

Next**GEN**

Performance-Based Navigation (PBN) Non-OAPM



FAA

PBN Milestones Summary and Dashboard

Status as of Feb 28, 2013

No.	FY 13 Milestones	Completion
1	Denver STARs and RNPs published	Nov 2012
2	St. Louis STARs Published	Nov 2012
3	Nashville procedures published	Dec 2012
4	Denver SIDs published	Jan 2013
5	St. Louis STAR & RNPs Published	Jan 2013
6	Seattle procedures published	Mar 2013
7	Portland STAR published	Mar 2013

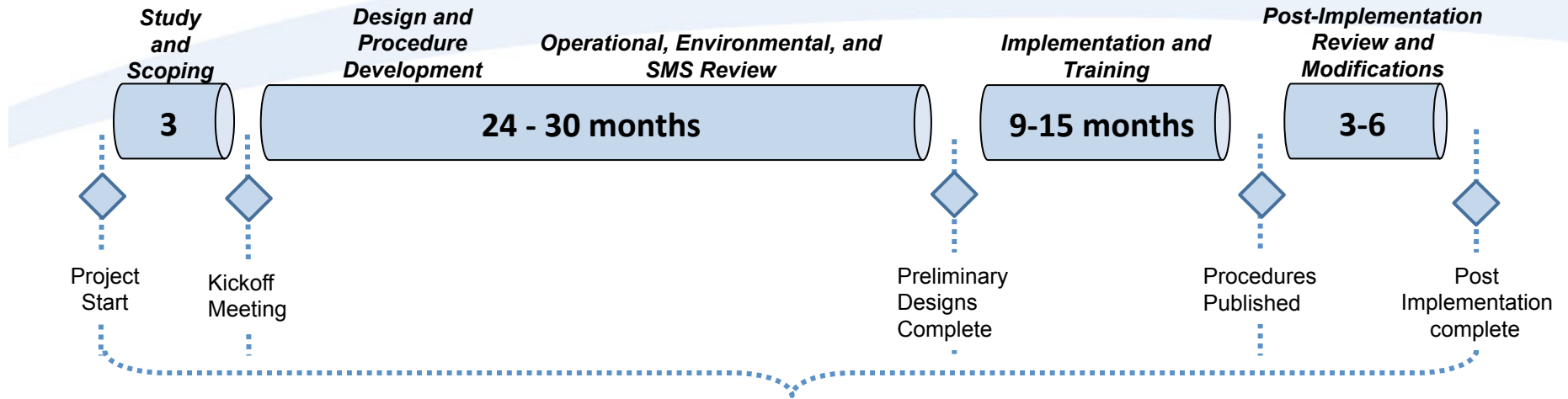
No.	FY 14 Milestones	Completion
1	Portland STARs Published	Oct 2013
1	Minneapolis STARs published	Jul 2014
2	Minneapolis SIDs published	Sep 2014

Complete
On Track
May Be Missed * See details page
Missed

Site	Project Start	Prototype design complete (pencils down)		Environmental Start	Environmental End	Submitted to Flight Procedures Team (FPT)		Submitted to AeroNav Products (AJV-3)		Published				Post-Implementation Review	
Denver	11/2009	1/2012		1/2010	8/2012	4/2012	6/2012	5/2012	7/2012	11/2012	1/2013			9/2013	
Minneapolis	10/2010	8/2012	10/2012	4/2012	12/2012 5/2014	8/2012	10/2012	9/2012	11/2012	3/2013	7/2014	5/2013	9/2014	3/2015	
Nashville	7/2010	3/2012		8/2011	8/2012	4/2012		5/2012		11/2012	12/2012			6/2013	
Portland	8/2011	3/2012		10/2011	3/2012	3/2012	8/2012	3/2013	3/2012	9/2012	4/2013	9/2011	3/2013	10/2013	4/2014
St. Louis	4/2008	11/2011		6/2008	7/2012	3/2012	4/2012	3/2012	5/2012	9/2012	11/2012	1/2013		7/2013	
Seattle	6/2010	12/2011		10/2011	10/2012	8/2012		9/2012		3/2013				9/2013	
Philadelphia	3/2008	12/2010		2005	3/2008	3/2012		12/2011		5/2012				4/2013	
LaGuardia	1/2011	4/2011		2005	1/2011	11/2011		12/2011		5/2012				4/2013	
Anchorage						3/2012		3/2012		9/2012				4/2013	



PBN Site Timeline



Study and Scoping: a preliminary look at a PBN project where data is gathered for use in evaluating current operations and to design draft procedures that will be use in the PBN project.

Design and Procedure Development: Development work on prototype procedures is conducted. Procedures usually go through many changes and testing before becoming final drafts.

Operational, Environmental and SMS Review: All necessary operational modeling, safety analyses, and environmental reviews are conducted.

Implementation and Training: This includes all steps required for implementation including facility preparation and procedure development including flight inspection, publishing procedures and executing training.

Post Implementation Review and Modifications: Includes a review of the procedures changes to determine if they have delivered desired benefits and/or caused other impacts. Modifications or refinements may be made to better achieve desired benefits or address unforeseen impacts.



Denver Site Progress Status

16 SIDs, 16 STARs, and 12 RNP

Study and Scoping

Design and Procedure Development

Operational, Environmental, and SMS Review

Implementation and Training

Post-Implementation Review and Modifications

A4A Core 30



Project Start ¹	11/13/09	AJV-14
Gather Data	12/13/10	AJV-14
Initial Draft Prototype Designs	1/15/11	AJV-14
Kickoff Meeting	1/27/11	AJV-14

Environmental Review Start (EA)	1/25/10	AJV-W2
Flight Simulations Complete	12/12/11	UA/SWA
Prototype Designs Draft	1/5/12	AJV-14
Procedure Design Complete (Pencils down)	1/10/12	AJV-14
Post Prototype Design Work	1/19/12	AJV-14
Conduct Public Meetings	6/29/12	AJV-W2
Environmental Review Complete ²	8/16/12	AJV-W2

Orig STARs/RNPs Publication Cycle (5/31/12)

Orig SIDs Publication Cycle (9/20/12)

Revised First Publication Cycle (11/15/12) STARs/RNPs		
Procedures Submitted to FPT	4/27/12	AJV-14
Procedures Submitted to AJV-3	5/25/12	AJV-W24
Due to QA	7/9/12	AJV-3
Due to Flight Inspection	8/1/12	AJV-3
Flight Inspection Complete	9/16/12	AJV-3
Due to Charting	9/18/12	AJV-3
Training Complete	11/15/12	DEN/ZDV
Procedures Published	11/15/12	AJV-3
Procedures Implemented ³	12/3/12	AJV-14

NOTES:

- Project start date reflects project re-start after delays to resolve inter-facility operational challenges.
- Original environmental review date revised to 8/16/12 due to delays to resolve partner airline procedure design concerns. Publication dates revised from 5/31/12 and 9/20/12 to 11/15/12 and 1/10/13.
 - FONSI/ROD signed 8/29/12.
- Implementation date moved to 12/3/12 to avoid implementing procedures during highest annual air travel period and to allow for flight trials between 11/15/12 and 12/3/12.
- Flight Standards Procedure Review Board approved criteria waiver with changes to add an additional line of comment in the charts for safety and minor administrative changes.
- Flight trials for SIDs originally planned for 1/26/13 and 2/2/13 delayed to resolve automation issues. Full implementation delayed to 3/25/13.

RISKS:

Unresolved automation issues could further delay SID implementation.

Revised Second Publication Cycle (1/10/13) SIDs		
Procedures Submitted to FPT	6/22/12	AJV-14
Procedures Submitted to AJV-3	7/20/12	AJV-W24
Due to QA	9/4/12	AJV-3
Due to Flight Inspection	9/26/12	AJV-3
Flight Inspection Complete	10/18/12	AJV-3
Approval of Criteria Waiver ⁴	11/1/12	AFS
Due to Charting	11/13/12	AJV-3
Training Complete	1/10/13	DEN/ZDV
Procedures Published	1/10/13	AJV-3
Procedures Implemented ⁵	2/25/13	3/25/13

Post-Implementation Review 9/25/13 AJV-14

Complete
On Track
May Be Missed
Missed



Minneapolis Site Progress Status

13 SIDs, 12 STARs, 5 RNP

Study and Scoping

Design and Procedure Development

Operational, Environmental, and SMS Review

Implementation and Training

Post-Implementation Review and Modifications

A4A Core 30



Project Start	10/30/10	AJV-14
Gather Data	10/15/10	AJV-14
Initial Draft Prototype Designs	11/1/10	AJV-14
Kickoff Meeting	11/30/10	AJV-14

Environmental Review Start	4/25/12	AJV-C2	
Prototype Designs Draft	3/29/12	AJV-14	
Noise Screen Complete	6/22/12	AJV-14	
Flight Simulations Complete	6/30/12	DAL	
	7/09/12	SWA	
Workgroup Concurrence	8/15/12	AJV-14	
Prototype Design Complete (Pencils down)	8/16/12	AJV-14	
	10/5/12		
Post Prototype Design Work	9/20/12	AJV-14	
	11/15/12		
Environmental Review Complete	12/13/12	5/24/14	AJV-C24
SRM Review Complete	3/27/13		AJV-C

Orig Publication Cycle (9/20/2012)

Chg. 1 STARs & RNP

Chg. 1 SIDs Publication Cycle (3/7/2013)

Chg. 3 Second Publication Cycle (7/24/14) STARs/RNP			
Procedures Submitted to FPT	8/17/12	1/3/14	AJV-14
Procedures Submitted to AJV-3	9/5/12	1/31/14	AJV-C24
Due to QA	10/29/12	3/17/14	AJV-3
Due to Flight Inspection	12/12/12	4/16/14	AJV-3
Flight Inspection Complete	1/5/13	5/24/14	AJV-3
Due to Charting	1/8/13	5/27/14	AJV-3
Training Complete	3/15/13	7/24/14	MSP/ZMP
Procedures Published	3/7/13	7/24/14	AJV-3
Procedures Implemented	3/15/13	7/24/14	AJV-14

Chg. 3 Third Publication Cycle (9/18/14) SIDs			
Procedures Submitted to FPT	10/12/12	2/28/14	AJV-14
Procedures Submitted to AJV-3	11/9/12	3/28/14	AJV-C24
Due to QA	12/24/12	5/12/14	AJV-3
Due to Flight Inspection	1/23/13	6/11/14	AJV-3
Flight Inspection Complete	3/2/13	7/19/14	AJV-3
Due to Charting	3/5/13	7/22/14	AJV-3
Training Complete	5/2/13	9/18/14	MSP/ZMP
Procedures Published	5/2/13	9/18/14	AJV-3
Procedures Implemented	5/15/13	9/18/14	AJV-14

Post-Implementation Review 3/18/15 AJV-14

NOTES: Procedures chart date was originally set for 9/20/2012.
Change 1: Chart dates revised to 1/10/2013 and 3/7/2013 to permit Minneapolis Airport Commission (MAC) Noise Oversight Committee (NOC) review.
Change 2: Lead operator needed additional time to fly simulations. Chart dates moved to 3/7/2013 and 5/2/2013.
Change 3: SIDs and STARs publication dates delayed to accommodate environmental and Safety Risk Management (SRM) impact analysis based on MAC's partial RNAV SID implementation proposal. RNP's delayed at ATC request to coincide with STAR implementation and mitigate environmental review segmentation.

RISKS:
 Potential design changes to STARs and SIDs as a result of SRM Panel outcome.

Complete
On Track
May Be Missed
Missed



Nashville Site Progress Status

12 SIDs, 4 STARs, and 6 RNP

Study and Scoping

Design and Procedure Development

Operational, Environmental, and SMS Review

Implementation and Training

Post-Implementation Review and Modifications

A4A Core 30



Project Start	7/1/2010	AJV-14
Gather data	8/23/2010	AJV-14
Initial Draft prototype Designs	11/20/2010	AJV-14
Kickoff Meeting	8/5/2010	AJV-14

Environmental Review Start(CATEX)	8/16/11	AJV-E2
Prototype Designs Draft	8/16/11	AJV-14
Flight Simulations Complete	8/14/11	SWA
Workgroup Concurrence	10/30/11	AJV-14
Prototype Design Complete (pencils down)	3/30/12	AJV-14
Post Prototype Design Work	4/15/12	AJV-14
Environmental Review Complete	8/8/12	AJV-E2

Publication Cycle (11/15/2012)		
Procedures Submitted to FPT	4/27/12	AJV-14
Procedures Submitted to AJV-3	5/25/12	AJV-E24
Due to QA	7/9/12	AJV-3
Due to Flight Inspection	8/1/12	AJV-3
Flight Inspection Complete	9/16/12	AJV-3
Due to Charting	9/18/12	AJV-3
Training Complete	11/11/12	BNA/ZME/ZTL
Procedures Published	11/15/12	AJV-3
Procedures Implemented	11/15/12	AJV-14

Note: None.

RISKS: None.

Publication Cycle (12/13/2012) RNP RWY 2R/2L/31		
Procedures Submitted to FPT	4/27/12	AJV-14
Procedures Submitted to AJV-3	5/25/12	AJV-E24
Due to QA	7/9/12	AJV-3
Due to Flight Inspection	8/1/12	AJV-3
Flight Inspection Complete	9/16/12	AJV-3
Due to Charting	10/30/12	AJV-3
Training Complete	12/12/12	BNA/ZME/ZTL
Procedures Published	12/13/12	AJV-3
Procedures Implemented	12/13/12	AJV-14

Post-Implementation Review	6/13/13	AJV-14
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Complete
On Track
May Be Missed
Missed



Portland OR (PDX) Site Progress Status

3 STARs 6 RNP's

Study and Scoping

Design and Procedure Development

Operational, Environmental, and SMS Review

Implementation and Training

Post-Implementation Review and Modifications

A4A Core 30



Project Start	8/15/11	AJV-14
Gather Data	8/15/11	AJV-14
Initial draft Prototype Designs	9/23/11	AJV-14
Kickoff Meeting	10/3/11	AJV-14

Environmental Review Start	10/3/11	AJV-W2
Prototype Designs Draft	1/19/12	AJV-14
Flight Simulations Complete	1/29/12	SWA
Workgroup Concurrence	3/16/12	AJV-14
Prototype Design Complete (pencils down)	3/20/12	AJV-14
Post Prototype Design Work	3/20/12	AJV-14
Environmental Review Complete	3/20/12	AJV-W2

First Publication Cycle (9/20/2012) RNP's		
Procedures Submitted to FPT	3/2/12	AJV-14
Procedures Submitted to AJV-3	3/30/12	AJV-W24
Due to QA	5/14/12	AJV-3
Due to Flight Inspection	6/6/12	AJV-3
Flight Inspection Complete	7/25/12	AJV-3
Due to Charting	7/31/12	AJV-3
Training Complete	8/20/12	PDX
Procedures Published	9/20/12	AJV-3
Procedures Implemented	9/20/12	AJV-14

NOTES:

- Projected publication date for two STARs changed to 6/27/13 publication at the request of Seattle ARTCC to avoid potential conflicts with the Greener Skies STAR implementation at Seattle.
- Publication date for 6/27/13 scheduled STARs moved to 10/17/13 due to ZSE sector differences in traffic flow resolution.

RISKS: None.

Second Publication Cycle (3/7/2013) STAR		
Procedures Submitted to FPT	8/17/12	AJV-14
Procedures Submitted to AJV-3	9/10/12	AJV-W24
Submitted to QA	11/5/12	AJV-3
Due to Flight Inspection	11/28/12	AJV-3
Flight Inspection Complete	1/5/13	AJV-3
Due to Charting	1/8/13	AJV-3
Training Complete	3/7/13	PDX/ZSE
Procedures Published	3/7/13	AJV-3
Procedures Implemented	3/18/13	AJV-14

Orig STARs Publication Cycle (6/27/13)¹

Third Publication Cycle (10/17/2013) STARs ²		
Procedures Submitted to FPT	3/29/13	AJV-14
Procedures Submitted to AJV-3	4/26/13	AJV-W24
Due to QA	6/10/13	AJV-3
Due to Flight Inspection	7/10/13	AJV-3
Flight Inspection Complete	8/17/13	AJV-3
Due to Charting	8/20/13	AJV-3
Training Complete	9/17/13	PDX/ZSE
Procedures Published	10/17/13	AJV-3
Procedures Implemented	10/31/13	AJV-14

Post-Implementation Review	4/30/2014	AJV-14
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Complete
On Track
May Be Missed
Missed



St. Louis Site Progress Status

13 SIDs 12 STARs 6 RNP's

Study and Scoping

Design and Procedure Development

Operational, Environmental, and SMS Review

Implementation and Training

Post-Implementation Review and Modifications

A4A Core 30



Project Start ¹	4/2008	AJV-14
Gather Data	5/2008	AJV-14
Initial Draft Prototype Designs	5/2008	AJV-14
Kickoff Meeting	6/2008	AJV-14

Environmental Review Start	6/30/2008	AJV-C2
Prototype Designs Draft ²	6/30/2011	AJV-14
Flight Simulations Complete	8/31/2011	SWA
Workgroup Concurrence	11/30/2011	AJV-14
Prototype Design Complete (pencils down)	11/30/2011	AJV-14
Post Prototype Design Work	12/15/2011	AJV-14
Environmental Review Complete ³	7/2/2012	AJV-C2

First Publication Cycle (9/20/2012) SIDs and RNP's		
Procedures Submitted to FPT	3/2/12	AJV-14
Procedures Submitted to AJV-3	3/30/12	AJV-C24
Due to QA	5/14/12	AJV-3
Due to Flight Inspection	6/6/12	AJV-3
Flight Inspection Complete	8/3/12	AJV-3
Due to Charting	8/10/12	AJV-3
Training Complete	8/20/12	T75/ZKC
Procedures Published	9/20/12	AJV-3
Procedures Implemented	9/20/12	AJV-14

NOTES:

- ¹ SID/STAR project started Apr 2008; RNP's added Jul 2009.
- ² Over 2 years of delay was incurred due to:
 - An out of date Part 150 study and addition of a new runway resulted in the FAA hiring an environmental contractor for noise analysis.
 - Subsequent changes in the lead airline operator and procedure development criteria resulted in procedures being re-developed and simulated.
 - New FAA/NATCA labor agreement resulted in delay for new review of designs
- ³ CATEX signed by FAA.
- ⁴ Publication date changed for RNP procedures to runway 12R & 30L due to runway construction.

Second Publication Cycle (11/15/2012) STARs		
Procedures Submitted to FPT	4/27/12	AJV-14
Procedures Submitted to AJV-3	5/25/12	AJV-C24
Due to QA	7/9/12	AJV-3
Due to Flight Inspection	8/1/12	AJV-3
Flight Inspection Complete	9/16/12	AJV-3
Due to Charting	9/18/12	AJV-3
Training Complete	10/15/12	STL/ZKC
Procedures Published	11/15/12	AJV-3
Procedures Implemented	11/15/12	AJV-14

RISKS: None.

Third Publication Cycle (1/10/2013) STAR & RNP's ⁴		
Procedures Submitted to FPT	3/2/12	AJV-14
Procedures Submitted to AJV-3	3/30/12	AJV-C24
Due to QA	5/14/12	AJV-3
Due to Flight Inspection	10/4/12	AJV-3
Flight Inspection Complete	11/21/12	AJV-3
Due to Charting	11/27/12	AJV-3
Training Complete	1/10/13	STL/ZKC
Procedures Published	1/10/13	AJV-3
Procedures Implemented	1/10/13	AJV-14

Post-Implementation Review	7/10/13	AJV-14
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Complete
On Track
May Be Missed
Missed



Seattle Site Progress Status

2 STARs 8 RNP
(Greener Skies I1)

Study and Scoping

Design and Procedure Development

Operational, Environmental, and SMS Review

Implementation and Training

Post-Implementation Review and Modifications

A4A Core 30



Project Start	6/2010	AJV-14
Gather Data	7/2010	AJV-14
Initial Draft Prototype Designs	8/2010	AJV-14
Kickoff Meeting	9/2010	AJV-14

Environmental Review Start	10/15/11	AJV-W2
Prototype Designs Draft	9/20/11	AJV-14
Flight Simulations Complete	11/10/11	ASA
Workgroup Concurrence	12/1/11	AJV-14
Prototype Design Complete (pencils down)	12/15/11	AJV-14
Special RNAV STAR/RNP AR/RVFP Submitted to AFS-460 and Passed Flight Check	4/20/12	AJV-14
Special RNAV STAR/RNP AR/RVFP Approved for 12-06 Publication Cycle	5/20/12	AFS-400
ATC Training	5/11/12	SEA/ZSE
Flight Trials Under 180 Day CatX Begin	6/11/12	SEA/ZSE
Post Prototype Design Work	8/1/12	AJV-14
Environmental Review Complete	10/30/12	AJV-W2

Publication Cycle (3/7/2013)		
Procedures Submitted to FPT	8/17/12	AJV-14
Procedures Submitted to AJV-3	9/14/12	AJV-W24
Due to QA	10/29/12	AJV-3
Due to Flight Inspection	11/20/12	AJV-3
Flight Inspection Complete	1/5/13	AJV-3
Approval of Criteria Waiver	1/23/13	AFS
Due to Charting	1/23/13	AJV-3
Training Complete	3/7/13	SEA/ZSE
Procedures Published	3/7/13	AJV-3
Procedures Implemented	3/20/13	AJV-14
Post-Implementation Review	9/20/13	AJV-14

Note: FONSI/ROD signed 11/1/12.

RISKS: None.

Complete
On Track
May Be Missed
Missed

