NATCA Safety & Tech Update
Week of May 21, 2018

AIRSPACE: Jim Davis (PCT) is the National Airspace Representative for NATCA. Below are reports from the various airspace team leads and Mr. Davis.

Denver Metroplex Update – 05/16/18
The Denver Metroplex Project is currently reengaging with the local facilities and other FAA organizations as the project leads work to reestablish the timelines needed to complete the project. Meetings, EA work, and local participation are expected to resume this summer.

Mark Ostronic Denver Metroplex Article 114 NATCA Lead

Las Vegas Metroplex
The Las Vegas Metroplex is getting close to finishing design work. This week we were able to start drawing airspace at the TRACON. Progress has been good since we've been allowed to start our project back up. We are still waiting for the new environmental contractor to get in place. We really need to start discussing our project with them, so we can stay on schedule. Next week we will continue airspace design with L30 and LAS. We are also still waiting for MITRE to complete their contract with GE, so we can get our procedures packed for industry and have them SIMed.
We will be meeting with a group from the National Parks in a couple weeks to discuss our designs over the Grand Canyon. I don't anticipate any issues but there may be. I'll keep you advised after that meeting. We will also be going to Seattle in a couple weeks to meet with OSG to start our discussions with them.
One potential issue that I see coming up for us will be training development. Especially at the TRACON. I know it's super early for us to bring this up, but it will need to be addressed very soon. I've talked to Ed about our issues, but I'll probably need to elevate this pretty soon. Currently L30 doesn't have anyone at the facility that can develop scenarios. They had a contractor that was in the building, but I believe he recently retired. Not sure how many problems they'll eventually need but we may need to explore what options are available to bring someone in to help with that or to help train some people to do it. Ed suggested we reach out to Tom at some point, so I guess that's our plan for now.
Nothing else exciting going on in Vegas. We have a really good team and the work has been pretty smooth to this point.
Chris Thomas NATCA Las Vegas Metroplex

SoCal Metroplex
The SoCal Metroplex Core Team, Western Legal and Department of Justice Legal have been engaged in a lawsuit filed by nine Petitioners challenging the SoCal Metroplex FONSI/ROD. Through mediation, the FAA reached and concluded settlements with Newport Beach, Orange County, Laguna Beach, Benedict Hills Estates Association and Benedict Hills Homeowners

Association. The remaining four Petitioners, Culver City, Santa Monica Canyon Civic Association, Stephen Murray and Donald Vaughn, filed their joint opening brief on March 16, 2018.
The SoCal Team along with Western Legal assisted the Department of Justice in preparing the response that was filed May 15, 2018. In addition, the Team provided support for responses to the Amicus Curiae Briefs filed in support of the lawsuits against the FAA, by the City of Los Angeles and West Adams for Clear Skies.
The Courts have not scheduled oral arguments. AWP Counsel has expressed the importance of having the leads continued support during the scheduled legal briefs and oral arguments for the lawsuit and the outstanding Petitioners.
The Core Team provided the Directors and Western Service Center with a SoCal Metroplex Closeout briefing on May15, 2018.
The SoCal Facility POCs will meet with the Western Service Center PBN leads on May 22, 2018 to discuss the procedure transition from Metroplex to PBN Implementation Process.
The Team successfully implemented the SNA STAYY SID on March 29, 2018. The SID, SNA RWY 20R RNAV/RNP is the first of its kind, due to the RF Legs on departure. Not all aircraft and crews are certified to fly the procedure. Qualified Southwest crews and aircraft are flying the procedure. United and a GA pilot have evaluated and successfully flown the procedure. Alaska and American will evaluate the procedure in the near future. The procedure has some ERAM automation concerns that continue to be addressed.
The SoCal closeout meeting will take place at the Regional Office on May 31, 2018.
On behalf of the entire SoCal Metroplex Team I would like to thank everyone involved with the project. Your hard work and dedication made this project possible and successful.
Thank you
Submitted by Jose Gonzalez Article 48 Rep, SoCal Metroplex

Cleveland/Detroit Metroplex Design & Implementation

The team was in Detroit this week conducting several SRM panels concerning triple landing operations at Detroit. The first panel focused on use of the offset or Yankee “Y” localizer for RWYs 22R and 4L. Along with local panel members from both D21/DTW and industry (Delta), we also included SME’s from CSA, HQ, and terminal engineering. These offset procedures were used in the past, but discontinued due to signal reception issues likely relating to large aircraft exiting the runway and passing in front of the signal. The panel has determined that with mitigations, the Yankee operation can again `be conducted safely. The mitigations include restricting heavies or large aircraft landing on RWY 22R in addition to utilizing the recently implemented RNAV/GPS Offset Approach to RWY 22R when possible. The facility also identified that when conditions are below 800 or 2NM, an interpretation will be needed as to whether landing aircraft on RWY 22R can transition through the critical area when a following landing aircraft is inside the FAF. However, when conditions remain above 800 or 2NM, the triple landing operation

can be conducted using the mitigations developed. The facilities will begin planning shortly for the use of Y and a triple landing operation. It should be emphasized that if ultimately the Y localizer is a final solution, the equipment must be relocated to eliminate signal issues that currently exist.
The second SRM panel focused on the waiver needed to allow simultaneous triple landing straight in approaches. The straight in triple landing operation remains the most desirable option because it will allow for the lowest minima on the approaches. This panel was comprised of local members, industry (Delta), CSA, HQ, AFS-410 and AFS-450. This closely spaced operation has many different pieces and required extensive analysis. The panel ultimately determined that no high-level hazards existed with the operation. The panel analyzed numerous lower level hazards and developed a number of mitigations that will increase the safe operation of the procedure. Additional discussion will now need to occur with AFS-450 to determine how to move forward and re-analyze the tech memo safety study results to include the newly proposed mitigations and determine impact on the results.
Briefing materials for the upcoming Delta and United Dispatch training is nearly complete. This training will be provided by the project leads to the dispatchers of both companies the last week of May in Atlanta and the second week of June in Chicago. The team leads have participated in the last two monthly National Flight Plan Filers TELCONS. An invitation was conveyed to all on the TELCON that training was available and would be provided if anyone requested it.
Report submitted by Michael Taylor CLE/DTW Article 114 D & I liaison

NATCA PBN Co-Lead East
In the past month in East, we worked on the PXT VORMON STARS, Northern ACR project, BOS Massport Study and other VORMON activities.
The work on the PXT STARs is almost complete, still need to work with N90 on the end points and lost comm procedures. This meeting is scheduled for the week of June 4th. Once we complete our work with N90 we can complete the procedure review and hand them off to FPT for publication.
We had our 'kickoff' meeting for the Northern ACR Project the week of April 9th. ZBW, ZNY and ZDC all participated, reviewed all designs, and verified they were correct. The pref routes still need to be reviewed in detail along with all the LOAs and other implementation activities. Our tentative implementation date is 1/30/2020.
The FAA and Massport signed an MOU to look at environmental issues around BOS. The meeting for the Block 1 review occurred the week of May 7th. MIT briefed out their study on the first day and then we started looking at what could be accomplished on the following days. BOS, A90, ZBW and Industry reviewed the study and documented what could work and what couldn't work. A big piece of the Study is a 220k 'clean speed' on climb out to 10,000ft from

RWY27 and RWY33L. There was a lot of documentation taken from the facilities and industry on the impacts this speed would create.
We have been working with VORMON in Eastern to determine the best way at meeting their waterfall decommission dates. Work on the TDG and EWA decomishing has been tentatively added to our schedule and we are looking at available dates in June to get this work complete.
Joey Tinsley NATCA PBN Co-Lead East

Northeast Corridor

The NEC NIWG continues work related to establishing NEC milestones for the near term (18months) and longer term (18-48) commitments. Potential milestones will fall into various categories including "airspace/procedures, Tools/iTBO, airports, and TBFM." Most 18-month items are considered to be low hanging fruit and the longer term will be the heavy lift, particularly TBO (Trajectory Based Operations). The report from the NIWG is due to be presented to the NAC in June.
4/3 Participated in NEC Weekly NIWG meeting. Participated in NEC/PBN NIWG Coordination meeting.
4/4 Participated in Bi-weekly NEC Extended Group Meeting. Participated in NEC NIWG Meeting
4/6 Weekly NATCA OSG telcon. Participated in meeting with AJV-14.
4/9 Participated in JFK EoR Follow-up discussion. Participated in weekly FAA NEC NIWG meeting.
4/11-12 Participated in JFK NYCAR (Community Roundtable) meeting
4/12 Participated in NEC NIWG meeting
4/13 Participated in PBN NIWG meeting
4/16-20 Annual Leave. Attended NATCA Convention
4/24-25 Participated in PBN Co-leads Quarterly Meeting
4/24 Participated in NEC NIWG meeting
4/27 PBN NIWG Meeting
5/1-3 ZNY/ZOB/ZBW/ZDC PHL Metering Meeting
5/8 Participated in NEC Industry Meeting
5/9 Participated in NEC NIWG Meeting
5/11 Participated in PBN NIWG Meeting
5/15 Participated in NEC Industry Meeting
5/16 Participated in LGA NYCAR Prep Meeting
5/17 Participated in NEC NIWG Meeting. Participated in PBN NIWG Meeting

Phil Hargarten, NATCA NEC CWG Article 114

PBN/Metroplex Design and Implementation Lead Monthly Report – 5/15/18
Metroplex: Florida Metroplex re-design work has begun on the Florida Metroplex SIDs/STARs in the next few weeks. The re-scoping efforts began with a focus on procedure design at 10,000ft and above to reduce environmental and community involvement costs but now includes a significant number of procedures below 10,000ft. Post-implementation of SoCal Metroplex

amendments is scheduled for May 24, 2018. The SoCal project is currently looking at a closeout on May 31, 2018. The SoCal team is working with the WSC OSG PBN Co-Leads on a seamless transition of ongoing Metroplex activities to the Service Center. Detroit/Cleveland Metroplex is now working towards a September 2018 implementation date and just completed two SRM panels concerning different options for running triple operation approaches in to DTW. The Denver Metroplex team beginning its' re-start of the project in early June while consideration is still being given to external advocacy of the project. The Las Vegas Metroplex had been on a slow-down for funding and resource concerns but is now moving forward with the project as originally scoped. The next Metroplex Leads meeting was held at Mitre on May 1-3, 2018 with briefings from DataComm, iTBO, NAS NAV Strategy, and Community Engagement/Environmental.

Part of the current Florida Metroplex re-scoping options is to incorporate a portion of the original Atlantic Coast Routes Project (ACRP) Q/Y routes from ZJX and ZMA. The Florida Metroplex team will work to connect the Q routes to the existing SIDs and STARs for a November 8, 2018 implementation. The team will then reconnect the future Metroplex SIDs and STARs to the Q routes at a later date. The northern ACR Q routes (ZDC and north) have been incorporated into the NE Corridor initiative with a dedicated set of Co-Leads from the Eastern Service Center OSG PBN team.

PBN Policy and Support (AJV-14) is currently working with Flight Standards (AFS), Aeronautical Information Services (AIS), Service Center Operational Support Groups (OSGs), Flight Inspection, and PASS on a workgroup to look at ways to streamline the Instrument Flight Procedures (IFP) development processes to improve the way we validate incoming IFP requests. This workgroup will also look at ways to better prioritize valid requests that aligns better with safety needs and the PBN NAS Nav Strategy. This workgroup kicked off on March 28, 2017 with a week-long meeting in Seattle. NATCA was briefed on the progress of the workgroup on February 20 and a sub-workgroup has been established to review existing orders for alignment with the new IFP strategy and direction. The timeline for completion of the draft implementation plan is June 2018. The PBN Co-Leads meeting was held on April 24-26, 2018 in DC with co-leads represented from all three service centers.

Submitted by PBN/Metroplex Design and Implementation Lead Art. 114 Ed Hulsey

AIRSPACE TECHNICAL DEMONSTRATION 2 (ATD-2): Pete Slattery (CLT) represents the membership as the Article 114 Representative for ATD-2. His report for is below

ATD-2 NASA/FAA Integrated Departure, Arrival, and Surface System (IADS):

Charlotte Tower/TRACON continues to use ATD-2 equipment to manage traffic on a daily basis. Departure metering at CLT occurs during two banks of flights each day, but only when and if demand is projected to exceed capacity. The ATD-2 IADS system however, is useful throughout the day as a Decision Support System (DSS), not just during times of Departure Metering. As a reminder, ATD-2 is research activity designed to help the FAA and industry prove the concept of increased efficiency and throughput by combining several existing data sources into one integrated system. This research is focused on helping the FAA reduce risk for TFDM and to

inform TFDM's design and functionality as it undergoes development. ATD-2 will be replaced by TFDM when it arrives at CLT.

Here is what has been going on with the project over the last month:

On Apr. 17, 2018, Traffic Management experts from American, Delta, JetBlue, and Southwest airlines came to Charlotte to observe ATD-2 in use and for a meeting with NASA to understand how the technology can benefit their surface operations. Their day began at the NASA Lab with an overview briefing of the system followed by observations of the Ramp part of ATD-2 in use at the American Airlines Ramp Tower during Bank 2 at CLT. The group then relocated to the FAA ATCT and TRACON to observe CLT TMCs using the ATD-2 IADS system during Bank 3. The group later convened in the NASA lab for an in-depth technical discussion with NASA covering all aspects of the ATD-2 Field Demo. Among the main topics of discussion were the ongoing collaboration between NASA and the FAA to fully leverage ATD-2 research for the benefit of the FAA's TFDM program. They also discussed investments that flight operators may wish to make in preparation for interfacing with TFDM in order to achieve the full benefits of Surface Departure Metering. NASA intends to transfer the technology behind ATD-2 not just to the FAA, but also to the airlines Flight Operations departments and to the vendors who supply the equipment the operators use in their ramp towers.

On May 1st and 2nd I attended the Spring CDM meeting at the FedEx building on the grounds of Memphis University. Here I participated in a briefing to the group on how ATD-2 has been used operationally at CLT. NASA provided the statistics and metrics that showed increased compliance with TMIs as well as fuel savings without impacting the dominant carrier's on and off times during Departure Metering. I provided input on the end-user perspective as to how the system has aided CLT in more effectively balancing demand at the runways, thus increasing throughput at the airport. While at this event, I also sat in for our regular Surface CDM (S-CDM) rep, Kyle Andrews (ORD), who was unable to attend. In Kyle's place, I represented our member's interests on future roles and responsibilities as we move towards Departure Metering under TFDM at other busy airports across the country. I also provided input to the SCDM group on how ATD-2 has benefited the air traffic operation at CLT. It is essential that NATCA remain engaged in this process so that policies and procedures that could have a negative impact on controller roles under these coming new procedures can be identified and mitigated at the earliest possible opportunity. We look forward to Kyle's continued participation and invaluable contribution as our representative in this emerging area.

On May 14th, NASA conducted a one day briefing on new features associated with the latest release (3.1.2) of the system. Key features in this release are:

- Ability to modify TMIs rather than having to create a new one and delete the old,
- Ability to APREQ from a Flights Table rather than only from a Timeline,
- Simpler method of rescheduling APREQs. No need to cancel and re-request,
- A new Flight Plan Demand view from the Timeline,
- Improvements to the Departure FIX Status panel,

- New ability to Suspend flights or Return them to Ramp as necessary to better reflect actual RWY demand.

ATD-2's integration with the Advanced Electronic Flight Strip System (AEFS) continues to make progress. On June 12th, I be at the Tech Center to demo the ATD-2 system for AEFS engineers. This activity will primarily focus on TMI handling and how to integrate TMIs with AEFS for controllers.

Finally, an SRM panel will meet at CLT on June 6-7 to conduct a Safety Risk board on the new capabilities and procedures for Phase Two which begins October 1st of this year.

As always, I will continue to keep the best interests of NATCA members at the forefront of every decision made and every action taken related to ATD-2.

AIR TRAFFIC PROCEDURES (AJV-8): Andy Marosvari (BOI) is the Article 114 Representative in the AJV-8 Office. Mr. Marosvari forwarded the summary below for this update.

NATCA participates in nearly every meeting regarding every change that the FAA is working on. Additionally, most clarifications and interpretations, previously done without collaboration, are now written with NATCA involvement.

Below are a few of the issues I have been working on with the AJV-8 (FAA Procedures Office) in Washington, DC.

2–1–13. FORMATION FLIGHTS

As the result of several reports of errors attributed to formation flight breakups and an interpretation request, AJV 8 and NATCA wrote new guidance for controllers when clearing aircraft out of a formation and joining up aircraft into a formation flight. The Notice became effective May 3 and the .65 will include the guidance in the September 2018 change.

3–10–5. LANDING CLEARANCE

Wrong runway and wrong surface landings continue to be a safety issue in the NAS. Several years ago, a change was made to require the phraseology "*CHANGE TO RUNWAY (number) CLEARED TO LAND"* when changing a landing runway. A Document Change Proposal (DCP) has been written and is out for Field Review that will add "*CHANGE TO RUNWAY (number), RUNWAY (number), CLEARED TO LAND."* This is being done in an effort to reinforce the runway change to the pilot.

7110.65 PCG Definition - Class G Airspace

Currently, the Pilot/Controller Glossary (PCG) defines Class G airspace as "That airspace not designated as Class A, B, C, D or E." The definition also does not provide guidance for controller

responsibilities while providing service to aircraft in Class G airspace. There are differing interpretations throughout the NAS as to what is expected from ATC. A change was written two years ago that clarified the differing interpretations but has been delayed by the FAA legal department. I will include an update next month when the issue should be resolved.

4–4–1. ROUTE USE – Impromptu Route SRMP

In April 2014, the use of GNSS point-to-point routes without radar monitoring was permitted under certain conditions NAS-wide. Since that time, facilities have asked for a means to transition from one point-to-point route to another if necessary for weather deviations, pilot requests, or operational need. Current procedures do not account for this need.

This change allows GNSS aircraft, during non-radar operations, to transition from one point-to-point GNSS route to another, utilizing an impromptu route of short duration, provided vertical separation is utilized to facilitate the transition.

A Safety Risk Management Panel (SRMP) will be held May 23-24 to determine the hazards and risks of this proposed change and NATCA will have two panel members and an SME in attendance.

I am currently working with AJV-8 on DCPs that address separation from Special Use Airspace, Anticipating Separation and Approaches to Multiple Runways.

Please don't hesitate to contact me at procedures@natca.net or 208-870-1621 with any questions, comments or suggestio**ns.**

RNAV and PERFORMANCE BASED NAVIGATION (PBN): Bennie Hutto (PCT) is the Article 114 Representative for RNAV and PBN criteria work. Mr. Hutto's report for the membership is below

PBN Criteria Update:

Standard Terminal Arrival (STAR) Criteria WG

Participated in several STAR WG meetings where we continue to discuss criteria contained in FAA 8260.3 concerning terminus altitudes. The change that occurred in FAA 8260.3 where criteria was added requiring an altitude be coded at the terminus fix has created many issues with procedural designs for many facilities. NATCA never agreed with this change and many waivers have been requested over the past few years. Our next face to face meeting will occur from June 12th-14th in Oklahoma City where we hope to resolve the terminus altitude issue, so we can move on to other issues within design criteria.

Departure Criteria Working Group (DWG)

We have been meeting via telcons over the last several weeks discussing the issue raised by AJT on their nonconcurrence with FAA 8260.3D, specially Chapter 14 regarding SID Criteria. The purpose of these meetings has been to determine if there is a need for SID specific criteria. Our

last face to face meeting occurred on March 20th and 21st in Oklahoma City and our next meeting is scheduled for June 12th-14th where we will continue to discuss design needs regarding Radar Vectors SIDS and Diverse Vector Areas (DVA). AJT's goal is have the SID protect the aircraft instead of the controller who is using FAAO 7110.65, section 5-6-3 provided the rules and requirements are met. During the March 20th meetings, we discussed the disconnect with what ATC needs on the SID and how that is communicated to designers, the disconnect between how the SID is designed and how it is used by ATC as well as how pilots interpret the SID, training/document changes is/are needed to address the ATC/pilot disconnect, possibly placing the take-off minimums in different place such as in the departure route description along with the possibility of adding sector range headings to the chart. when the aircraft is above the MVA/MIA and ATC is Radar Vectoring (RV), ATC has responsibility for obstacle protection and the aircraft is considered on the SID, developing new criteria for vectoring below MVA/MIA that is not called a DVA but is part of the SID using the departure criteria, under the departure route description of RV SID, it may be necessary to remove "for assigned heading and or as assigned by ATC" and change it to "fly assigned heading for RV to waypoint/fix", is the aircraft protected from all 40:1 obstacles using 5-6-3a today, and with any change an SMS Panel is needed.

Pilot Controller Procedures & Systems Integration (PCPSI)

No meetings have occurred since our last meeting from February 6th-8th and below is what was discussed at that meeting.

1. STAR Runway Transitions FAA 7110.65 4-7-1 DCP – The background on this change is for Standard Terminal Arrival (STAR) procedures that provide course guidance to multiple runway transitions, pilots must be provided with runway transition information. This allows pilots to program the Flight Management System (FMS) and fly the proper decent profile associated with the runway transition that was issued. On March 1, 2013, a memorandum was issued clarifying FAA Order JO 7110.65, Paragraph 4-7-1. The memorandum stated that Air Route Traffic Control Centers (ARTCCs) should issue a landing direction and Terminal facilities should issue runway transitions. In limited situations when the procedures are covered in a letter of agreement, ARTCCs may issue the runway transition in lieu of Terminal. Once the aircraft is established on the runway transition, due to the behavior of some FMSs, runway changes become problematic for pilots. Currently, on bi-directional STARs utilizing multiple runway transitions, controllers are required to vector aircraft to the final approach course when a runway change is issued after passing the point 10NM from the runway transition waypoint. This change provides tightly limited relief from that requirement.

This change cancels a Memorandum, issued in 2013 by En Route and Oceanic Support, AJE-3 (now AJV-8) by incorporating the clarification that ARTCCs should issue landing directions (when chart notes advise the pilot of the runway transition to load) and Terminals should issue runway transitions. For descend via clearances issued on STARs with multiple runway transitions incorporating vertical guidance, controllers must issue the runway transition using a runway number. Where chart notes identify what runway transition to fly, a landing direction may be issued in lieu of a runway number. In certain cases, relief is provided from the requirement to vector to the final approach course after a runway change is made inside the point 10NM from the runway transition waypoint. Controllers can now avoid vectoring after a

runway change is issued provided that after the change, the lateral and vertical paths of the transition remain the same to the end of the STAR, and when the change is issued, 10NM exists between the aircraft and the point the change becomes effective. Emphasis that pilots need sufficient time to program such changes is added. Figures are added for clarity. Legacy terminology no longer used has been removed.
Additionally, we have discussed and agreed upon defining a Runway Transition Waypoint within FAA 7110.65.

2. PBN to ILS Update – In order to provide information, you first must understand what occurred. On March 27,2017 ALPA national voiced concern over the removal of VNAV as a minimum requirement for future RNAV approach procedures. Specific issues noted included Flight Crew workload increases during Closely Spaced Parallel Operations (CSPO), the risk of unstabilized approaches will increase, contradiction to the premise that all runways will have a vertical guidance to every runway end. (Recent reference to this paradigm is noted in the PARC produced PBN NAS Strategy 2016.), increased probability of Class B incursions due to lack of vertical guidance, previous studies that addressed operations using localizer only or LNAV only did not address the risk of Controlled Flight into Terrain (CFIT), and aforementioned studies were in a "simulator setting" and did not accurately reflect what a pilot would experience in actual, real world operations.
Mitigations were suggested (inferred) such as; consider further proliferation of ATC Minimum Safe Altitude Warning Systems (MSAW) to include altitudes normally inhibited today due to nuisance alerts, terrain avoidance warning systems are not available during non-precision approaches (Specifically glideslope deviation alerts, ATC monitoring only provides lateral guidance for collision),flight crews operating non VNAV equipped aircraft prefer vertically guided procedures over non-vertically guided procedures, and majority of mainline airlines have VNAV capability (RJ aircraft are LNAV only).
So, what happens now? In response to the concerns, NextGen Integration Performance Based Navigation Working Group (NIWG PBN WG) is looking into the issues, developing a data driven dialogue to address concerns, which includes asking for objective basis for challenges noted. While this activity is going on, the desire is to keep moving forward and not bring the evolution of PBN to a halt. Are there other means to provide vertical guidance while flying RNAV EoR style procedures? Of course, RNP to ILS…
On October 17th, AVS-1 requested PARC look into RNP to ILS procedures and operations in order to leverage RNAV procedures to an ILS approach. This was given to the PARC Navigation Working Group (PARC NAV WG) through a letter, which basically stated, "*based on recent concerns raised by industry regarding pilot workload and the availability of vertical guidance when conducting simultaneous approaches, we request that the PARC Navigation Working Group review operational considerations that mitigate operational risk to ensure aircraft can safely transition from RNP to xLS guidance. Factors that may be elevated include, but are not limited to, the availability and necessity of vertical guidance, pilot workload required to transfer between guidance modes, potential benefits of a longer straight final approach segment, and risks associated with dual/parallel operations.*" Moving forward, the PARC NAV WG will review and provide a ToR for PARC SG which led to an Action Team and we just met for the first time on February 21st in Atlanta, GA.

3. Speed Cancellation Guidance - Recent concerns raised by controllers pertaining to guidance contained within the 7110.65 regarding speed termination on STARS when a Descend Via (DV) clearance and the STAR doesn't contain published speed restrictions and the guidance provided to pilots via the Airmen's Information Manual (AIM). Based on the guidance contained within the FAA 7110.65, Paragraph 5-7-4 Speed Termination states: "Advise aircraft to "resume normal speed" when ATC-assigned speed adjustments are no longer required and no published speed restrictions apply." The AIM, Paragraph 5-5-9 Speed Adjustments, subparagraph 5(a) also has language that is similar to the language in the FAA 7110.65, which states how a controller will terminate ATC-assigned speed adjustments when no longer required; "Instructs pilots to "resume normal speed" when the aircraft is on a heading, random routing, charted procedure, or route without published speed restrictions." However, new language was recently added to the AIM under paragraph 4-4-12 f5, which states; "A climb via or descend via clearance cancels any previously issued speed restrictions and, once established on the depicted departure or arrival, to climb or descend, and to meet all published or assigned altitude and/or speed restrictions." This language is not found in the 7110.65 and is what has created some recent issues/concerns. The FAA 7110.65, Paragraph 4-5-7 h Note states: when cleared for STARs **that contain published speed restrictions**, the **pilot must comply with those speed restrictions independent of any descend via clearance**. Where STARS contain no published speed restrictions, the DV clearance doesn't cancel previously issued speed restrictions.
A proposed solution was mentioned to treat speed assignments/cancellations for DV and Climb Via (CV) the same as those requirements pertaining to Instrument Approach Procedures (IAPs), which is covered under FAA 7110.65, 5-7-1 c and d, which states; ***c.*** *At the time approach clearance is issued previously issued speed adjustments must be restated if required*, and ***d.*** *Approach clearances cancel any previously assigned speed adjustment. Pilots are expected to make their own speed adjustments to complete the approach unless the adjustments are restated.* This method is currently being used at ZTL and if we decide to accept this method, then a change within the FAA 7110.65 and AIM will occur to standardize the NAS concerning this issue. We will have further discussions during our meeting in June.
4. Approach Clearance Confusion – Received a briefing from Airline Pilots Association (ALPA,), Allied Pilots Association (APA), National Business Aircraft Association (NBAA), and NATCA on recent events that have generated a great deal of interest and concern with certain approach clearances where altitudes below the procedure and Minimum Vectoring Altitude (MVA).
5. En Route Transition Assignments – Received a briefing from AJV-8 about developing guidance for assigning changes to En Route Transitions on STARS (Not to be confused with Runway Transitions).
6. KSNA SID and A-RNP Issues – Received a briefing from Gary McMullin (SWA) about the new procedures, which led to many pilots within the room being confused regarding the PBN requirements needed to fly the procedure. The big difference with A-RNP is the requirement to use RNP-1 instead of RNAV-1, however the requirements for both are the same, but many pilots have been led to believe RNP is only for procedures containing Authorization Required (AR) procedures, which is not true. I believe many more discussions will continue on this topic as a big part of this problem stems from the naming of procedures.
7. Phraseology Harmonization in North America – Received a briefing from Brian Townsend (AAL) along with an update on the implementation of Climb Via and descend VIA in Australia.

This led to a discussion about coming up with a plan to harmonize the phraseology within North America and use that plan to reopen the issue with ICAO for global changes. Many more meetings and discussions will be required.
Our face to face meeting scheduled for April 30th and May 1st has been canceled, so our next meeting will occur June 28th and 29th at MITRE in McLean, VA.

PARC NAV WG

1. FAA Briefing on AC90-101A Update Progress: Jeff Kerr (AFS-470) gave a brief report on progress of the small action team and next actions within the FAA. Draft reviews by the action team are complete, the document is now being reviewed internally. Chapters 3 and 6 undergoing updates / changes to harmonize with ICAO PBN Study Group; the document is expected to be out for mid-summer public review and comment.

2. *RF/TF Concurrent Ops*: Mike Cramer (MITRE) reported that the PARC Steering Group (SG) had a detailed discussion about the proposed recommendation, which resulted in basic acceptance of the WG preferred paths through the options tree with some actions for the WG to complete before it will be forwarded to AVS-1. The key agreement was acceptance of the ideas that:

1. FAA designs a single procedure, designed using RF,
2. If required by the location and traffic mix, FAA provides the necessary fly-by fixes to allow a TF-TF overlay of the procedure (in the notes of the 8260).
3. Database providers supply the appropriate version to their customers based on aircraft capability and approval
4. The question of charting (single chart or two separate charts) may be taken up with other outside groups.

During discussion, Andrew Riedel (Jeppesen) pointed out that there will be some work required in ARINC 424 to allow for two types of coding using the same name for the implementations. While possible to do, this could slow down the rollout of concurrent ops.

The SG also asked that the WG provide recommendations for application at some target airports; the stated goal is to support RF implementation in the NAS while allowing TF only airplanes participate at specific sites. The WG discussion led to some possible locations; with both single and dual independent runway operations spanning the complexity of RF procedures. For single runway ops, Ft. Meyers, FL (KRSW) was suggested by Southwest, as they have an existing TF design (which has not been adopted) and it could be emulated with RF as well. Bennie Hutto took an action to investigate this airport; reporting back to Mike after the meeting that this site has a disadvantage in that the TF design has mentioned does not meet the facility requirements and would need to be amended as well as an RF version designed. Since the airport was under the Florida Metroplex project and that project is nearing completion, it would not be possible to have any changes accomplished at this time. Bennie proposed in his email that perhaps Norfolk International (KORF) or Bradley International (KBDL) might be better for single runway. Kansas City and Austin were suggested as possible candidates for dual independent ops, and Palm Springs was suggested as a trial to see if an overlay would even be possible for the very complex RF version. Mike will poll the group again with these updates to determine which we suggest in the recommendation. MITRE is also

looking for airports with existing RF procedures so that the TF overlay could be tried at those locations. The WG also agreed that the concurrent ops idea should not be limited to approaches but could apply equally to SIDS and STARS with RFs. Gary P. commented that there is currently no FAA guidance on how to harmonize the two separate OEAs (one for RF and the other for fly-by) and this will have to be developed to enable this type operation.

3. Design Bank Limit for RNP<1: The working group agrees that the technical paper adequately addresses the redundancy in path following protection afforded by having BOTH and accounting for 99.9% tailwind AND a five-degree bank margin. The analysis showed that either method provides sufficient margin for staying on the path, using them both together is not necessary. All agreed that for future, this is covered by DO-236C which requires all RNP RNAV capable aircraft control to provide bank up to 30 degrees for path keeping. Barry Miller pointed out that the demonstrated RF capability criteria in AC20-138 will eliminate fleet types with LNAV functionality not suitable for using designs up to 25 degrees. Mike is to edit the draft recommendation to state that this should be limited to AR and A-RNP qualified aircraft and to address the TF only transitions and bank criteria. Garmin (Clay Barber) had asked that a statement be added to point out what airframe types might be excluded as part of the recommendation. Gary Petty suggested that some example sites where this change would have allowed a more beneficial procedure might help the recommendation; Mike will research. Mike has the action to revise the draft recommendation for the May 30 telecon.

4. **Intermediate Segment Length:** Mike had circulated the draft recommendation prior to the meeting, receiving one response that disagreed with the additive ROC proposed when a step-down fix is included in the segment. Discussion centered on the possibility that by updating the criteria in this way, we might be invalidating existing procedures. Gary P. agreed to analyze examples to determine if this is a problem or not. Gary McMullin from SWA proposed KBOI and KABQ as examples for analysis. Gary Petty (AFS-420) agreed that could run the numbers on these two and report back to the WG by next telecon.

5. Future Meetings: The 2018 quarterly meetings have been scheduled and invitations sent via Outlook calendar. The F2F and next virtual meeting has been added to the website calendar.

1. Virtual Meeting – May 30, 2018, 1 PM EDT
2. 2018 Q3 F2F – August 1 & 2, Seattle hosted by Boeing
3. 2018 Q4 F2F – November 7 & 8, Atlanta hosted by Delta

6. New Business - There were three items brought to the meeting for discussion.

a. Gary McMullin briefed the group regarding inconsistency between STAR termination altitudes and the first altitude on an approach in some instances. While the STAR should not terminate at an altitude below the first approach constraint altitude, there are occasions where this has happened. In these cases, the approach cannot be loaded into the FMC. He cited examples in KMSP which should be reviewed.

b. Gary McMullin also brought up intermediate segment gradient criteria which has been reduced from the final segment. He would like to see it returned to previous version of .3C where it could be matched to the final segment gradient for better VNAV performance.

c. Mike Cramer (MITRE) asked Gary Petty (AFS-420) and Nick Pettiet (AFS-420) if they could walk the WG through a comparison of the methods used to connect the final OCS to the missed approach OCS in RNP AR and LNAV/VNAV. The difference can lead (often) to lower minimums

for LNAV/VNAV than are attainable with AR. This has been added as a high priority for 2018. The walkthrough was informative (on short notice, thanks Gary and Nick) and gave the WG a good overview. Gary has a method in mind to harmonize the two and will continue his research with a status update May 30 telecon.

TRAFFIC FLOW MANAGEMENT SYSTEM (TFMS): Brian Campos (DCC) represents the NATCA membership as their Article 114 Representative to the TFMS project. His report is below.

TFMS Roadshow visited ZDV and ZLC TMUs in April with only ZNY to finish in May. Both facilities shared the appreciation for TFMS DT to come out with a working lab to explore and discuss the recent tool releases and answer question about TFMS in general. They requested this valued lab activity to return every other year to explore recent tool releases into the current system. Making this a regular activity would be highly valued.

TFMS Release 13 patch 12 went through a scrub and passed with core updates expected. The new release is slated for May 5th. This patch will fix key bugs related to multiple strip production on drop out flights and ensuring flights process properly with dropouts when AFPs are overridden during multiple AFP use.

Discussions spawned interest in changing the SCRUB testing procedures by separating into two methods. First would be strictly focus on buttonology, and the second is a comparison of data across the different tools using more scenario based outcome testing.

TFMS Release 14 In early 2019, technical refresh scheduled for all TMUs. Key site testing expected in November of 2018. The goal is to get this completed by October 2019 in time for TFDM release of the Surface Viewer into TFMS. The equipment includes an upgraded operating system from REDHAT 5 to REDHAT 7. This upgrade is necessary to support future software releases in TFMS. New Hi-definition monitors and computers with the latest in video cards and hard drives will give a boost to the systems performance. The changeover will need to ensure facility's local files with Pref-sets, FXA recall, TSD Adaptations and any custom CRON jobs transfer to the new system. There are challenges with the new upgrade operating system, which limits some of the ways; we interface with accessing information from TFMS.

RAD ABRR PDRR after the TFMS Roadshows and SME site interactions for RAD tool deployment for ABRR and PDRR, a number of engineer requests (ERs) were ranked and cataloged for possible future upgrades once a budget can support it**.** Recently, limited funding came from the Northeast Corridor (NEC) project to support needed RAD ERs to support the NEC initiative. The RAD 2.0 deployment for the release of select enhancements is set for fall 2019.

Facilities followed a waterfall turn-on for ABRR and PDRR from November (2017) to May (2018). With only ABRR mainly in use and some use of PDRR there was gradual use expectation. However, from a time-period of Nov 1st to March 1st, nearly 14 thousand amendments were made using the new tool with ZAB leading in ABRR with 2600 and ZMA with PDRR with 2100.

The tool use has changed some of the strategies by being more efficient with constraint areas and the life cycle uses of reroutes both National and Tactical.

Remote Site Tech Refresh TFMS release 14 SRM: Safety Risk Management was conducted on April 18th 2018. A prior SRMDM, and SRMD were conducted around March 2013 by JRC for the investment decision.

Replacing in-kind hardware, same form/fit/function, with no new functionality at TFMS Remote Sites (TRS).

- Replace operational TFMS equipment at 89 facilities
- All TFMS-centric applications will remain the same.
- Includes: workstations, file servers, router, monitors, switches, and keyboards.
- TRS equipment has passed EOL.

These Safety Analysis Assumptions are to hold true.

- Installation performed correctly
- Modification works as designed
- Personnel are adequately trained and certified
- Support is available