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.

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.

FACA Overview

Alexandra Randazzo, FAA

Oral Statements

Members of the Public

New Charter

Dan Elwell, FAA

Chairman's Report

David Bronczek, FedEx Corp.

FAA Report

Dan Elwell, FAA

NextGen Priorities Report

Data Communications

Multiple Runway Operations (MRO)

Performance Based Navigation (PBN)

Surface & Data Sharing

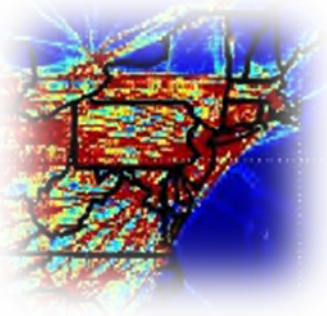
Craig Drew, Southwest Airlines

Melissa Rudinger, AOPA

Discussion

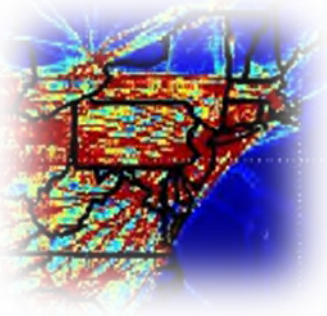
Northeast Corridor Phase 2 Recommendations

Steve Brown, NBAA
Warren Christie, JetBlue
Mark Hopkins, Delta Air Lines



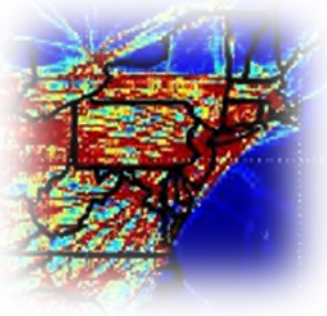
Summary of NEC Report

- 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



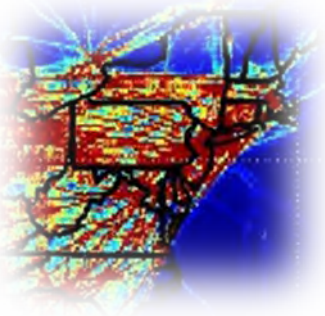
Industry Milestones

- 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



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

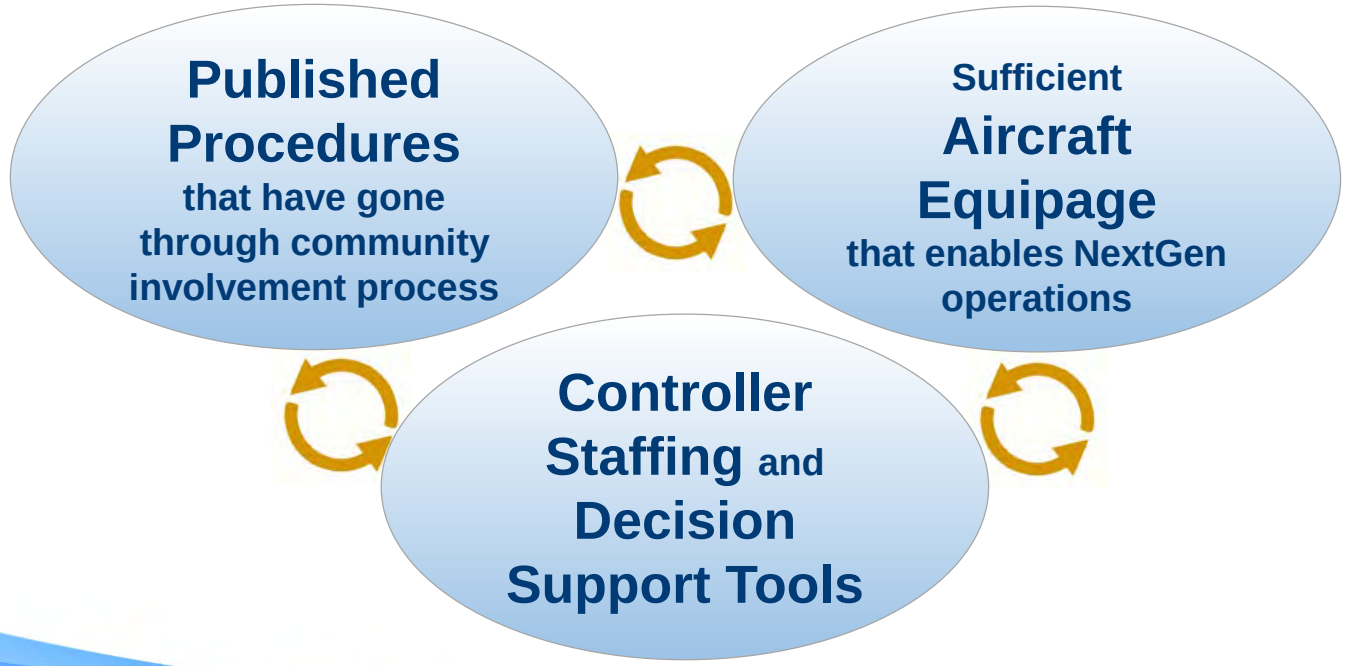


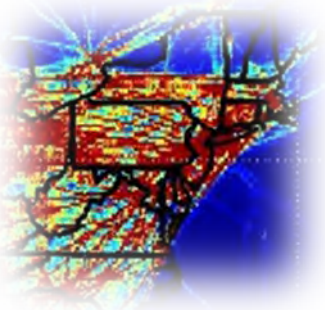
Collaboration and Transparency to Achieve NextGen in NEC

Synchronize FAA and Industry investments

Moving toward agreed upon goals for NEC

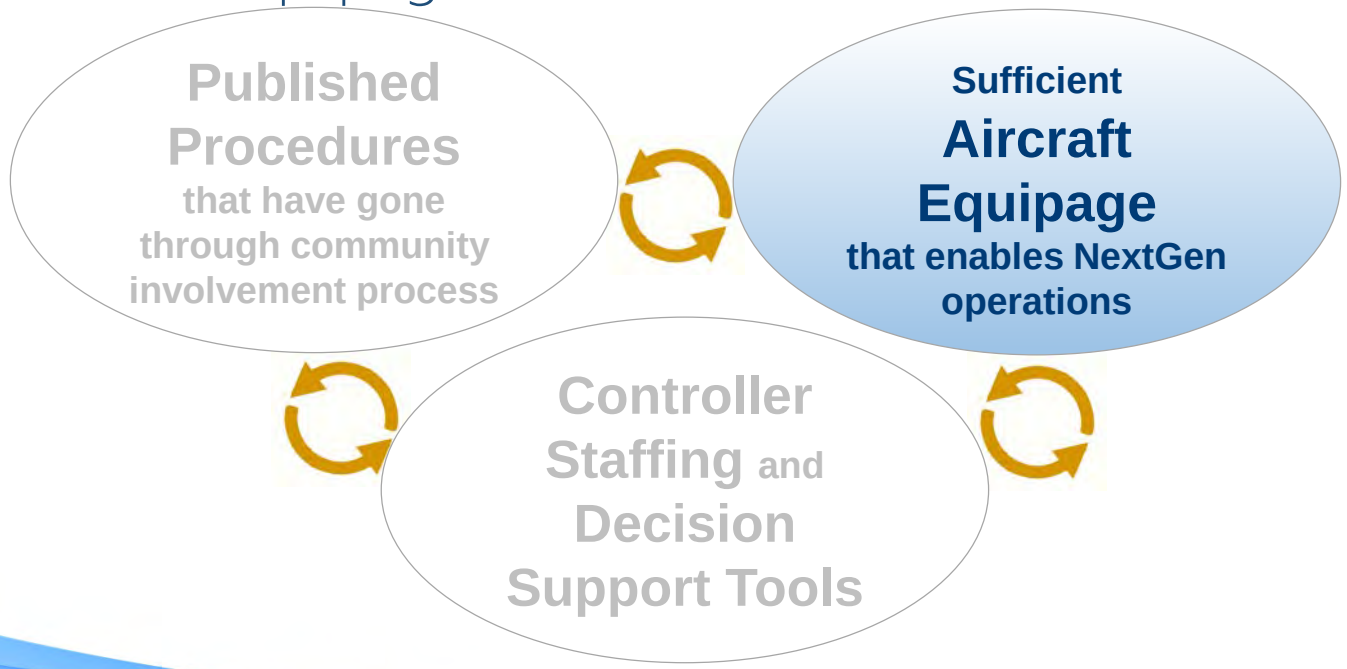
Increasing confidence that those goals can be achieved

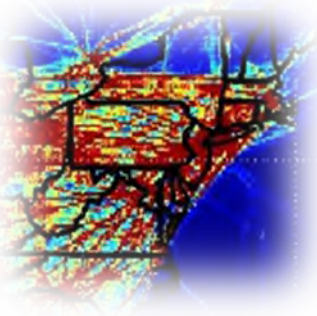




Challenge of Synchronization: Equipage

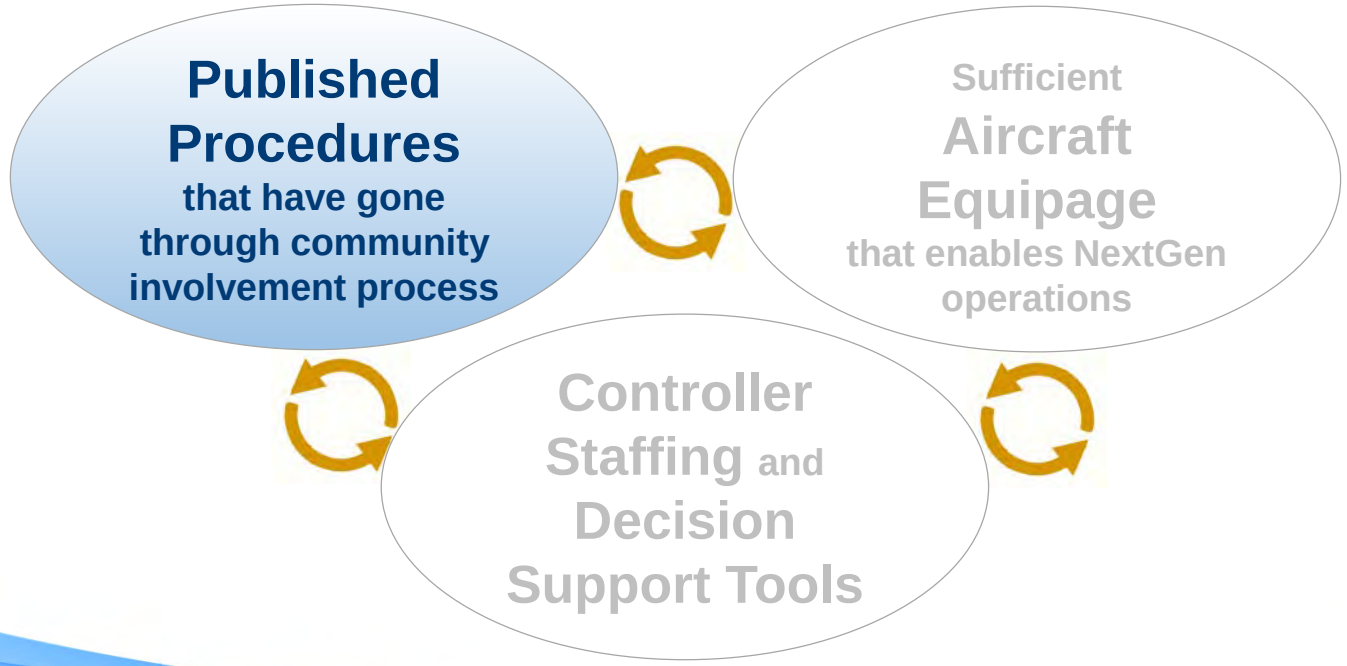
- Tools to accommodate mixed equipage?
- Incentives to equip (financial or operational)?
- Analysis needs: percent equipage necessary for PBN, benefits of equipage to inform business cases?





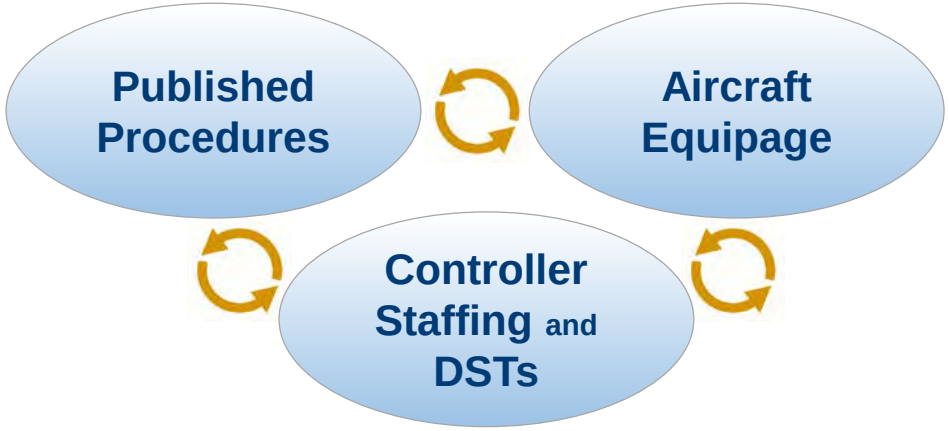
Challenge of Synchronization: Procedures & Community Involvement

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



Need for Continued Collaboration

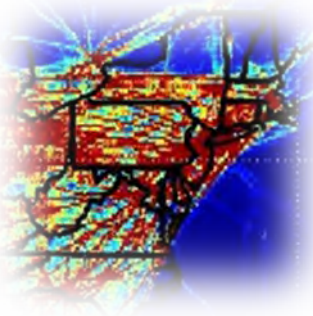
- NEC workgroup should remain intact
- Continuity of the collaborative process is essential



- Monitoring of the numerous pre-implementation milestones and implementation commitments
- Regular coordination and collaboration
  - Industry expectations on concept assessments
  - Industry participation on community engagement

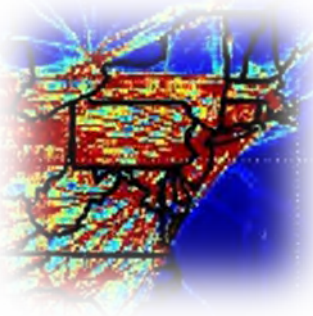
Discussion
and
Consideration for approval of
Phase 2 Recommendations Addendum Report

Northeast Corridor Phase 2 Recommendations Backup Slides



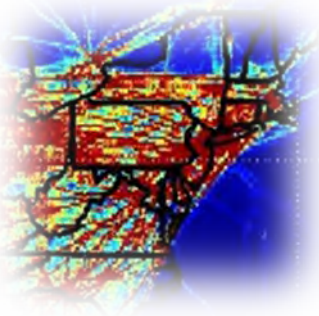
Implementation Milestones for the NEC through December 2021

- 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



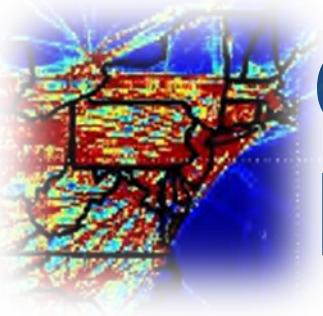
Examples of Pre-Implementation Milestones

- 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



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



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

NEC Initiatives - FAA

Need Area	Mile-stone	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

NEC Initiatives - FAA

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

NEC Initiatives - FAA

Need Area	Mile-stone	Solution/Candidate	Timeframe	Targeted Benefit Pool
PHL Capacity	IM	Implement SCIA to PHL 9R/17	Q$ 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

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 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 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 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 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	SCIAs 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 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 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 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) 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)

NEC Initiatives – Airport Items

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*	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
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.

NEC Advanced Technologies

Mile-stone	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: • 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	Mile-stone	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

Northeast Corridor Public Engagement

Guided Discussion 1

Jodi McCarthy, FAA

Jennifer Solomon, FAA

Nancy Young, A4A

Outline for Discussion

Discussion of Community Engagement in the Context of the Northeast Corridor

What are the risks and the need to collaborate?

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

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

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.

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?

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?

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?

Discussion

BREAK

Regional Fleet Equipage Risk to Northeast Corridor Benefits

Guided Discussion 2

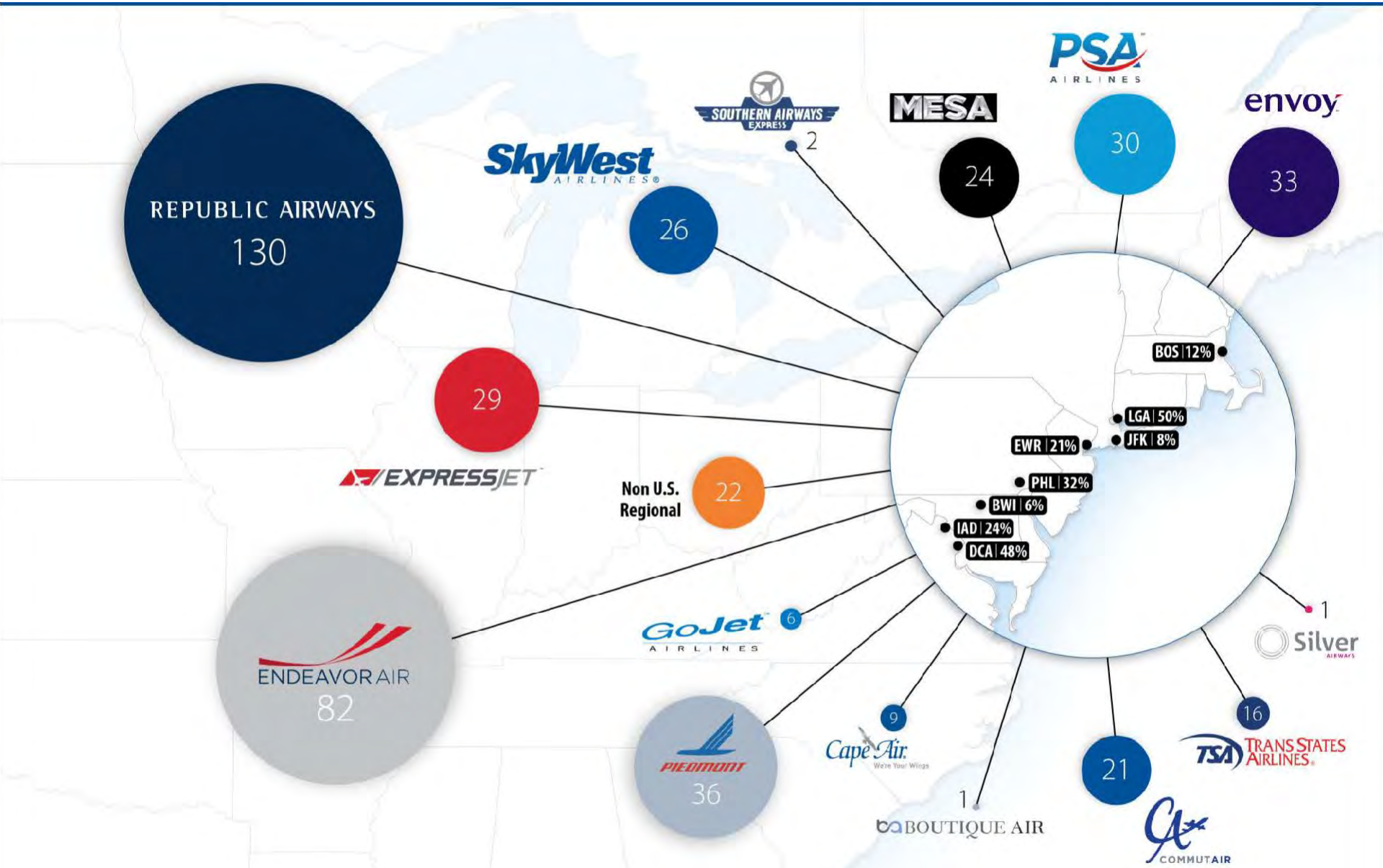
Chip Childs, Regional Airlines Association

Northeast Corridor Regional Fleet Equipage Risk: NextGen Advisory Committee

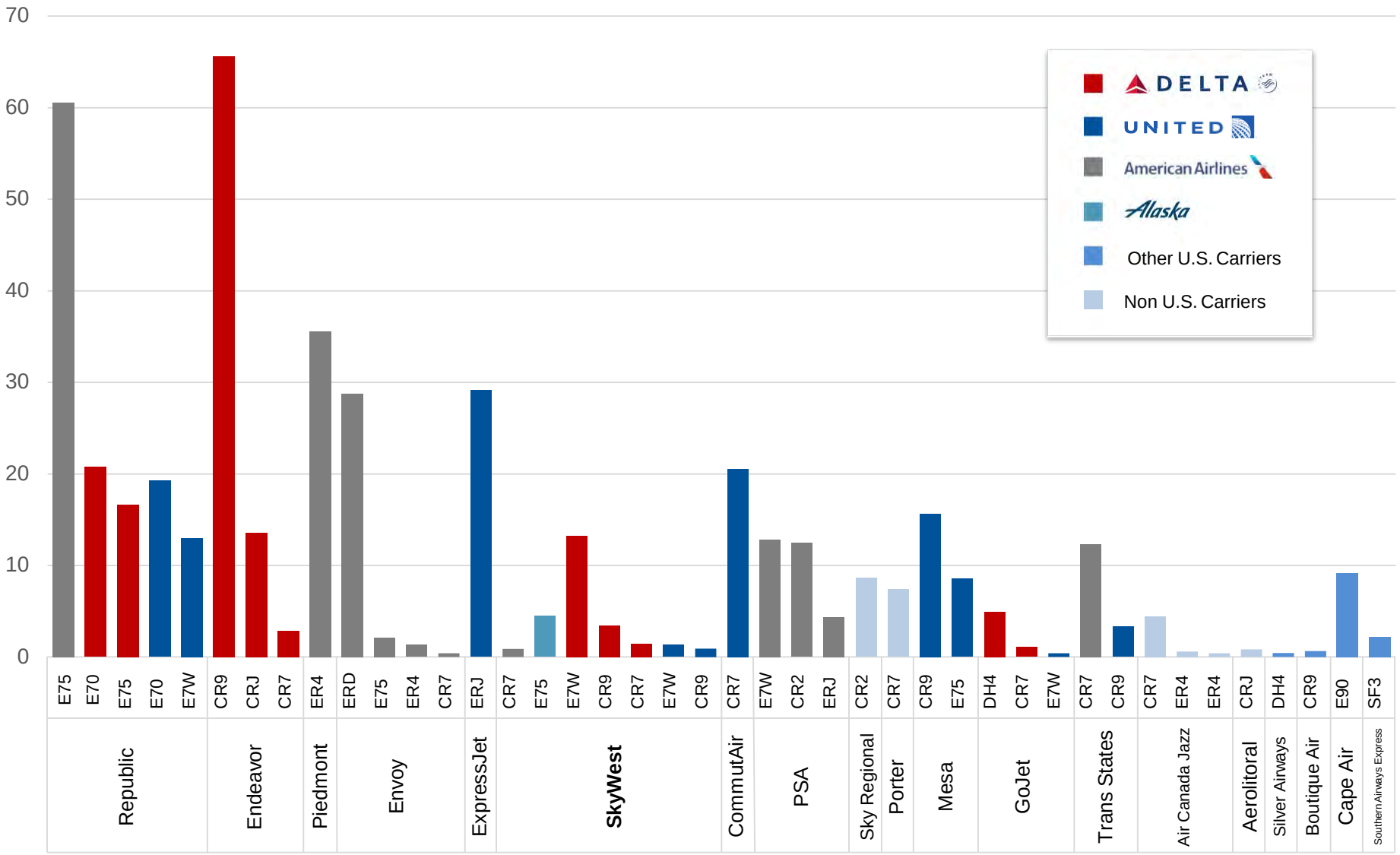
SkyWest Incorporated

Chip Childs
President & CEO

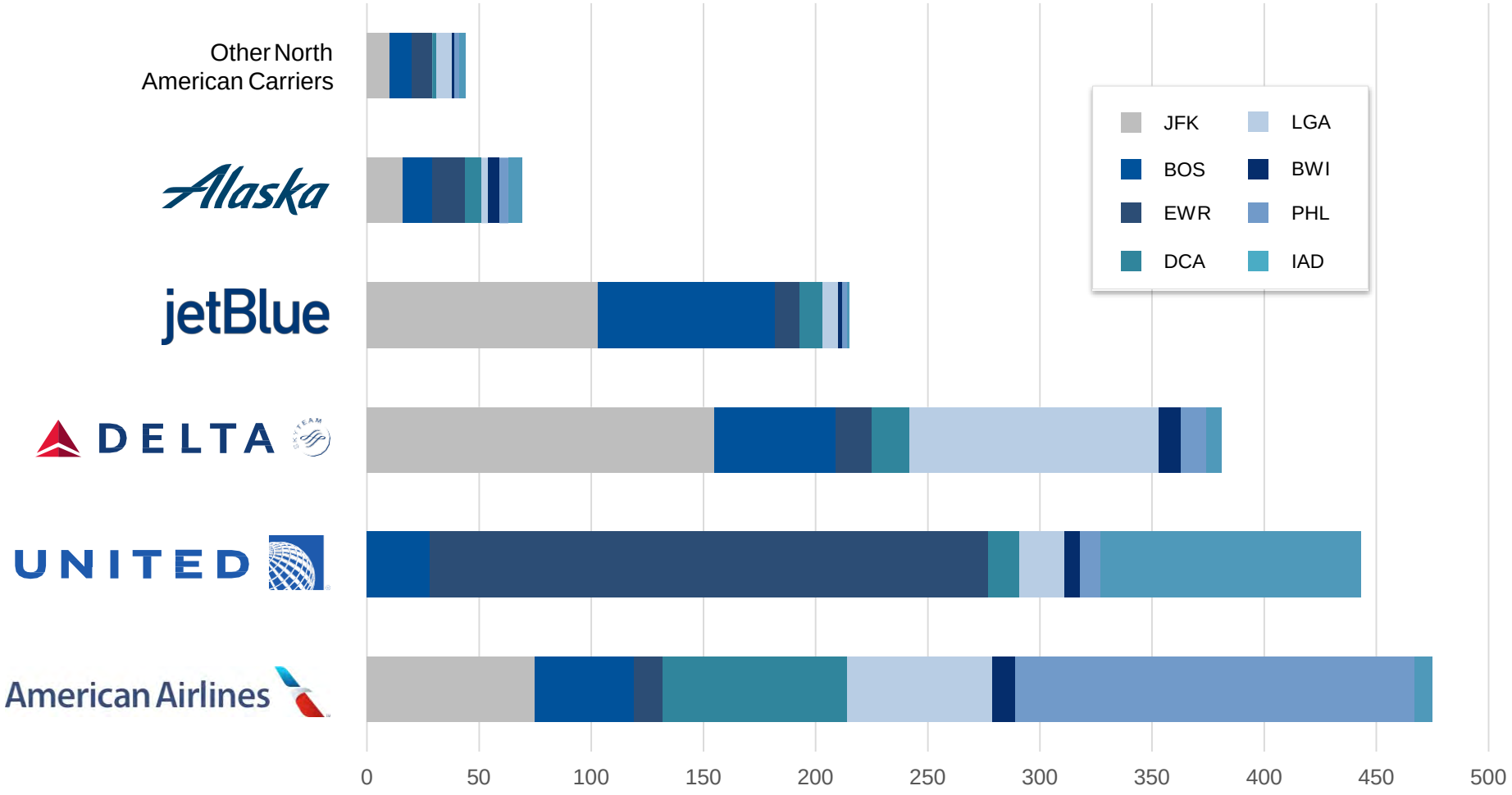
Northeast Corridor - Regionals



Northeast Corridor - Regionals



Mainline & Regional Totals by Origin



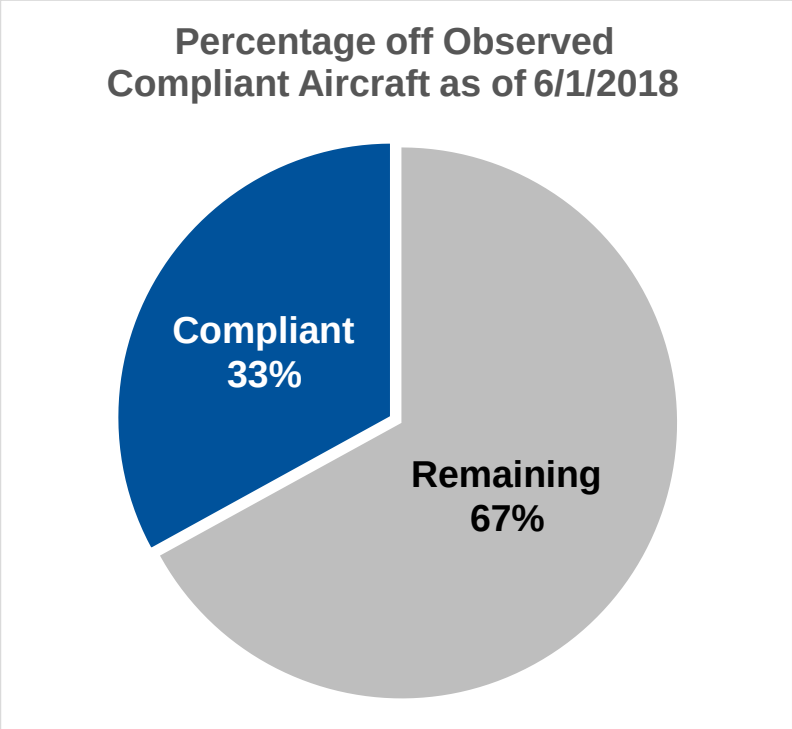
NextGen Capabilities by Fleet

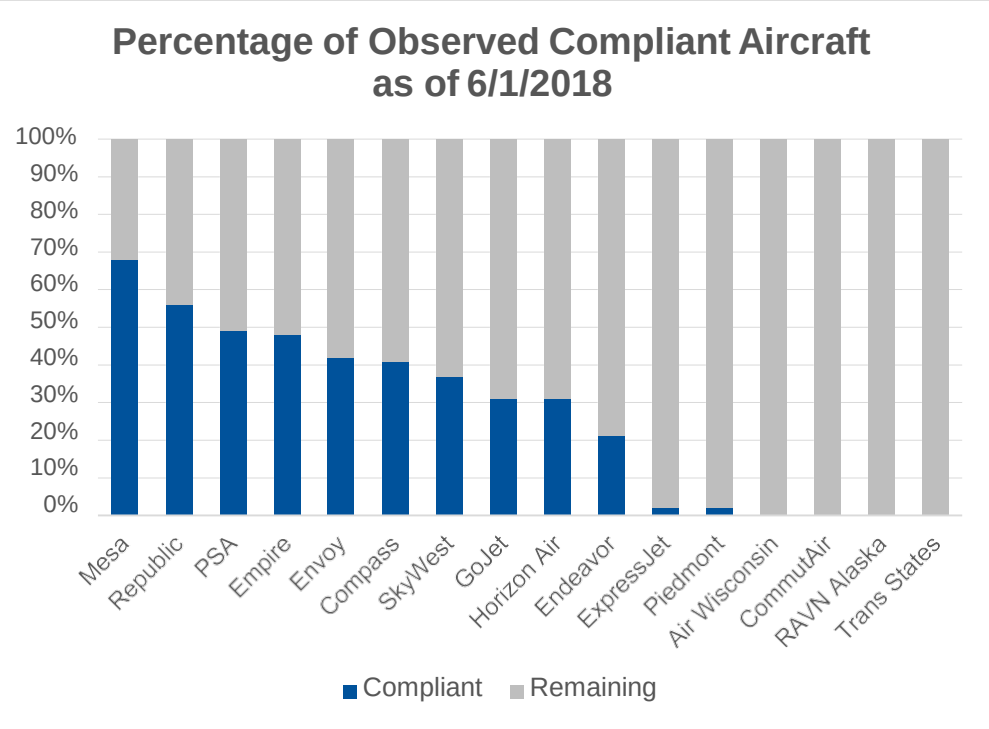
Embraer Fleet/Honeywell Platform					
		RNP-AR .3	**RNP-AR .1**	**LPV**	**CPDLC**
ERJ175	125	SB	SB	SB	SB
ERJ145	113	NOT AVAILABLE	NOT AVAILABLE	SB/STC/LRU's	SB/STC/LRU's

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.

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.

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.

Discussion

ADS-B Equipage Status

Rick Domingo, FAA

ADS-B Equipage Status

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

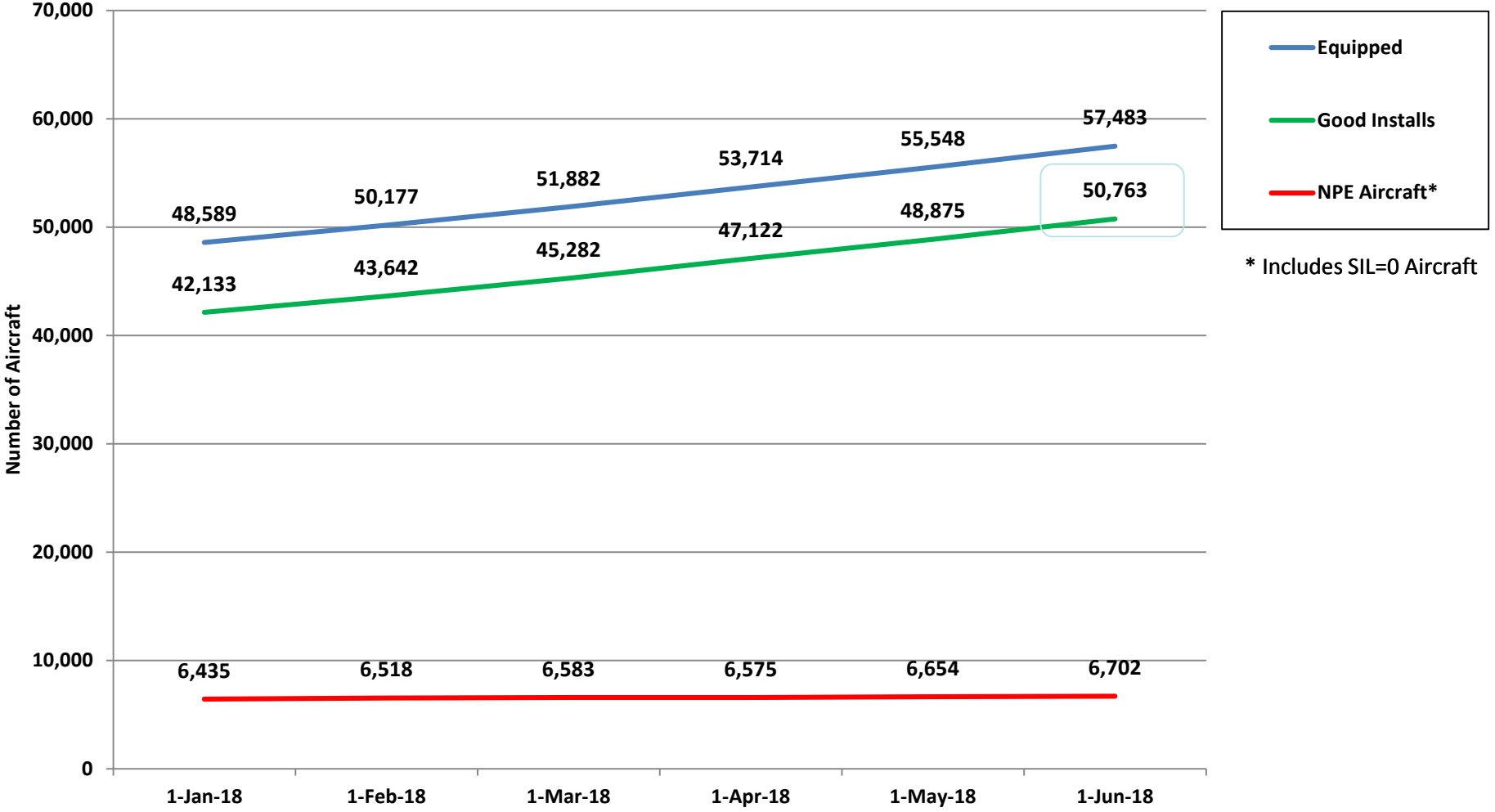
June 2018 Equipage (good install) Monitoring

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

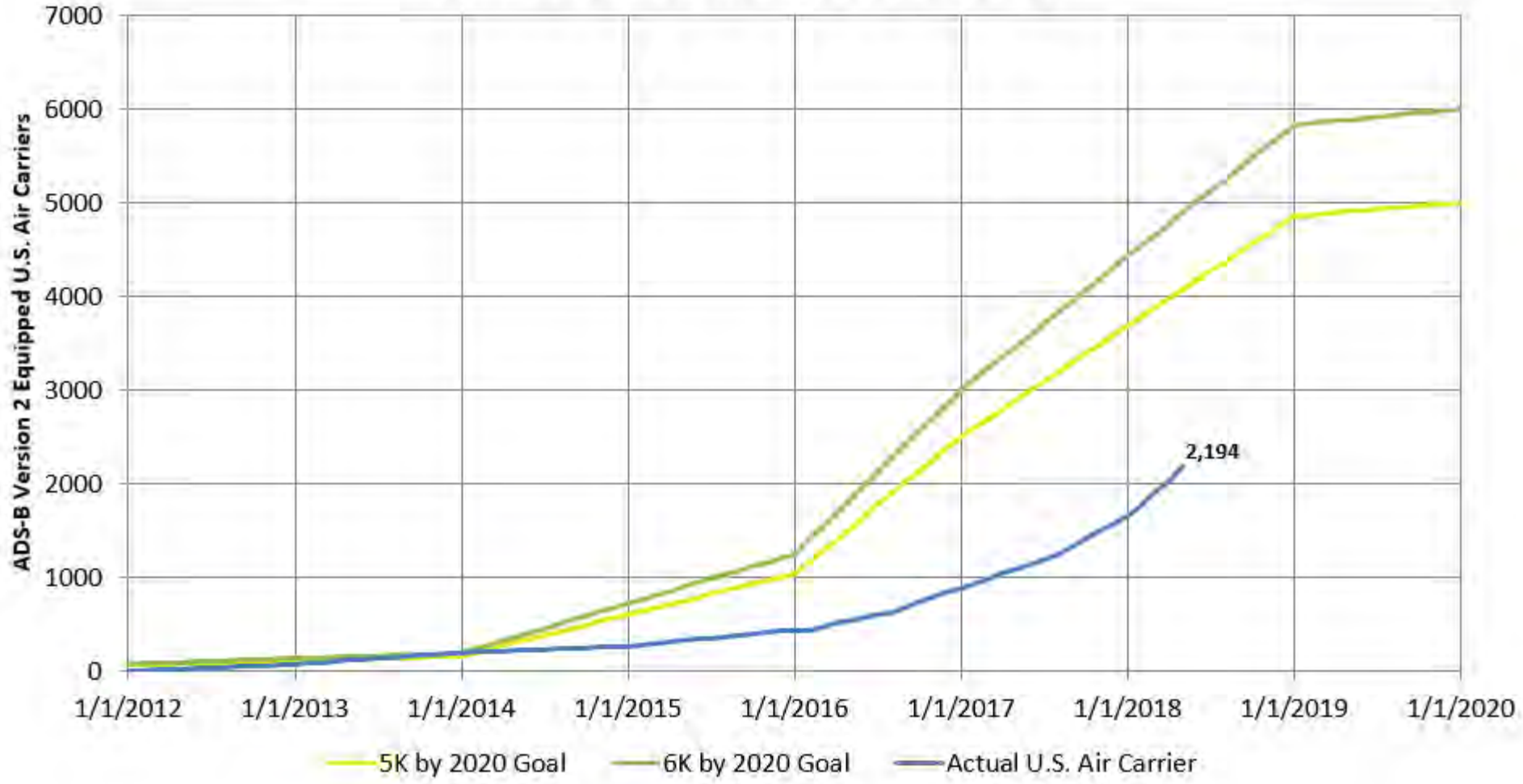
All US Aircraft Equipage & Avionics Performance



* Includes SIL=0 Aircraft

Data as of 6-1-18

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



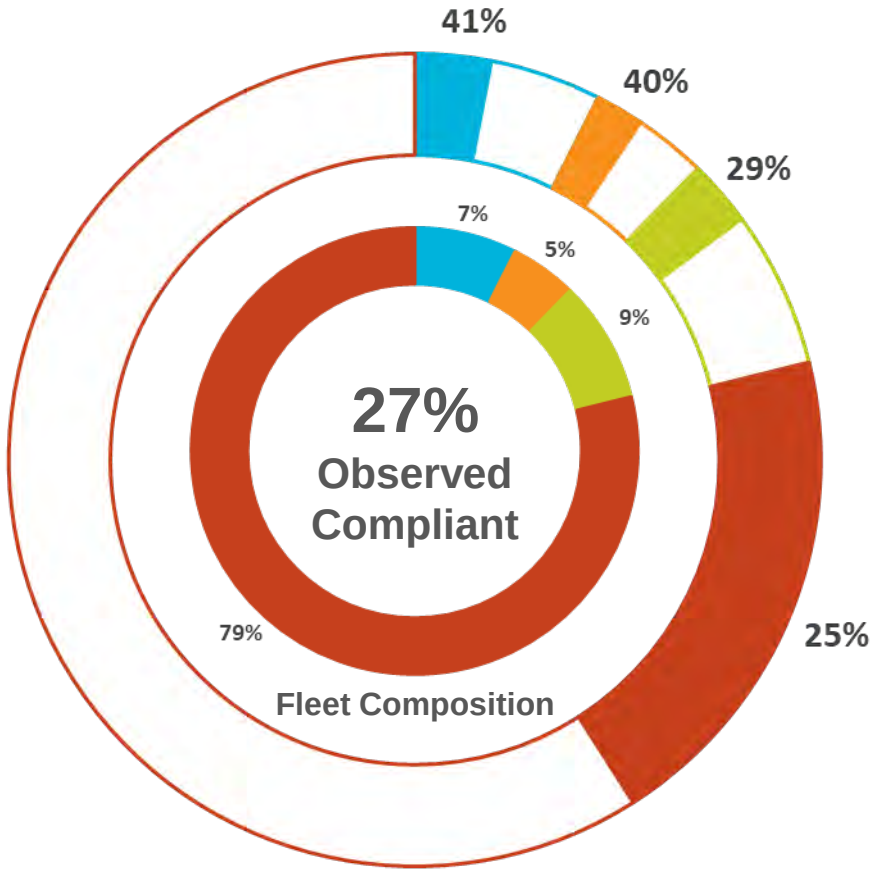
Data as of 6-1-18

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



Observed Compliant Installs

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.

 BASED ON CURRENT FAA AIRCRAFT NEED ASSUMPTIONS | COMPLIANCE DATA CURRENT AS OF 06/01/2018

Discussion

Next Steps

Dan Elwell, FAA

David Bronczek, FedEx Corp.

Summary of Meeting and Action Item Review

Craig Drew, Southwest Airlines

Closing Comments and Adjourn

David Bronczek, FedEx Corp.

New Charter BACKUP

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.