BEFORE. THE PUBLIC WAS NEVER TOLD OF THE SIGNIFICANT CHANGES THAT NEXTGEN WOULD BRING NOR HOW THEY WOULD BE MITIGATED. AT BWI, FLIGHT CORRIDORS WERE ESTABLISHED WITH SURROUNDING COMMUNITIES BUT THE FAA TOLD US THAT THEY WERE VOLUNTARY AND NOT TO BE CONSIDERED. SOUND WALLS ARE USED FOR HIGHWAYS AND MASS TRANSIT, IT IS NOT POSSIBLE TO DO THIS FOR AIRCRAFT NOISE.

I HAVE LIVED IN MY HOUSE SINCE 1973 AND NEVER HAD A PROBLEM WITH AIRPLANE NOISE UNTIL NEXTGEN WAS IMPLEMENTED. PLANES AT 5 MINUTE FREQUENCIES NOW BEGIN AT 5 AM AND LAST UNTIL AFTER MIDNIGHT 24/7. I NOW HAVE DNL OF 54 WHERE BEFORE I JUST HAD AMBIENT NOISE. SPEAKING OF DNL, THE 65 DNL THRESHOLD WAS ESTABLISHED IN 1971. IT SHOULD BE UPDATED JUST AS THE NEXTGEN IMPLEMENTATION.

ROUNDTABLES LIKE OURS WERE FORMED AT THE INSISTENCE OF THE FAA. THE ROUNDTABLES HAVE NO BASIS IN LEGISLATION NOR REGULATION. IT HAS BEEN A KNEE JERK REACTION BY THE FAA IN HOPES OF DIMINSHING THE OUTRAGE AND LITIGATION EVIDENT IN OTHER METROPLEXES.

TO SUMMARIZE. THE EXPERIENCE OF OUR ROUNDTABLE WITH THE FAA RATES NO BETTER THAN A D MINUS GRADE. A PBN WORKING GROUP SAID THEY WOULD DEAL WITH OUR PROBLEMS. WE COULD NOT EVEN GET THE SCOPE OF WORK NOR PROVIDE INPUT DURING THOSE DISCUSSIONS.

I WOULD BE HAPPY TO ANSWER ANY QUESTIONS YOU MAY HAVE.



Attachment 4



**Approved by the
NextGen Advisory Committee
June 2018**

**Phase 2 Addendum to
Priorities for Improving
Operational Performance in the
Northeast Corridor (NEC) through CY2021**

Report of the NextGen Advisory Committee

June 2018

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Appendix B: Milestone and Commitment Detail 10

Appendix C: Participants in the Northeast Corridor Task Group..... 22

Executive Summary

This addendum includes the FAA and Industry commitments through December 2021, laying out the activities and initial milestones to implement initiatives in the NEC.

The core objectives for the NEC remains increasing throughput, improving efficiency and reducing delays at the NEC airports, in particular, the New York airports. Deconfliction of the airports, utilizing airspace effectively, and exploiting available airfield capacity are reflected in the NEC operational need areas. FAA and Industry commitments address all ten of the ten areas. Commitments focus on the initiatives that can provide throughput increases and delay reduction in the near-term. This involves leveraging available capabilities and equipment, but includes transformational opportunities as part of a holistic approach.

For the future, the NEC workgroup should remain intact. Continuity of the collaborative process and collective engagement between the FAA,, and Airports is essential. The role of the next phase of the NEC workgroup would be monitoring of the numerous pre-implementation milestones and implementation commitments. Regular coordination and collaboration between Industry and FAA will be required to stay abreast of ongoing implementations; industry expectations on concept/feasibility assessments; agreements to potentially farm out certain activities to other industry bodies like CDM, and expectations for industry participation on community engagement.

Initiatives, Milestones and Commitments through December 2021

Joint Milestones

In the March 2018 report, the NEC workgroup¹ identified the ten operational need priority areas for the NEC through 2021, and proposed a set of initiatives that would address those needs in that timeframe (see Appendix A). No specific milestones were included in the March 2018 report as the FAA was conducting internal reviews of these proposed initiatives.

The FAA completed its review and provided a response in early May. The response includes commitments that address all ten of the operational need areas, and include several initial Trajectory Based Operations (iTBO) capabilities for the NEC. These commitments build on the 18-month milestones approved by the NAC in October 2017.

With the FAA response, Industry developed a set of commitments and milestones that support and complement the FAA's plans for the NEC. Industry points of contact (POCs) have been identified for each milestone. These POCs will provide responsibility and accountability, and continue the collaborative process between the FAA and Industry. The Industry POCs can serve as touch points for the FAA/NATCA NEC Collaborative Working Group (CWG) as the NEC efforts

¹ The term "NEC workgroup" is used as an umbrella reference for the NEC NIWG and subsequent Industry-based workgroup active after May 29, 2018. This differs from the FAA/NATCA NEC Collaborative Working Group initiated in late 2017, which has no current industry involvement.

continue. This NEC CWG was established in December 2017 to coordinate the facilitation and integration of airspace, Performance Based Navigation (PBN) and conventional procedures, policy, training, technology, and automation enhancements as pertaining to the NEC.

Implementation milestones for the NEC through December 2021 include:

- Implementing high altitude PBN routes supporting the whole NEC by providing increased airspace throughput
- Implementing PDRR/ABRR enhancements
- Improving arrival time-based management at PHL and EWR
- Improving departure management for flights destined to LGA
- Installing non-federal GBAS at JFK and LGA

Examples of pre-implementation milestones include:

- Concept assessments for two arrival runway operations at EWR, including 7110.308 operations
- Design and evaluation of PBN procedures to support deconfliction of New York airports
- Identification of enhancements to support data driven TFM decision making
- Viability assessment of ZDC high altitude airspace redesign
- Collaborative process for emerging NEC applications within the iTBO waterfall

Airport infrastructure milestones include enhancements at BOS, JFK, PHL, and DCA. There are also joint milestones for further study of the applicability of the advanced technology areas identified in the March 2018 NEC report (GBAS, FIM, ADS-B In, and EFVS).

The full listing of milestones and commitments is included in tables in Appendix B.

Industry Role in Concept Assessments

While the majority of commitments through 2021 are pre-implementation milestones, the complexity of the NEC operation require thorough planning and analysis. The joint commitments to complete necessary concept assessments and feasibility analyses will support implementation milestones in the future.

Industry agrees to partner with the FAA in completing all NEC feasibility and concept assessments. Transparency throughout the assessment process will help all parties understand and acknowledge study findings. Working collaboratively on these assessments provides insight into benefits and consequences. This information will also help synchronize FAA and Industry investments, moving toward agreed upon goals and increasing confidence that those goals can be achieved.

For the concept assessment work, the Industry will be available to work closely with the FAA/NATCA NEC Collaborative Work Group and its subject matter experts. Industry participants may provide perspectives on operational need, current and future aircraft

equipment and air crew operating procedures. NEC Industry members are committed to provide resources to support these activities, to include but not limited to subject matter experts, data analysis, simulator access, and where available simulation modeling.

Industry Commitment to Community Involvement Activities

An important element for successful implementation of NEC initiatives is the communication and affirmation of the need for change and the engagement and support of all stakeholders throughout the process. Industry is committed to working with the FAA in communicating the need for NextGen in the NEC. Airports will play a key role in this process and will work with the FAA as it continues to develop its community involvement strategy for the NEC. As the FAA identifies specific community involvement activities, Industry will actively participate with the FAA in NEC community involvement efforts, such as roundtables, briefings to elected/appointed officials, discussions with other stakeholders, and/or the public forums. Industry roles can include:

- Describing proposed initiatives and the associated benefits
- Explaining operator and airport roles in development and implementation of procedures
- Answering operator and airport specific inquiries and describing operator procedures and limitations
- Discussing fleet advancements and expected noise source reductions.

Industry is committed to supporting regular communications regarding NEC activities to ensure that the set of initiatives fits together in a cohesive way.

Considerations for Future NEC Planning

The set of joint commitments from FAA and Industry address the majority of the proposed initiatives from the NEC March 2018 report. Of the remaining initiatives, there are four that Industry would like considered for future inclusion as an FAA NEC commitment:

- Modified LGA/EWR airspace to deconflict EWR Runway 29 GPS, and new GPS and RNP approach
- Multiple PBN approaches for LGA Runway 31, including RNAV (GPS) transitions to existing procedures and exploitation of RNAV to LOC RWY 31
- ROBER OPD to JFK Runways 22L/R
- Use of CRDA to increase airport throughput at JFK

The RNAV approach procedures for TEB Runways 19 and 24 are understood to be largely developed and are scheduled for implementation in 2019. If there is a delay to the planned implementation schedule for these procedures, the workgroup recommends addressing that delay in conjunction with other NEC procedures.

Industry has a strong interest to understand how TBFM metering to LGA could be added to the current list of initiatives, and is planning to continue pursuing the possibility of this opportunity with the FAA. An Industry pre-implementation milestone to supply the FAA with benefits cases for TBFM metering at LGA, as well as other NEC airports, is included.

Ground Based Augmentation System (GBAS) was identified in the March 2018 as a key technology with benefit opportunities in the NEC. Some aircraft operators have invested in GBAS, however greater airport equipage and FAA support is needed for leveraging benefits from GBAS in the NEC. In the report the NEC identified several necessary FAA actions, including:

- Retaining current level of support per PBN NAS Navigation Strategy (2016)
- Supporting GLS Cat II operational approval for a Cat I system, or alternative Cat II approval, and leverage GBAS adverse all-weather capability.
- Studying GLS options for noise abatement in the NEC by using higher GP angles not to exceed Autoland limitations.
- Partnering with Airports and Industry in NEC to support training and advanced procedure development as more aircraft are equipped to take advantage of capability.
- Supporting future industry investments in GLS Cat III capability.

At this point, the FAA is still considering these recommendations. Additional coordination and communication with the NEC workgroup is needed to move forward with this important technology opportunity for the NEC.

For the future, the NEC workgroup should remain intact. Continuity of the collaborative process and collective engagement between the FAA, and Airports is essential. The role of the next phase of the NEC workgroup would be monitoring of the numerous pre-implementation milestones and implementation commitments. Regular coordination and collaboration between Industry and FAA will be required to stay abreast of ongoing implementations; industry expectations on concept/feasibility assessments; agreements to potentially farm out certain activities to other industry bodies like CDM, and expectations for industry participation on community engagement.

Propelling NextGen in the NEC

During the March 2018 NAC meeting, the Committee asked if a NextGen airport should be pursued in the NEC. Building on previous workgroup deliberations and previous findings of the NAC concerning the definition of NextGen, the workgroup recommends against defining or designating a singular NextGen airport.

NextGen is not a point solution but is a systems approach of planned implementation of different programs tailored to the needs of overall NAS operations; there is no one turnkey solution. Solution sets need to be scaled to the operational needs of a specific area. Also,

some capabilities are implemented on or in the airport environment, others in the airspace, and others across the NAS.

NextGen implementations must apply the appropriate capability to the operational need or problems so there may be a variety of solutions across the NAS, impacting the busiest and most capacity constrained airports as well as others in the NAS. The FAA's iTBO plan and its supporting capabilities are foundational elements building incrementally to the full TBO vision. As seen in the joint commitments for the NEC, these components are being deployed in the NEC, but in an appropriately tailored manner.

Appendix A: NEC Implementation Initiatives and Operational Need Areas

The table below was included in the March 2018 report “Priorities for Improving Operational Performance in the Northeast Corridor through CY2021” and presented a set of potential implementation initiatives.

| Initiative Category | Initiative Specifics | | |
|--|---|--|---|
| Data Driven TFM | <ul style="list-style-type: none"> • Collaborative SOP around existing available or prototype capabilities (IDRP, RAPT, NOD w DRS) for use during SWAP 2018 • Emerging applications and capabilities for opportunities within iTBO scope/waterfall for 2018+ | | |
| Multiple Airport Deconfliction | <ul style="list-style-type: none"> • RNAV transition to ILS LGA13, and RNAV LPV, RNP and/or GLS to LGA13 • Modified LGA/EWR airspace to deconflict EWR29 GPS, and new GPS and RNP approach • Multiple PBN approaches for LGA31, including RNAV (GPS) transitions to existing procedures and exploitation of RNAV to LOC RWY 31 | | |
| Crosscutting Departure Throughput | <ul style="list-style-type: none"> • PDRR with technology and process changes in place • Expanded low altitude and escape route structure • Enhanced management for fix/route closure during irregular ops • ZDC09 (MAP changes, splitting sector) • Vertical climb escape route/high performance escape route • ACR and ZNY offshore routes • TBFM metering and pre-scheduling | | |
| Metro NY Airport Throughput and Efficiency | <ul style="list-style-type: none"> • Existing tools/investments to increase airport throughput: CRDA for JFK, high-speed turn-offs at EWR • Existing PBN procedures modified as needed to increase use and reduce pilot and controller workload • Tools to assist managing final approach spacing <table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> <p><u>LaGuardia</u></p> <ul style="list-style-type: none"> • Dispersal headings (TNNIS, NTHNS, GLDMN) <p><u>Kennedy</u></p> <ul style="list-style-type: none"> • EoR for 13R • ROBER OPD to 22L </td> <td style="vertical-align: top;"> <p><u>Teterboro</u></p> <ul style="list-style-type: none"> • RNAV SID TEB19 • RNAV approach procedures for TEB19 and TEB24 <p><u>Newark</u></p> <ul style="list-style-type: none"> • 22L and 29 arrivals • 4L visuals </td> </tr> </table> | <p><u>LaGuardia</u></p> <ul style="list-style-type: none"> • Dispersal headings (TNNIS, NTHNS, GLDMN) <p><u>Kennedy</u></p> <ul style="list-style-type: none"> • EoR for 13R • ROBER OPD to 22L | <p><u>Teterboro</u></p> <ul style="list-style-type: none"> • RNAV SID TEB19 • RNAV approach procedures for TEB19 and TEB24 <p><u>Newark</u></p> <ul style="list-style-type: none"> • 22L and 29 arrivals • 4L visuals |
| <p><u>LaGuardia</u></p> <ul style="list-style-type: none"> • Dispersal headings (TNNIS, NTHNS, GLDMN) <p><u>Kennedy</u></p> <ul style="list-style-type: none"> • EoR for 13R • ROBER OPD to 22L | <p><u>Teterboro</u></p> <ul style="list-style-type: none"> • RNAV SID TEB19 • RNAV approach procedures for TEB19 and TEB24 <p><u>Newark</u></p> <ul style="list-style-type: none"> • 22L and 29 arrivals • 4L visuals | | |

The initiatives included in the table above are intended to address the highest priority operational needs for the NEC. The following represent the ten top priority operational needs for the NEC:

Deconfliction and Throughput Focused Operational Needs

- Improvement for constrained NEC departure routes - during normal and severe weather operations
- Address loss of airport throughput due to airport/airspace interactions when arriving LGA Runway 13
- Address loss of airport throughput due to airport/airspace interactions when arriving LGA Runway 31
- Improvement in arrival throughput at EWR and delay reduction (i.e. GDPs)
- Provide satellite airport access to NY area airspace and deconflicting satellite operations from the major airports where possible

Growth Focused Operational Needs

- Provide full utilization of available LGA capacity
- Improvement of JFK runway usage and delay reduction
- Improvement of PHL runway usage and delay reduction
- Provide reduced separation and spacing and improved access to NEC airports

Data Driven Traffic Flow Management

- Evolve TFM to incorporate data-driven decision-making to better manage demand/capacity imbalance in the NEC

Appendix B: Milestone and Commitment Detail

This section contains the five tables that detail the milestones and commitments for the NEC from October 2017 through December 2021. These tables include the milestones and commitments from the October 2017 report “Joint Implementation Commitments for Improving Operations in the Northeast Corridor Phase Two - Interim Report.”

- **NEC Industry Milestones through Dec 2021**
Includes Industry commitments organized by the 10 Operational Need Areas. The initiative is identified (similar to the structure used in October 2017 NEC report). Where a corresponding FAA milestone date exists, it is referenced in the table. An Industry POC has been identified for each commitment/milestone.
- **FAA NEC Milestones through Dec 2021**
Includes the FAA milestones and commitments presented to the NEC workgroup on May 9, 2018, organized to match to 10 Operational Needs Areas. Some additional information (provided by the FAA at the May 17 and May 24 NEC workgroup meetings) has also been included.
- **Additional Airport NEC Initiatives**
Includes milestones and commitments associated with the initiatives identified by the NEC Airports subgroup. These milestones were identified in the May 9, 2018 FAA briefing.
- **Advanced Technology Initiatives**
Includes FAA responses and joint milestones discussed at the May 17 NEC workgroup meeting.
- **Completed FAA and Industry NEC Milestones**
Includes milestones identified as completed as of June 13, 2018.

NEC Industry Milestones through Dec 2021

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|----------------------|---|--|------------------------|-------------------------------------|---|
| Efficient Departures | Process to reduce and/or eliminate passback MIT for departures from NEC | Industry will participate in feasibility study to create a process to reduce and/or eliminate passback MIT for departures from NY | Q1 CY19 | Q4 CY18 (End of Season Review) | PANYNJ (Ralph Tamburro) |
| | TBFM Pre-departure scheduling to PHL, EWR, BOS or LGA | Industry will provide examples of beneficial application of early TBFM pre-departure scheduling to PHL, EWR, LGA, and BOS | | Q4 CY18 (through TBFM customer mtg) | DAL (Mark Hopkins, Rob Goldman) AAL (Eric Silverman) |
| | | Industry will complete training of airspace user personnel to support TBFM pre-departure scheduling | Q1 CY19 | Q1 CY19 | UAL (Susan Pfingstler) |
| | En route metering for remaining NEC airports | Industry will provide input and review an analysis to determine the sequence of remaining airports to receive enroute metering | Q3 CY19 | Q4 CY18 (Sep or Oct NCF) | Industry NCF Chair (Mark Hopkins) |
| | ZDC airspace redesign (aka ZDC09) | Industry will provide input to routing designs for the ZDC airspace redesign alternatives to reduce traffic management restrictions | Q3 CY19 | Q3 CY19 | AAL (Wes Googe) |
| | Eastern Seaboard high altitude PBN routes (aka Atlantic Coast Routes) | Industry will continue to support ongoing design work and implementation Eastern Seaboard high altitude PBN routes (including SID/STAR connectivity) through ZBW, ZNY and ZDC airspace | Q3 CY20 | Q3 CY20 | AAL (Wes Googe) |
| | ZNY Offshore Airspace Redesign | Industry will support design and implementation ZNY Offshore PBN Routes | Q4 CY19 | Q4 CY19 | AAL (Wes Googe) |
| | PDRR with technology & process changes in place | Industry will evaluate the use multi-route TOSs to communicate departure and arrival trajectory preferences from/to PHL and NY area airports | Q3 CY20 (PDRR) | TBD | DAL (Mark Hopkins, Rob Goldman) UAL (Susan Pfingstler) AAL (Eric Silverman) A4A (Mike Cirillo) |
| | Expand consistent usage of defined and existing capping and tunneling for departures/arrivals to/from the NEC | Airspace users to complete training to support capping and tunneling for departures/arrivals to/from the NEC | Q2 CY18 - Q1 CY19 | Q2-Q4 CY18 | DAL (Mark Hopkins, Rob Goldman) UAL (Susan Pfingstler) AAL (Eric Silverman) A4A (Mike Cirillo) |

Note: A blank entry under “Corresponding FAA Date” reflects an Industry milestone that does not have a corresponding FAA milestone

NEC Industry Milestones through Dec 2021 (continued)

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|------------------|---|---|------------------------|---------------------|---|
| Deconflict LGA13 | RNAV transition to LGA ILS 13 that deconflicts LGA/TEB/EWR | Industry will provide input and review the concept assessment to deconflict LGA/EWR/TEB when on LGA 13 ILS | Q1 CY19 | Q1 CY19 | DAL (Mark Hopkins, Rob Goldman) PANYNJ (Ralph Tamburro) |
| Deconflict LGA31 | LGA31 RNAV approach that approximates the LGA31 EXPWY VIS approach | Industry will provide input to evaluation of designs for LGA31 RNAV approach that approximate the LGA31 EXPWY VIS approach and is usable for most operators | Q3 CY19 | Q3 CY19 | JetBlue (Joe Bertapelle) DAL (Mark Hopkins) PANYNJ (Ralph Tamburro) |
| EWR Capacity | Modified LGA22 missed approach to deconflict with EWR29 RNAV GPS approach | Industry will participate in feasibility study for the modified missed approach for LGA22 | Q4 CY18 | Q4 CY18 | PANYNJ (Ralph Tamburro) & UAL (Glenn Morse) |
| | EWR 22L/29 Arrivals | Industry will provide input and review concept assessment for EWR 22L/29 arrival operations | Q2 CY19 | Q2 CY19 | UAL (Glenn Morse) |
| | EWR CSPO Departures | Industry will provide input and review feasibility and initial safety analysis for CSPO departure concepts | Q3 CY19 | Q3 CY19 | UAL (Glenn Morse) |
| | CRDA for EWR 22L/11 | Industry will provide input and review CRDA feasibility analysis for EWR 22L/11 to lower minima | Q4 CY19 | Q4 CY19 | UAL (Glenn Morse) |
| | 7110.308 at EWR | Industry will provide input and review of FAA evaluation of the impact and benefit of applying 7110.308 at EWR | Q1 CY20 | Q1 CY20 | UAL (Glenn Morse) |
| | CRDA for EWR 4R/29 | Industry will provide input and review of CRDA feasibility analysis for EWR 4R/29 to lower minima | Q4 CY19 | Q4 CY19 | UAL (Glenn Morse) |
| Satellites | Vertical Climb Escape Route | NBAA will provide expertise to design refinement for Vertical Climb Escape Route | | Q3 CY18 | NBAA (Heidi Williams, Dean Snell) PANYNJ (Ralph Tamburro) |
| | TEB RW19 RNAV SID | Industry will provide input and review concept analysis for TEB RW19 RNAV SID for overnight operations | Q2 CY19 | Q2 CY19 | NBAA (Heidi Williams, Dean Snell) PANYNJ (Ralph Tamburro) |

NEC Industry Milestones through Dec 2021 (continued)

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|--------------|---|--|------------------------|---------------------|---|
| LGA Capacity | LGA13 departure dispersion using TNNIS, GLDMN, & NTHNS | Operators will participate in community engagement activities | Q2 - Q4 CY18 | Q2 - Q4 CY18 | DAL (Rob Goldman) |
| | Modify GLDMN/NTHNS RNAV SIDs to address noise concerns | Industry will provide input to the evaluation of the alternatives to the GLDMN/NTHNS RNAV SIDs to address noise concerns | Q2 CY19 | Q2 CY19 | DAL (Rob Goldman) |
| | | Industry will work with FAA to mitigate climb gradient concerns | Q2 CY19 | Q2 CY19 | AAL (Wes Googe) DAL (Rob Goldman) |
| JFK Capacity | Established on RNP for JFK 13R | Industry will provide input and review feasibility assessment of EoR simultaneous operations to 13R RNP and 13L ILS | Q2 CY19 | Q2 CY19 | JetBlue (Joe Bertapelle) PANYNJ (Ralph Tamburro) |
| | JFK surface construction to relocate and build new high speed exits | PANYNJ will create new high-speed exit on runway 31R to reduce Runway Occupancy Time (ROT) | | Q4 CY19 | PANYNJ (Ralph Tamburro) |
| PHL Capacity | SCIA with RNAV for 9R/35 | Industry will provide input and review safety assessment of SCIA operations with RNAV for PHL 9R/35 | Q4 CY18 | Q4 CY18 | AAL (Eric Silverman) SWA (Rick Dalton) |

NEC Industry Milestones through Dec 2021 (continued)

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|---------------------------------------|---|---|------------------------|---------------------|--|
| Reduced Separation & Increased Access | Simultaneous operations on widely spaced approaches to different airports | Industry will participate in concept exploration of simultaneous operations on widely spaced approaches to different airports | Q2 CY19 | Q2 CY19 | PANYNJ (Ralph Tamburro) |
| | | Industry will identify and prioritize applications in NY area for simultaneous operations on widely spaced approaches to different airports to expedite addressing deconfliction issues | Q2 CY19 | Q2 CY19 | PANYNJ (Ralph Tamburro) |
| | GBAS at JFK and LGA | PANYNJ will install Non-Fed GBAS at JFK and LGA | | Q4 CY19 | PANYNJ (Ralph Tamburro) |
| | Existing PBN procedures modified as needed to increase use and reduce pilot and controller workload | PANYNJ with Industry will conduct an review of existing PBN procedures, determine operator issues, identify needed modifications, and prioritize needed changes | | Q1 CY19 | PANYNJ (Ralph Tamburro) |
| | Minimum Radar Separation (MRS) on final approach | Industry will provide input and review feasibility study of reduced Minimum Radar Separation (MRS) on final approach including collision risk, impacts on go around rate, and runway occupancy restrictions | Q1 CY20 | Q1 CY20 | UAL (Glenn Morse) |
| | Effective NEC community involvement | PANYNJ with operators will partner with the FAA in developing a Community Involvement strategy for the NY area | | Q3 CY18 | PANYNJ (Ralph Tamburro) A4A (Mike Cirillo) DAL (Mark Hopkins) NBAA (Heidi Williams) |

NEC Industry Milestones (concluded)

| Need Area | Initiative | Commitment/Milestone | Corresponding FAA Date | Draft Industry Date | Industry POC |
|-----------------|---|---|------------------------|--------------------------------|---|
| Data Driven TFM | Data driven TFM decision making | Industry will provide input and review operational analysis to identify enhancements to improve data driven TFM decision making | Q4 CY19 | Q4 CY19 | Mark Hopkins |
| | | Industry will engage in a collaborative process for emerging NEC applications for capabilities within iTBO scope/waterfall | Q4 CY19 | Q4 CY18 (start of FY19) | PANYNJ (Ralph Tamburro) A4A (Mike Cirillo) DAL (Mark Hopkins) AAL (Eric Silverman) Select regional carriers |
| | | Industry will engage in a collaborative process for emerging NEC applications for SWAP 2019 | Q4 CY19 | Q4 CY18 (End of Season Review) | PANYNJ (Ralph Tamburro) A4A (Mike Cirillo) DAL (Mark Hopkins) AAL (Eric Silverman) Select regional carriers |
| | Expanded number of operators sharing surface data with FAA to improve flow management | Southwest Airlines provide improved aircraft intent data via surface data elements | | TBD | SWA (Rick Dalton) |
| | | FedEx provide improved aircraft intent data via surface data elements | | Q4 CY19 | FedEx (Phil Santos) |
| | Fight data exchange between PANYNJ with FAA/airlines for EWR, JFK, LGA, through CDM partnership | PANYNJ exchange flight data with FAA/airlines | Q1 CY19 | Q1 CY19 | PANYNJ (Ralph Tamburro) |

FAA NEC Milestones through Dec 2021

| Need Area | Milestone | Solution/Candidate | Timeframe | Targeted Benefit Pool |
|----------------------|-----------|---|---------------------|--|
| Efficient Departures | P | Conduct a feasibility study to create a process to reduce and/or eliminate passback MIT for departures from NY | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | P | Complete assessment for early TBFM pre-departure scheduling to determine which arrival airport and associated departure airports will execute this capability | Q2 CY18 | Improve Throughput: Increase use of existing capacity |
| | IM | Implement TBFM Pre-Departure Scheduling at selected airport | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | P | Conduct an analysis to determine the sequence of remaining airports to receive en route metering | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | IM | Implement DSP Enhancements | Q3 CY20 | Improve Throughput: Increase use of existing capacity Flight Efficiency: Improved Redistribution of necessary delay |
| | P | Determine viability and model ZDC airspace redesign alternatives to reduce traffic management restrictions | Q3 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | IM | Implement Eastern Seaboard high altitude PBN routes (including SID/STAR connectivity) through ZBW, ZNY and ZDC airspace | Q3 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | IM | Implement ZNY Offshore PBN Routes | Q4 CY19 | Improved Throughput: Increase existing capacity during specific operating conditions |
| | IM | Implement PDRR/ABRR Enhancements | Q3 CY20 | Improve Throughput: Increase use of existing capacity Flight Efficiency: Improved redistribution of necessary delay |
| | IM | Improved departure management for flights destined to LGA | Q1 CY20 | Improve Throughput: Increase use of existing capacity |
| | P | Conduct Integrated Departure Route program (IDRP) prototype re-familiarization sessions | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | IM | Expand consistent usage of defined and existing capping and tunneling for departures/arrivals to/from the NEC | Q2 CY18- Q1 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Deconflict LGA13 | P | Complete concept assessment to deconflict LGA/EWR/TEB when on LGA 13ILS | Q1 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Deconflict LGA31 | P | Evaluate LGA31 RNAV approach design alternatives that approximate the LGA 31 EXPWY VIS approach and is usable for most operators | Q3 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |

P – Pre-implementation IM - Implementation

FAA NEC Milestones through Dec 2021 (continued)

| Need Area | Mile-stone | Solution/Candidate | Timeframe | Targeted Benefit Pool |
|------------------|-------------------|--|------------------|--|
| EWR Capacity | P | Complete feasibility study for the modified missed approach for LGA22 | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Complete concept assessment for EWR 22L/29 arrival operations | Q2 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Perform feasibility and initial safety analysis for CSPO departure concepts | Q3 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Conduct CRDA feasibility analysis for EWR 22L/11 to lower minima | Q4 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Conduct CRDA feasibility analysis for EWR 4R/29 to lower minima | Q4 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | IM | Improve Arrival Time-Based Management (TBM) to EWR | Q4 CY21 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Conduct analysis to evaluate the impact and benefit of applying 7110.308 at EWR | Q1 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Satellites | | Complete training and implement Vertical Climb Escape Route for TEB/HPN | TBD | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Complete concept analysis for TEB RW19 RNAV SID for overnight operations | Q2 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| LGA Capacity | P | Conduct an environmental review for the use of dispersal headings for LGA13 departures using the current GLDMN, TNNIS and NTHNS SIDs within the current limitations specified in each procedure's existing CATEX | Q2-Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Evaluate design alternatives to the GLDMN/NTHNS RNAV SIDs to address noise concerns | Q2 CY19 | Address noise concerns |
| JFK Capacity | P | Conduct feasibility assessment of EoR simultaneous operations to 13R RNP and 13L ILS | Q2 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |

P – Pre-implementation IM - Implementation

FAA NEC Milestones through Dec 2021 (concluded)

| Need Area | Mile-stone | Solution/Candidate | Timeframe | Targeted Benefit Pool |
|---------------------|------------|--|-----------|--|
| PHL Capacity | IM | Implement SCIA to PHL 9R/17 | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Conduct safety assessment of SCIA operations with RNAV for PHL 9R/35 | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Complete review/update of adaptation for improving airborne metering to PHL | Q1 CY19 | Throughput: Increase use of existing capacity |
| | P | Complete TBFM refresher training for metering to PHL | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | IM | Improve airborne metering to PHL | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | IM | Implement CRDA application for PHL 27R/35 for RNAV approaches | Q1 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | IM | Improve Arrival Time-Based Management (TBM) to PHL | Q4 CY20 | Flight Efficiency: Improved Redistribution of Necessary Delay Improve Throughput: Increase use of existing Capacity |
| Separation & Access | P | Conduct concept exploration of simultaneous operations on widely spaced approaches to different airports | Q2 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Perform feasibility study of reduced Minimum Radar Separation (MRS) on final approach including collision risk, impacts on go around rate, and runway occupancy restrictions | Q1 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| | P | Benefits assessment for gate docking technologies to improve surface management | Q3 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| Data Driven TFM | P | Complete study report of the NOD prototype trial | Q3 CY18 | Improve Throughput: Increase use of existing capacity |
| | P | Insert DRS info into the NOD prototype and make available to Industry | Q3 CY18 | Improve Throughput: Increase use of existing capacity |
| | IM | PANYNJ exchange flight data with FAA/airlines | Q1 CY19 | Improve Throughput: Increase use of existing capacity |
| | P | RAPT Refresher Training for FAA personnel | Q2 CY18 | Improve Throughput: Increase use of existing capacity |
| | P | Conduct operational analysis to identify enhancements to improve data driven TFM decision making | Q4 CY19 | Improve Throughput: Increase use of existing capacity |

P – Pre-implementation IM - Implementation

Additional Airport NEC Initiatives

| Mile-stone | Solution/Candidate | Timeframe | Targeted Benefit Pool |
|------------|---|-----------|--|
| IM | Extend PHL Runway 9R/27L by 1,500 feet and supporting taxiway improvements | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct assessment of additional PHL 27L high speed exits* | Q3 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct assessment of PHL 27R departure queue taxiway* | Q3 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct assessment of PHL taxiway extension for end around operations* | Q4 CY21 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct GBAS evaluation/assessment at BOS | Q4 CY19 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| I | Create additional BOS tower space for TFDM equipment to enable surface metering | Q4 CY21 | Improve Throughput: Increase use of existing capacity |
| IM | Extension of BWI International Concourse E | Q4 CY18 | Improved Throughput: Increasing existing capacity during specific operating conditions |
| P | Conduct assessment of DCA north end hold pads | Q3 CY20 | Improved Throughput: Increasing existing capacity during specific operating conditions |

P – Pre-implementation IM – Implementation

* These three concept assessments are a result of proposed changes supported by local Air Traffic and operators. Operators, in particular American Airlines and Southwest Airlines, will continue to participate in these assessments with Philadelphia Airport.

Advanced Technology Initiatives

| Milestone | Advanced Technology Concept | Industry Recommendations | Commitment | Timeframe |
|-----------|---|---|--|-----------|
| P | Flight Interval Management | The FAA and Industry should conduct a review of results of 2017-2019 FIM demonstrations, including the cost and benefits, prior to the FAA’s final investment decision. The review determines the final status of future recommendation on IM development and implementation. | Joint Industry/FAA milestone to review the relevant information and recommend next steps | Q3 CY20 |
| P | | The FAA should conduct a NEC-specific benefit study (including safety cases, demonstration data, etc.). This study should be followed by presentations for FAA and Industry Executive leadership, creating a critically important collective commitment to close the business case. | Project benefits at select NEC locations | Q3 CY20 |
| P | CDTI Assisted Pilot Procedure (CAPP) | The FAA should accelerate the development of operational criteria for the CAPP use, including conducting studies to determine lead/follow requirements, controller requirements, and defining the conditions under which CAPP procedure is allowable. | Joint Industry/FAA milestone to assess opportunities to expand the use of CDTI-assisted operations beyond CAVS | Q4 CY19 |
| P | Enhanced Flight Vision System (EFVS) | The FAA should complete benefits studies to determine requirements for reaching Cat II/III equivalent operations in the NEC. These studies should include the relative advantages to primary and secondary airports and how often arrival rates would improve if these benefits did exist. | Joint Industry/FAA milestone to project benefits at select NEC airports | Q4 CY19 |
| | | The FAA should complete studies to analyze the effects of mixed EFVS equipage aircraft operations in the NEC, including determining what level of equipage is required to begin realizing significant benefit. As EFVS installation is completely dependent on the operator, these studies will help define benefits for each specific carrier’s operations, as well as the potential timeframe to achieve immediate return on the investment. | | |
| | Ground-Based Augmentation System (GBAS) | <p>The FAA should:</p> <ul style="list-style-type: none"> • Retain current level of support per PBN NAS Nav Strategy • Support GLS Cat II operational approval for a Cat I system, or alternative Cat II approval, and leverage GBAS adverse all-weather capability. • Study GLS options for noise abatement in the NEC by using higher GP angles not to exceed Autoland limitations. • Partner with Airports & Industry in NEC to support training and advanced procedure development as more aircraft are equipped to take advantage of capability. • Support future industry investments in GLS Cat III capability. | TBD The FAA is still considering these recommendations | |

P – Pre-implementation IM - Implementation

Completed FAA and Industry NEC Milestones

| Need Area | Milestone | Solution/Candidate | Timeframe |
|----------------------|-----------|--|-----------|
| Efficient Departures | P | Complete training and establish operating agreements to support EDC at ZNY | Q1 CY18 |
| | IM | Implement EDC at ZNY | Q1 CY18 |
| | P | Deploy/Relocate Equipment/Software to support IDAC deployment at 4 NY area Towers | Q1 CY18 |
| | IM | Implement TBFM IDAC at 4 NY Towers | Q2 CY18 |
| | P | Complete design of new PBN arrival and departure procedures for two airports from the ZNY oceanic transition sectors | Q1 CY18 |
| | I | Industry will participate in design activities associated with the new PBN arrival and departure procedures for the ZNY oceanic transition sectors | Q1 CY18 |
| | P | Complete design validation of Eastern Seaboard high altitude PBN routes (including SID/STAR connectivity) | Q2 CY18 |
| | P | Industry will participate in design activities associated with Atlantic Coast including SID/STAR connectivity | Q2 CY18 |
| Satellites | P | Complete design and testing for Vertical Climb Escape Route for TEB/HPN | Q1 CY18 |
| | P | NBAA Resources or members to participate in design and testing | Q1 CY18 |
| JFK Capacity | IM | Relocate high-speed exits on JFK runway 4R/22L better location on runway to reduce Runway Occupancy Time (ROT) | Q1 CY18 |
| PHL Capacity | IM | Update the minima for existing SCIA procedure to PHL 9R/17 | Q3 CY18 |
| Data Driven TFM | I | JetBlue provide improved aircraft intent data via surface data elements | Q4 CY17 |
| | I | United Airline provide improved aircraft intent data via surface data elements | Q4 CY17 |
| | P | Commence 90 day trial of the use of the NOD Prototype for Common Planning Coordination and Awareness between FAA and airspace user | Q1 CY18 |
| | I | Industry provide input/feedback on use of NOD prototype | Q2 CY18 |
| | IM | Implement BOS Surface Viewer Tool at ZBW | Q2 CY18 |

P – Pre-implementation IM – Implementation I - Industry

Appendix C: Participants in the Northeast Corridor Task Group

Air Line Pilots Association (ALPA)
Airlines for America
American Airlines, Inc.
Baltimore/Washington International Thurgood Marshall Airport (BWI)
Beacon Management Group
Delta Air Lines, Inc.
Federal Aviation Administration
FedEx Express
General Aviation Manufacturers Association
Harris Corporation
HMMH (DP)
JetBlue Airways
Landrum and Brown, Inc.
Leidos
Massachusetts Port Authority
Metron Aviation, Inc.
Metropolitan Washington Airports Authority
MIT Lincoln Laboratory
NASA
National Air Traffic Controllers Association (NATCA)
National Business Aviation Association
NOISE (The National Association to Insure a Sound Controlled Environment)
PASSUR Aerospace
Philadelphia Airport
Port Authority of New York & New Jersey
Professional Aviation Safety Specialists (PASS)
Raytheon
RTCA, Inc.
Sandel Avionics, Inc.
Southwest Airlines
The Boeing Company
The MITRE Corporation
United Airlines, Inc.
United Parcel Service (UPS)
Vianair