NAS Enterprise Architecture

Infrastructure Roadmaps v19.1

BASELINE

May 2025

Infrastructure Roadmap Overview

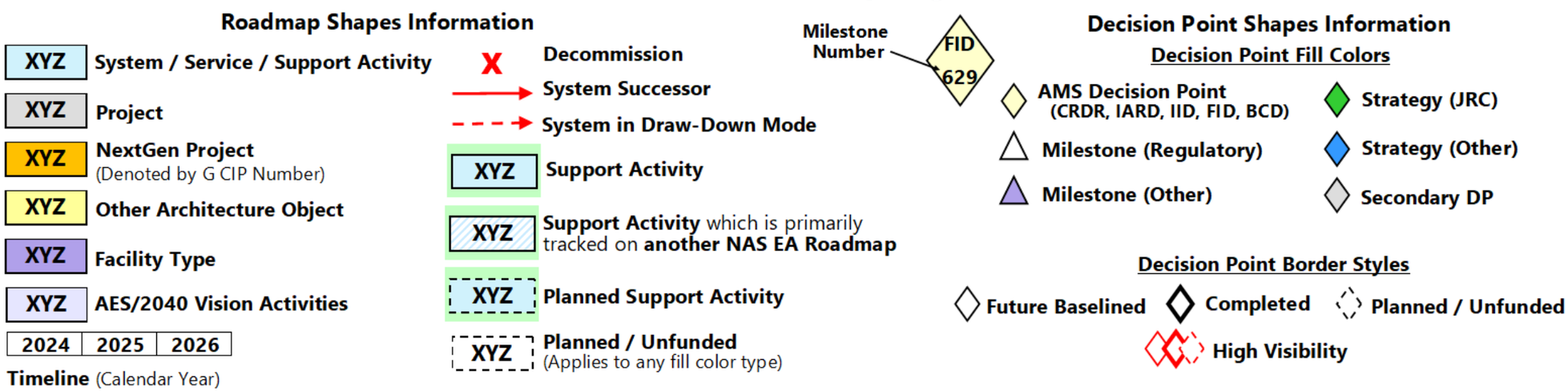
What are the Infrastructure Roadmaps?

- The FAA Infrastructure Roadmaps show the progression of system deployments, investments, and key decision points for major NAS acquisitions. They depict the acquisition strategy to evolve the NAS from the As-Is to the To-Be environment.
- The Infrastructure Roadmaps show all Capital Investment Plan (CIP) investment projects and systems identified in the NSIP that will deliver the necessary functionality to enable OIs and BTIs.

Guidelines for Understanding the Roadmaps

- The Infrastructure Roadmaps are organized by Domain (Automation, Communication, etc.) and depict projects, systems, services, decision points, and support activities.
- The timeline is in calendar years and shows a 17-year outlook.
- The roadmaps have swim lanes for Infrastructure (white), Support Activities (green), and Platform/Compute (purple).
- The DP diamonds represent the quarter in which a decision will occur.
- The Support Activity bars represent the dates that work is being performed on the activity.
- The Project bars represent the dates that CIP funding is allocated to a project.
- The System and Service bars represent the dates that a system or service is operational, with red lines indicating sustainment, drawdown, or convergence

Infrastructure Roadmap Legend



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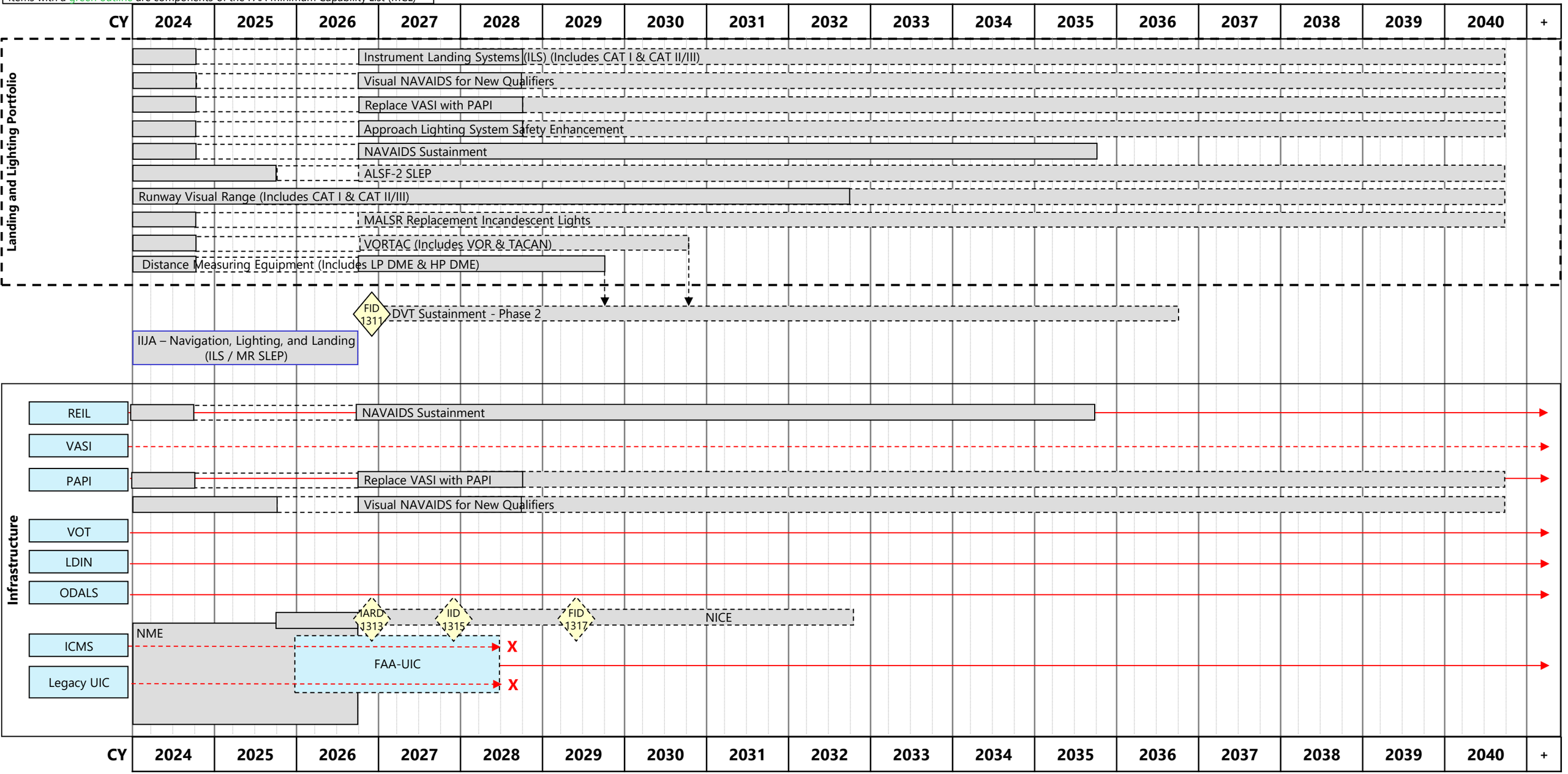
Navigation

The Navigation roadmap depicts the establishment, sustainment and evolution of ground-based, satellite-based, and visual navigation systems which enable aircraft to determine and report their position, navigate in accordance with clearances, and efficiently transit the NAS. These systems support conventional and Performance-Based Navigation (PBN) for the NAS and will ensure safe, efficient, and resilient services.

Items with a blue outline are lines of funding from the Infrastructure Investment & Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL).

Items with a green outline are components of the FAA Minimum Capability List (MCL)

Navigation Roadmap (1 of 3)



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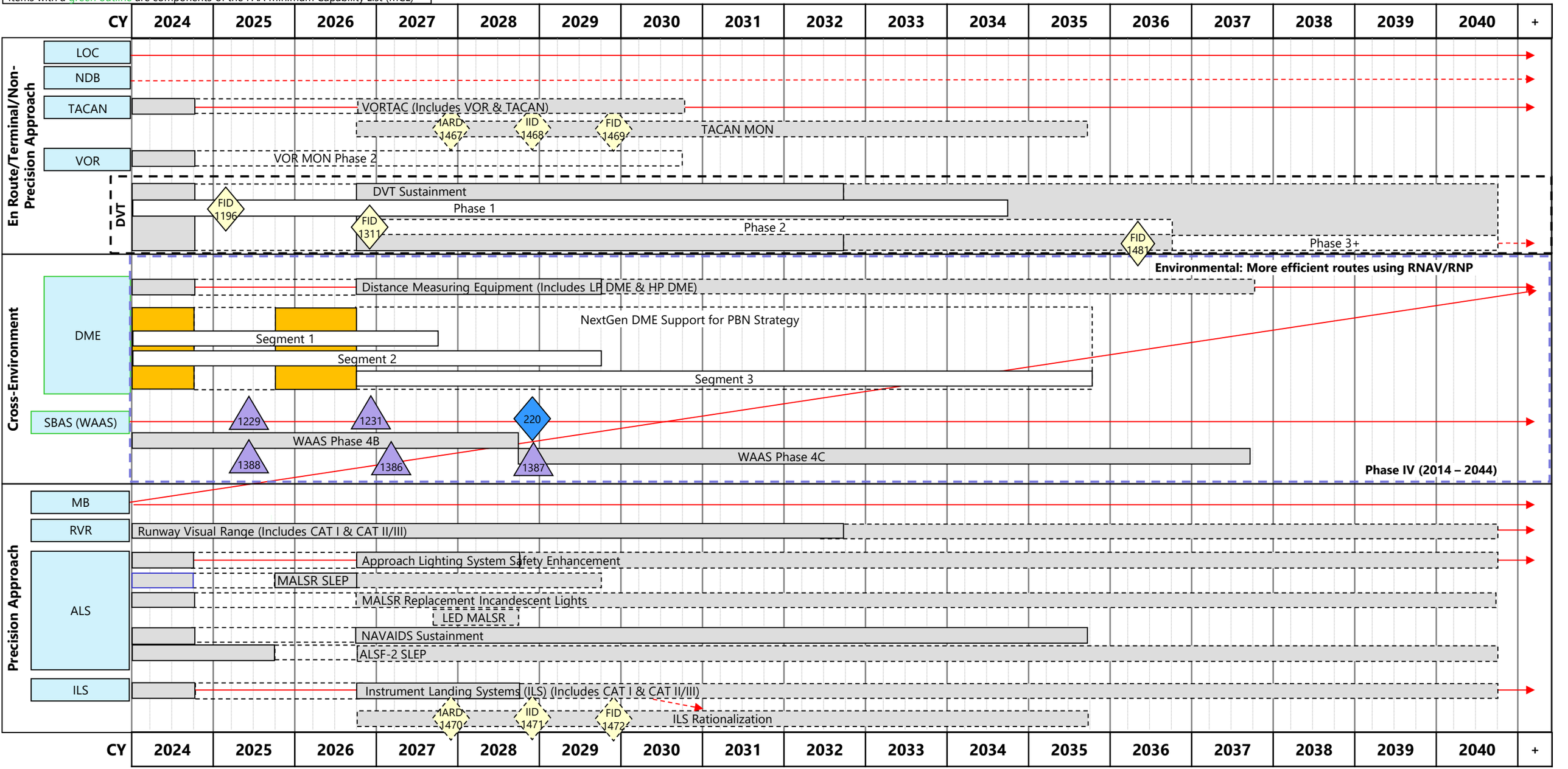
Navigation Roadmap (2 of 3)



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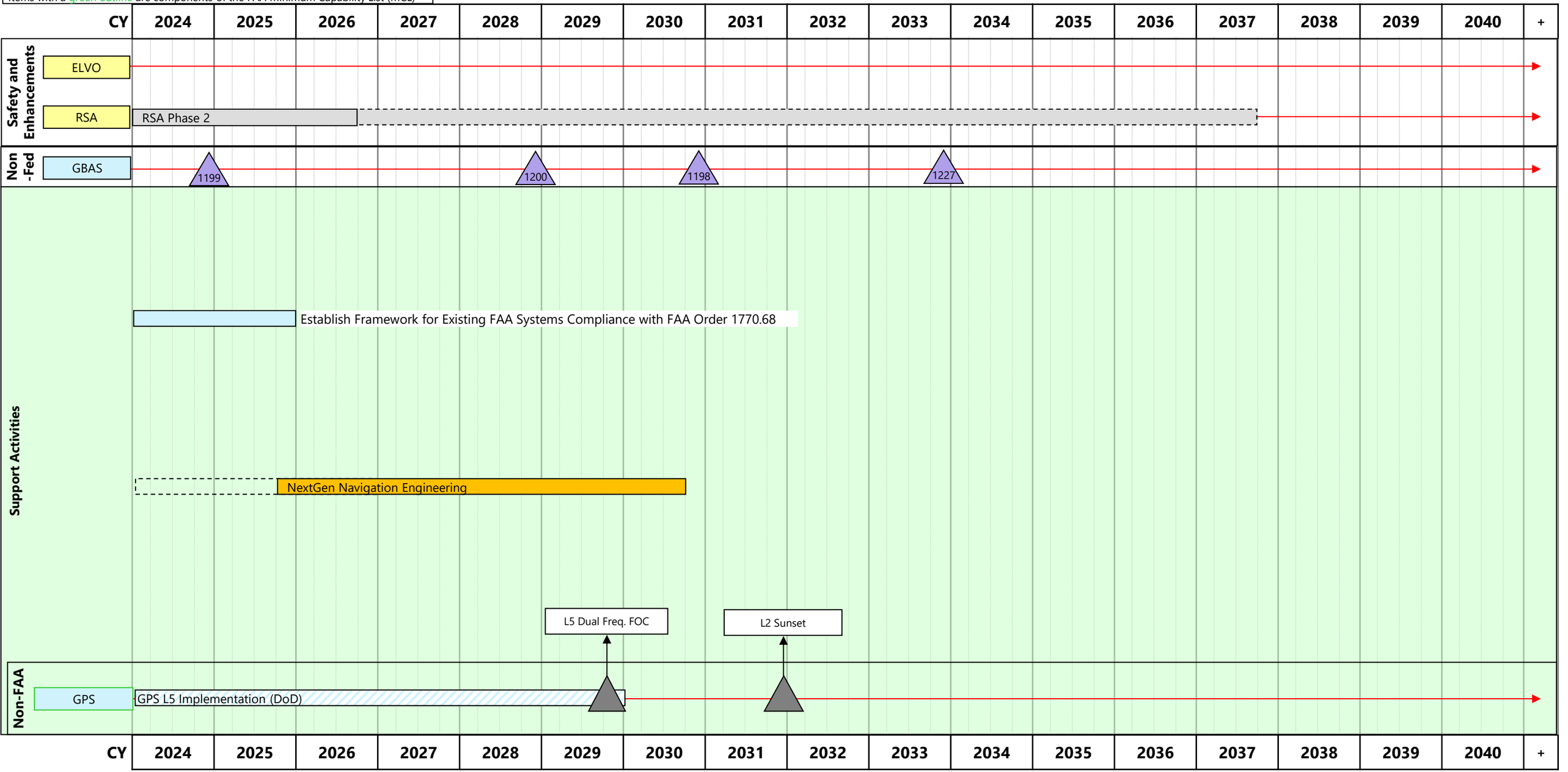
Navigation Roadmap (3 of 3)



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Navigation Roadmap: Assumptions (1 of 2)

Identifier	Description
NAV-01	FAA is transitioning to PBN operations as the primary capability for daily aircraft operations. PBN is comprised of RNAV and RNP routes and procedures for en route, terminal, and approach & landing operations. This will include: a) Transition from conventional routes and procedures defined by VOR to RNAV and RNP approaches enabled by GNSS and DME RNAV navigation as a GNSS outage backup. b) Expansion of Localizer Performance Vertical (LPV) approach procedures enabled by GNSS to provide vertical guidance to all qualifying airports. c) Enhance the DME network to expand DME RNAV coverage for en route and terminal operations as part of a resilient navigation infrastructure
NAV-02	NextGen implementation requires an aggressive transition to services that support Performance-Based Navigation (PBN). This requires: a) Navigation Strategy to be fully aligned with the FAA's PBN NAS Navigation Strategy, which provides: 1. Clearly defined operational needs and establishment of PBN services for airports and airspace. 2. Close collaboration with the aviation stakeholders
NAV-03	Need to continue working closely with users and the avionics industry to support additional aircraft equipage to facilitate the transition to PBN operations throughout the NAS a) The PBN Strategy provides operational benefits that encourage voluntary equipage. b) Equipage must be in place to support transition to PBN
NAV-04	PBN strategy includes the need for a resilient navigation infrastructure to maintain safety, security, and capacity and preclude significant economic impact during GNSS outages. This includes: a) Establishing a VOR MON to ensure continued en route and approach operations during GNSS disruptions for aircraft that are not equipped for DME RNAV. b) Providing infrastructure to enable DME RNAV aircraft to continue to their destination served by an ILS approach during GNSS disruptions. c) Sustain ILSs to support approach and landing operations during GNSS disruptions. d) Investigate complementary PNT capabilities to provide resiliency for evolving operational needs.

Navigation Roadmap: Assumptions (2 of 2)

Identifier	Description
NAV-05	FAA has no current plan to acquire Federal GBAS systems. GBAS installations will depend on individual airports' interest and investment.
NAV-06	Department of Defense will maintain a GPS constellation consistent with the Standard Positioning Service. Continue close coordination with DOD to ensure GPS continues to meet the PNT needs for aviation.
NAV-07	The Navigation Roadmap provides an infrastructure strategy to support all phases of flight.
NAV-08	In the future, the DME and VORTAC CIP will no longer be managed in the Landing and Lighting Portfolio and will be transitioned into the DVT Sustainment Program Phase 2.

Navigation Roadmap: Decision Points (1 of 1)

DP #	Target Date CY	Primary Domain	Type	Name
220	2028 Q4	Navigation	Strategy (Other)	Decision to cut over to Dual Frequency IOC Operations
1196	2025 Q1	Navigation	FID	Final Investment Decision (FID) for DVT Sustainment Program Phase 1
1198	2030 Q4	Navigation	Other Milestone	GBAS DFMC ICAO SARPS - Initial Draft
1199	2024 Q4	Navigation	Other Milestone	GBAS DFMC RTCA MOPS - Initial Draft
1200	2028 Q4	Navigation	Other Milestone	GBAS DFMC RTCA MOPS - Final Draft
1227	2033 Q4	Navigation	Other Milestone	GBAS Dual-Frequency Multi-Constellation Standards for Applicability
1229	2025 Q2	Navigation	Other Milestone	SBAS L1/L5 MOPS Part 2
1231	2026 Q4	Navigation	Other Milestone	SBAS L1/L5 SARPS Part 2
1311	2026 Q4	Navigation	FID	Final Investment Decision (FID) for DVT Sustainment Program Phase 2
1313	2026 Q4	Navigation	IARD	Investment Analysis Readiness Decision (IARD) for Navaids Interface-Connect Equipment (NICE)
1315	2027 Q4	Navigation	IID	Initial Investment Decision (IID) for Navaids Interface-Connect Equipment (NICE)
1317	2029 Q2	Navigation	FID	Final Investment Decision (FID) for Navaids Interface-Connect Equipment (NICE)
1386	2027 Q1	Navigation	Other Milestone	H-ARAIM IOC
1387	2028 Q4	Navigation	Other Milestone	H-ARAIM FOC
1388	2025 Q2	Navigation	Other Milestone	DFMC H-ARAIM MOPS
1467	2027 Q4	Navigation	IARD	Investment Analysis Readiness Decision (IARD) for TACAN MON/Resilient Operational (RON)
1468	2028 Q4	Navigation	IID	Initial Investment Decision (IID) for TACAN MON/Resilient Operational (RON)
1469	2029 Q4	Navigation	FID	Final Investment Decision (FID) for TACAN MON/Resilient Operational (RON)
1470	2027 Q4	Navigation	IARD	Investment Analysis Readiness Decision (IARD) for ILS Rationalization
1471	2028 Q4	Navigation	IID	Initial Investment Decision (IID) for ILS Rationalization
1472	2029 Q4	Navigation	FID	Final Investment Decision (FID) for ILS Rationalization
1481	2036 Q3	Navigation	FID	Final Investment Decision (FID) for DVT Sustainment Phase 3+