Space CDM Space Operations Committee (SpOC) XIV

June 3, 2026

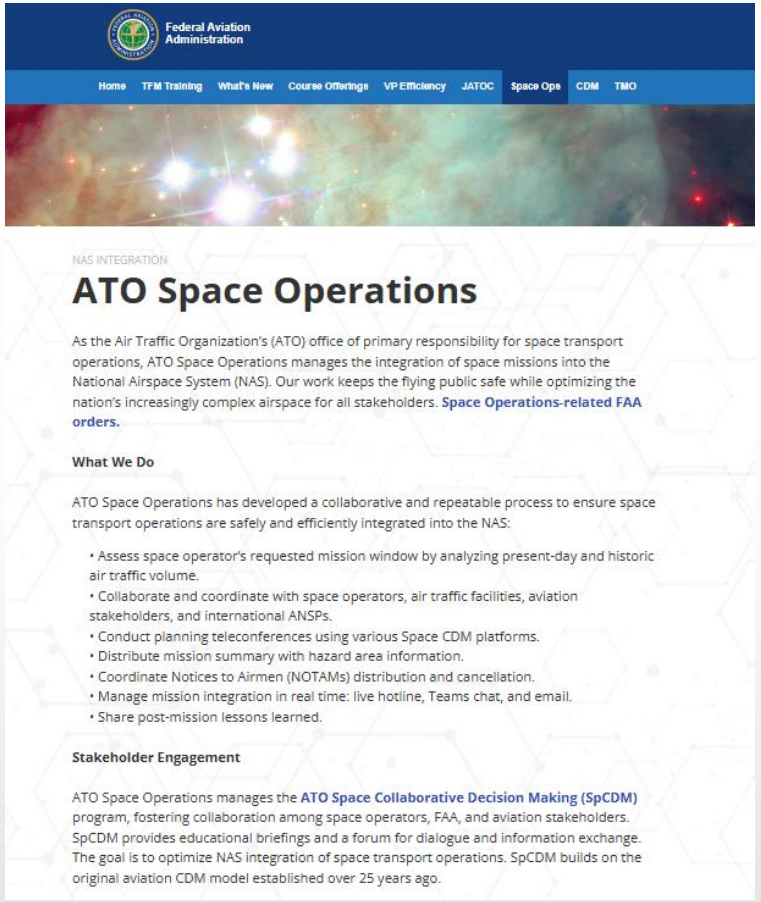
Federal Aviation Administration

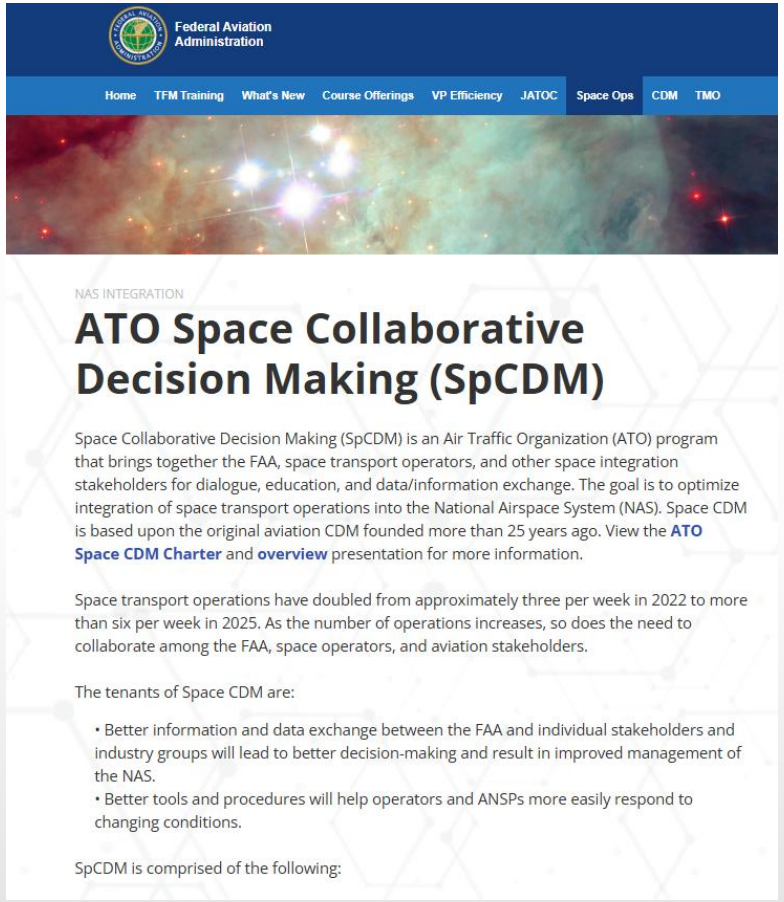
ATO Space Operations is and is not…

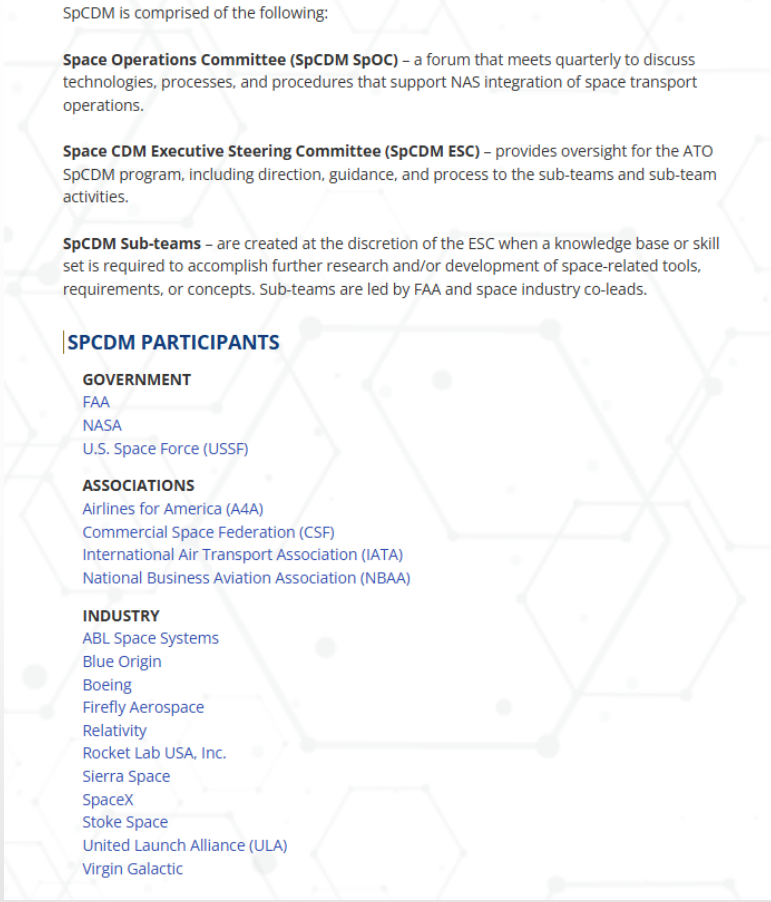
ATO Space CDM is	ATO Space CDM is not
✓ Focused on space operations	× Not about licensing and regulation
✓ An operating paradigm and a philosophy through information exchange	× ATO SpCDM is not a decision-making body (e.g., FACA)
✓ Follows best practices of 25+ years history with Aviation CDM	× Will not make decisions or consensus for FAA, rather inform ATO Space Operations
✓ Allow space operators to build the collaboration framework with FAA – leverage existing industry bodies where appropriate rather than duplicate	× Not creating data standards

This work is voluntary for all industry stakeholders.

TFM Learning Website Updates







https://tfmlearning.faa.gov

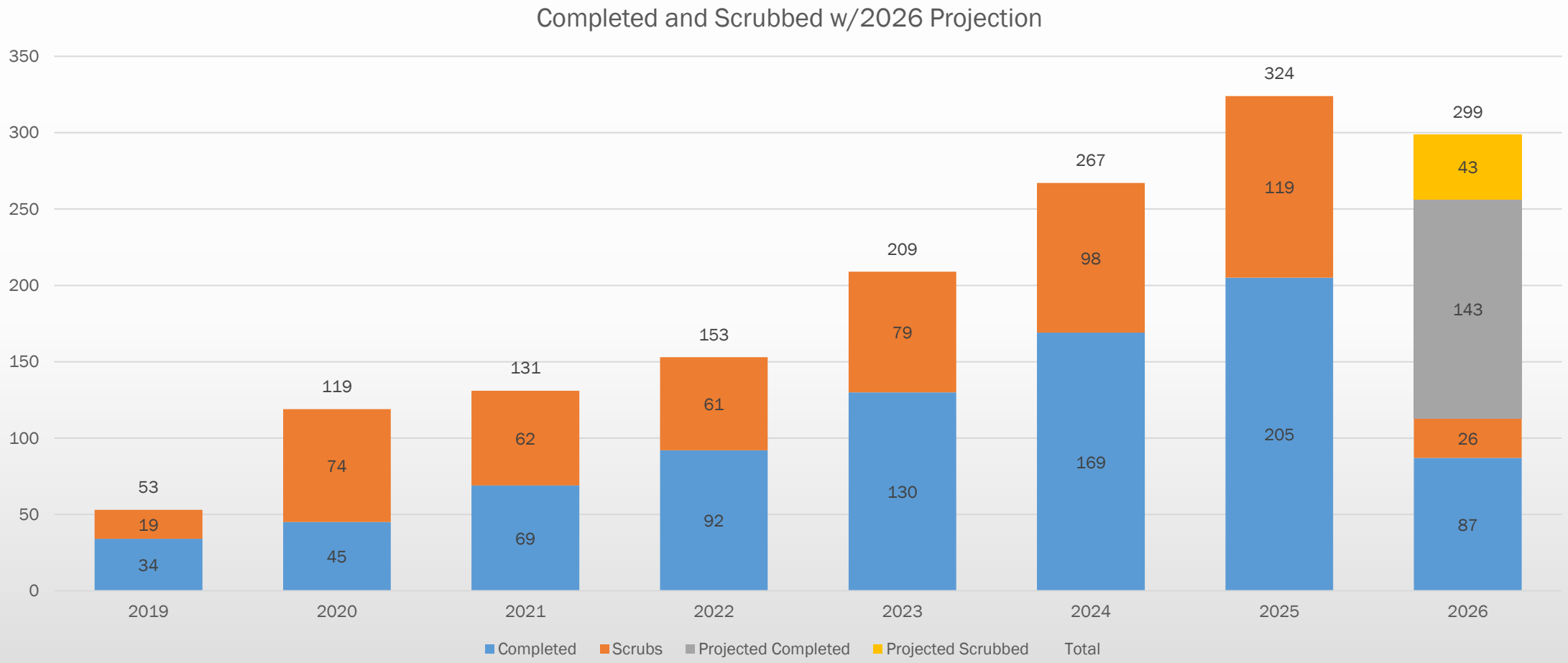
https://tfmlearning.faa.gov/Joint_Collaborative_Decision_Making.html

Operational Metrics Update

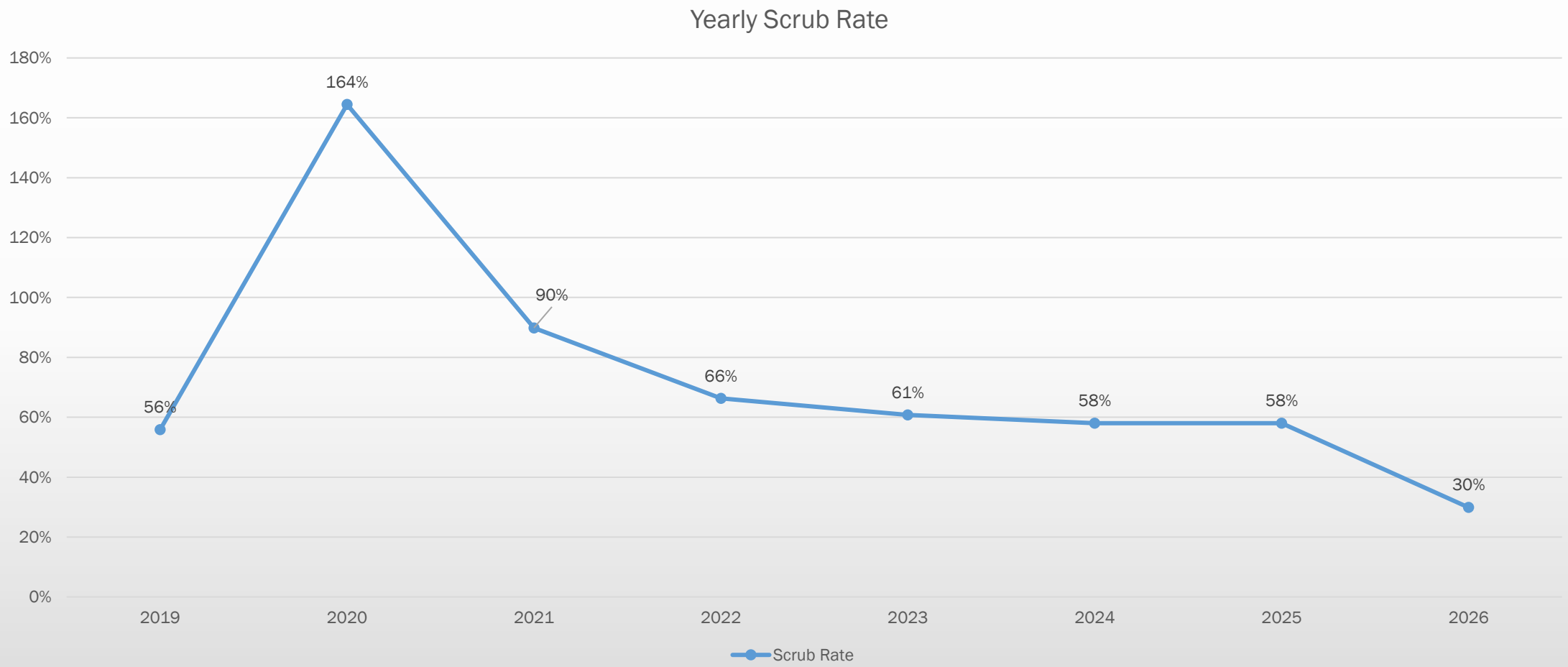
Mid Point Check-In

- Completed 87 missions and had 26 scrubs so far in 2026
- 10 Operators using 17 different vehicles
  - 9 operators and 13 different vehicles
- 76 Licensed operations and 11 unlicensed
  - 87.4% licensed
- 20 International FIRs coordinated with this year

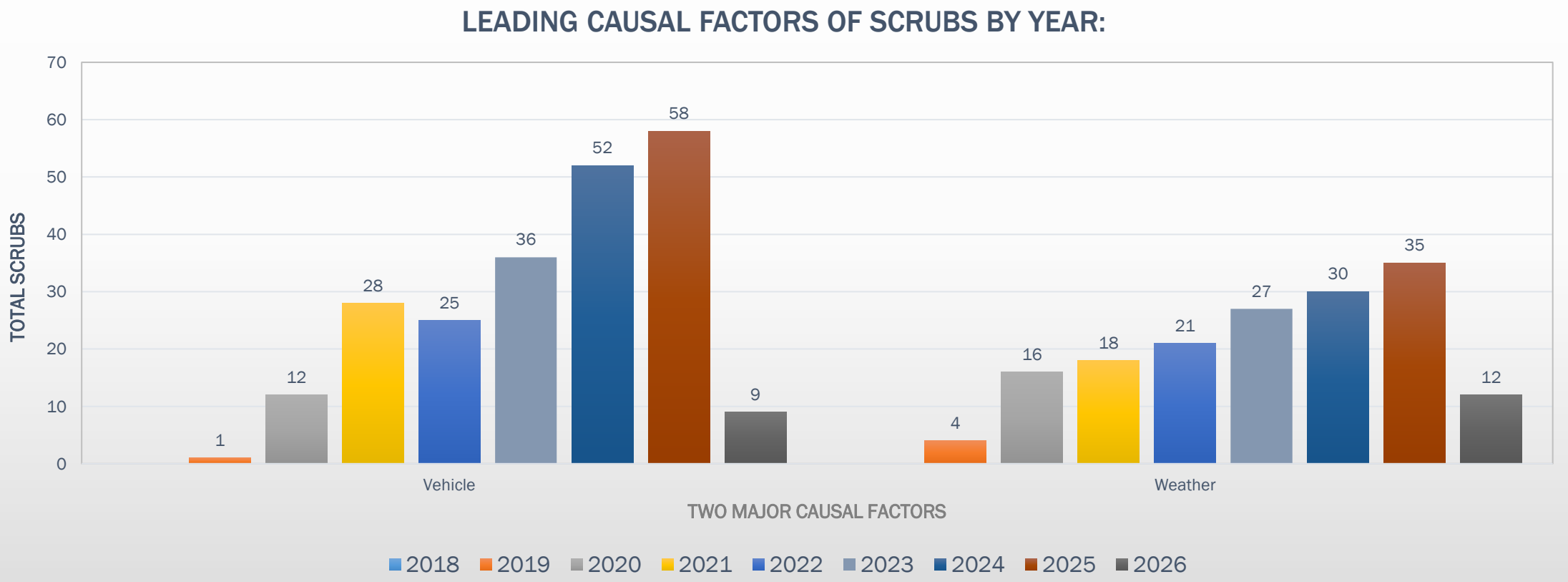
Launch vs Attempts (w/Projection)



Yearly Scrub Rate



Scrub Categories



Joint Airspace Optimization Sub-team

Current Work

- Defined:
  - Scope
  - Workflow
  - Current “problems”
- Identified 12 areas for improvement

Next Steps

- June:
  - Refining the “problem” statements
  - Assigning individuals to specific problems
    - Recommend solutions to the wider group to discuss
  - Assigning priorities

- July/August:
  - Researching solutions/determining needs
  - Compiling information
  - Review and finalize recommendations Fall 2026

Mission-Specific AHA Flight Throughput Analysis 01/01/25 – 03/31/26

Mission-Specific AHAs

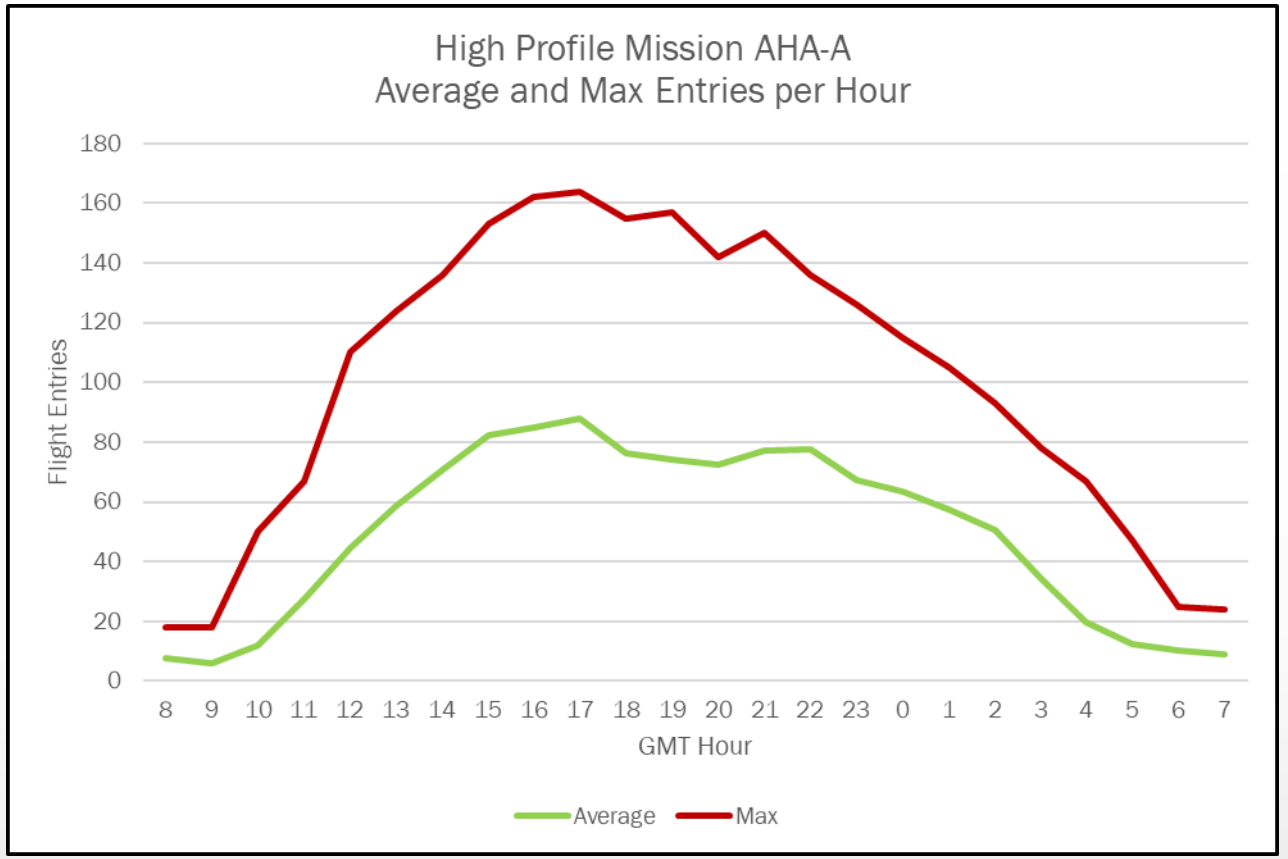
- "High-Profile Mission"
  - AHA-A
  - AHA-B
  - AHA-C
- Cape Canaveral Space Force Station (CCSFS) GTO
  - AHA-A
  - AHA-B
- Cape Canaveral Space Force Station (CCSFS) NE Compact
  - AHA-A
  - AHA-B
- Cape Canaveral Space Force Station (CCSFS) NE Extended
  - AHA-A
  - AHA-B
  - AHA-C
  - AHA-D

High-Profile Mission AHA-A

Weekday Averages

High Profile Mission AHA-A

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	1283	1143	1062	1095	1213	1225	1269
	Max	2010	1711	1546	1444	1645	1813	2035
Peak Load	Average	24	22	22	21	24	23	25
	Max	39	30	32	28	34	34	38



Hourly Averages

High Profile Mission AHA-A

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	8	6	12	28	45	59	71	82	85	88	76	74	73	77	77	67	63	57	50	34	20	12	10	9
	Max	18	18	50	67	110	124	136	153	162	164	155	157	142	150	136	126	115	105	93	78	67	47	25	24
Peak Load	Average	3	3	4	8	10	13	16	19	20	20	18	17	16	17	17	15	14	12	11	9	6	4	4	4
	Max	10	7	11	16	24	29	32	35	39	35	35	32	32	34	32	28	24	22	20	18	17	11	8	7

High Profile Mission AHA-A

Weekday Hourly Averages

High Profile Mission AHA-A

	Hour (Z)	8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		0		1		2		3		4		5		6		7	
Sunday	Average	7		5		11		29		47		61		75		87		94		96		88		85		80		84		83		74		66		58		50		35		22		13		10		10	
	Max	13		11		36		67		110		112		136		153		143		157		152		157		136		150		136		118		115		105		88		77		54		30		17		17	
Monday	Average	8		6		12		26		44		60		69		79		79		83		73		69		67		76		75		65		69		62		53		35		21		14		11		10	
	Max	15		18		30		63		104		110		116		127		131		143		144		121		115		122		122		104		114		99		93		78		56		47		25		24	
Tuesday	Average	7		6		12		27		42		55		65		76		73		79		68		64		64		68		70		58		61	1	58		50		34		19		11		10		8	
	Max	15		12		29		60		85		92		113		125		129		147		115		115		100		102		106		88		102		86		82		75		50		34		20		16	
Wednesday	Average	7		7		12		26		42		54		67		75		78		81		68		68		67		74		70		62		55		51		45		30		17		11		9		10	
	Max	15		13		28		57		71		99		101		121		109		123		111		105		99		108		115		95		86		85		83		64		48		31		19		18	
Thursday	Average	8	1	6		13		28		45		60		70		82		84		88		78		75		75	1	79		80		70		58		53		47		31		18		11		10		8	1
	Max	18		13		37		60		81		99		104		123		125		147		125		125		118		117		115		114		94		77		72		66		33		28		16		13	
Friday	Average	8		6		13		27		44		56		70		85		87		91		78		77		76		81		83		72		66		60		54		37		21		13		10		10	
	Max	13		13		27		62		76		91		120		139		131		164		132		141		127		138		125		111		109		95		90		68		46		27		17		17	
Saturday	Average	8		6		13		30		48		64		79		94		97		96		82		80		80		80		82		69		67		60		55		37		20		14		11		1	
	Max	15		10		50		67		106		124		127		150		162		151		155		148		142		124		130		126		97		88		87		69		67		28		21		17	

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

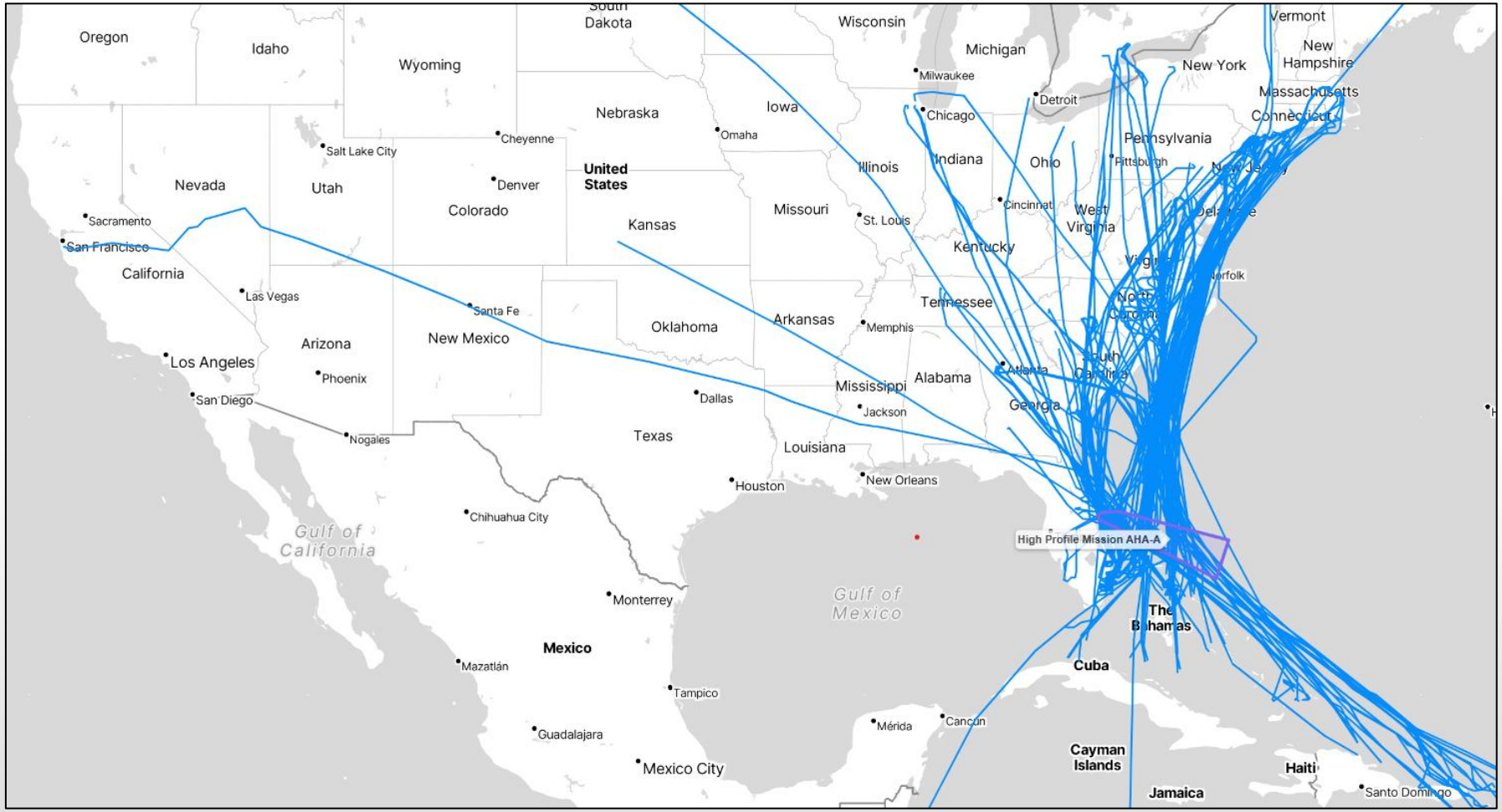
2025 – Q1 2026 Launches: 4

Launches During:

Low-Traffic Hours: 0 (0.0%)

High-Traffic Hours: 0 (0.0%)

High Profile Mission AHA-A Sample Busy Hour Throughput



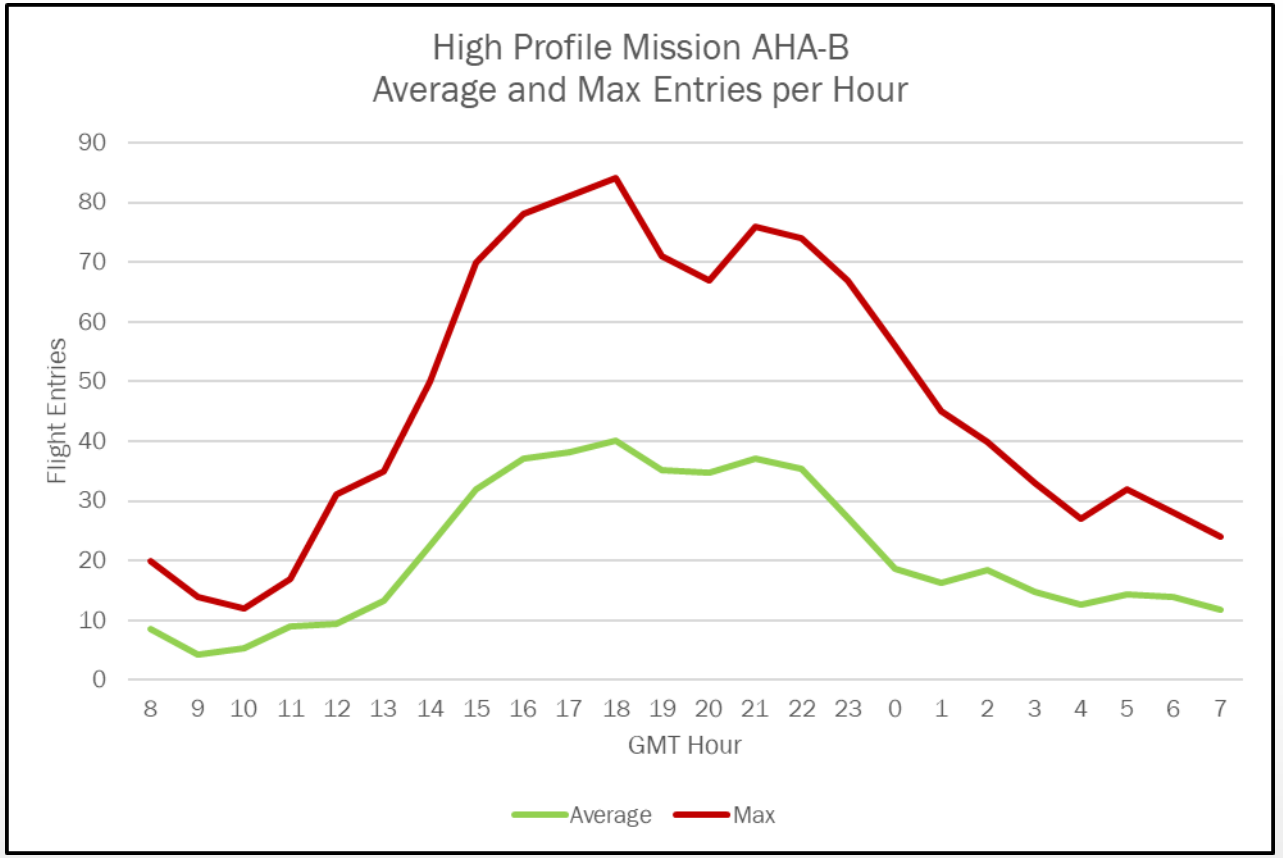
Time Range Shown: 01/04/2026 1600Z - 1700Z

High Profile Mission AHA-B

Weekday Averages

High Profile Mission AHA-B

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	529	484	465	471	493	519	616
	Max	973	902	775	675	781	820	946
Peak Load	Average	8	8	8	8	8	8	9
	Max	13	13	14	13	12	11	15



Hourly Averages

High Profile Mission AHA-B

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	9	4	5	9	9	13	23	32	37	38	40	35	35	37	35	27	19	16	18	15	13	14	14	12
	Max	20	14	12	17	31	35	50	70	78	81	84	71	67	76	74	67	56	45	40	33	27	32	28	24
Peak Load	Average	3	2	2	3	3	3	4	6	6	6	7	6	6	6	6	5	4	4	4	3	3	3	3	3
	Max	7	5	6	6	7	8	9	10	13	14	14	13	15	13	13	12	11	10	9	7	7	8	7	6

High Profile Mission AHA-B

Weekday Hourly Averages

High Profile Mission AHA-B

Day	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	10	4	5	9	10	14	24	33	39	42	43	36	36	37	36	27	24	18	20	16	13	15	14	12
	Max	19	11	9	17	31	28	44	60	73	81	77	68	67	76	69	57	55	45	32	28	27	21	24	21
Monday	Average	8	4	5	9	9	14	20	29	34	36	38	32	32	36	34	25	19	17	18	15	14	16	14	11
	Max	19	12	10	16	26	33	35	51	63	60	78	67	55	57	65	67	56	38	40	25	23	32	25	21
Tuesday	Average	8	4	5	9	8	12	21	29	32	33	36	32	33	36	31	24	18 (1)	16	19	15	11	13	14	11
	Max	13	10	11	17	19	21	38	54	62	71	69	64	53	59	55	57	37	41	40	33	26	22	23	19
Wednesday	Average	8	4	5	8	9	11	21	30	34	34	36	32	31	34	33	25	16	16	17	14	12	13	13	11
	Max	17	10	9	17	19	22	39	47	51	57	62	50	48	60	60	53	31	31	26	22	22	27	23	23
Thursday	Average	9 (1)	5	5	9	9	12	20	29	35	37	39	32	33 (1)	35	34	28	16	15	18	14	12	14	14	12 (1)
	Max	17	14	11	17	18	24	35	47	65	62	61	58	53	57	69	56	29	23	30	23	21	25	28	24
Friday	Average	9	5	6	10	10	14	22	32	38	40	39	35	34	37	37	28	19	16	18	15	13	15	14	13
	Max	16	12	12	17	20	26	39	52	56	76	73	63	59	58	63	67	38	26	29	24	24	22	22	23
Saturday	Average	8	4	6	9	10	16	30	43	48	47	49	47	44	45	42	35	19	16	19	16	13	15	14	1
	Max	20	11	12	16	25	35	50	70	78	77	84	71	63	73	74	66	36	26	32	26	25	25	24	21

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

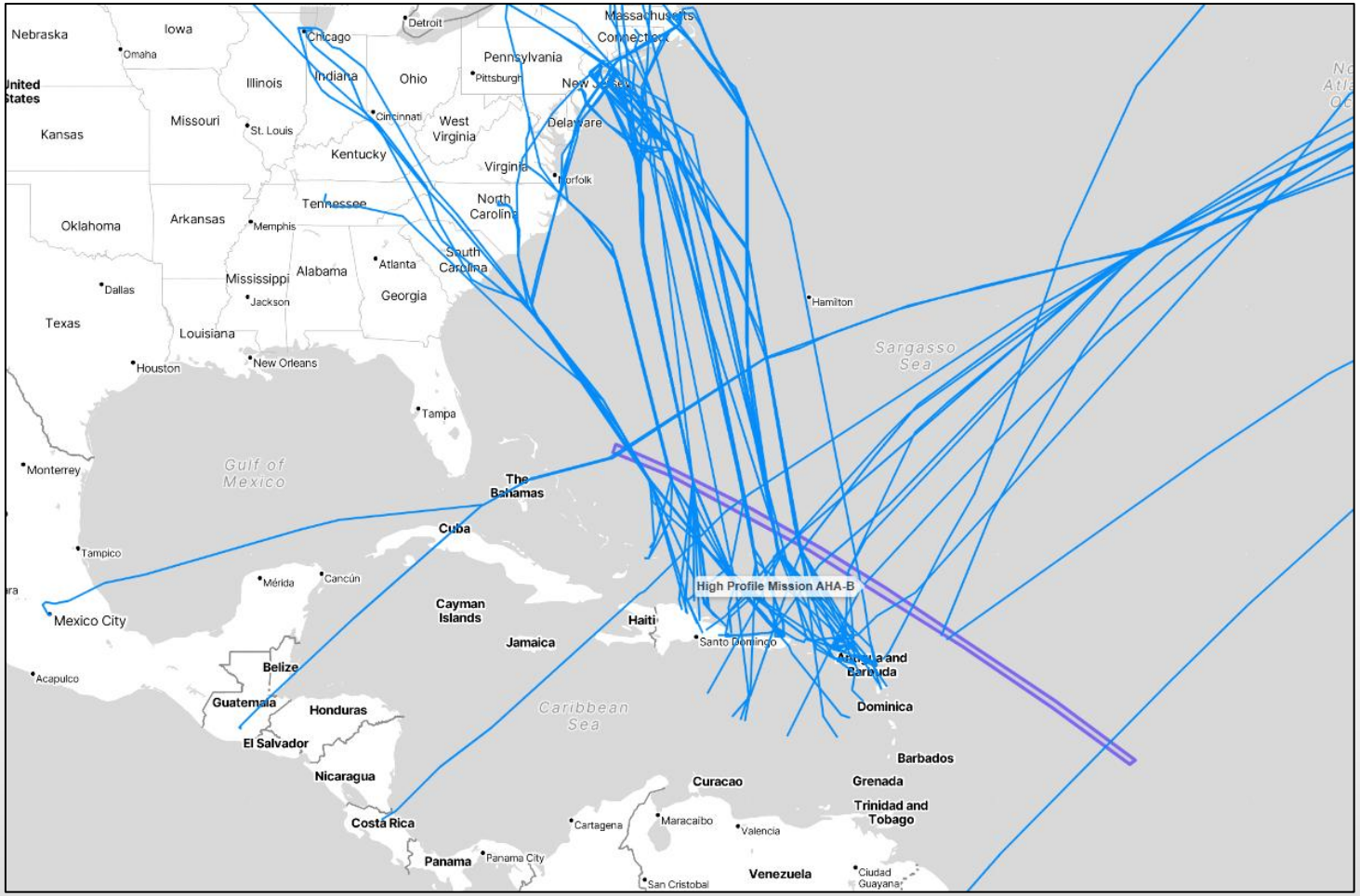
2025 – Q1 2026 Launches: 4

Launches During:

Low-Traffic Hours: 0 (0.0%)

High-Traffic Hours: 0 (0.0%)

High Profile Mission AHA-B Sample Busy Hour Throughput



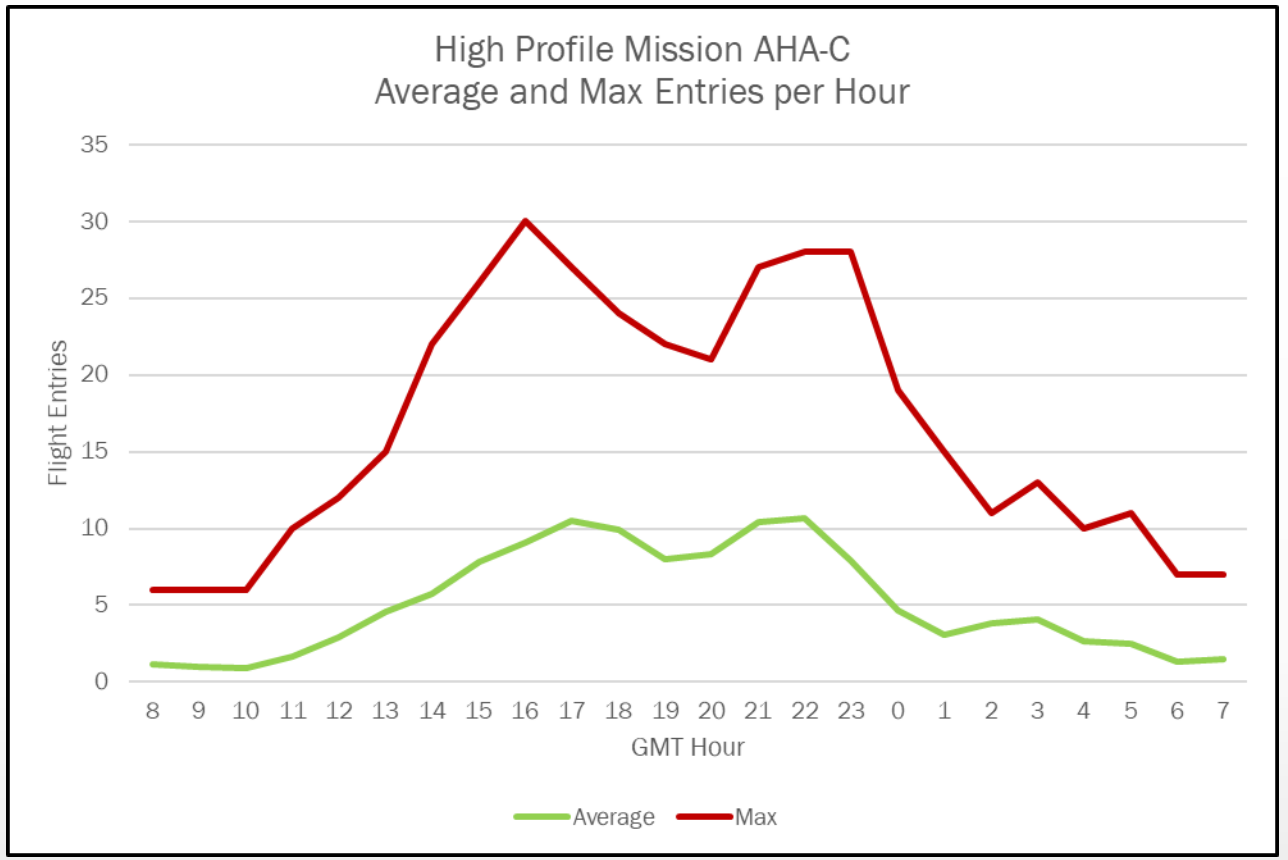
Time Range Shown: 03/28/2026 2000Z - 2100Z

High Profile Mission AHA-C

Weekday Averages

High Profile Mission AHA-C

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	128	111	111	114	125	123	157
	Max	256	214	185	194	198	208	271
Peak Load	Average	5	4	5	5	5	5	5
	Max	8	6	8	7	8	8	9



Hourly Averages

High Profile Mission AHA-C

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	1	1	1	2	3	5	6	8	9	10	10	8	8	10	11	8	5	3	4	4	3	2	1	1
	Max	6	6	6	10	12	15	22	26	30	27	24	22	21	27	28	28	19	15	11	13	10	11	7	7
Peak Load	Average	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3	3	2	2	2	2	1	1	1	1
	Max	4	4	4	5	5	5	6	7	7	8	8	7	7	9	7	7	7	5	5	5	6	5	4	4

High Profile Mission AHA-C

Weekday Hourly Averages

High Profile Mission AHA-C

Day	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	1	1	1	2	3	5	6	8	10	12	11	9	8	10	11	9	6	4	3	4	3	3	2	2
	Max	4	3	3	7	9	12	16	20	25	24	23	20	20	23	25	20	17	11	9	9	7	9	6	4
Monday	Average	1	1	1	2	3	4	4	7	8	9	9	7	7	9	9	7	5	3	4	3	3	2	1	1
	Max	6	6	5	6	10	10	10	16	18	20	23	18	16	19	20	20	19	12	11	10	10	7	7	6
Tuesday	Average	1	1	1	1	3	4	5	7	8	9	9	7	7	9	9	7	4 (1 launch)	3	4	4	3	2	1	1
	Max	6	5	4	6	9	10	12	22	22	23	19	17	19	19	17	17	17	15	10	11	9	8	6	5
Wednesday	Average	1	1	1	1	3	4	6	7	8	9	8	7	7	9	10	7	4	3	3	4	2	3	1	1
	Max	5	2	5	5	11	13	17	26	21	17	21	16	16	24	22	18	11	8	8	9	6	7	4	5
Thursday	Average	2 (1 launch)	1	1	2	3	5	6	8	8	11	11	8	8 (1 launch)	10	10	8	4	3	4	4	3	3	1	2 (1 launch)
	Max	4	6	3	10	12	12	14	21	21	24	23	18	17	20	21	17	13	12	9	13	10	8	4	7
Friday	Average	1	1	1	2	3	4	6	7	9	11	9	7	9	10	11	8	5	3	3	4	3	2	1	2
	Max	5	4	4	6	12	12	22	18	23	21	23	18	18	24	21	22	12	8	8	11	7	11	7	7
Saturday	Average	1	1	1	2	3	6	8	11	12	13	11	11	11	15	14	11	5	3	4	4	3	2	1	1
	Max	5	4	6	4	9	15	20	21	30	27	24	22	21	27	28	28	15	8	11	10	9	6	6	5

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

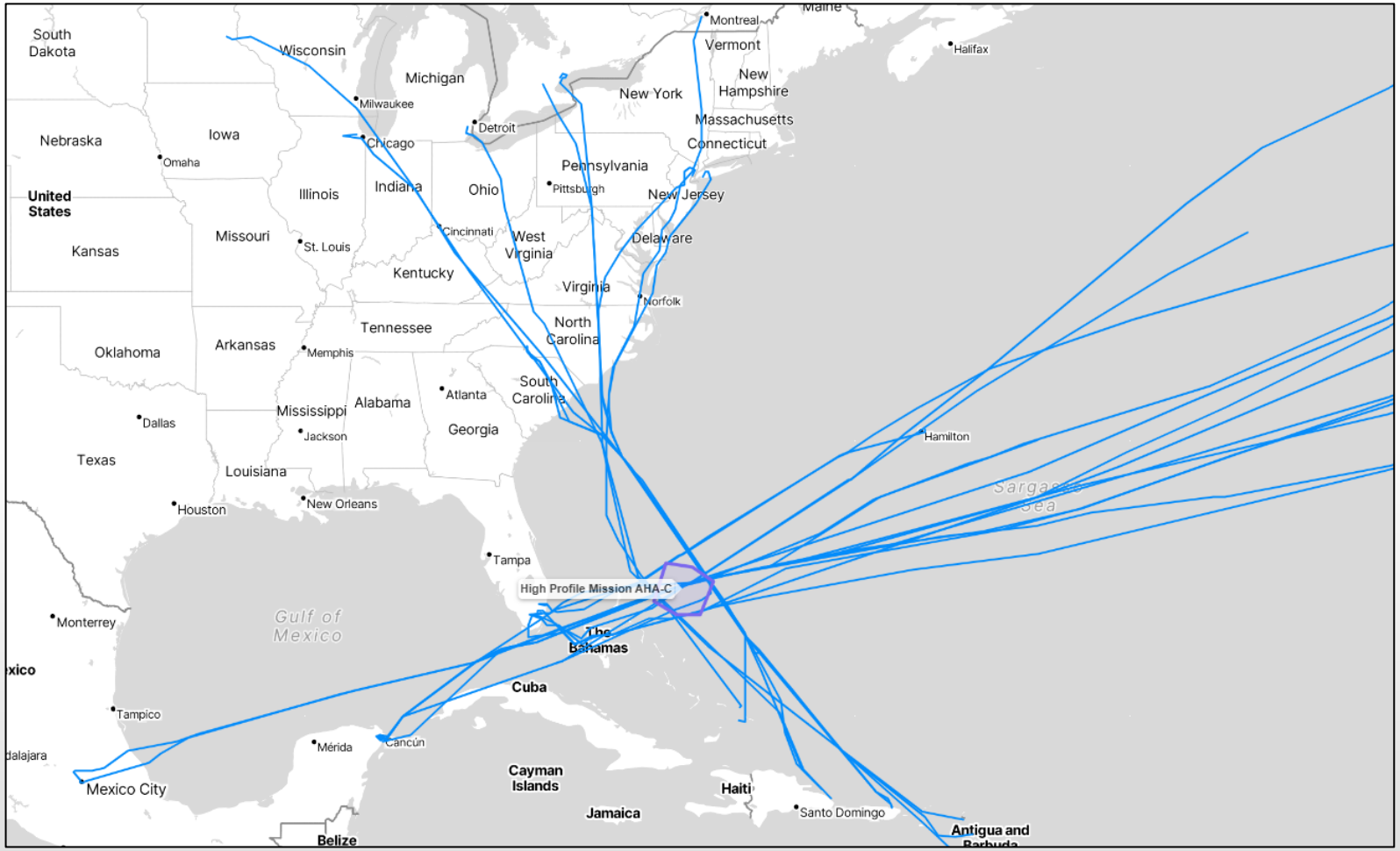
2025 – Q1 2026 Launches: 4

Launches During:

Low-Traffic Hours: 0 (0.0%)

High-Traffic Hours: 0 (0.0%)

High Profile Mission AHA-C Sample Busy Hour Throughput



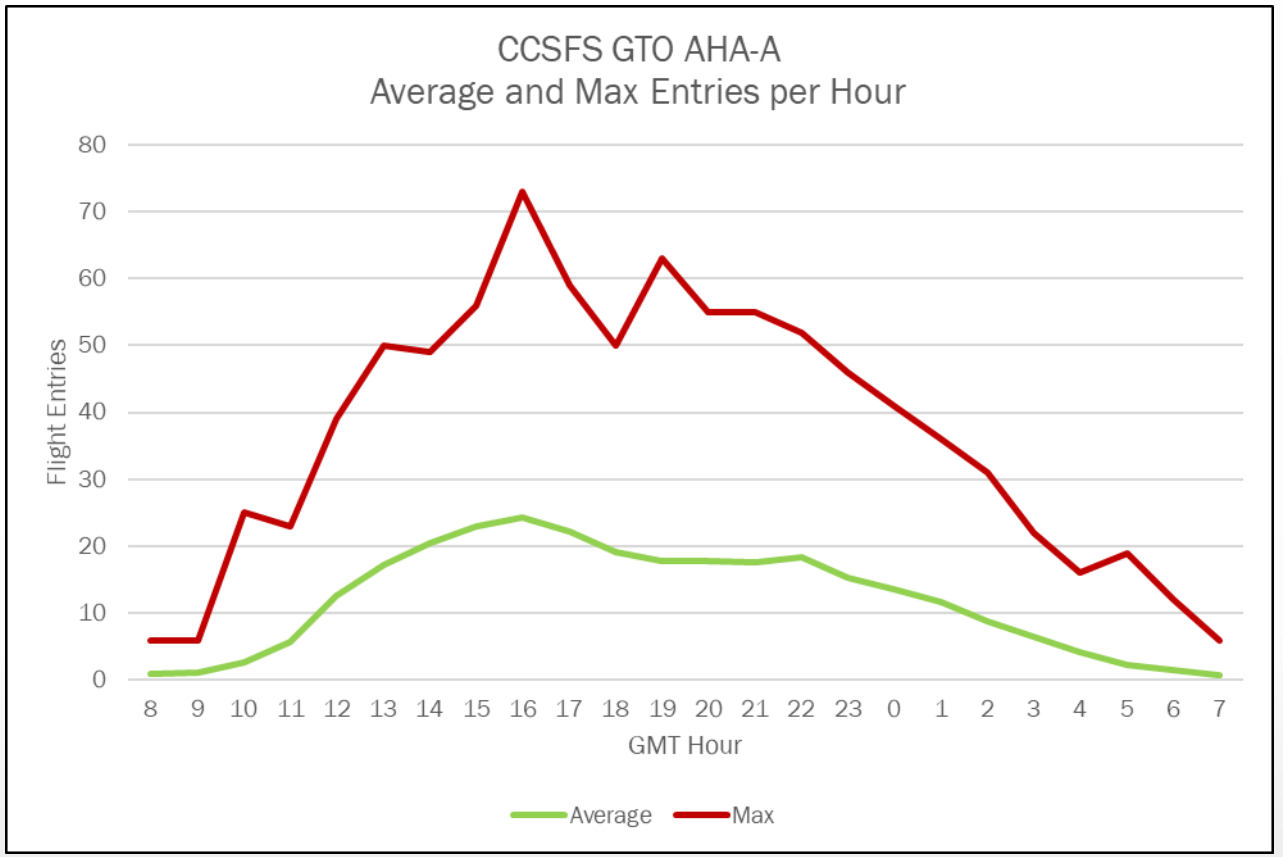
Time Range Shown: 02/28/2026 2100Z - 2200Z

CCSFS GTO AHA-A

Weekday Averages

CCSFS GTO AHA-A

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	326	281	234	246	292	299	321
	Max	541	429	429	442	507	525	548
Peak Load	Average	5	5	5	5	5	5	0
	Max	7	8	9	8	8	8	8



Hourly Averages

CCSFS GTO AHA-A

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	1	1	3	6	13	17	20	23	24	22	19	18	18	18	18	15	14	12	9	6	4	2	2	1
	Max	6	6	25	23	39	50	49	56	73	59	50	63	55	55	52	46	41	36	31	22	16	19	12	6
Peak Load	Average	1	1	1	1	2	3	3	4	4	4	3	3	3	3	3	3	2	2	2	2	1	1	1	1
	Max	4	3	3	5	6	6	7	8	9	8	8	7	6	6	8	6	7	5	4	4	4	3	3	3

CCSFS GTO AHA-A

Weekday Hourly Averages

CCSFS GTO AHA-A

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	1	1	2	6	14	19	23	26	28	26	24	22	20	19	20	17	14	13	9	6	4	2	1	1
	Max	4	3	10	18	39	45	45	56	55	58	50	63	55	52	52	46	34	33	27	17	11	8	7	3
Monday	Average	1	1	2	6	14	19	21	23	23	22	17	16	16	17	18	14	16	14	10	7	5	3	2	1
	Max	6	4	11	23	31	44	42	41	51	47	42	42	35	55	35	30	41	36	28	20	13	19	12	6
Tuesday	Average	1	2	3	5	11	15	17	19	20	18	15	13	14	14	16	12	14	12	10	7	4	3	2	1
	Max	6	6	7	16	30	36	36	42	49	59	42	35	32	32	38	31	36	29	31	22	12	11	7	4
Wednesday	Average	1	2	2	5	11	15	18	18	20	19	16	15	16	16	16	13	11	9	7	5	3	2	1	1
	Max	4	6	6	14	34	30	38	43	46	55	34	42	37	41	36	33	28	21	21	15	14	9	5	4
Thursday	Average	1	1	3	5	12	17	20	23	24	21	19	18	18	19	20	17	12	11	7	5	4	2	1	1
	Max	5	5	7	13	36	49	42	54	57	39	33	41	47	43	41	36	31	24	20	14	10	7	5	3
Friday	Average	1	1	3	6	12	16	19	24	26	24	20	18	19	19	21	17	14	11	10	7	5	3	2	1
	Max	6	5	10	13	29	42	38	49	73	57	34	42	45	40	49	42	31	25	25	19	16	8	6	4
Saturday	Average	1	1	3	7	14	19	25	27	30	26	23	21	21	19	19	16	14	12	10	7	5	2	1	1
	Max	4	4	25	23	34	50	49	52	51	47	49	49	55	43	42	35	34	27	20	19	16	12	6	4

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

2025 – Q1 2026 Launches: 6

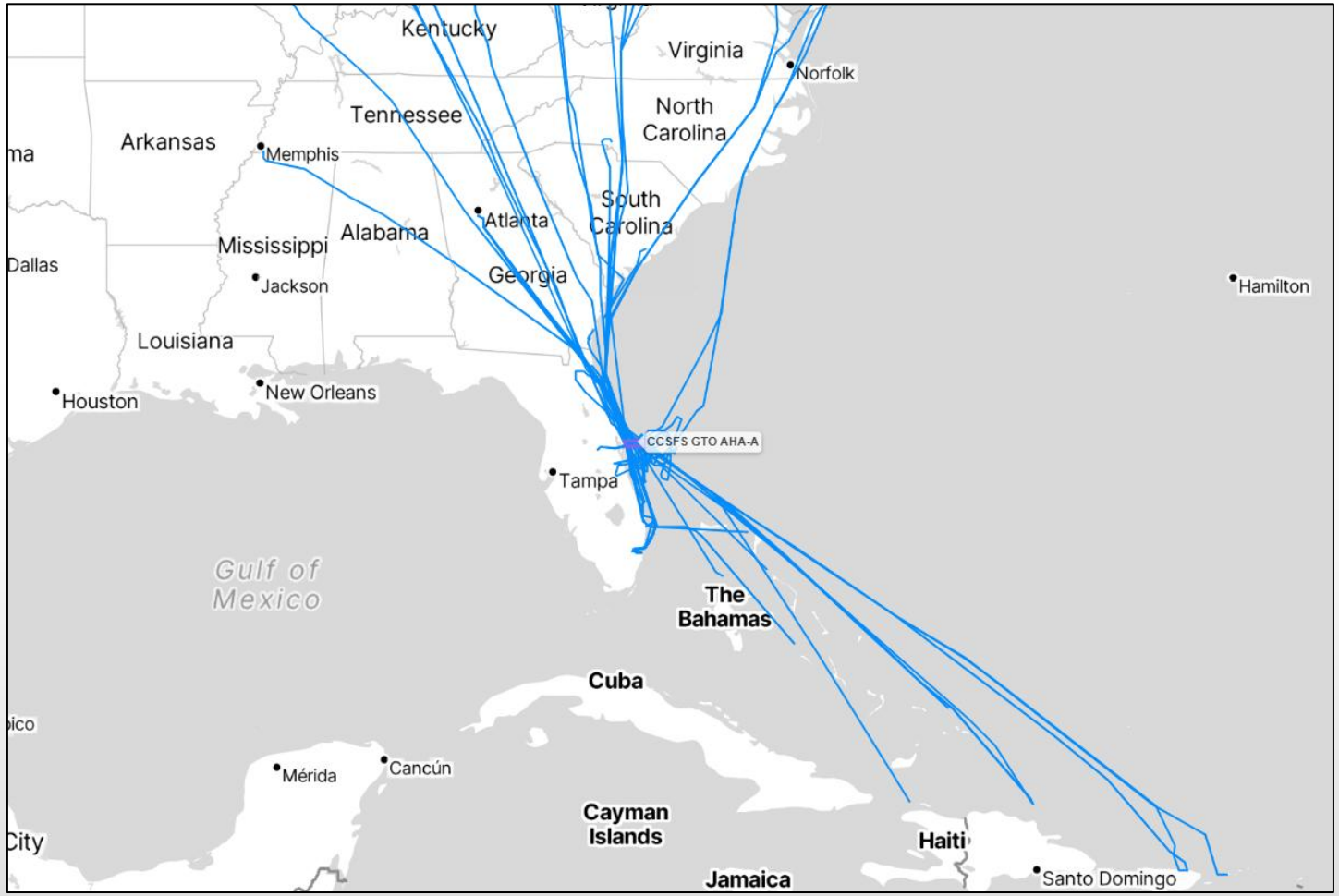
Launches During:

Low-Traffic Hours: 0 (0.0%)

High-Traffic Hours: 0 (0.0%)

CCSFS GTO AHA-A

Sample Busy Hour Throughput



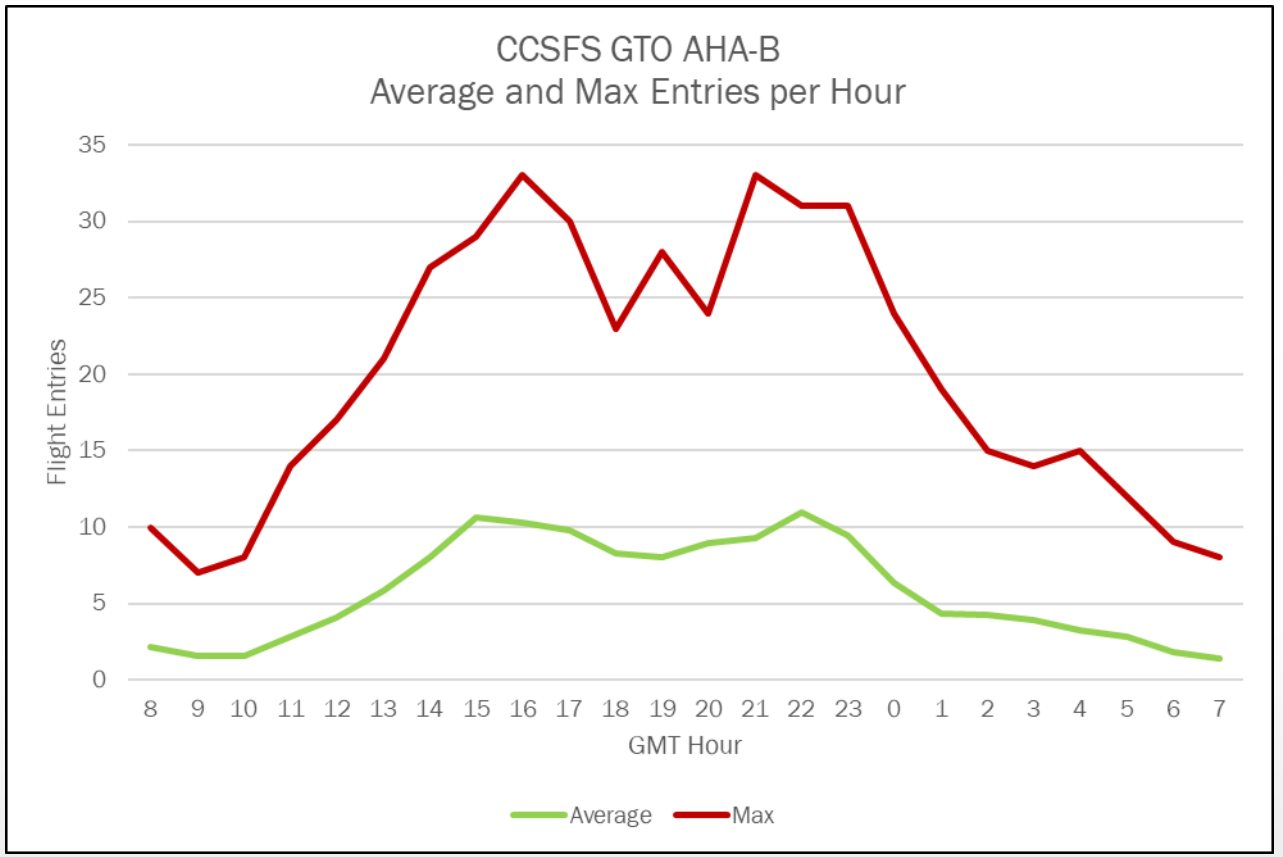
Time Range Shown: 03/24/2026 1600Z - 1700Z

CCSFS GTO AHA-B

Weekday Averages

CCSFS GTO AHA-B

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	145	131	127	124	137	145	171
	Max	322	255	251	210	272	258	303
Peak Load	Average	5	4	4	4	4	4	5
	Max	7	8	6	7	8	7	7



Hourly Averages

CCSFS GTO AHA-B

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	2	2	2	3	4	6	8	11	10	10	8	8	9	9	11	9	6	4	4	4	3	3	2	1
	Max	10	7	8	14	17	21	27	29	33	30	23	28	24	33	31	31	24	19	15	14	15	12	9	8
Peak Load	Average	1	1	1	1	2	2	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	1	1	1
	Max	4	4	4	4	5	6	6	8	7	7	7	7	6	7	7	7	6	8	6	5	4	5	4	3

CCSFS GTO AHA-B

Weekday Hourly Averages

CCSFS GTO AHA-B

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	2	2	8	3	4	6	8	11	11	11	9	8	9	10	12	9	8	6	5	4	4	3	2	1
	Max	8	5	7	9	13	20	22	28	27	23	21	15	24	33	31	26	23	19	13	11	15	11	6	6
																							1		
Monday	Average	2	2	1	3	4	6	7	10	10	9	8	8	8	9	9	9	7	5	4	3	3	3	2	1
	Max	8	7	5	9	13	13	17	22	21	24	16	18	21	22	19	31	24	18	15	8	10	10	6	5
Tuesday	Average	2	1	2	3	4	6	8	10	9	9	8	8	8	8	9	8	6	4	4	4	3	3	2	1
	Max	8	5	8	12	11	20	19	24	20	20	17	19	24	19	19	23	21	14	14	12	12	12	7	7
																	1				1				
Wednesday	Average	2	1	2	2	3	5	8	10	8	9	7	7	8	8	10	9	5	4	4	4	3	3	2	1
	Max	7	5	8	8	13	14	23	23	20	19	16	17	21	18	24	22	15	16	12	12	10	11	8	4
					1																				
Thursday	Average	2	1	1	3	4	5	7	10	10	10	8	7	8	8	11	9	5	3	4	4	3	3	2	2
	Max	6	6	6	9	10	14	18	28	24	30	19	28	24	21	25	22	15	10	11	10	14	8	7	8
																			1						
Friday	Average	2	2	2	4	5	6	9	12	11	9	8	8	9	9	12	10	6	5	5	5	4	3	2	2
	Max	10	7	7	14	17	21	24	25	24	19	19	21	17	25	22	23	16	12	15	14	15	11	9	8
Saturday	Average	2	1	2	3	5	7	10	13	13	12	10	10	12	13	14	12	7	4	4	4	3	3	2	1
	Max	7	5	7	9	11	20	27	29	33	27	23	24	24	23	28	27	21	13	11	10	11	7	8	5
																			1						

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

2025 – Q1 2026 Launches: 6

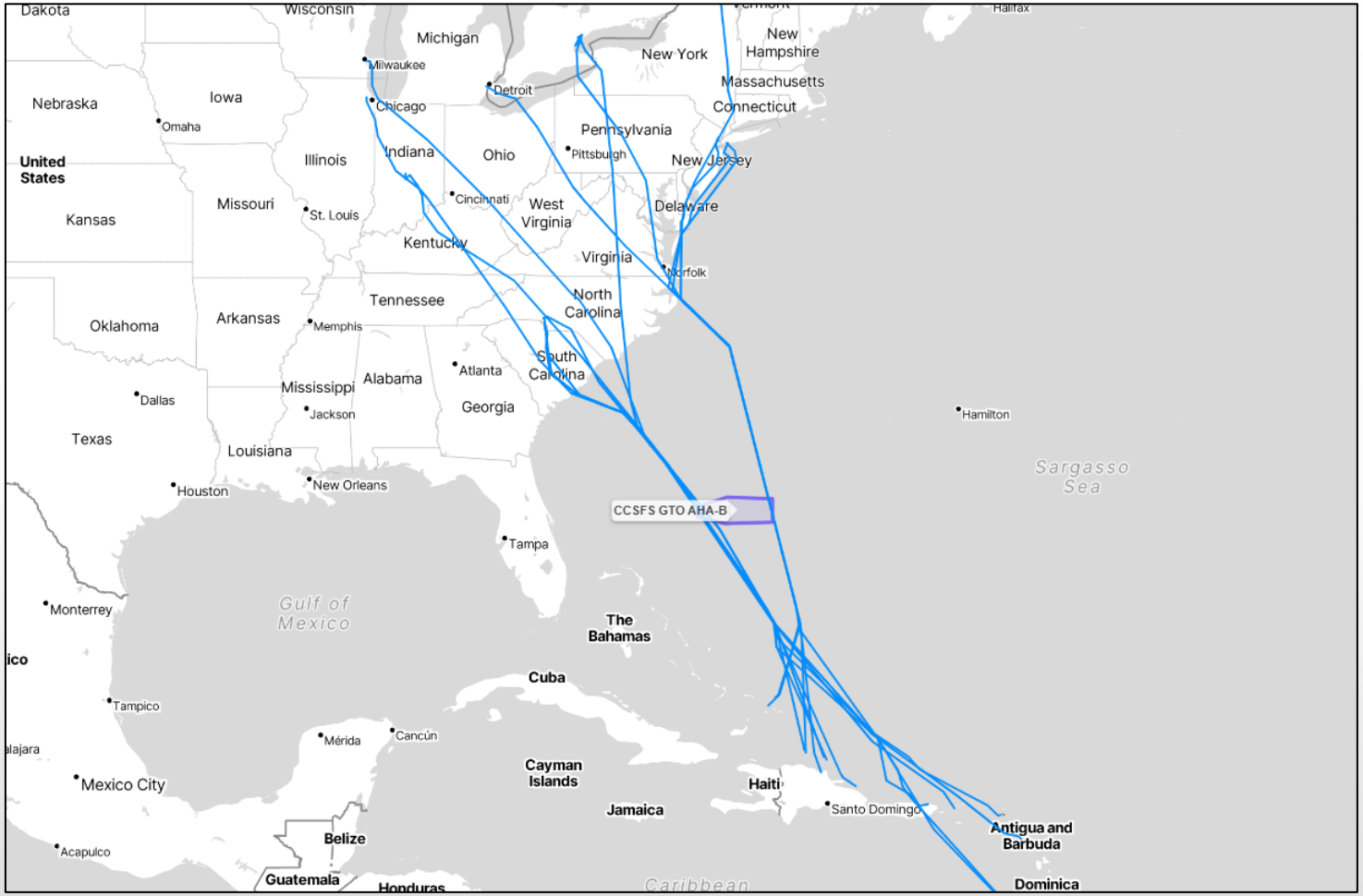
Launches During:

Low-Traffic Hours: 0 (0.0%)

High-Traffic Hours: 0 (0.0%)

CCSFS GTO AHA-B

Sample Busy Hour Throughput



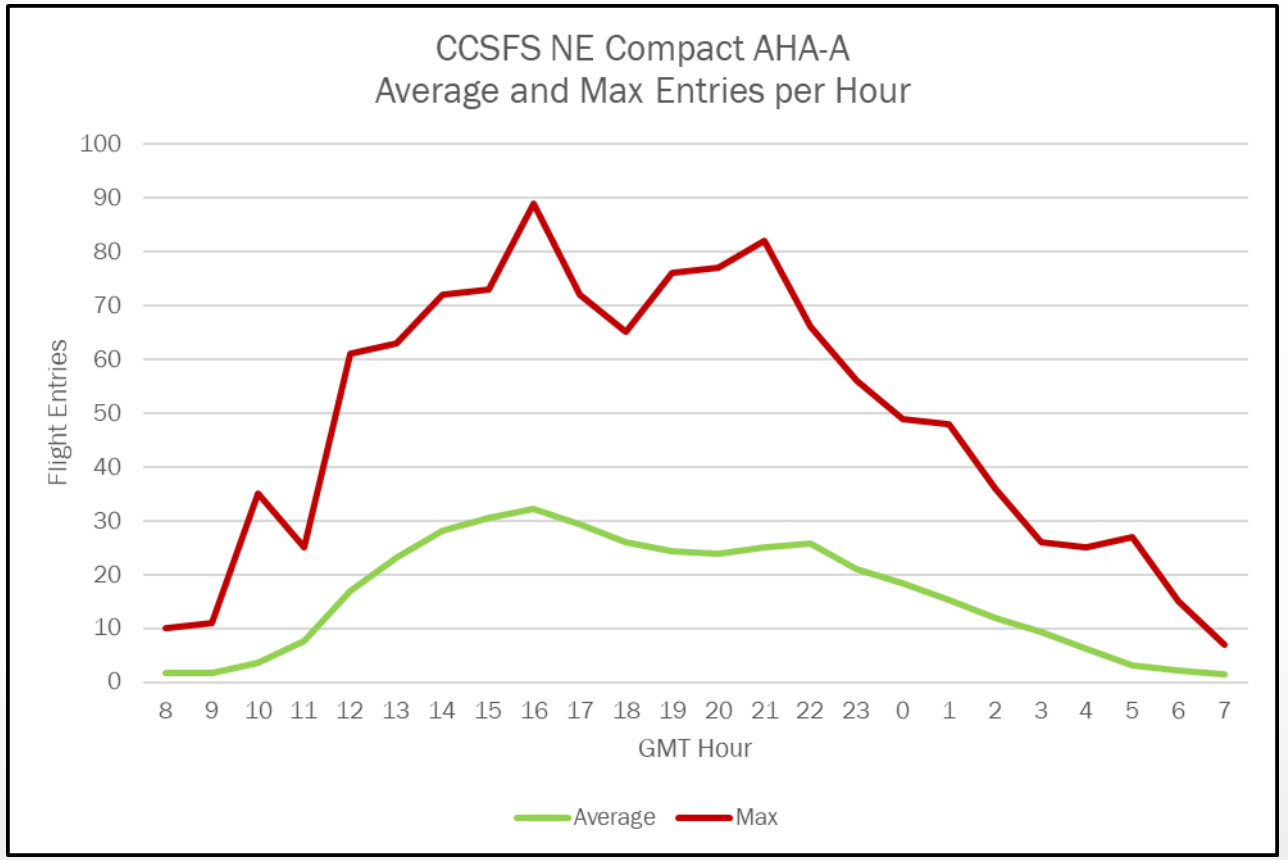
Time Range Shown: 03/27/2026 1500Z - 1600Z

NE Compact AHA-A

Weekday Averages

CCSFS NE Compact AHA-A

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	445	382	322	339	394	404	442
	Max	750	583	673	554	703	685	728
Peak Load	Average	8	8	7	7	8	8	8
	Max	15	14	11	13	12	19	14



Hourly Averages

CCSFS NE Compact AHA-A

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	2	2	4	8	17	23	28	31	32	29	26	24	24	25	26	21	18	15	12	9	6	3	2	2
	Max	10	11	35	25	61	63	72	73	89	72	65	76	77	82	66	56	49	48	36	26	25	27	15	7
Peak Load	Average	1	1	1	2	3	4	5	6	6	5	5	5	5	5	5	5	4	4	3	3	2	1	1	1
	Max	4	3	11	8	9	10	11	16	19	14	11	12	15	14	13	13	10	8	7	7	6	5	4	4

NE Compact AHA-A

Weekday Hourly Averages

CCSFS NE Compact AHA-A

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	2	1	8	1	9	1	20	25	32	1	35	1	37	34	1	32	31	27	28	27	24	20	16	13	9	6	3	2	2
	Max	5	4	11	22	61	63	68	61	67	72	65	76	77	65	66	56	45	37	36	20	16	8	9	4
Monday	Average	2	1	3	8	18	26	29	31	31	29	24	21	21	24	1	25	19	21	1	18	13	1	10	6	4	1	3	2	1
	Max	10	6	14	24	47	60	52	52	64	63	49	48	48	82	50	38	49	48	31	26	25	27	15	7
Tuesday	Average	2	1	2	4	1	7	14	20	1	24	25	26	24	21	18	19	21	22	18	19	16	13	1	9	6	3	2	1	2
	Max	8	7	10	21	40	56	72	51	56	72	56	52	40	50	51	36	41	37	31	22	21	11	8	4
Wednesday	Average	2	3	3	7	2	15	21	1	24	24	26	1	24	22	21	1	21	23	23	19	14	12	9	8	2	5	2	1	2	2
	Max	6	11	9	21	35	37	46	48	61	57	47	54	42	48	48	36	33	28	24	20	18	12	6	6
Thursday	Average	2	1	2	2	4	1	7	16	1	23	27	30	32	28	26	25	24	26	28	22	16	15	10	8	6	1	3	2	1
	Max	5	6	10	21	42	54	48	61	75	52	47	50	54	56	55	42	38	28	22	18	13	10	7	6
Friday	Average	2	2	4	7	16	1	22	27	32	1	34	31	27	26	26	27	29	22	19	15	13	11	7	4	2	2
	Max	7	6	9	16	35	49	50	73	89	68	48	57	56	53	61	53	40	28	27	25	20	11	7	6
Saturday	Average	2	2	1	4	1	9	19	26	34	37	40	35	1	30	29	28	27	27	23	20	16	13	11	7	1	3	2	1
	Max	5	6	35	25	43	60	67	72	64	63	58	69	63	67	57	46	46	40	22	24	17	13	9	4

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

2025 – Q1 2026 Launches: 38

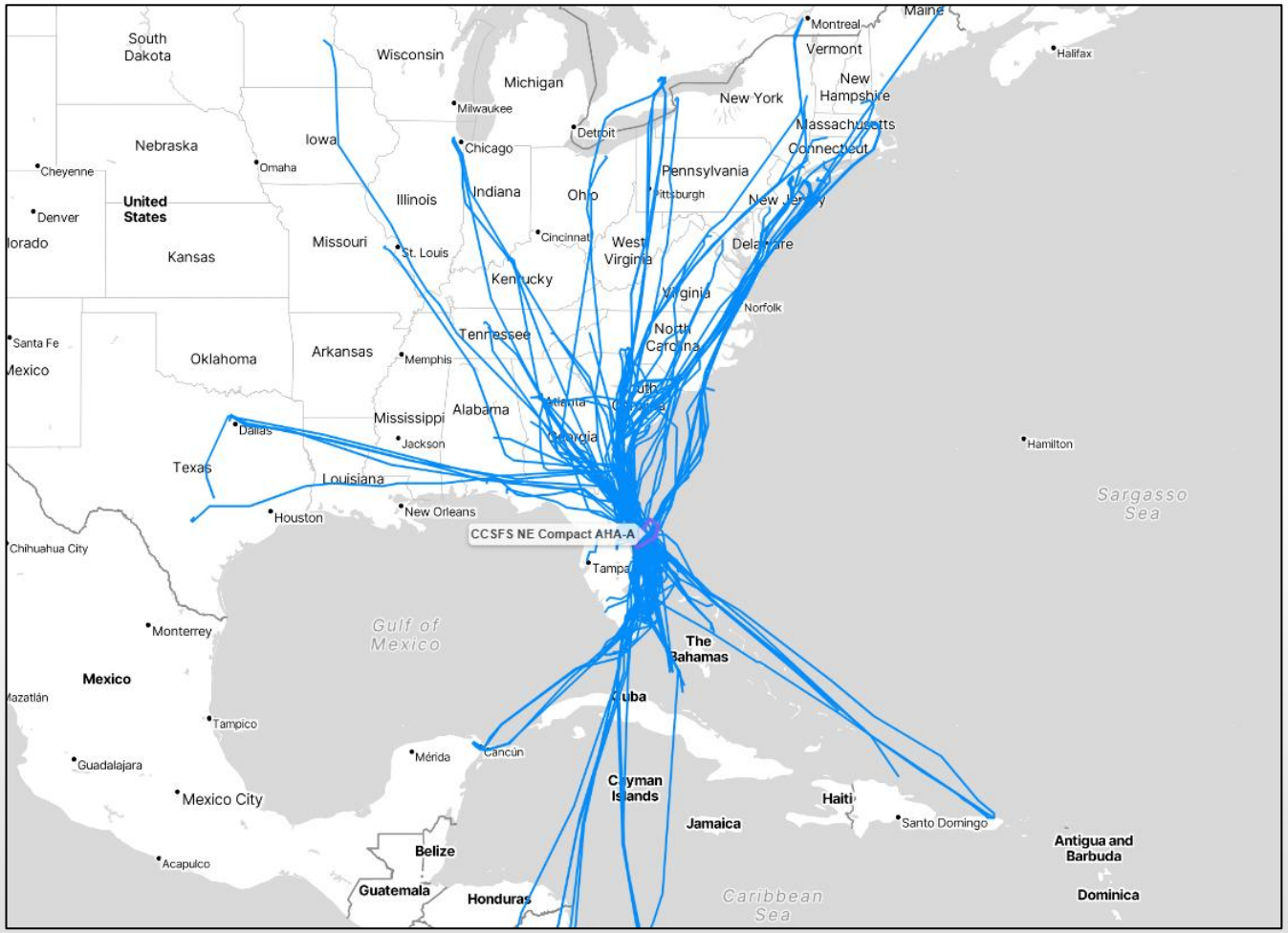
Launches During:

Low-Traffic Hours: 3 (7.9%)

High-Traffic Hours: 5 (13.2%)

NE Compact AHA-A

Sample Busy Hour Throughput



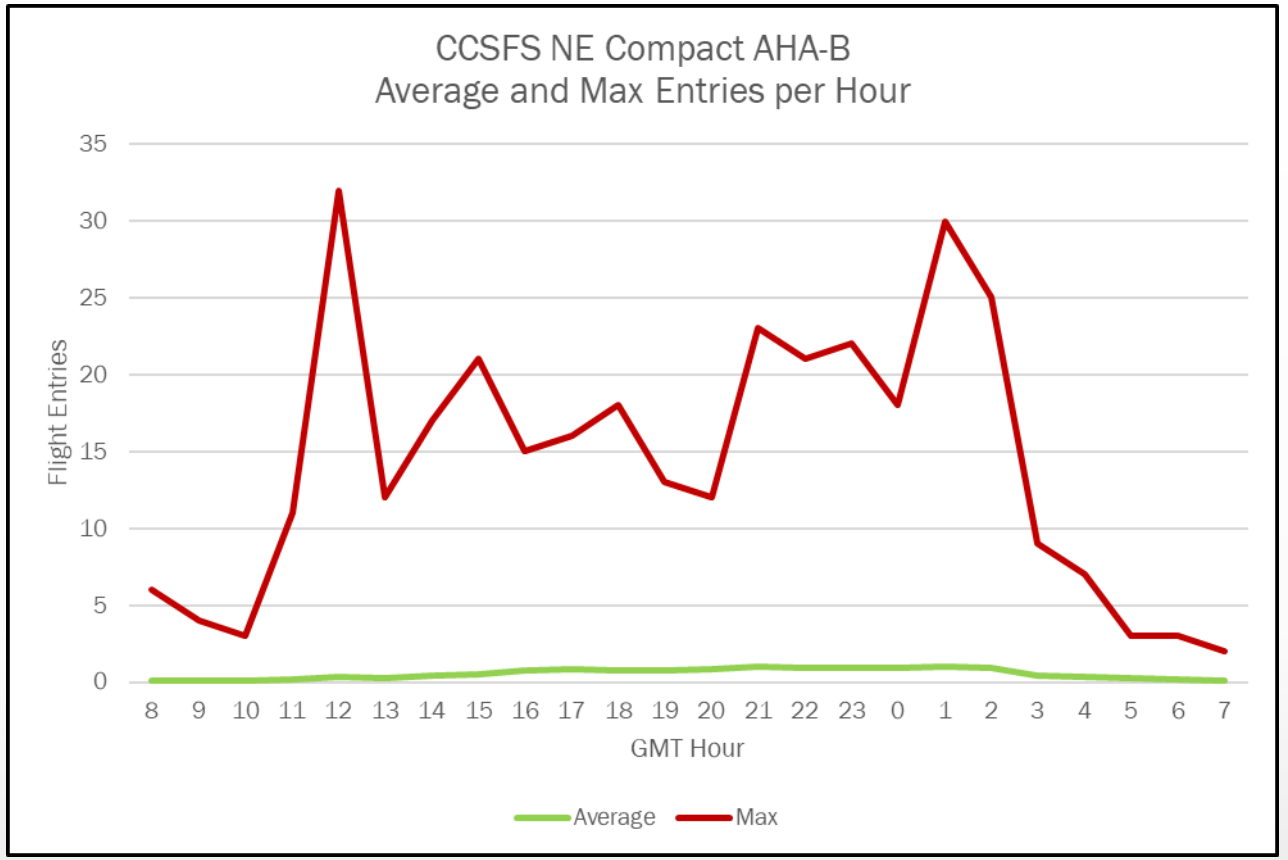
Time Range Shown: 08/22/2025 1600Z - 1700Z

NE Compact AHA-B

Weekday Averages

CCSFS NE Compact AHA-B

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	18	11	8	14	13	13	14
	Max	193	60	35	92	70	155	120
Peak Load	Average	3	2	2	2	2	2	2
	Max	14	10	6	9	7	10	7



Hourly Averages

CCSFS NE Compact AHA-B

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
	Max	6	4	3	11	32	12	17	21	15	16	18	13	12	23	21	22	18	30	25	9	7	3	3	2
Peak Load	Average	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
	Max	2	2	2	8	14	6	6	9	8	10	8	9	7	10	10	7	8	10	9	7	5	3	2	2

NE Compact AHA-B

Weekday Hourly Averages

CCSFS NE Compact AHA-B

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	0	0	8	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0
	Max	6	4	2	11	32	12	17	21	15	15	18	10	8	14	13	22	14	10	14	9	7	2	2	2
Monday	Average	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	1	1	0	0	0	0
	Max	2	2	2	2	4	4	4	4	3	4	5	9	7	8	10	4	18	30	25	4	7	3	3	1
Tuesday	Average	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	0	0	0	0
	Max	1	1	1	2	2	4	2	2	6	3	2	3	4	13	5	11	5	7	8	5	3	2	1	2
Wednesday	Average	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	Max	2	1	2	6	8	3	4	3	4	12	10	9	8	15	14	14	7	7	4	2	4	2	2	2
Thursday	Average	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
	Max	1	2	1	1	2	2	6	9	12	16	14	8	5	4	10	9	13	16	21	3	4	2	3	1
Friday	Average	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
	Max	2	1	2	2	1	1	3	4	14	13	15	13	12	23	21	16	12	28	12	9	2	3	2	2
Saturday	Average	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	1
	Max	1	2	3	1	4	3	6	7	7	8	8	8	8	16	6	7	14	11	12	5	2	2	2	2

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

2025 – Q1 2026 Launches: 38

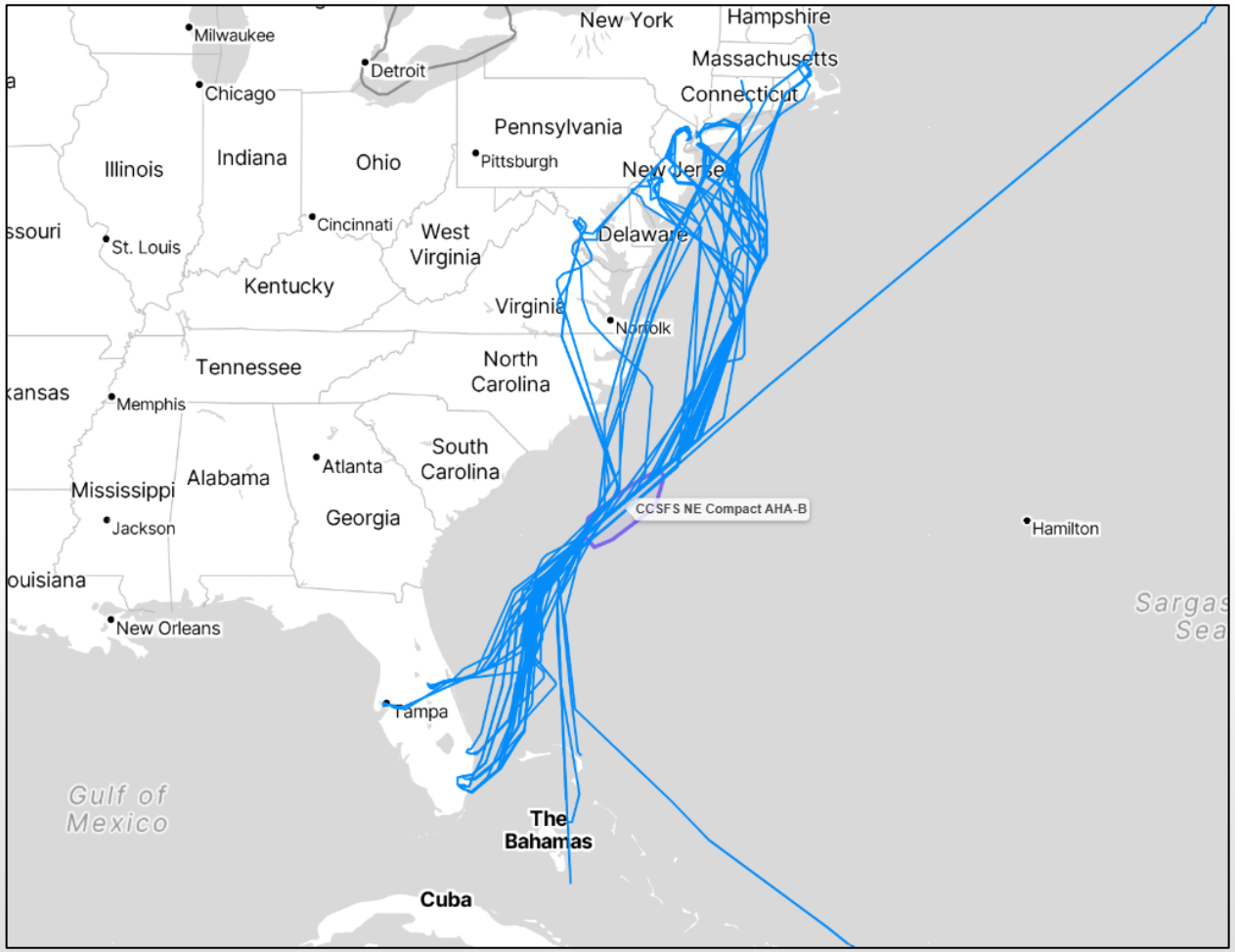
Launches During:

Low-Traffic Hours: 7 (18.4%)

High-Traffic Hours: 4 (10.5%)

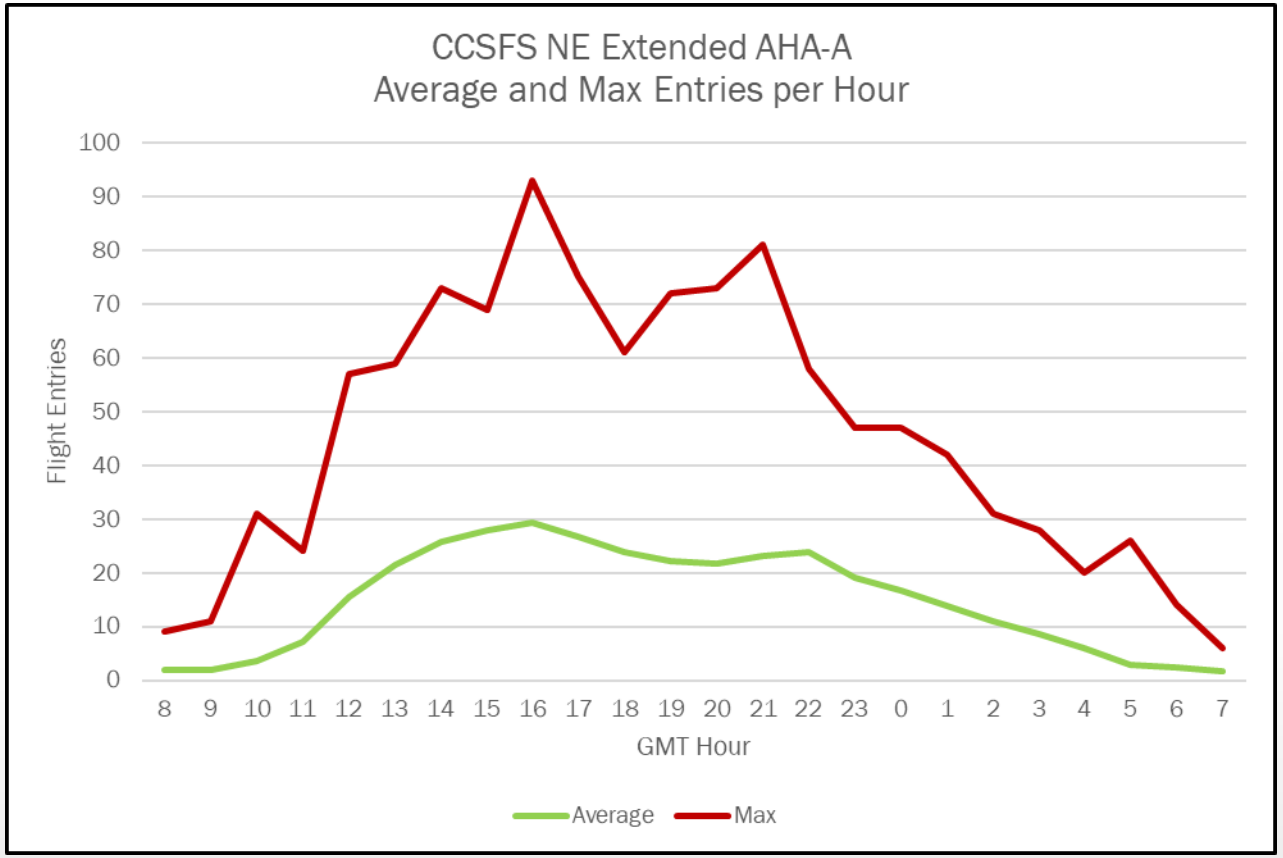
NE Compact AHA-B

Sample Busy Hour Throughput



Time Range Shown: 05/11/2025 1200Z - 1300Z

NE Extended AHA-A



Weekday Averages

CCSFS NE Extended AHA-A

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	411	351	295	309	362	371	409
	Max	697	550	639	499	674	645	694
Peak Load	Average	7	7	7	7	7	8	8
	Max	14	15	12	13	11	18	14

Hourly Averages

CCSFS NE Extended AHA-A

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	2	2	4	7	16	22	26	28	29	27	24	22	22	23	24	19	17	14	11	9	6	3	2	2
	Max	9	11	31	24	57	59	73	69	93	75	61	72	73	81	58	47	47	42	31	28	20	26	14	6
Peak Load	Average	1	1	1	2	3	4	5	5	6	5	5	5	5	5	5	4	4	3	3	3	2	1	1	1
	Max	4	3	11	7	11	10	12	15	18	14	11	10	14	15	12	13	10	8	8	7	6	5	4	4

NE Extended AHA-A

Weekday Hourly Averages

CCSFS NE Extended AHA-A

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	2	1	8	8	18	24	29	32	34	31	30	28	25	26	26	21	18	15	11	8	5	3	2	2
	Max	5	5	12	24	57	59	60	58	60	75	61	72	73	63	51	47	42	37	29	19	14	8	8	5
Monday	Average	2	2	3	8	17	23	27	28	28	26	22	19	19	22	22	17	19	16	12	10	6	4	3	2
	Max	9	6	12	22	53	59	48	48	62	66	49	49	42	81	50	35	47	41	31	28	20	26	14	6
Tuesday	Average	2	2	4	7	13	19	22	23	23	22	18	17	18	19	20	16	17	14	12	9	6	3	2	2
	Max	8	6	10	18	36	49	73	48	46	73	51	48	41	41	52	39	43	38	29	20	19	11	7	4
Wednesday	Average	2	3	3	6	13	19	22	22	23	22	20	19	19	21	21	17	13	11	9	7	5	2	2	2
	Max	6	11	8	19	31	35	41	43	58	57	43	51	38	46	45	32	28	25	23	18	18	13	6	6
Thursday	Average	2	2	4	7	14	21	24	27	29	25	24	23	22	24	26	21	14	13	10	8	6	3	2	2
	Max	5	6	10	17	40	53	43	58	71	50	47	45	50	53	53	42	36	26	22	18	13	8	7	6
Friday	Average	2	2	4	7	15	20	25	29	31	28	25	23	23	24	27	20	17	13	12	10	7	3	3	2
	Max	7	6	9	15	30	44	46	59	93	64	46	59	51	51	58	45	40	42	25	23	18	9	7	6
Saturday	Average	2	2	4	9	18	24	32	35	37	32	28	27	26	25	25	21	18	14	12	10	6	3	2	1
	Max	5	6	31	24	43	55	60	69	62	58	55	60	65	64	54	42	44	31	22	22	15	13	9	5

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

2025 – Q1 2026 Launches: 5

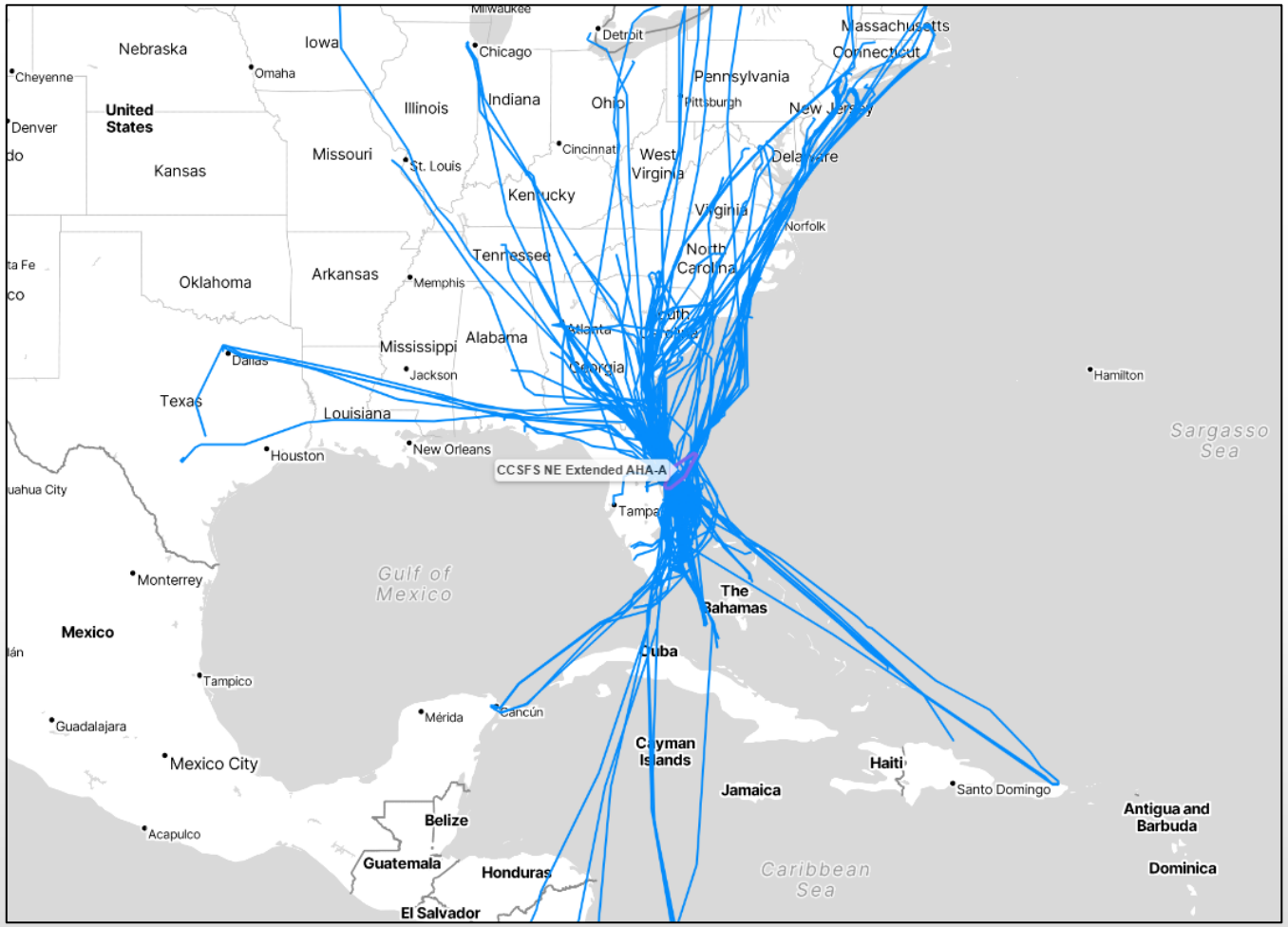
Launches During:

Low-Traffic Hours: 0 (0.0%)

High-Traffic Hours: 0 (0.0%)

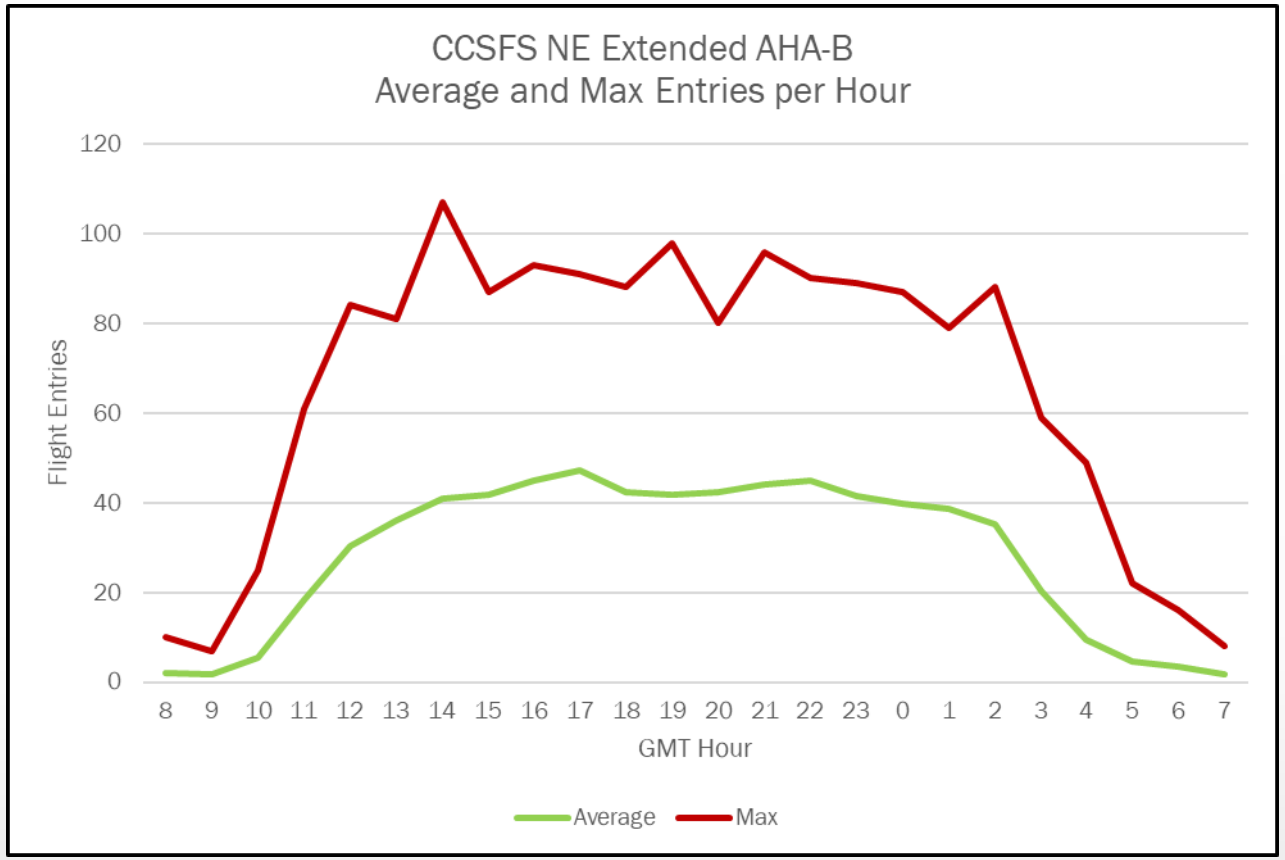
NE Extended AHA-A

Sample Busy Hour Throughput



Time Range Shown: 08/22/2025 1600Z - 1700Z

NE Extended AHA-B



Weekday Averages

CCSFS NE Extended AHA-B

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	710	669	628	651	699	713	688
	Max	1200	1168	949	944	1092	1008	1052
Peak Load	Average	10	10	10	10	11	11	10
	Max	18	14	17	16	16	15	14

Hourly Averages

CCSFS NE Extended AHA-B

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	2	2	5	18	30	36	41	42	45	47	42	42	42	44	45	42	40	39	35	20	10	5	3	2
	Max	10	7	25	61	84	81	107	87	93	91	88	98	80	96	90	89	87	79	88	59	49	22	16	8
Peak Load	Average	1	1	2	5	6	7	7	7	8	8	7	7	7	7	8	7	7	7	6	5	3	2	1	1
	Max	4	3	8	14	13	13	14	17	15	15	18	16	14	14	16	14	14	13	14	11	8	6	5	4

NE Extended AHA-B

Weekday Hourly Averages

CCSFS NE Extended AHA-B (a "1" with a rocket icon marks a launch in that hour)

Day	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	2	2	8	20	32	36	41	43	47	49	45	45	45	46	48	45	40	38	33	19	11	5	3	2
Sunday	Max	7	5	22	61	84	81	107	84	93	91	88	86	80	77	90	89	67	68	60	48	40	17	12	7
Monday	Average	2	2	5 (1)	16	29	35	40	40	42	44	41	40	41	46	46	42 (1)	42	40	35	21	10	5	4	2
Monday	Max	10	6	21	54	79	71	77	76	84	89	83	74	72	96	84	68	87	66	88	50	37	18	14	8
Tuesday	Average	2 (1)	2	5	18	29	35	39	39	41	44	41	38	39	40	40	37	40	39	37	22	10	5	4	2
Tuesday	Max	5	7	18	45	66	65	77	87	88	78	74	61	64	70	70	65	83	76	64	59	49	22	16	6
Wednesday	Average	2	2	5	18	30	37	41	41	43	46	40	40	40	43	43	38	37	35	32	18	8	3	3	2
Wednesday	Max	8	6	17	51	61	71	71	71	76	80	72	70	65	67	76	65	61	65	66	45	34	9	8	6
Thursday	Average	2	2	6	19	31 (1)	37	42	42	45	49	43	42	43	45	46	43	37	37	33	17	8	4	3	2
Thursday	Max	6	6	25	51	61	66	77	76	75	87	84	98	79	74	85	78	67	63	65	54	25	11	9	8
Friday	Average	3	2	6	18	30	36	41	44	49	50	44	45	46	46	47	44	42	40	38	23 (1)	10	5	4	2
Friday	Max	7	5	19	49	59	63	73	87	85	88	79	71	77	72	80	73	74	65	63	54	25	14	10	7
Saturday	Average	2	2	5	20	32	37	42	45	47	49	42	43	42	44	44	42	41	41	37	23	10	5	4	1
Saturday	Max	5	6	18	48	68	75	75	73	89	81	71	92	77	70	73	72	73	79	67	48	30	16	10	7

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

2025 – Q1 2026 Launches: 5

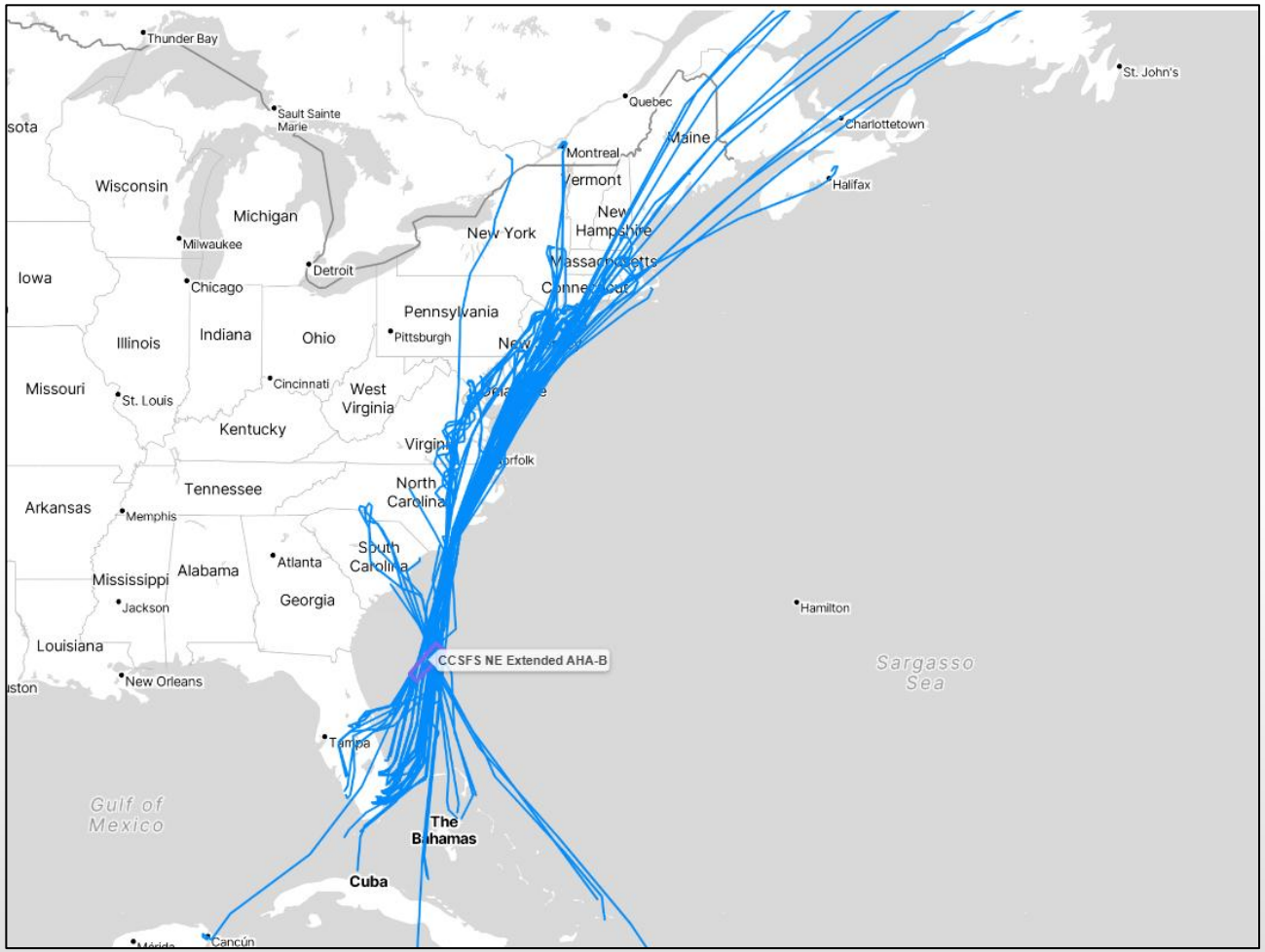
Launches During:

Low-Traffic Hours: 1 (20.0%)

High-Traffic Hours: 0 (0.0%)

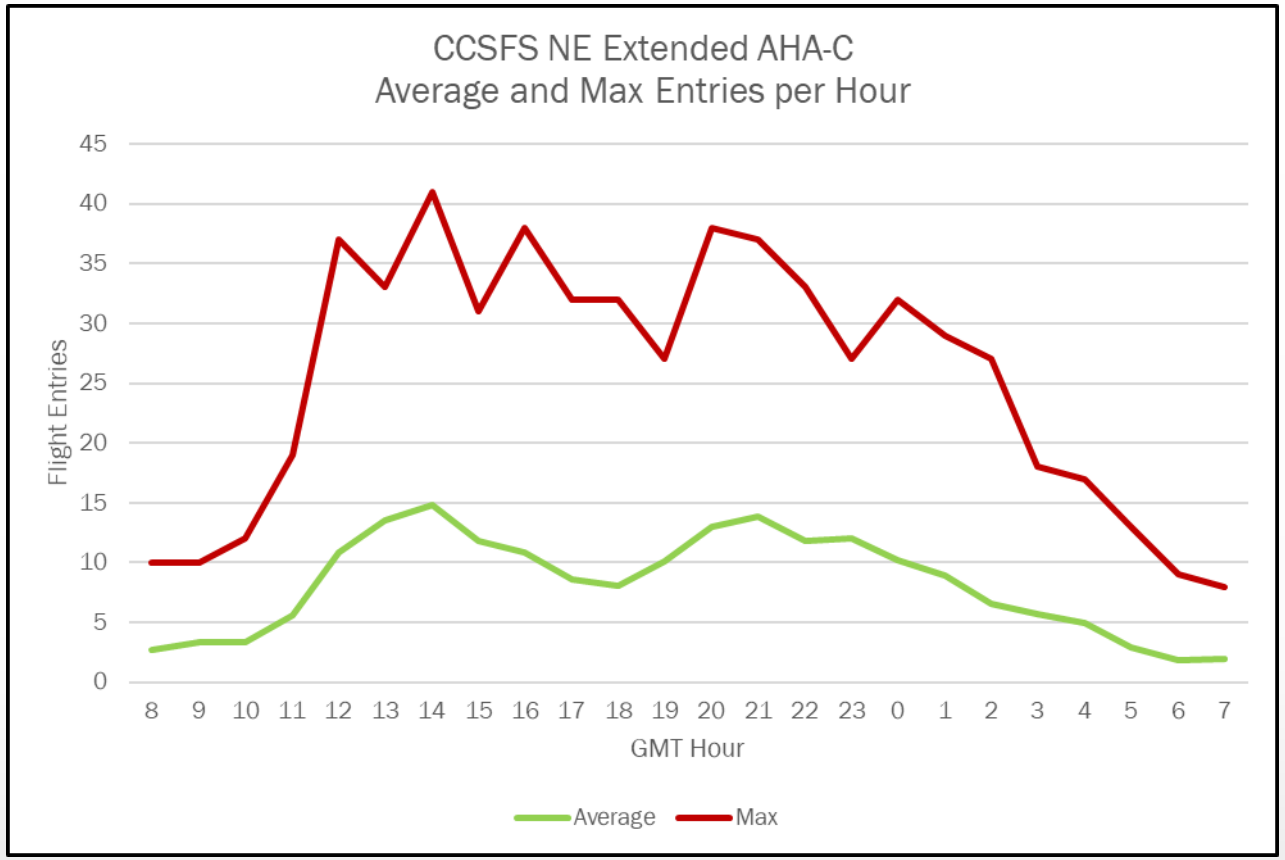
NE Extended AHA-B

Sample Busy Hour Throughput



Time Range Shown: 02/23/2025 1800Z - 1900Z

NE Extended AHA-C



Weekday Averages

CCSFS NE Extended AHA-C

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	216	191	177	177	186	206	230
	Max	376	377	298	304	319	399	369
Peak Load	Average	6	6	6	6	7	7	7
	Max	14	10	10	14	13	16	12

Hourly Averages

CCSFS NE Extended AHA-C

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	3	3	3	6	11	14	15	12	11	9	8	10	13	14	12	12	10	9	7	6	5	3	2	2
	Max	10	10	12	19	37	33	41	31	38	32	32	27	38	37	33	27	32	29	27	18	17	13	9	8
Peak Load	Average	1	2	2	2	4	4	4	4	4	3	3	4	4	4	4	4	4	3	3	2	2	2	1	1
	Max	4	5	6	7	12	9	11	10	14	16	15	11	12	15	12	11	11	13	11	6	6	4	4	4

NE Extended AHA-C

Weekday Hourly Averages

CCSFS NE Extended AHA-C

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	3	4	8	6	12	14	15	13	12	10	9	12	14	15	13	13	13	11	8	6	6	3	2	2
	Max	7	9	9	14	37	31	41	30	38	21	23	22	28	29	28	25	27	24	20	16	11	9	8	6
Monday	Average	3	4	4	5	11	13	14	12	11	9	8	10	13	13	10	11	11	9	8	6	5	4	2	3
	Max	10	10	12	13	23	27	30	25	21	19	16	27	29	27	24	23	32	19	27	15	15	13	8	7
Tuesday	Average	2	3	3	5	9	13	14	11	11	8	6	9	12	13	11	11	9	8	6	5	4	3	2	2
	Max	7	8	9	16	18	30	31	24	25	19	13	18	26	24	24	21	26	22	18	18	11	9	5	8
Wednesday	Average	3	3	3	5	9	12	14	10	10	7	7	9	12	13	11	10	9	7	6	5	4	2	1	2
	Max	6	9	8	15	24	27	27	25	23	24	18	26	28	30	26	20	23	23	12	10	12	10	9	6
Thursday	Average	2	3	3	5	9	12	14	11	10	8	8	8	12	13	11	12	10	8	6	5	4	2	1	2
	Max	5	8	10	11	22	24	26	22	29	31	32	17	22	25	33	27	25	23	15	11	12	7	5	6
Friday	Average	3	3	3	6	12	14	16	13	11	10	8	10	13	14	12	13	9	10	7	6	5	3	2	2
	Max	9	9	8	19	24	32	31	31	26	32	29	22	38	37	26	27	21	29	18	14	12	10	6	7
Saturday	Average	3	4	4	7	14	16	17	12	11	9	10	12	16	16	14	14	10	9	7	6	5	3	2	1
	Max	9	8	10	16	28	33	34	28	22	24	20	23	31	37	31	25	21	20	16	11	17	8	8	6

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

2025 – Q1 2026 Launches: 5

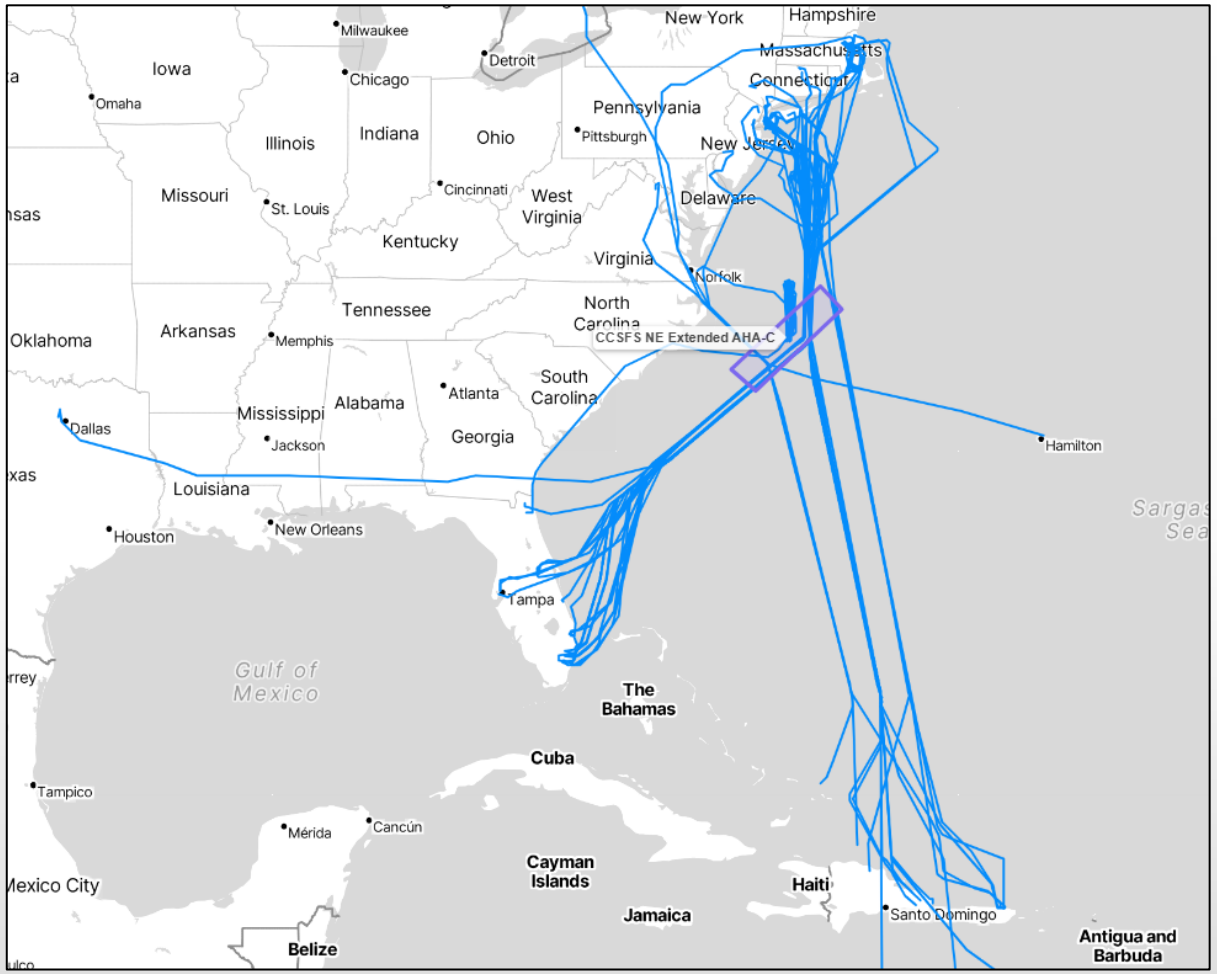
Launches During:

Low-Traffic Hours: 1 (20.0%)

High-Traffic Hours: 0 (0.0%)

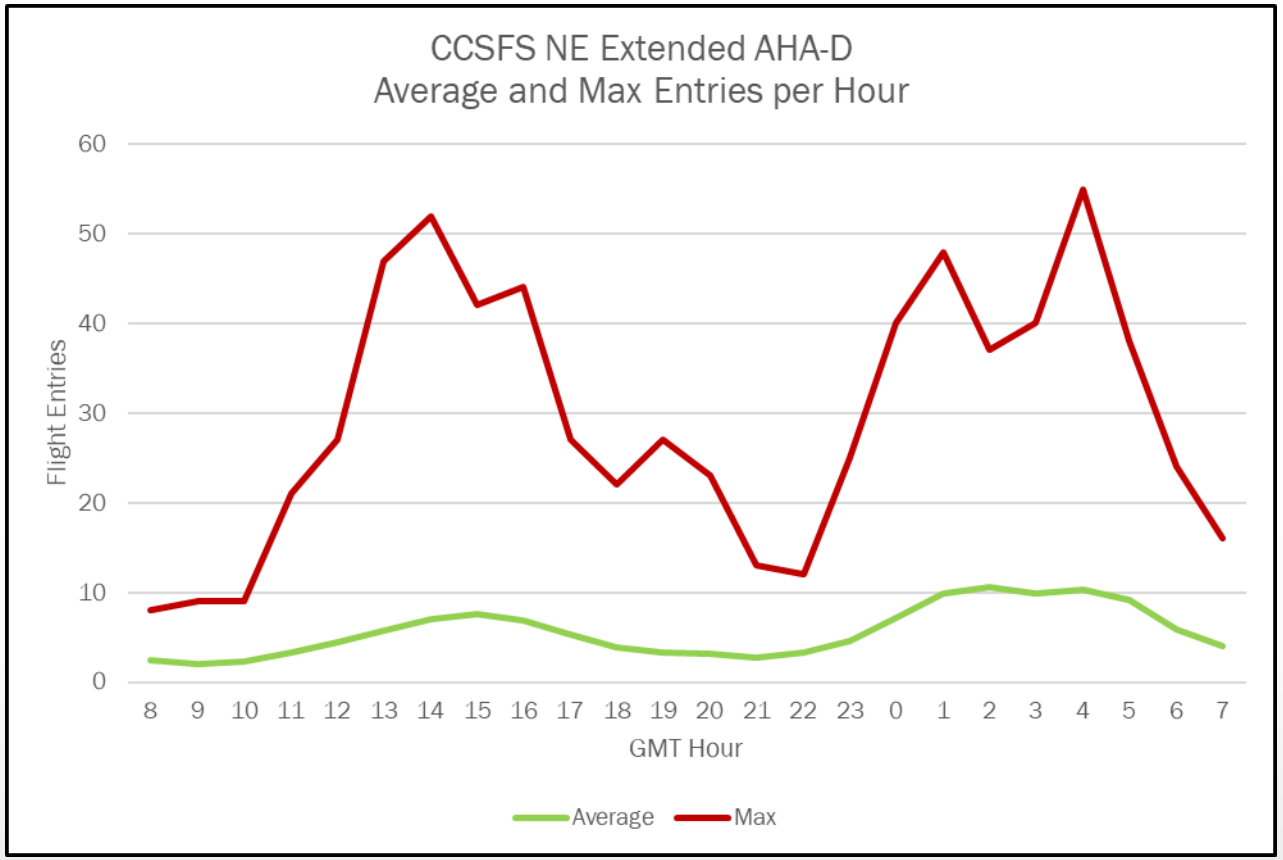
NE Extended AHA-C

Sample Busy Hour Throughput



Time Range Shown: 05/16/2025 1700Z - 1800Z

NE Extended AHA-D



Weekday Averages

CCSFS NE Extended AHA-D

	Hour (Z)	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Total Entries	Average	132	129	142	141	133	132	138
	Max	321	361	359	309	332	278	386
Peak Load	Average	8	8	8	9	8	8	8
	Max	18	22	22	19	19	17	18

Hourly Averages

CCSFS NE Extended AHA-D

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Total Entries	Average	2	2	2	3	5	6	7	8	7	5	4	3	3	3	3	5	7	10	11	10	10	9	6	4
	Max	8	9	9	21	27	47	52	42	44	27	22	27	23	13	12	25	40	48	37	40	55	38	24	16
Peak Load	Average	2	2	2	2	3	3	4	4	4	3	3	2	2	2	2	3	4	5	6	5	5	5	4	3
	Max	5	7	5	11	15	20	22	22	22	17	16	17	13	9	8	10	12	16	16	15	16	15	11	9

NE Extended AHA-D

Weekday Hourly Averages

CCSFS NE Extended AHA-D

	Hour (Z)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	0	1	2	3	4	5	6	7
Sunday	Average	3	2	8	3	4	5	7	8	7	6	4	4	4	3	4	5	7	11	11	10	10	9	6	4
	Max	8	8	8	11	20	29	36	37	37	25	16	19	17	12	10	19	37	34	34	34	34	25	13	11
Monday	Average	2	2	3	3	4	5	6	7	7	5	4	4	3	3	3	4	6	9	9	8	9	9	6	4
	Max	8	9	9	21	27	32	52	41	37	27	22	27	23	12	9	16	22	24	25	25	26	20	17	11
Tuesday	Average	2	2	2	4	5	6	8	8	8	5	3	3	3	2	3	5	7	9	10	9	10	9	6	4
	Max	7	6	7	18	19	47	40	37	44	22	20	19	15	8	8	25	18	32	25	23	34	20	16	13
Wednesday	Average	2	2	3	4	5	6	7	7	7	5	4	3	3	2	3	5	9	11	11	11	12	9	6	4
	Max	8	7	8	15	27	26	32	29	32	19	18	19	16	9	12	21	36	45	37	40	55	23	22	16
Thursday	Average	3	2	3	4	5	5	7	7	6	5	4	3	3	3	3	4	7	11	12	11	11	11	7	5
	Max	8	9	9	19	26	31	33	30	27	20	12	12	11	9	10	23	29	42	30	29	31	38	24	16
Friday	Average	2	2	2	3	5	6	7	8	7	6	4	3	3	3	3	4	7	10	11	10	11	8	5	4
	Max	8	8	9	13	16	23	30	29	29	20	16	20	11	8	11	18	40	48	33	36	40	31	16	12
Saturday	Average	2	2	2	3	4	6	8	8	7	5	4	4	3	3	4	5	7	9	11	9	10	9	6	1
	Max	6	5	6	13	19	31	32	42	32	22	18	15	14	13	11	16	29	38	34	31	33	26	18	11

Top 10 and Bottom 10 values highlighted to identify most optimal/sub-optimal launch times

2025 – Q1 2026 Launches: 5

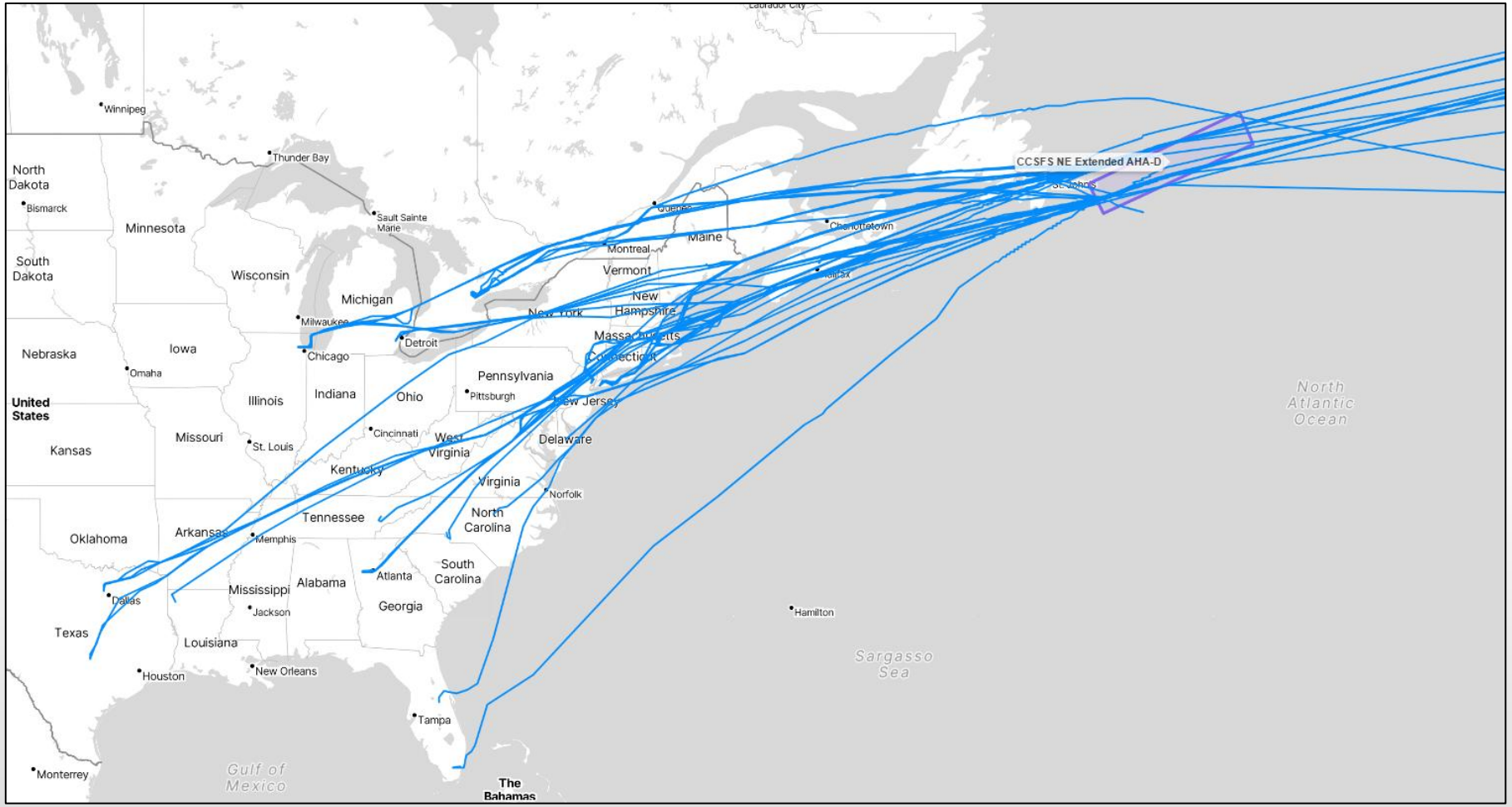
Launches During:

Low-Traffic Hours: 0 (0.0%)

High-Traffic Hours: 0 (0.0%)

NE Extended AHA-D

Sample Busy Hour Throughput



Time Range Shown: 08/11/2025 1400Z - 1500Z

SpORT Update

SpORT Update

- High-level requirements are complete, and low-level requirements are continuously being refined throughout development.
- Plan for API integration to streamline processes.
- In discussions with LEAP (AST Portal) for possible collaboration.
- Development has started “Sprints”.
  - User Interface mockups have been shared, with modifications being made throughout additional sprints.

SpORT Update – Feedback Plan

- SpORT mock-up/demo at ESC meeting September 9.
- Begin user testing with the ESC operators Fall of 2026.
- By January 2027, ATO Space Operations to begin working with operators on requirements for API connectivity.
- Additional testing with ESC operators Spring 2027.
- Next step: API connectivity with ESC operators.

Brand New Air Traffic Control System (BNATCS)

By the Numbers- Phase 1

- **5,170** new high speed network connections on fiber, satellite, and wireless
- **27,625** new radios
- **462** new digital voice switches
- **612** state of the art radars
- **44** airports will have new replacement surface radars
- **200** airports will have Surface Awareness Initiative surveillance technology
- **89** airports will have new Terminal Flight Data Manager tools
- **435** air traffic control towers will have new Enterprise Information Display Systems
- **113** air traffic control towers will have new Tower Simulation Systems
- **110** additional weather stations in Alaska
- **64** more weather camera sites in Alaska

Peraton

- **An initial Integrated Master Schedule (IMS) has been submitted and is under review**

Other News

- **Four programs added to BNATCS umbrella**
  - NAS Trusted Enhanced SWIM Cloud Services (ESCS)
  - SMART (Strategic Management of Airspace, Routes & Trajectories)
  - Common Automation Platform (CAP)
  - Major Airspace Redesign

- **Website for the Public**
  - https://modernskies.faa.gov/

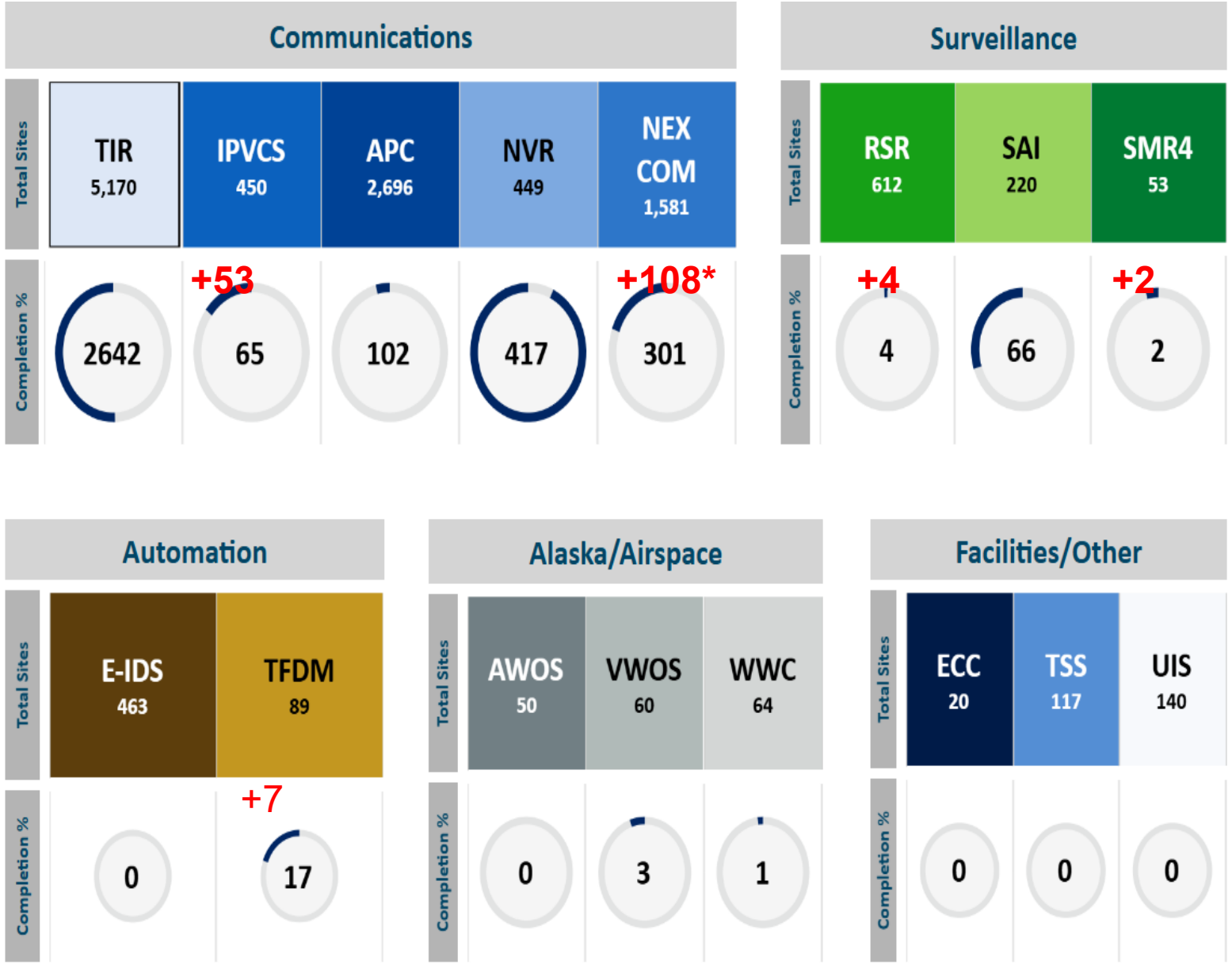
BNATCS Implementation Team Members

Service Unit	POC(s)
AJI	Timothy Evans
AJV/G	Stephanie Crocker
AJM	Allan Schock
AJW	Thomas Waldron – Team Lead
AJR	Felicia McIntyre Richard Ditto
AJT	Miles Magnuson Mike Schmidt
AJF	Sean Dudgeon
NATCA	Daniel Hamilton
Airports	Kimberly Noonan
RA	Shawn Kozica
AOC	Lindsay Aaronson

Implementation Team Role

The BNATCS Implementation Team is comprised of subject matter experts whose primary role is to support ATC modernization programs, ensuring service unit priorities and policies are considered. The Implementation Team is expected to:

- Serve as a liaison between the Integrator, program implementation teams, and service unit leadership
- Ensure program activities align with ATO strategy
- Ensure continuity of operations during implementation
- Assist Integrator with risk management
- Assist with coordination across multiple teams and stakeholders
- Monitor and report progress, ensure compliance with policies and standards
- Track dependencies and remove barriers



TIR	Telecommunication Infrastructure Replacement
SBSS	Surveillance Broadcast Services
IPVCS	Internet Protocol Voice Communication System-Voice Switch
APC	Air to Ground Protocol Converter
NVR	NAS Voice Recorder
ACLSS	Airport Cable Loop System Sustain
NEXCOM	Next Generation Air/Ground Communications Radios *Counts have changed from # radios to # sites
RID	Runway Incursion Device
RSR	Radar System Replacement
SAI	Surface Awareness Initiative
SMR	Surface Movement Radar
E-IDS	Enterprise Information Display System
FMDS	Flow Management Data and Services
TFDM	Terminal Flight Data Manager
AWOS	Automated Weather Observing System
VWOS	Visual Weather Observation System
WEATHER CAMERA	Weather Camera
TSS	Tower Simulation System
ECC	Enterprise Common Console

FIFA Men’s World Cup 2026

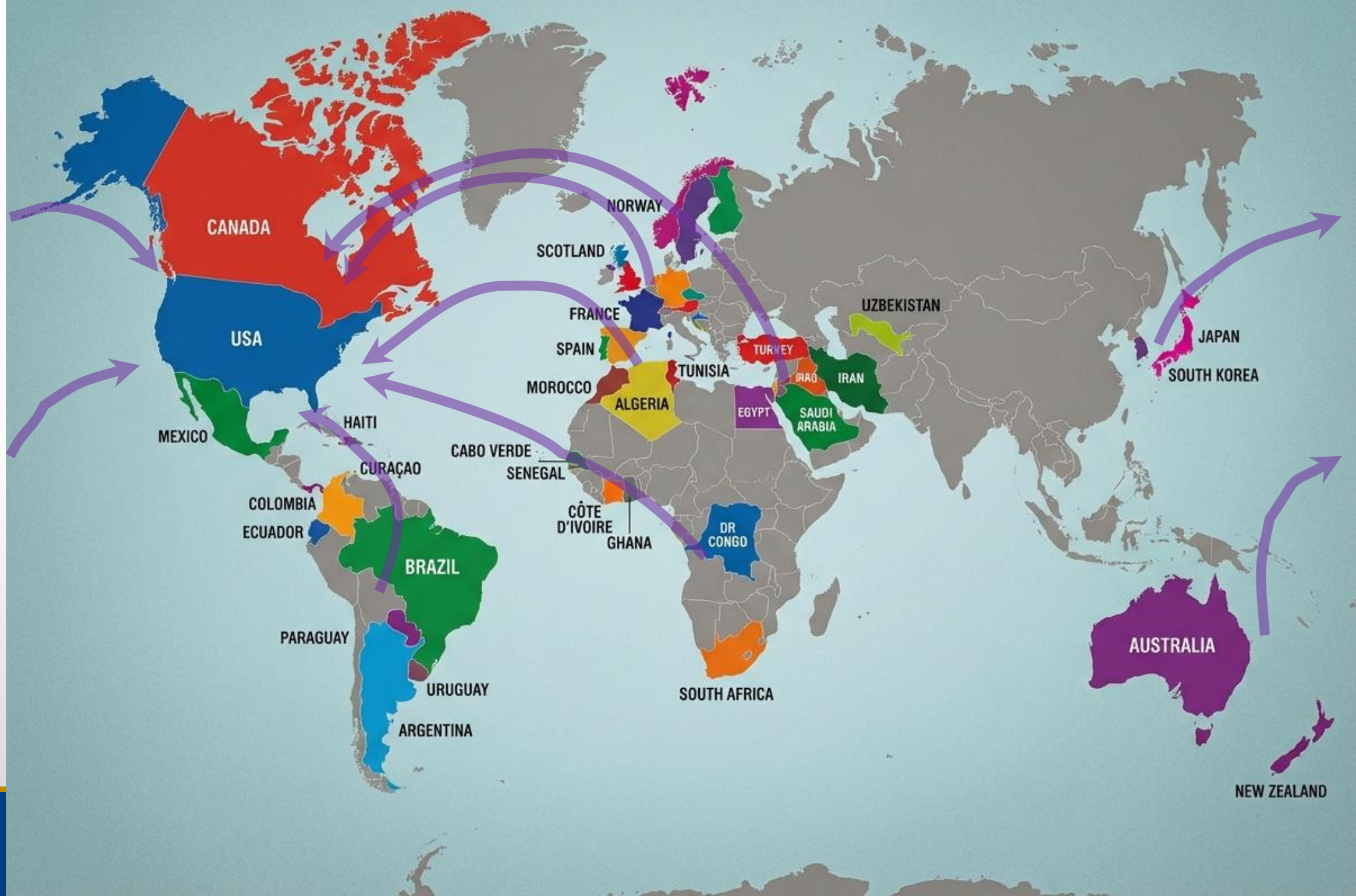
2026 Men's World Cup

- June 11 – July 19, 2026
- 48 Teams
- 16 Stadiums
- 3 Countries

FIFA World Cup 2026 Countries

- The 2026 World Cup will take place in three North American countries: Canada, Mexico and the United States.
- This will be the first time that the tournament is hosted by three different nations. Total of 16 venues used as host cities for the 2026 World Cup. Canada - 2, Mexico – 3, US - 11.
- 2026 World Cup will debut an expanded format featuring 48 teams, as opposed to the previous 32, split into 12 groups of 4.

Countries and major flows



FIFA World Cup 2026

FIFA World Cup 2026 Host Cities

Canada

- ✓Toronto – BMO Field
- ✓Vancouver – BC Place

Mexico

- ✓ Guadalajara – Estadio Akron
- ✓ Mexico City – Estadio Azteca
- ✓ Monterrey – Estadio BBVA

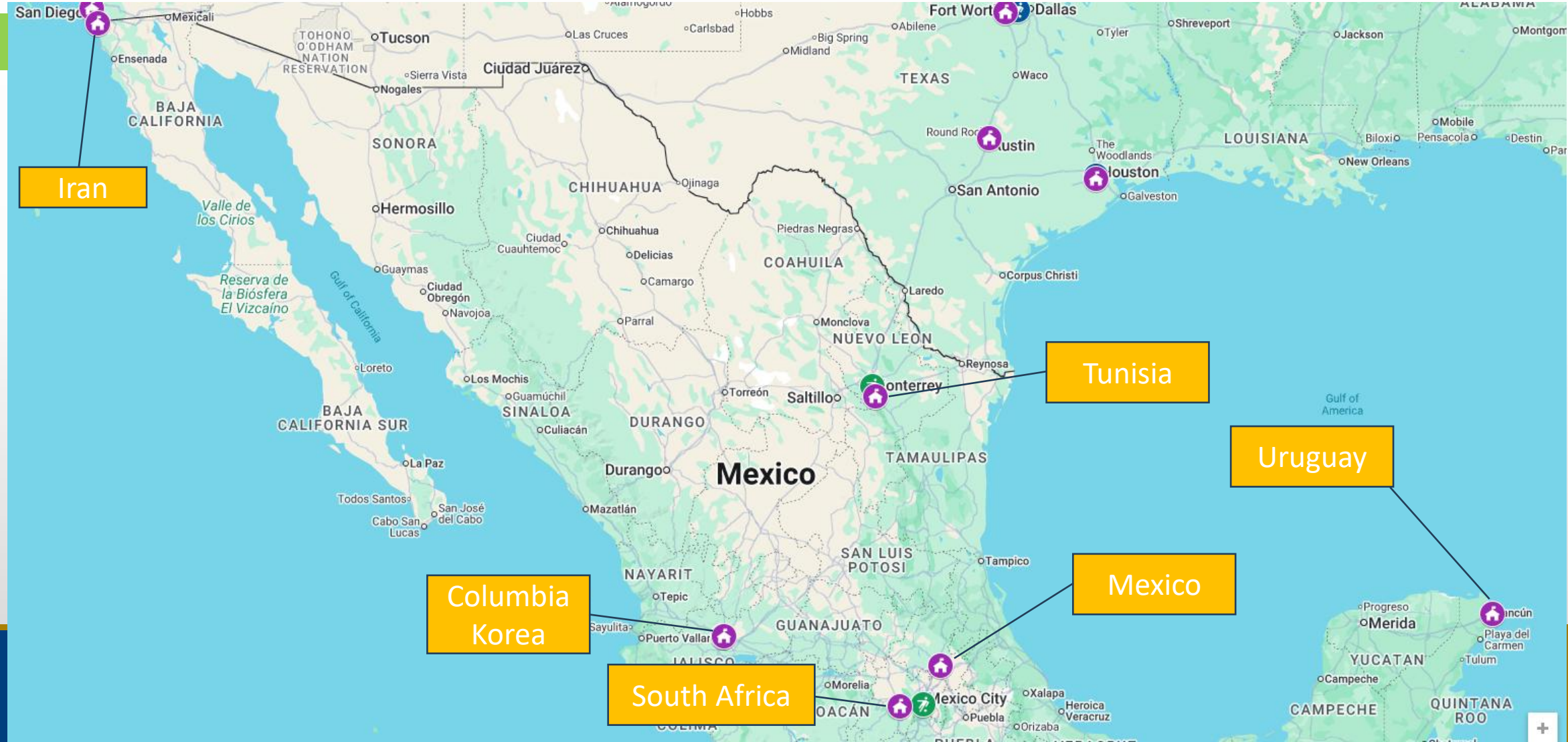
USA

- ✓ Atlanta – Mercedes-Benz Stadium
- ✓ Boston – Gillette Stadium
- ✓ Dallas – AT&T Stadium
- ✓ Houston – NRG Stadium
- ✓ Kansas City – Arrowhead Stadium
- ✓ Los Angeles – SoFi Stadium
- ✓ Miami – Hard Rock Stadium
- ✓ New York/New Jersey – MetLife Stadium
- ✓ Philadelphia – Lincoln Financial Field
- ✓ San Francisco – Levi's Stadium
- ✓ Seattle – Lumen Field

Game locations and Team Base Camps

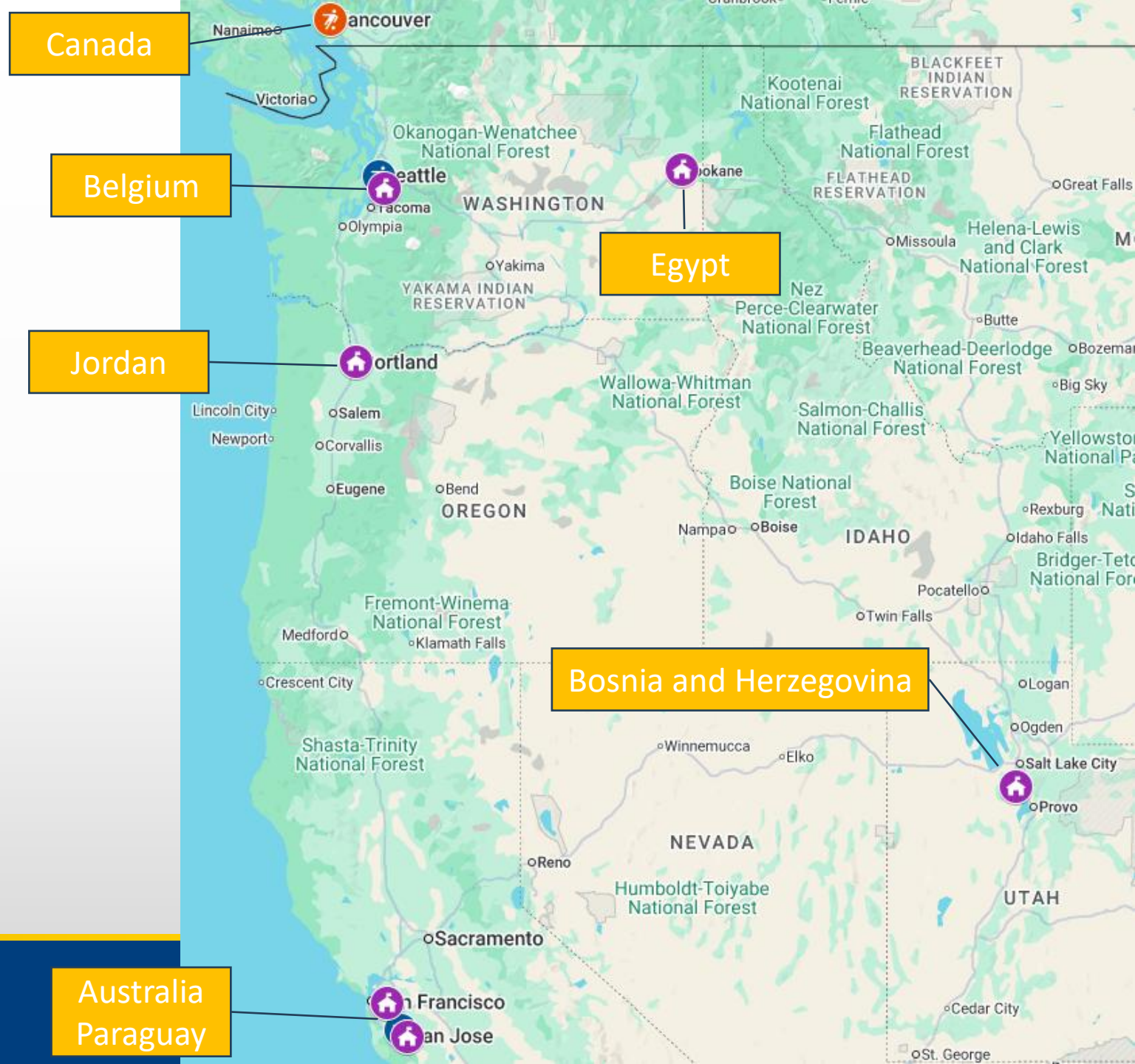
Team Base Camp (TBC) training sites are the "home away from home" for the participating teams. They will spend a large majority of their time during the pool play at their base camp.
FIFA will transport teams from TBC to game locations via charter flights. Maps are by regions within North America

Mexico



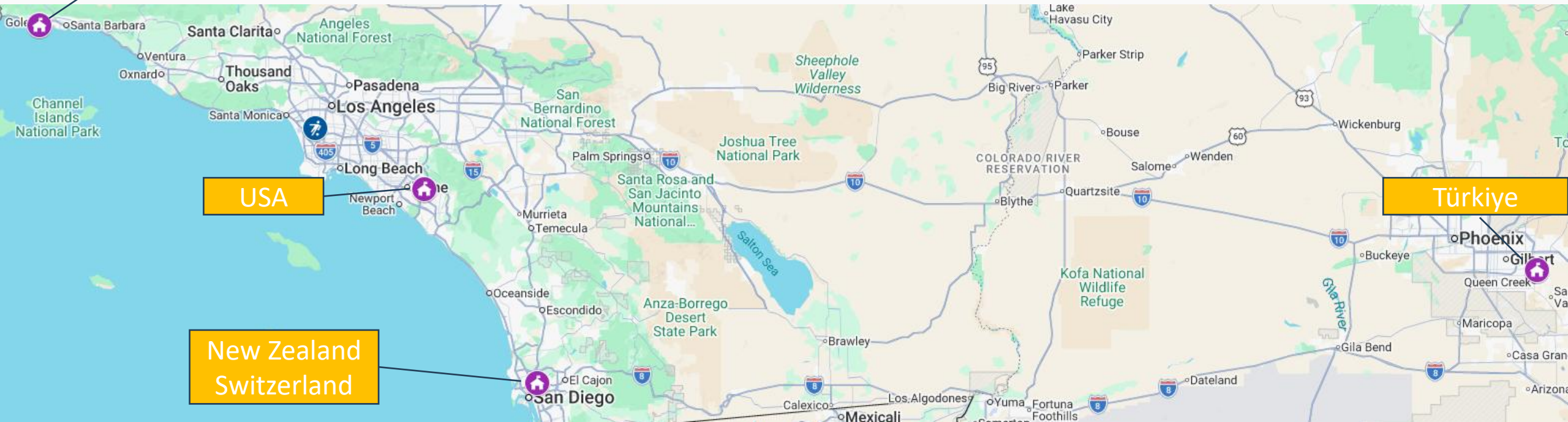
Game locations and Team Base Camps

Northwest US and Western Canada



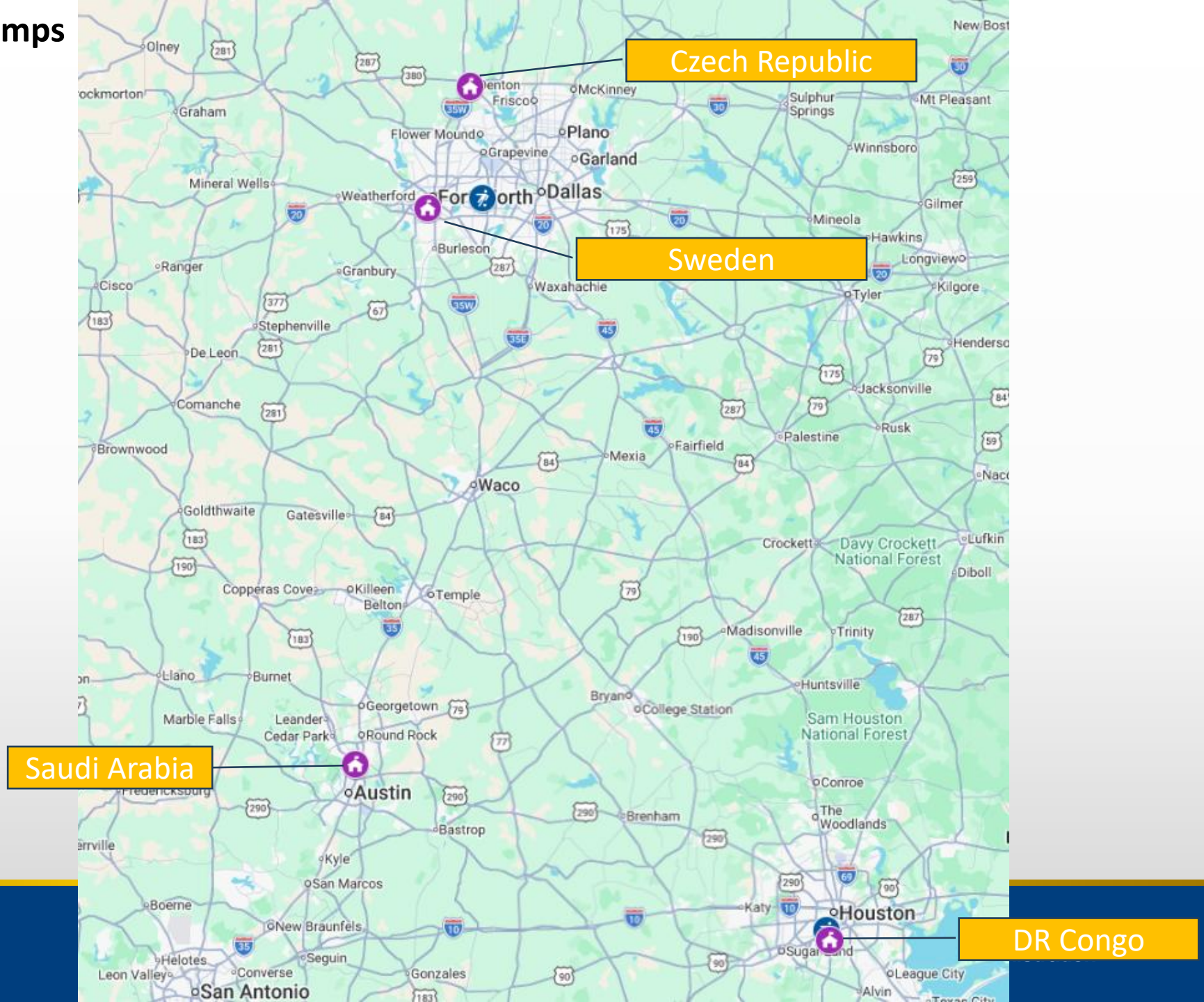
Game locations and Team Base Camps

Southwest USA



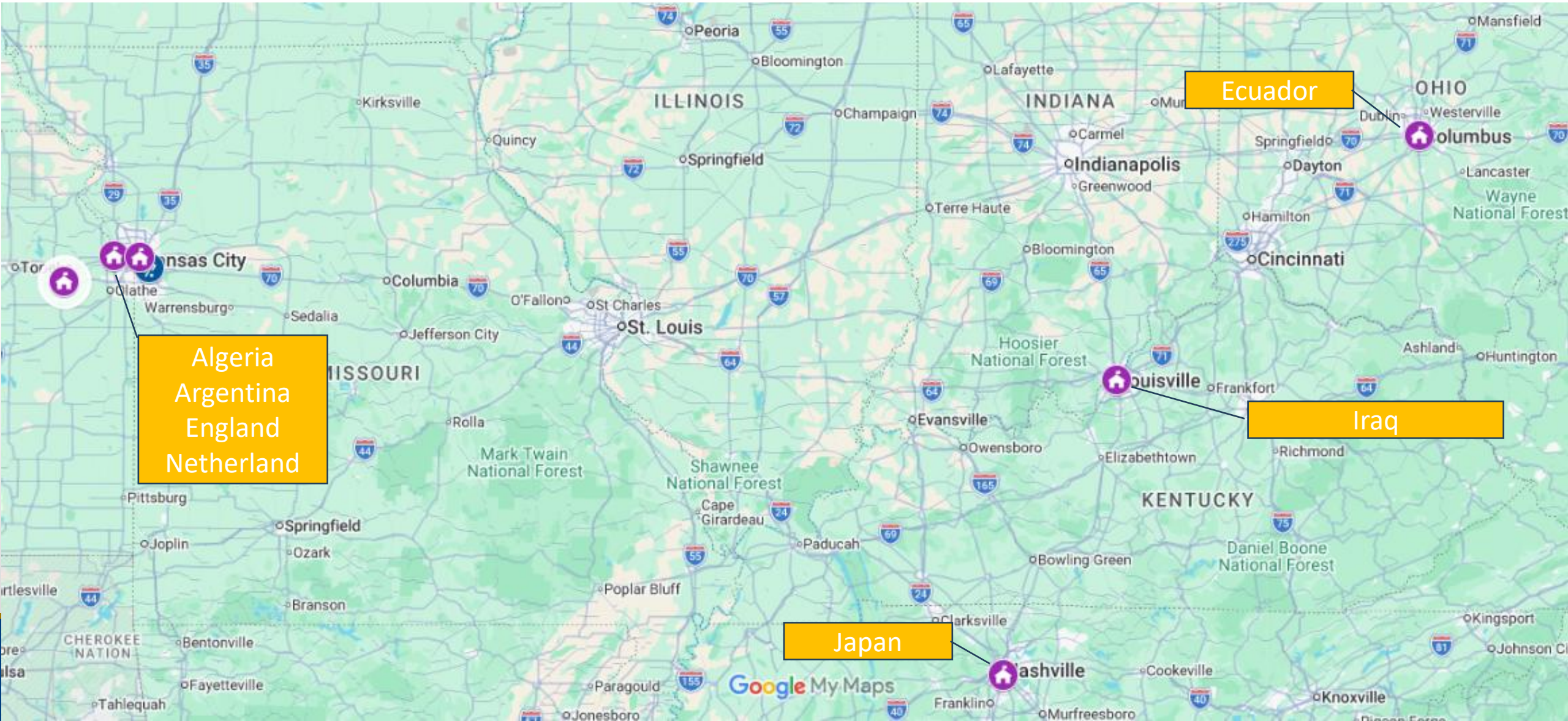
Game locations and Team Base Camps

Texas



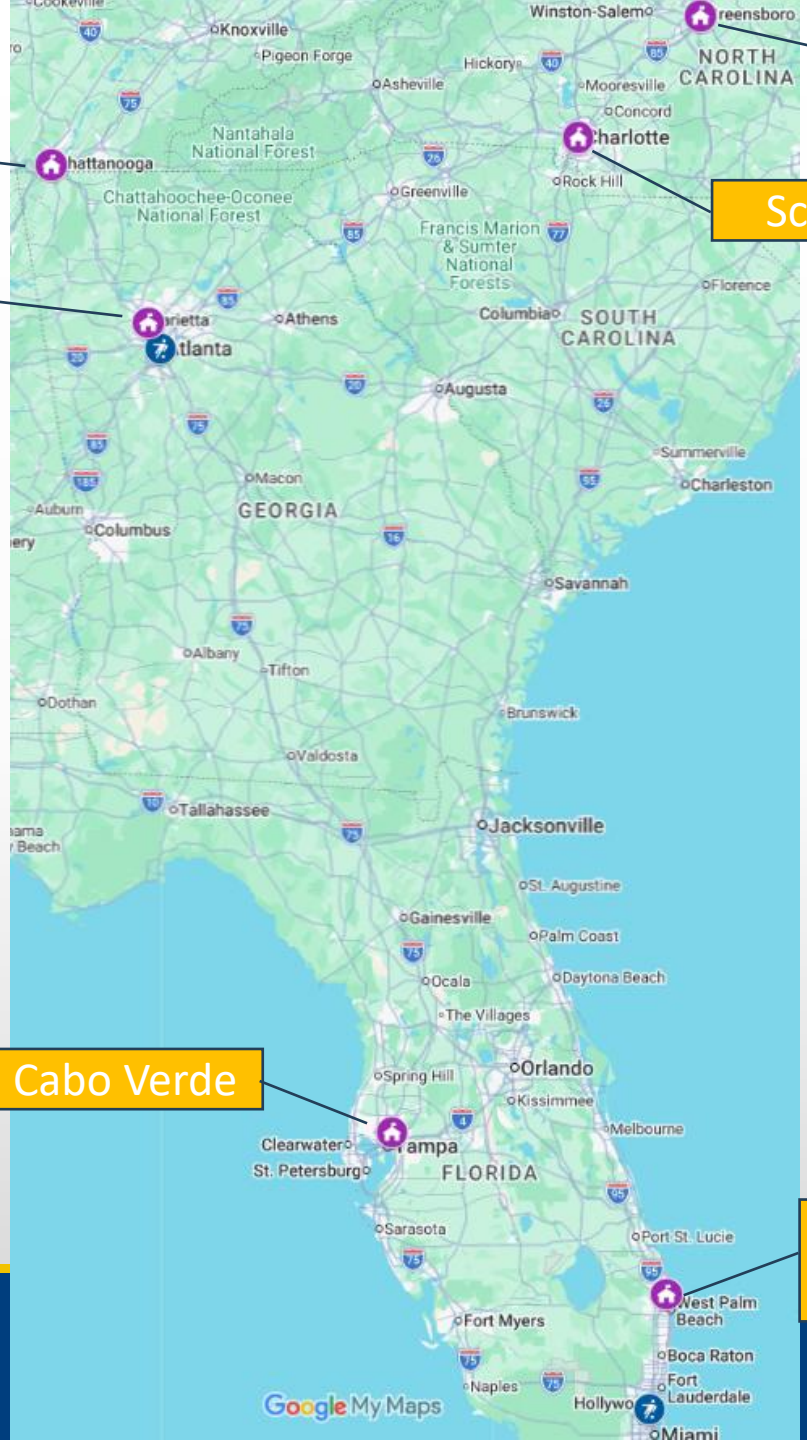
Game locations and Team Base Camps

Midwest



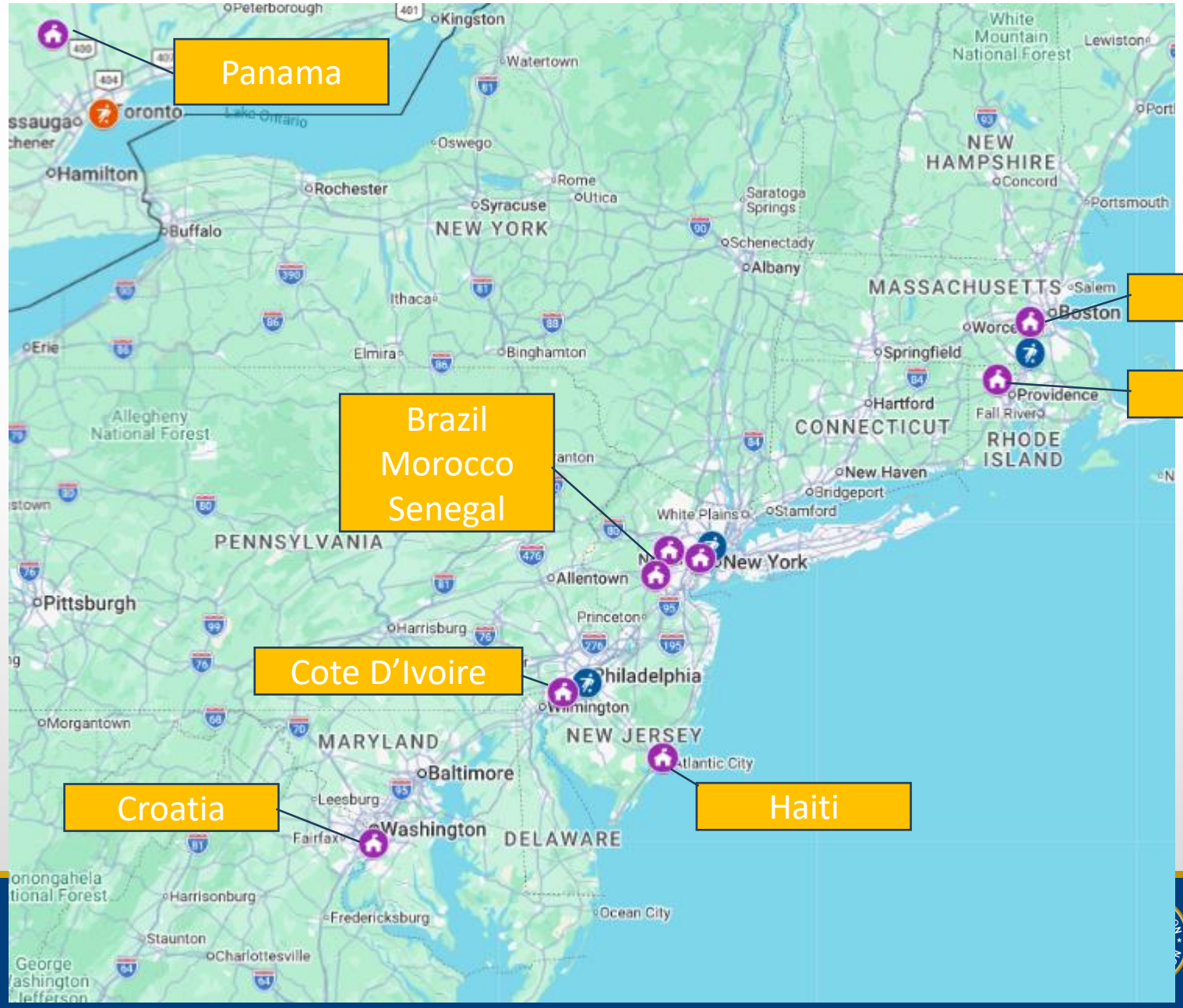
Game locations and Team Base Camps

Southeast

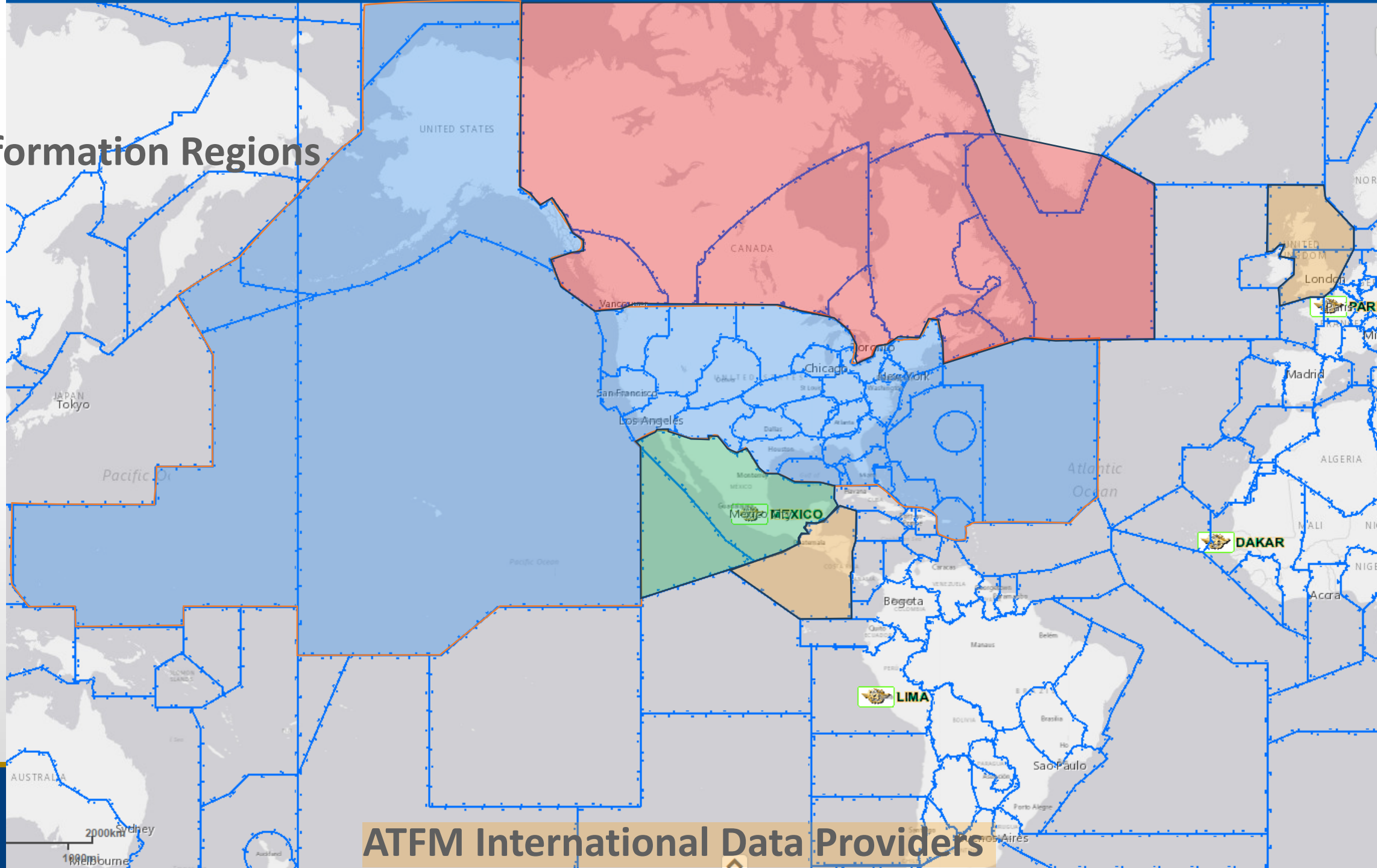


Game locations and Team Base Camps

Northeast US and Eastern Canada



Flight Information Regions

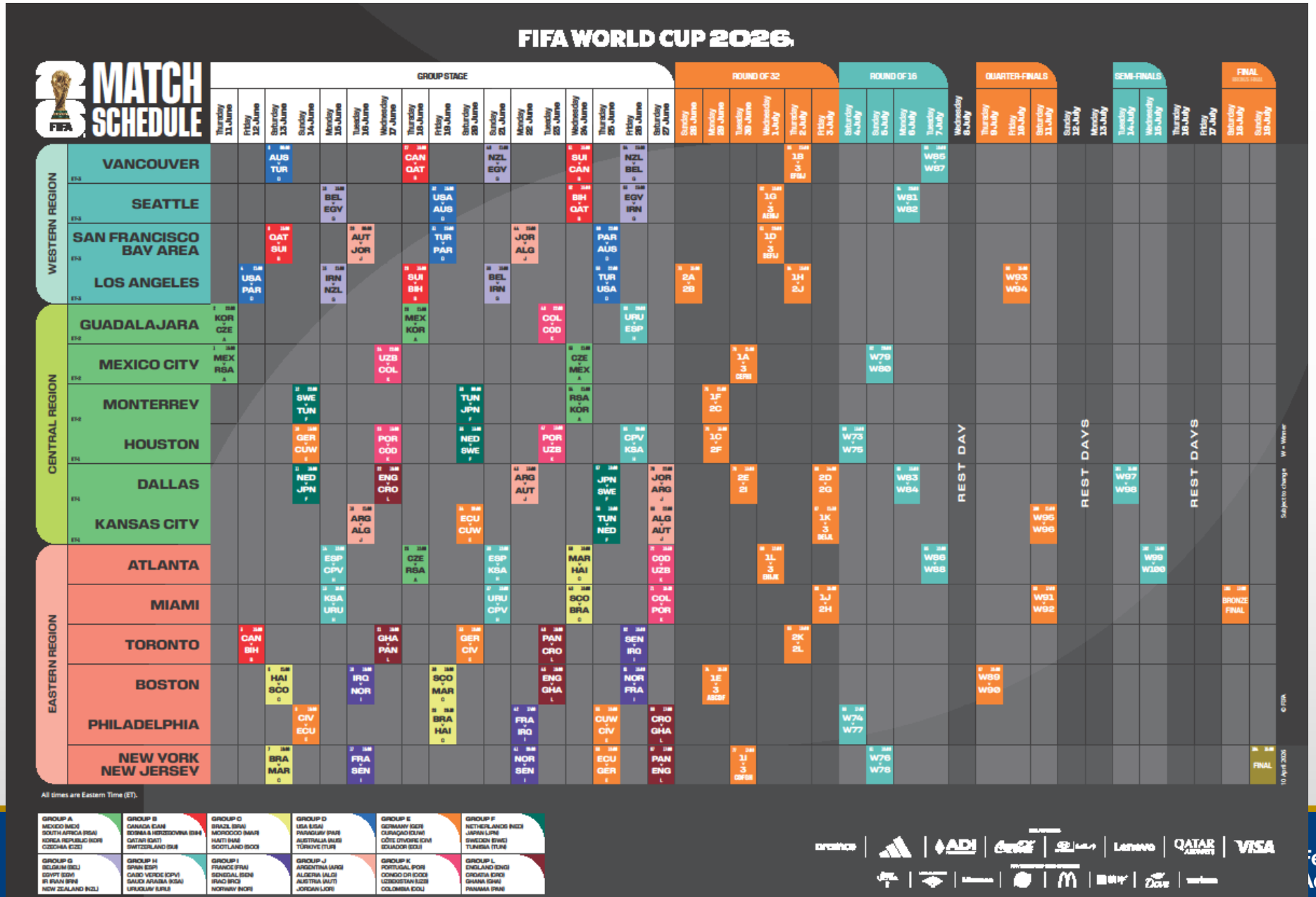


ATFM International Data Providers

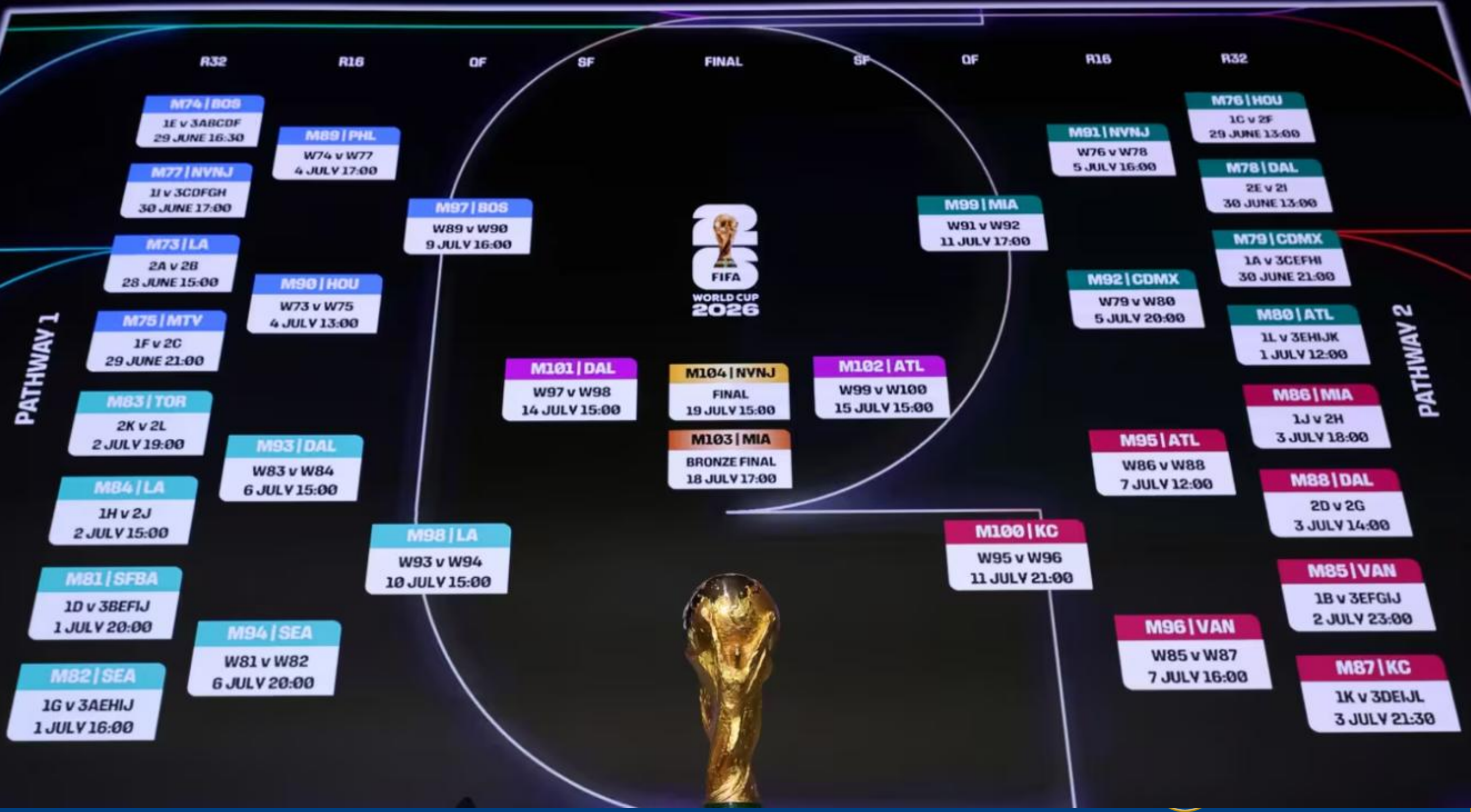
FIFA World Cup 2026 Key Players

City	Stadium	Airport Authorities	Air Traffic Service Providers
Toronto	BMO Field	GTAA	Toronto ACC, CYYZ, NTMU, Transport Canada
Vancouver	BC Place	VAA	Vancouver ACC, CYVR, NTMU, ZSE, Transport Canada
Guadalajara	Estadio Akron	GAP	MMEX ACC, Guadalajara Apch Control, MMGL, SMARTMEX
Mexico City	Estadio Azteca	GACM	MMEX ACC, MMMX, MMSM, MMTO, SMARTMEX
Monterrey	Estadio BBVA	OMA	MMTY ACC, Monterrey Apch Control, MMTY, ADN, SMARTMEX
Atlanta	Mercedes Benz Stadium	Atlanta DOA	ZTL, A80, ATL, PDK, RYY, LZU, ATCSCC
Boston	Gillette Stadium	MassPort	ZBW, A90, BOS, ATCSCC
Dallas	AT&T Stadium	DFW, City of Dallas	ZFW, D10, DFW, DAL, ATCSCC
Houston	NRG Stadium	HAS	ZHU, I90, IAH, HOU, ATCSCC
Kansas City	Arrowhead Stadium	Kansas City DOA	ZKC, MCI, MKC, ATCSCC
Los Angeles	SoFi Stadium	LAWA	ZLA, SCT, LAX, BUR, VNY, LGB, SNA, ONT, ATCSCC
Miami	Hard Rock Stadium	Miami-Dade Aviation Dept.	ZMA, MIA, PBI, ATCSCC
NY/NJ	MetLife Stadium	PANYNJ	ZNY, ZBW, ZDC, ZOB, N90, EWR, JFK, LGA, TEB, HPN, ATCSCC
Philadelphia	Lincoln Financial Field	Philadelphia DOA	ZNY, ZBW, ZDC, ZOB, PHL, PNE, ATCSCC
San Francisco	Levi Stadium	City of SFO, SJC AP Comm, Port of Oakland	ZOA, NCT, SFO, OAK, SJC, ATCSCC
Seattle	Lumen Field	Port of Seattle	ZSE, SEA, S46, BFI, ATCSCC

Game Schedule: Right click and open Acrobat Document Object



71


R32
R16
QF
SF
FINAL
SF
QF
R16
R32
PATHWAY 1
PATHWAY 2
M74 | BOS
1E v 3ABCDF
29 JUNE 16:30
M77 | NVNJ
1I v 3CDFGH
30 JUNE 17:00
M73 | LA
2A v 2B
28 JUNE 15:00
M75 | MTV
1F v 2C
29 JUNE 21:00
M83 | TOR
2K v 2L
2 JULY 19:00
M84 | LA
1H v 2J
2 JULY 15:00
M81 | SFBA
1D v 3BEFIJ
1 JULY 20:00
M82 | SEA
1G v 3AEHIJ
1 JULY 16:00
M89 | PHL
W74 v W77
4 JULY 17:00
M90 | HOU
W73 v W75
4 JULY 13:00
M93 | DAL
W83 v W84
6 JULY 15:00
M94 | SEA
W81 v W82
6 JULY 20:00
M97 | BOS
W89 v W90
9 JULY 16:00
M98 | LA
W93 v W94
10 JULY 15:00
M101 | DAL
W97 v W98
14 JULY 15:00
M104 | NVNJ
FINAL
19 JULY 15:00
M103 | MIA
BRONZE FINAL
18 JULY 17:00
M102 | ATL
W99 v W100
15 JULY 15:00
M99 | MIA
W91 v W92
11 JULY 17:00
M100 | KC
W95 v W96
11 JULY 21:00
M91 | NVNJ
W76 v W78
5 JULY 16:00
M92 | CDMX
W79 v W80
5 JULY 20:00
M95 | ATL
W86 v W88
7 JULY 12:00
M96 | VAN
W85 v W87
7 JULY 16:00
M76 | HOU
1C v 2F
29 JUNE 13:00
M78 | DAL
2E v 2I
30 JUNE 13:00
M79 | CDMX
1A v 3CEFHI
30 JUNE 21:00
M80 | ATL
1L v 3EHIJK
1 JULY 12:00
M86 | MIA
1J v 2H
3 JULY 18:00
M88 | DAL
2D v 2G
3 JULY 14:00
M85 | VAN
1B v 3EFGIJ
2 JULY 23:00
M87 | KC
1K v 3DEIJL
3 JULY 21:30
FIFA
WORLD CUP
2026

FIFA Charter Flights for team movement

261 FIFA chartered flights to move teams from base camp locations to games and back during pool play as well as from game location to game location for single elimination rounds
68% domestic flights (wholly within the USA or Canada or Mexico)
26% international flights (between Canada/Mexico/USA)

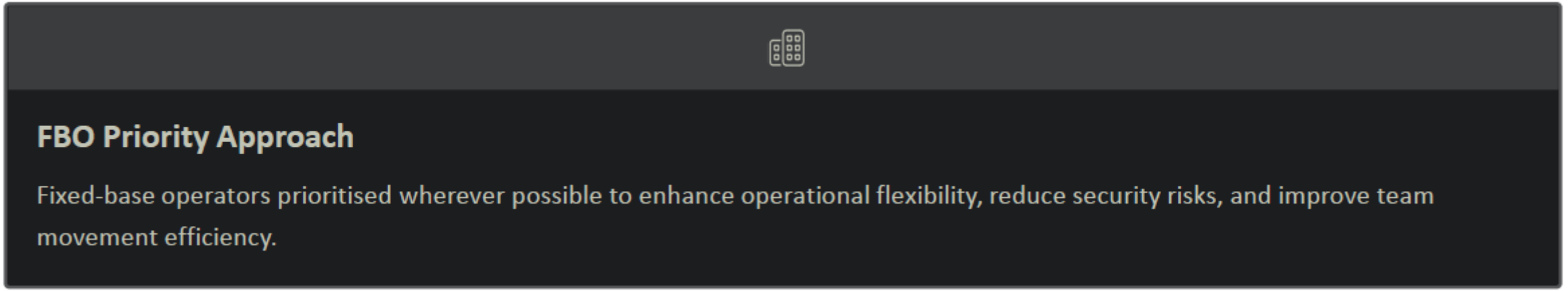
TOURNAMENT AIRPORTS

Canada (2)
- **YVR** – Vancouver
- **YYZ** – Toronto

Mexico (4)
- **CUN** – Cancun
- **GDL** – Guadalajara
- **MTY** – Monterrey
- **NLU** – Mexico City

United States (32)
- **ACY** – Atlantic City
- **ATL** – Atlanta
- **AUS** – Austin
- **BNA** – Nashville
- **BOS** – Boston
- **CHA** – Chattanooga
- **CLT** – Charlotte
- **CMH** – Columbus
- **DFW/DAL** – Dallas
- **EWR** – Newark / New Jersey
- **FLL** – Fort Lauderdale
- **GSO** – Greensboro
- **IAD** – Washington D.C.
- **IAH/HOU/EFD** – Houston
- **LAX** – Los Angeles
- **MCI** – Kansas City
- **MIA** – Miami
- **OAK** – San Francisco Bay Area
- **PBI** – West Palm Beach
- **PDX** – Portland
- **PHL** – Philadelphia
- **PVD** – Providence
- **SAN** – San Diego
- **SBA** – Santa Barbara
- **SDF** – Louisville
- **SEA/BFI** – Seattle
- **SJC** – San Jose (SF Bay Area)
- **SLC** – Salt Lake City
- **SNA** – Orange County / Irvine
- **TPA** – Tampa
- **TUS** – Tucson

Charter Flights Analysis – 261 flights to move teams



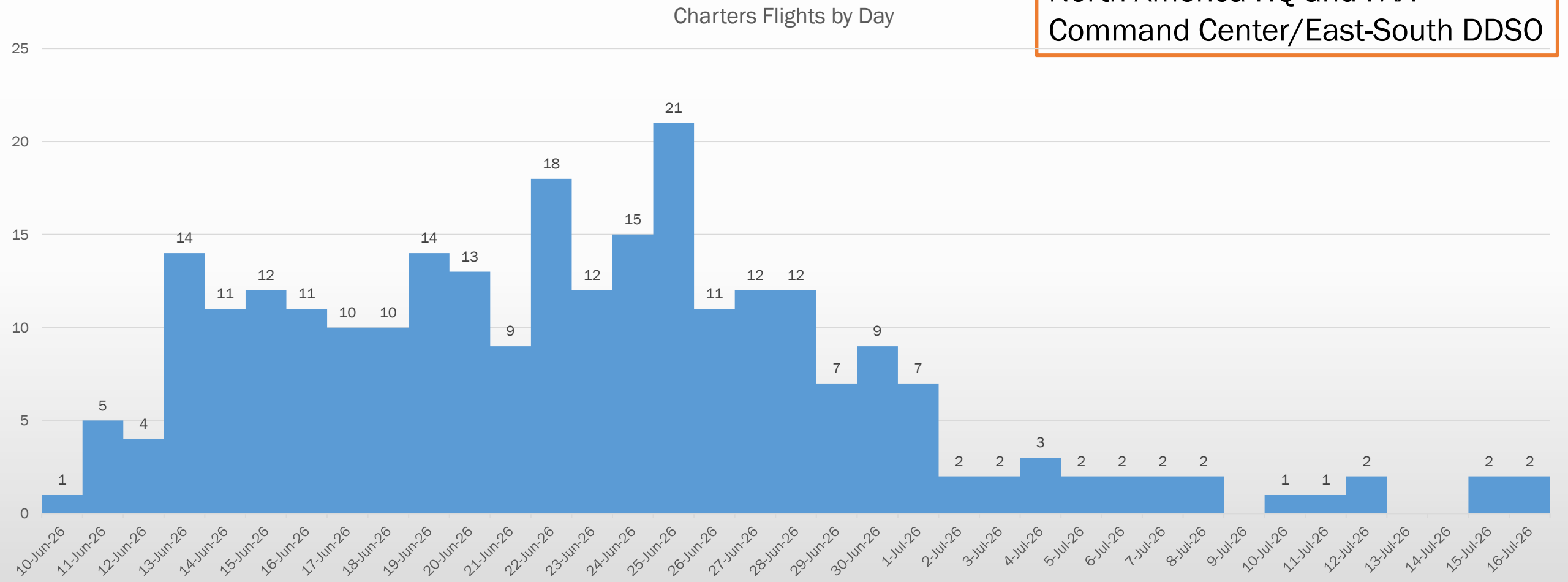
Flight Operators contracted for Charter Flights, Charters, Percentage – Update due this week, which may change numbers/percentages

Aeromexico-33, 13%	Air Canada-21, 8%	Alaskan Airlines-25, 10%	American Airlines-42, 16%
Breeze-79, 30%	Delta-4, 2%	JetBlue-30, 11%	United-27, 10%

Cross border charter flight analysis		
Domestic	184	70%
International	65	25%
To be determined by match outcome	12	5%

Charter Flights Analysis – 261 flights to move teams

Realtime coordination between FIFA North America HQ and FAA Command Center/East-South DDSO



Charter Flights for FIFA Guests & VIPs

Guest & VIP Charter Operations

Beyond team charters, the tournament operational framework accommodates additional high-value movements requiring dedicated coordination and capacity awareness.

Guest Charter Operations

Approximately **5 guest charters** operating throughout the tournament period

- Comparable aircraft size to team charters
- Similar operational profiles and requirements
- Integrated into standard coordination processes

01

Near-Daily Operations

Guest and VIP charters operate near-daily throughout the tournament duration

VIP Charter Operations

Approximately **2 large-size private VIP charters** requiring enhanced handling

- Large-size private jet (16-20 pax)
- Premium service requirements
- Priority handling coordination

02

Primary Hub Utilisation

Operations concentrated at primary hub airports with full support infrastructure

FIFA 2026 World Cup Special Event Planning

- ATFM plans in final stages by ACCs, FMUs and Aviation Security

Initiative	Trigger
Airport construction planning/peak capacity	Ongoing
ATC peak capacity discussions	Ongoing
ATFM measures such as Special Air Traffic Procedures, Route Structure, GDP's and AFP's	Ongoing
Special Event Planning considerations such as NOTAMs for special arrival/departure procedures	Ongoing
Flight Operator, IATA outreach	Ongoing
CADENA coordination	Ongoing
Possible security measures	Taking shape, see following slides

USA Airspace Security

- **Interagency Coordination**
  - The FAA is coordinating with DHS (as the Lead Federal Agency (LFA)), the FBI, and other stakeholders to identify appropriate airspace security measures.
- **Requests received**
  - TFR requests for match sites in process
- **Anticipated requests include**
  - Fan viewing sites
  - Team Base Camps

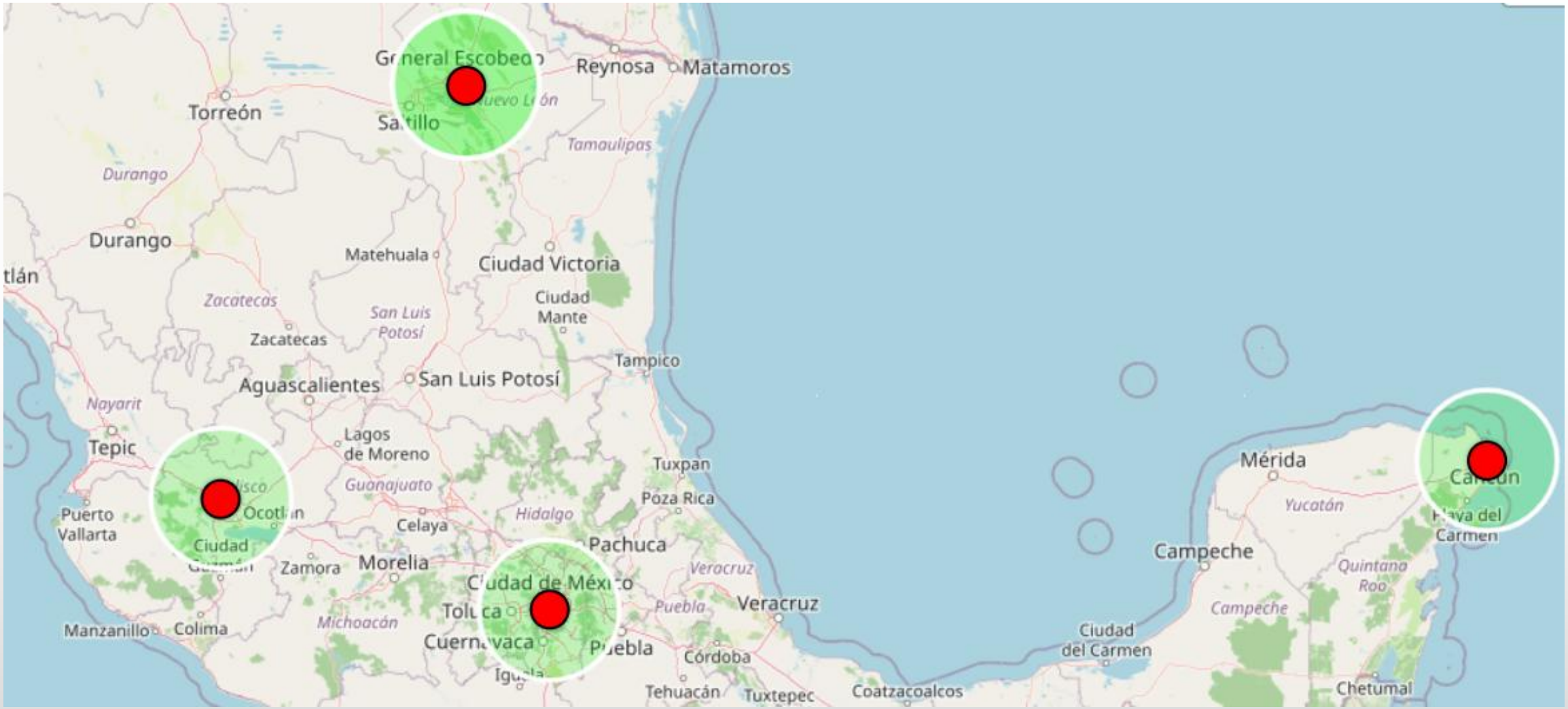
Mexico Airspace Security – Plan Kukulkan

Surveillance and Protection Zones			*All zones/circles are SFC to 19,000'*			
City	**Stadium**	**Fan Festival**	**Stadium Exclusive Zone**	**Fan Festival Exclusive Zone**	**Outer Security Circle**	**Peripheral Security Circle**
Mexico City	Mexico City	Zocalo	1.5 NM Radius of 19º 18´ 10" N, 99º 09´ 01" W	1.2 NM Radius of 19º 25´ 57" N, 99º 07´ 59" W	15 NM Radius of Stadium	60 NM Radius of Stadium
Guadalajara	Guadalajara Stadium	Plaza de la Liberacion	1.5 NM Radius of 20º 40´ 54" N, 103º 27´45" W	1.5 NM Radius of 20º 40´ 37" N, 103º 20´ 44" W	15 NM Radius of Stadium	60 NM Radius of Stadium
Monterrey	Monterrey	Parque Fundidora	1.5 NM Radius of 25º 40´ 09" N, 100º 14´ 40" W	1.5 NM Radius of 25º 40´ 38" N, 100º 16´ 50" W	15 NM Radius of Stadium	60 NM Radius of Stadium
Cancun		Fan Festival Tajamar		1.5 NM Radius of 21º 08´ 48" N, 86º 48´ 52" W	15 NM Radius of Fan Festival	60 NM Radius of Fan Festival

Requirements
Authorized Flight Plan
ADS-B
Transponder
In communication with ATC
Entry authorization from Mexico Military

See Official Gazette of the Federation publication on April 20th, 2026

Mexico Enhanced Airspace Security – Plan Kukulkan



Canada Airspace Security

Transport Canada Aeronautical Information Circular (AIC) 011/2026 – Vancouver and Toronto Region Changes and Restrictions to Airspace in Conjunction with the FIFA Men's World Cup, June 12 to July 7

navcanada.ca/en/011aic2026en.pdf

Details include:

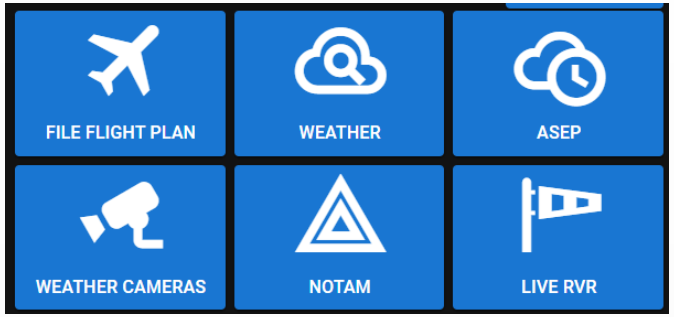
- Airspace Overview
- VFR Restrictions to Billy Bishop and Vancouver Harbour Class C Control Zones
- PPR/Slot Time Enforcement
- RPAS Restrictions
- Flight Planning Procedures

Weather Tools

Canada:

weather.gc.ca/model_forecast/aviation_e.html

plan.navcanada.ca/gfa/

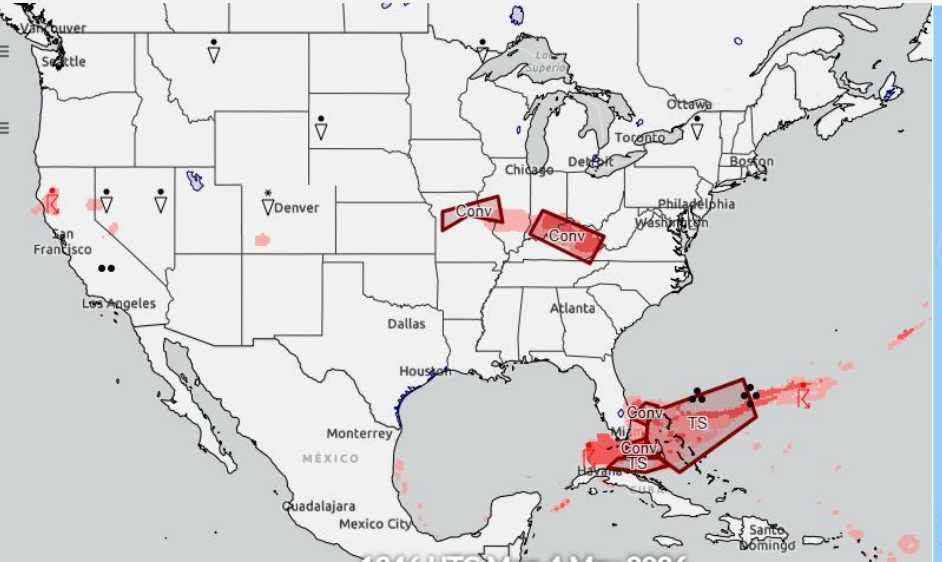


USA:

NOAA Match Site Climatological Statistical Study: Analysis of 15 years of Convective SIGMETs and AIRMET data for each match site storymaps.arcgis.com/stories/8ef6a1fbd3544d39b93931fa349e60e9

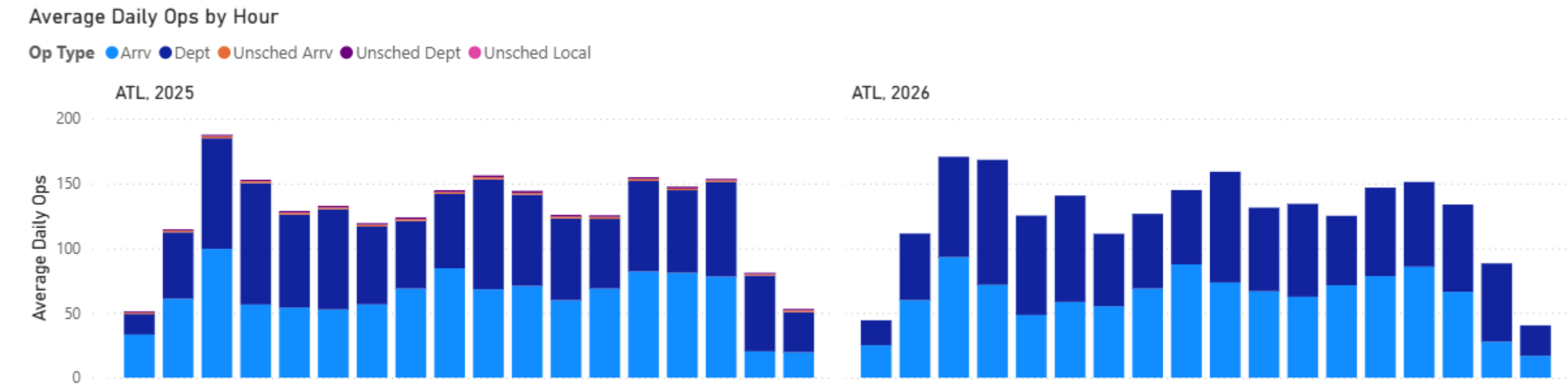
Traffic Flow Management Portal: Real time dashboards with Terminal Area Forecasts, Traffic Flow Management Collaborative Forecasts for Thunderstorms, Weather Models and much more. aviationweather.gov/trafficflowmgmt/

Aviation Weather: Wide range of observations and forecasts - aviationweather.gov



Volume Tools

Available inside ATO firewall: Power BI dashboard



IATA is providing updates on international carrier additional flights and up-gauging of airframes.

Volume Tools – Largest Fractional Operator as of May 6th

Ongoing ATFM planning areas, to balance demand with capacity

- Arrival and Departure routes/procedures for each game site
- NOTAMs (including Pointer NOTAMs) for the arrival/departure procedures
- Parking at FBOs
- Possible Technical Operations moratoriums on maintenance activities
- Security initiatives - Temporary Flight Restrictions (TFR), including UAS TFRs
- VIPs/head of state attendance is expected at multiple game sites
- 261 Charter flights for team movement
- 10 Million visitors, 6 million with game tickets, FIFA is currently seeing 1,000 foreign applicants to the FIFA pass system: VISA -> Airline -> Lodging -> Domestic transportation

ATO ATFM Planning by DDSO Region

West

Seattle Area - preparing for increased General Aviation (GA) traffic in Renton, Auburn, Tacoma Narrows and Bellingham. BFI parking plan with mobile customs in final planning stages. Close coordination with Vancouver Center for cross border flows.

San Francisco Area – Parking management plans at airports and FBOs are underway, SFO like to have a Prior Permission Required (PPR) system. Oakland and San Jose are planning on the majority of additional traffic.

Los Angeles Area – Parking plans are being finalized, noise abatement procedures are being communicated, analyzing Van Nuys and Burbank impacts. Military airspace releases have been requested.

ATO ATFM Planning by DDSO Region

Central – PPRs at many airports

Houston Area – Arrival routes defined. Houston Hobby parking plan being refined with new constraints.

Dallas Area – Arrival routes defined, satellite airport parking capacities defined (Dallas Fort Worth, Dallas Love, Fort Worth Meacham, Addison, Dalls Executive, Arlington Municipal, Fort Worth Alliance Fort Worth Spinks, Denton, Mesquite, McKinney, Lancaster, Grand Prairie)

Kansa City Area – Arrival routes defined, airport parking at secondary airports is being refined.

ATO ATFM Planning by DDSO Region

East South – Ongoing meetings to identify ground constraints, PPR requirements, parking limitations.

South Florida Area - Identifying impact to Miami and Palm Beach should there be a VIP TFR. Miami-Opa Locka Executive (OPF) is primary airport of concern due to close proximity to the match site and limited parking.

Atlanta Area – Limited capacity for “Remain Over Night” (RON) parking for large aircraft and any short-notice charter flights that require gates or ground handling.

ATO ATFM Planning by DDSO Region

East North – System Impact Reports (SIRs) have been authored for Boston, LaGuardia, Newark, White Plains, JFK, Philadelphia and Teterboro along with surrounding smaller airports.

Engagement continues between ATC, FBOs, airport authorities, NetJets, NBAA to align on parking constraints and reservations and demand mitigation strategies.

Focus on July 4th matches in Philadelphia and Boston, July 5th matches in New York/New Jersey and the final match in New York/New Jersey, along with other special events, airshows, and flyovers.

Additional special events that are being planned for

Location	America 250 Flyover/Sail250	FIFA World Cup
Philadelphia	June 14	June 14 - 1900L
NY/NJ	International Naval Review: July 4	June 30 - 1700L July 5 - 1600L
Boston	Sail Boston: July 11	July 9 - 1600L

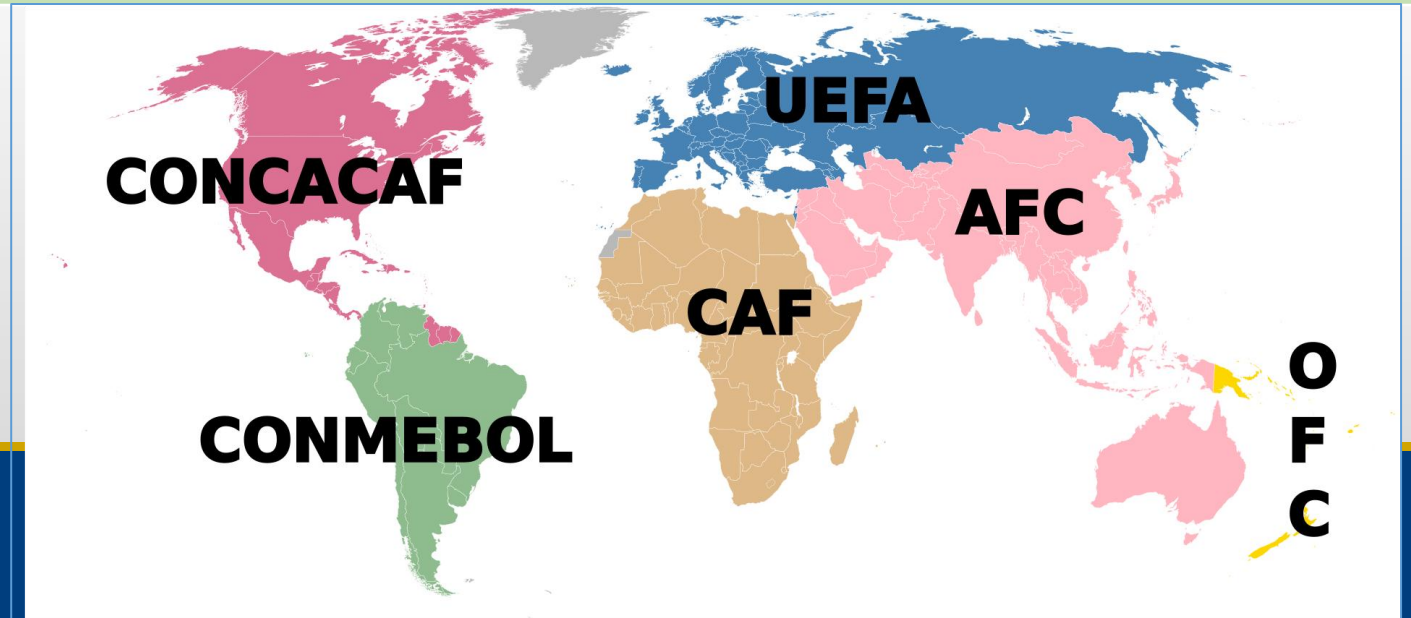
Requests from Qatar Airways (FIFA Sponsor) to overfly matches in the Bay Area and Seattle in a FIFA branded plane. Dates and details still being worked out

Yellow highlight indicates events on the same day
Blue highlight indicates events on days close to each other

World Cup 2026 Teams

Match Schedule: https://www.fifa.com/en/tournaments/mens/worldcup/canadamexicousa2026/scores-fixtures?country=US&wtw-filter=ALL

Confederation	Slots
UEFA (Union of European Football Association) *Austria, Belgium, Croatia, England, France, Germany, Netherlands, Norway, Portugal, Scotland, Spain, Switzerland, Bosnia & Herzegovina, Sweden, Turkey, Czech Republic*	16
CAF (Confederation of African Football) *Egypt, Morocco, Tunisia, Algeria, Ghana, Cape Verde, South Africa, Ivory Coast, Senegal, DR Congo*	9
AFC (Asian Football Confederation) *Australia, Iran, Japan, Jordan, South Korea, Uzbekistan, Saudi Arabia, Qatar, Iraq*	8
CONCACAF (Confederation of North, Central America & Caribbean Football) *Canada, Curacao, Haiti, Mexico, Panama, United States*	6
CONMEBOL (Confederación Sudamericana de Fútbol) *Argentina, Brazil, Ecuador, Uruguay, Columbia, Paraguay*	6
OFC (Oceania Football Confederation) *New Zealand*	1



Organizations and Points of Contact

Function	Canada	Mexico	United States
Regulator:	Transport Canada	Agencia Federal de Aviación Civil (AFAC)	Federal Aviation Administration (FAA)
Air Navigation Service Provider (ANSP):	Nav Canada	Servicios a la Navegación en el Espacio Aéreo Mexicano (SENEAM)	Federal Aviation Administration (FAA) Air Traffic Organization (ATO)
Air Traffic Flow Management:	National Traffic Management Unit (NTMU) National Operations Center (NOC)	Sistema de Monitoreo, Administración y Regulación del Tránsito Aéreo (SMART)	Distributed among Air Route Traffic Control Centers and centralized at the Joint Air Traffic Operations Command (JATOC)

People	Canada	Mexico	United States
Air Traffic Flow Management:	Anik Bertrand, Naomi Fleury, Teddy Diress	Guillermo (Memo) Manzo	Mike Porcello, Vern Payne, Joe Dotterer, Shawn McClosky, Joshua Jennings
Regional Organization:		National (Mexico City) Astrid Jaimes, NE (Monterrey) Arturo Villela, West (Guadalajara) Oliver Ruiz	Jason Poole, Ernie Snyder, Clint Smith, Neil Byers

FIFA Coordinators	Canada	Mexico	United States
Global Travel Lead: Barbara Schulte	Marco Wirz		Joao Aguiar, Jennifer Nelson, Spencer Williams

Others
- Office of the US Secretary of Transportation: Brandon White
- DDSO and ATCSCC staff: Louisa Ocasio, Sue Ashley
- ICAO Regional Officer: Josue Gonzalez
- CADENA: Joe Hof, Al Castillo

CANSO ATFM Data Exchange Network for the Americas (CADENA)

Regional Air Traffic Flow Management will be used for real-time management of demand from the South.

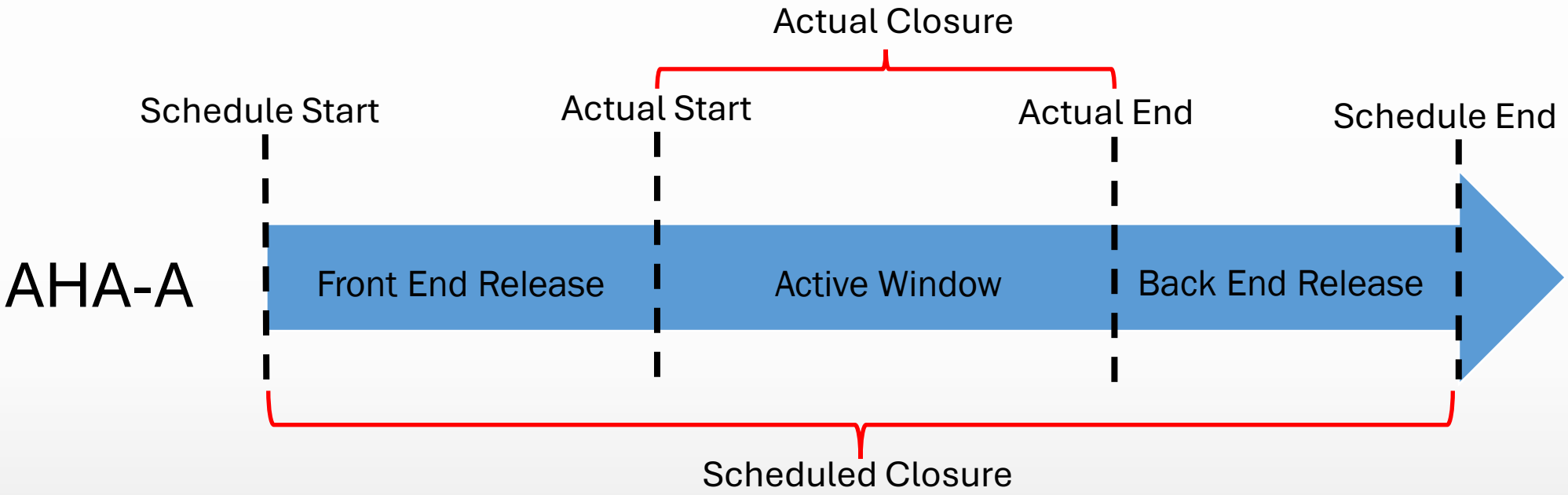
CANSO is working with two vendors who have offered ATFM as a web service for the duration of the event.

Tactical Release Trends and Usage

Overview

- Tactical Release Analysis
  - Definitions
  - Historical Stats and Trends
  - Example of Flights using Tactical Release
  - Overall Effectiveness of Tactical Release

Definitions



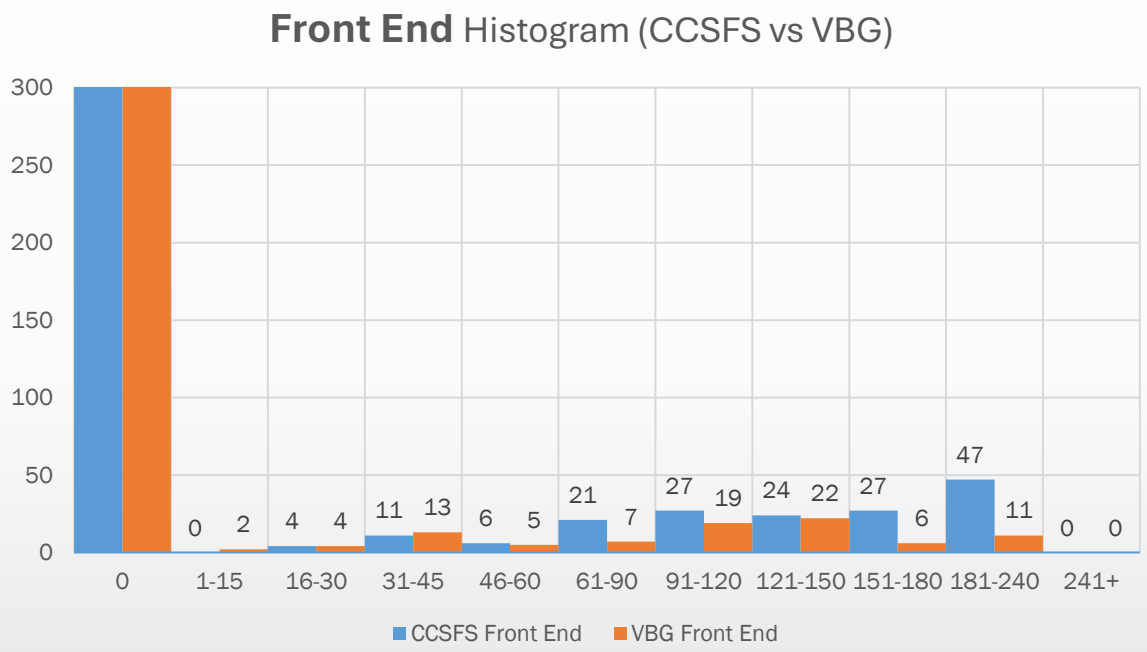
Date	Hazard name	Sched Start	Start time	End time	Sched End	T-0
3/11/2024	AHA-A	2:13	3:39	4:12	6:35	4:09
3/11/2024	AHA-MMFR	2:13	2:13	4:40	6:44	4:09

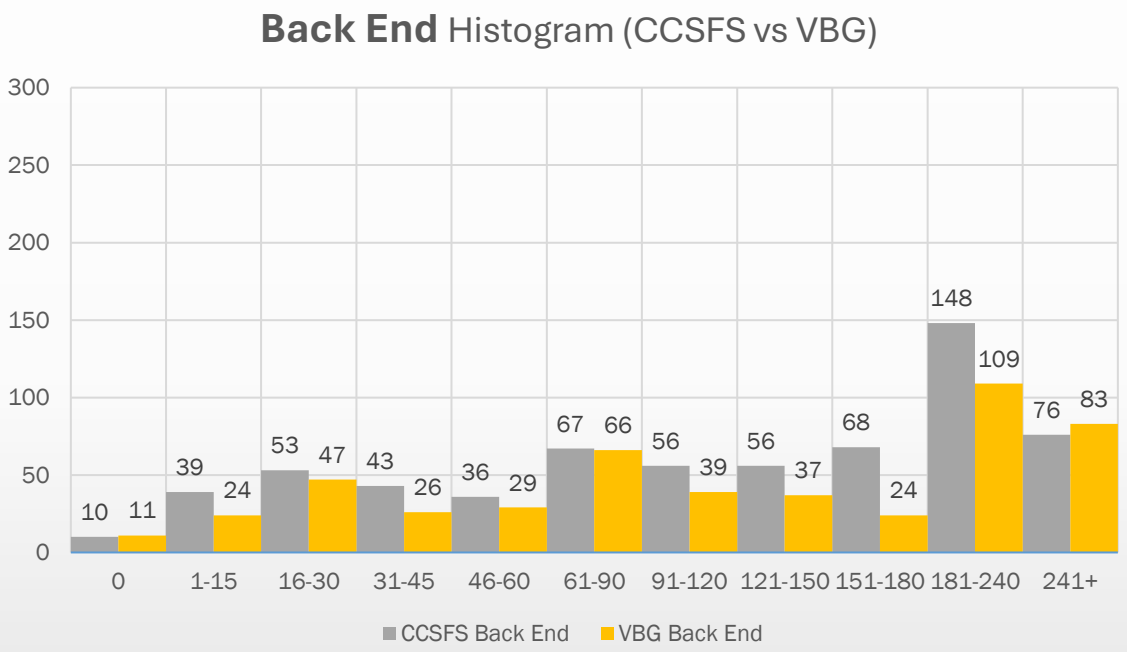
Window Durations by Hazard (9/2023 – 3/2026)

CCSFS	Missions	Front End Duration	Active Window Duration	Back End Duration	Total Duration
AHA-A	300	39	36	146	220
AHA-B	299	36	63	125	223
AHA-C	26	3	56	106	164
AHA-D	13	0	51	127	178
AHA-E	4	0	71	155	227
AHA-F	4	0	73	154	227
AHA-REENTRY	6	0	84	72	156
CCSFS Total	652	**34**	**50**	**134**	**218**

VBG	Missions	Front End Duration	Active Window Duration	Back End Duration	Total Duration
AHA-A	181	37	35	149	220
AHA-B	89	34	52	128	215
AHA-C	25	2	59	156	217
AHA-D	11	0	124	240	364
AHA-E	4	0	110	250	360
AHA-MMFR	99	0	97	145	244
AHA-MMFR1	16	0	80	96	176
AHA-MMFR2	16	0	83	94	177
AHA-REENTRY	51	1	95	117	213
VBG Total	**492**	**20**	**64**	**141**	**224**

Window Durations Histogram (9/2023 -3/2026)

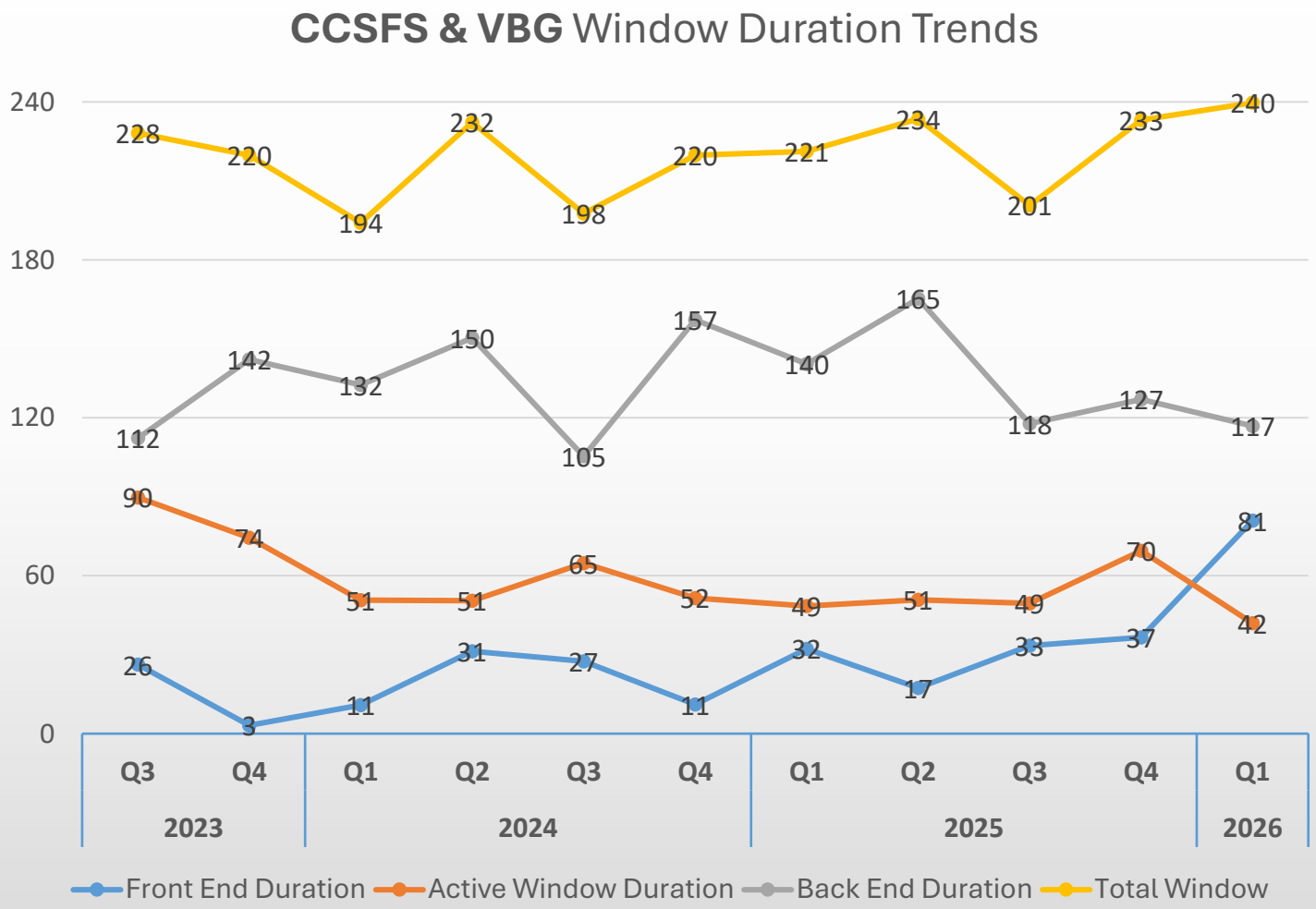




CCSFS: 167 out of 652 (25%) were non zero (avg 135 mins)
VBG: 88 out of 492 (18%) were non zero (avg 127 mins)

CCSFS: 642 out of 652 (98%) were non zero (avg 136 mins)
VBG: 481 out of 492 (97%) were non zero (avg 144 mins)

Window Duration Trends (9/2023 -3/2026)

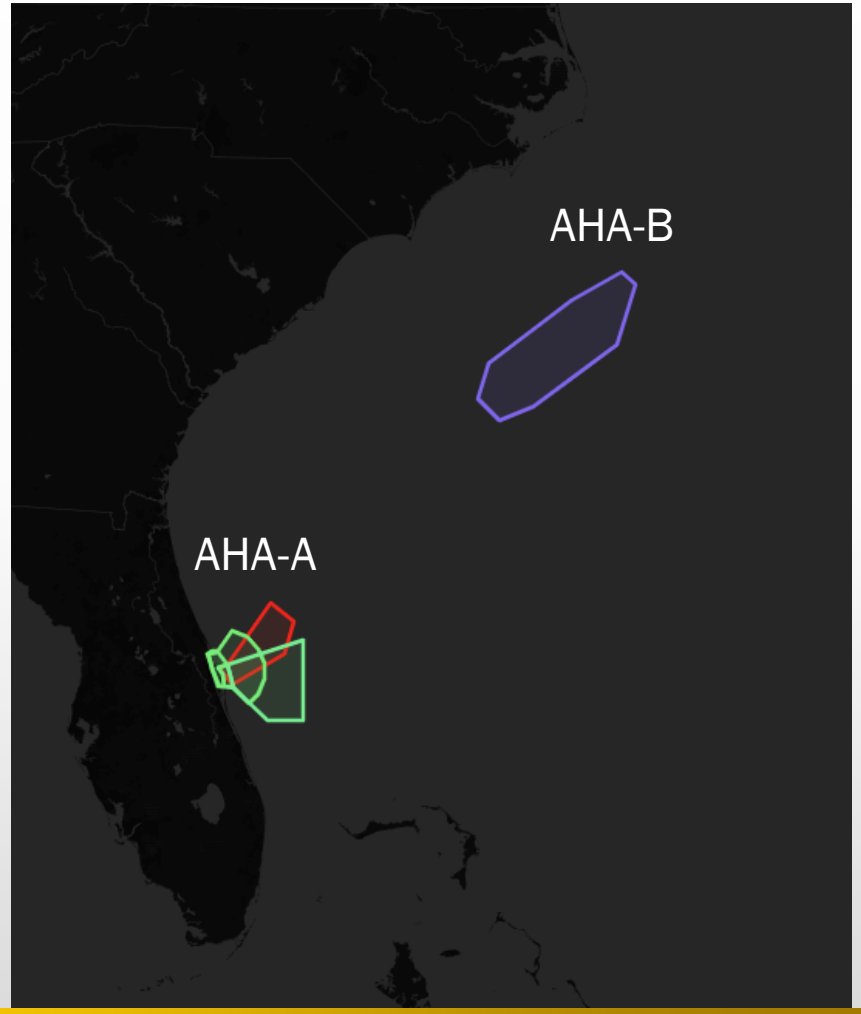


Tactical Release Flights Example

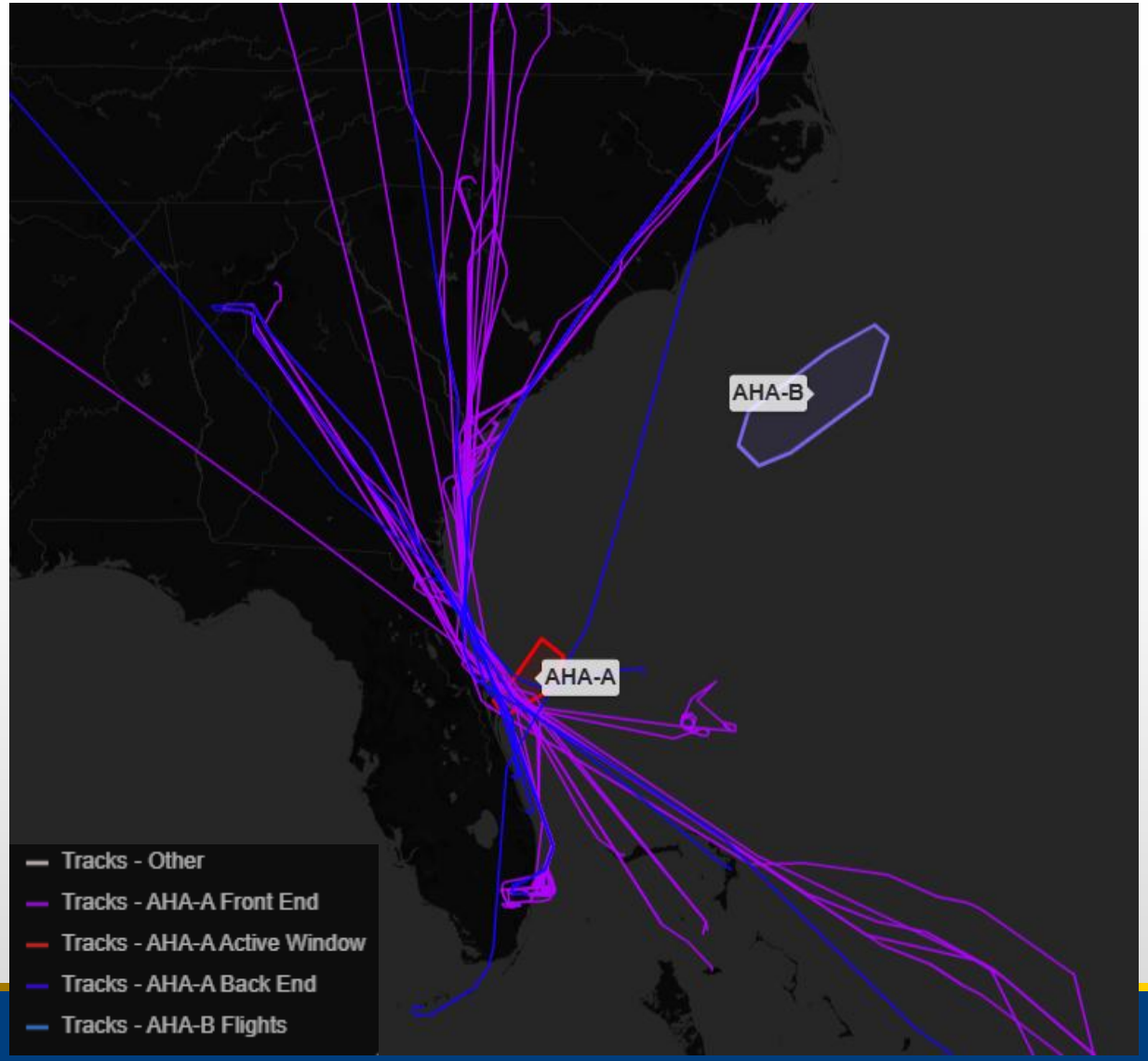
- Mission out of Cape Canaveral
  - On Wed 10/29/2025
  - T-0 at 16:36z (11:36 EST)

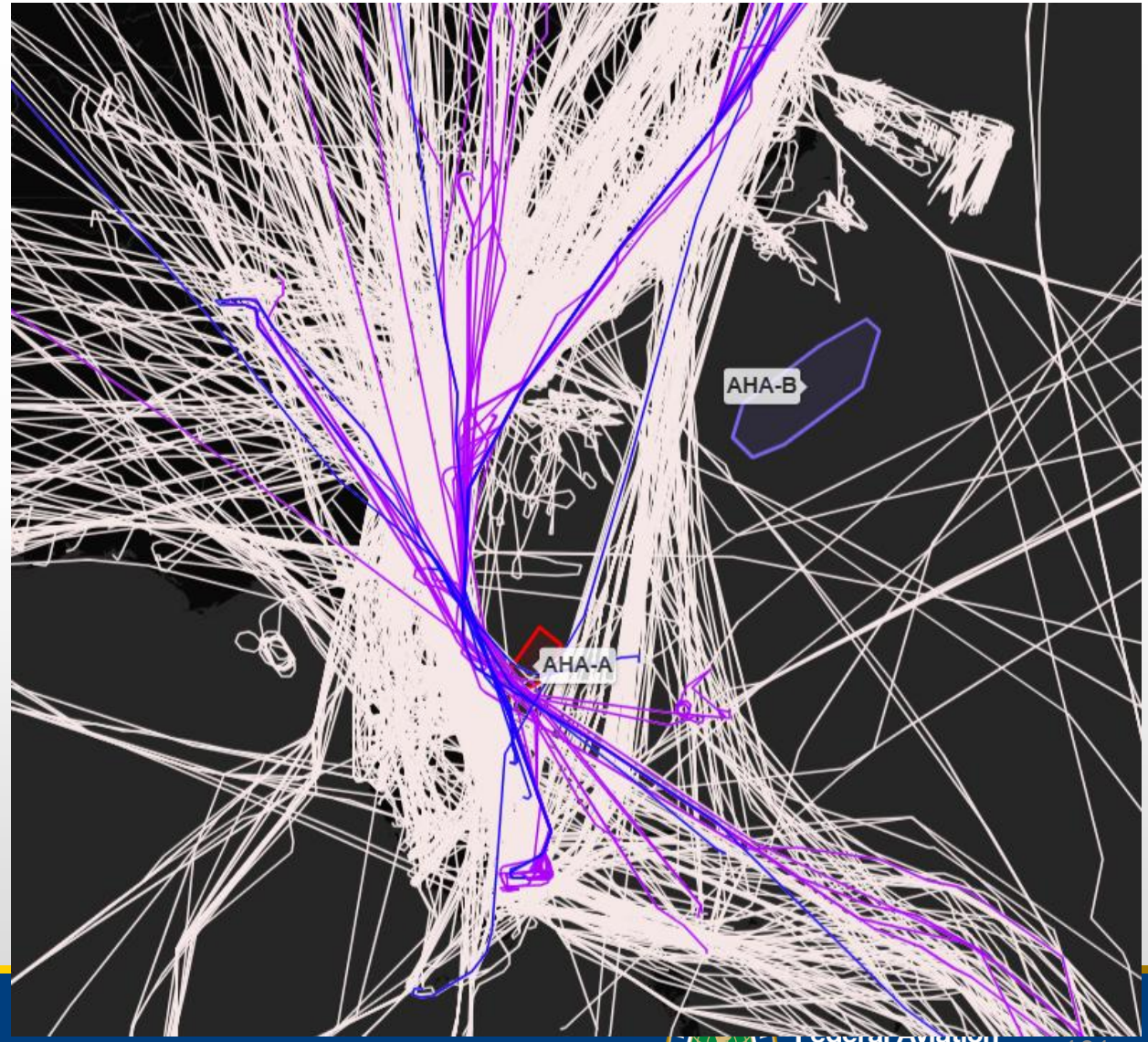
Hazard Area	Sched Start	Actual Start	Actual End	Sched End	Window Duration
AHA-A	12:52	16:00	16:39	17:34	188/39/55 (282)
AHA-B	12:52	16:00	17:18	17:34	188/78/16 (282)

Hazard Area	FE Flts	AW Flts	BE Flts	FE Baseline	AW Baseline	BE Baseline
AHA-A	44	0	10	46.3	12.8	14.6
AHA-B	0	0	0	0.8	0.8	0.4



Flight Tracks

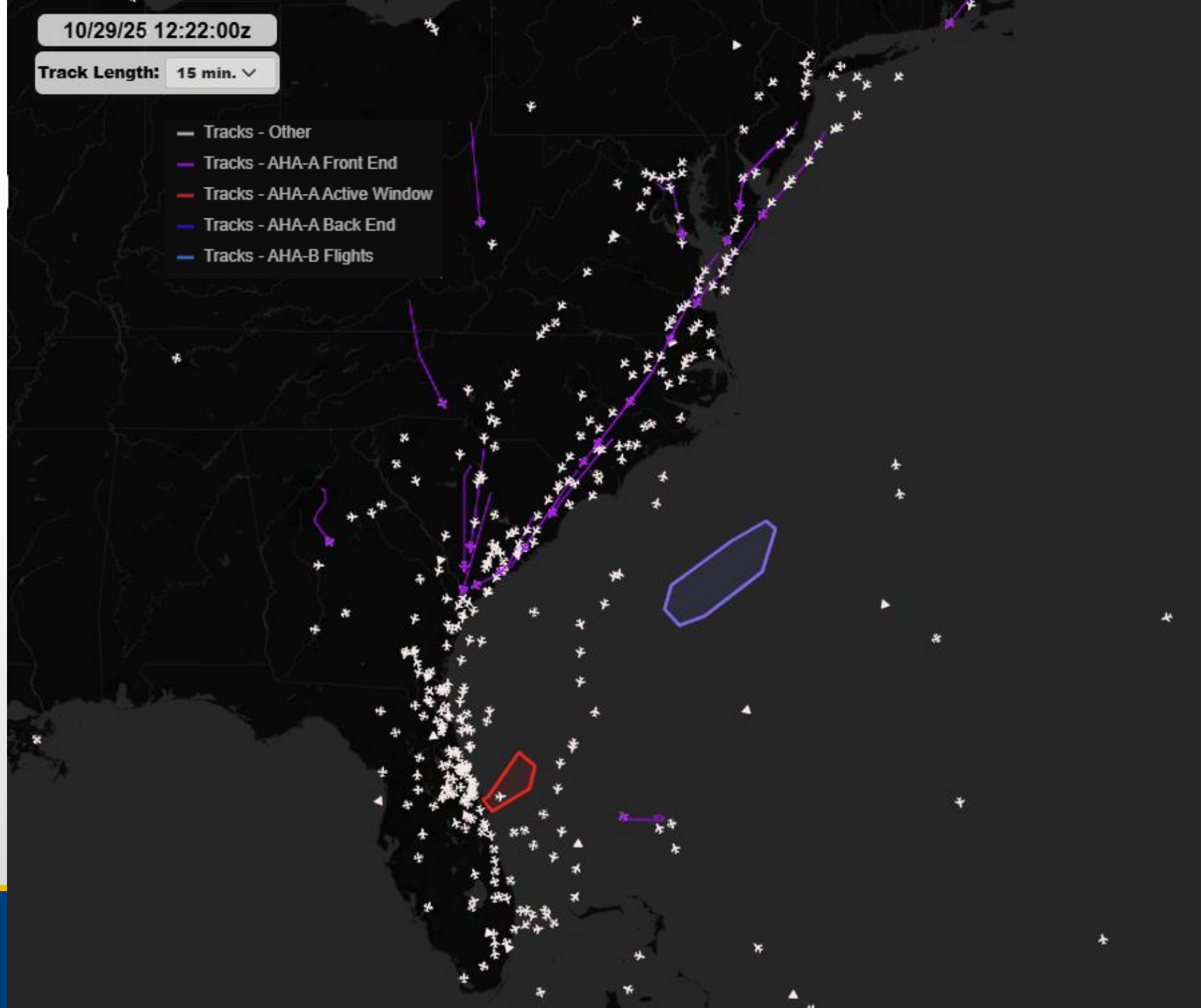




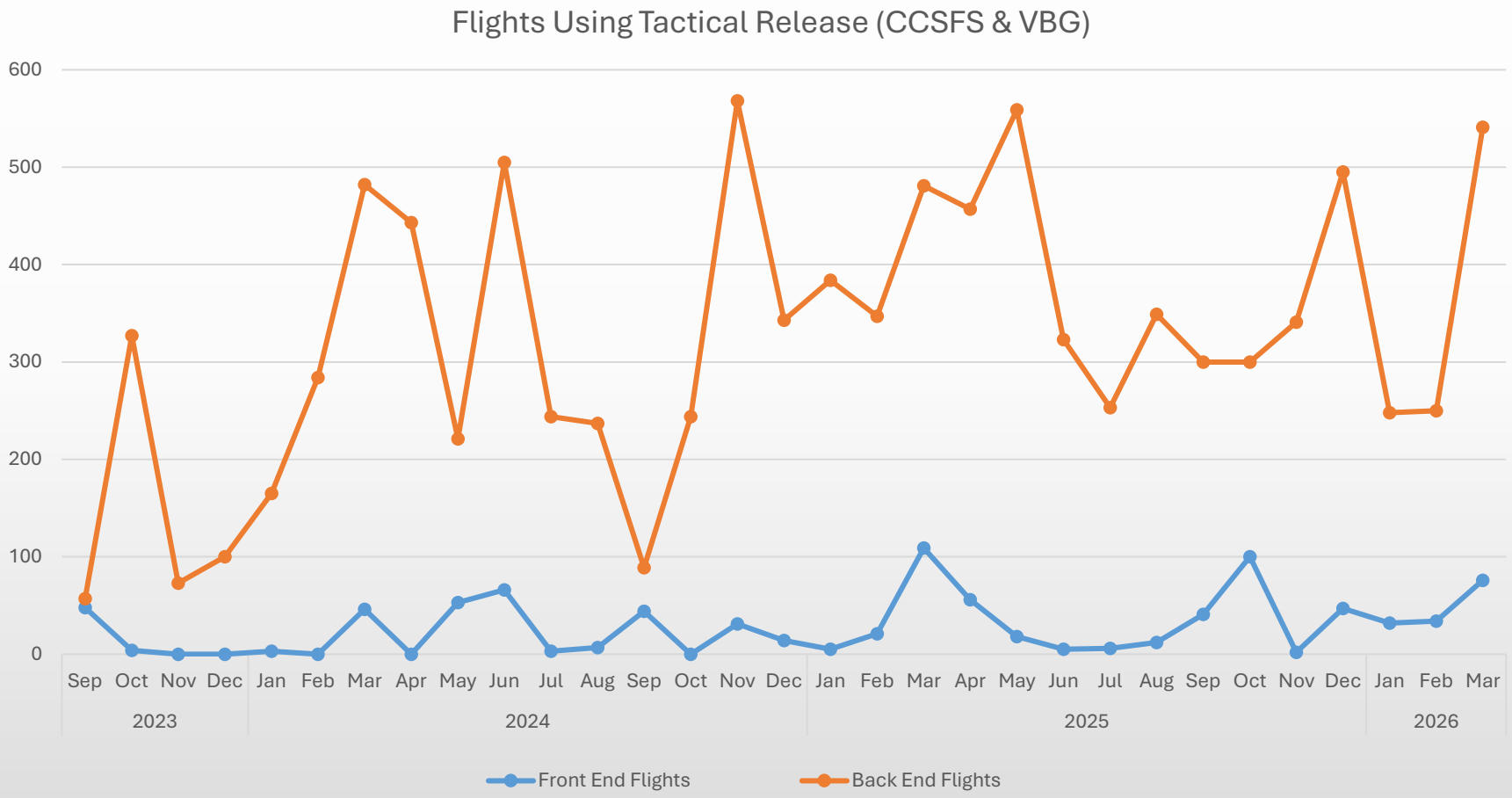
Time Range Shown:
1222z - 1734z

- *Schedule Window: 1252z – 1734z*
- *AHA-A Actual Window 1600z – 1639z*
- *AHA-B Actual Window 1600z – 1718z*
- *T0: 1636z*

- *Front End “Last Exit” : 1551z*
- *Back End “First Entry”: 1649z*



Flights Using Tactical Release



- Front End Tactical use has been relatively low
- Majority of Tactical use happened during the Back End window

Monthly Average	Front End	Back End	Total
CCSFS	16	276	292
VBG	13	47	60
Combined	**29**	**323**	**352**

Tactical Release Usage Stats (9/2023 -3/2026)

	Front End				Back End			
	Hrs Released	Actual Flights	Baseline Flights	Usage (%)	Hrs Released	Actual Flights	Baseline Flights	Usage (%)
CCSFS								
AHA-A	196	388	3022	13%	728	7119	9318	76%
AHA-B	178	111	806	14%	624	1245	2901	43%
AHA-C	1	0	2	0%	46	142	373	38%
AHA-D	0	0	0	--	27	40	185	22%
AHA-E	0	0	0	--	10	4	31	13%
AHA-F	0	0	0	--	10	2	4	47%
AHA-REENTRY	0	0	0	--	7	0	0	--
CCSFS Total	375	499	3830	**13%**	1453	8552	12811	**67%**
VBG								
AHA-A	111	370	725	51%	448	1393	2238	62%
AHA-B	51	14	6	249%	190	34	57	60%
AHA-C	1	0	0.4	0%	65	5	23	22%
AHA-D	0	0	0	--	44	4	12	35%
AHA-E	0	0	0	--	17	0	2	0%
AHA-MMFR	0	0	0	--	240	5	5	100%
AHA-MMFR1	0	0	0	--	26	1	1	100%
AHA-MMFR2	0	0	0	--	25	0	1	0%
AHA-REENTRY	1	0	0	0%	99	11	38	29%
VBG Total	164	384	731	**53%**	1154	1453	2374	**61%**
Grand Total	**538**	**883**	**4561**	**19%**	**2607**	**10005**	**15185**	**66%**

- Flights using the Front End Release was 19% of the Baseline
- Flights using the Back End Release was 66% of the Baseline
- Overall, flights using either Front End or Back End release window was **55% of Baseline traffic**

* Baseline: Avg flights during release window for the prior 8 weeks

14 CFR Part 417 to Part 450 Transition

Upcoming Space CDM Meetings

Meeting	Date	Location
ESC Meeting	June 10, 2:00 pm	Virtual
SpOC XV: Observe Aviation CDM Meeting	September 9: 9:00 am – noon	Virtual
ESC: Joint Space-Aviation CDM Meeting	September 9: 1:00 pm – 4:00 pm	In person – New York
ESC Meeting	December 8, 2026	Virtual
SpOC XVI	December 10, 2026	Virtual
ESC Meeting	March 2, 2027	In Person
SpOC XVII	March 3, 2027	In Person
ESC Meeting	June 2, 2027	Virtual
SpOC XVIII	June 3, 2027	Virtual