NAS Enterprise Architecture

Service Roadmaps v17.0

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February 2025

Service Roadmaps Overview

What are the Service Roadmaps?

- The NAS Service Roadmaps depict current NAS operations and the timeline for planned improvements that will deliver benefits to NAS users in pursuit of the Next Generation Air Transportation System (NextGen) vision and move towards a fully integrated information environment for select FAA services.

- The Service Roadmaps are updated annually as research and analyses more clearly define FAA service evolution.

Guidelines for Understanding the Roadmaps

- The Operational Improvement (OI) bars represent the date range within which an Operational Improvement is expected to be initially (e.g. at the first location) available to users. For OIs that are expected to be made operationally available incrementally, the range represents the earliest date for the first initial operational change to the latest date for the final operational change.

- Each Service Roadmap diagram is segmented by service capabilities, which are depicted by alternating gray and white backgrounds. The diagrams use segments with green background to capture Support Activities as needed.

- Appendix A contains the list of OIs that were completed and are no longer included on the current Service Roadmaps

Roadmap Legend

Roadmap Shape Information

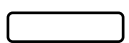| 2010 | 2011 | **Timeline (calendar year)** |

Current Operational Environment (COE)
Arrow indicates sustainment

Current Operation (CO)
Triangle indicates full operational availability

Operational Improvement (OI)
Fill color indicates status

Operational Improvements (OIs) by Status

OI with **Initial Operational Availability** status

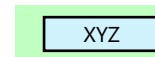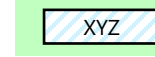**OI** with **Concept Exploration & Maturation** status

OI with **Development** status
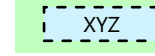
OI with **Planned** status
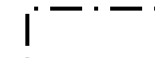
Support Activities (SAs)

XYZ — **Support Activity** which is **primarily tracked on Service Roadmaps**

XYZ — **Support Activity** which is **primarily tracked on another NAS EA Roadmap**

XYZ — **Planned Support Activity**

External Data Element being researched or developed by a NextGen partner agency/entity

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Service Roadmaps Overview

OI Status Definitions

- OI status is determined by the most mature capability solution, until the most mature solution achieves Initial Operational Availability (IOA) status.
- Once the most mature capability solution achieves IOA, the OI will remain IOA until all capability solutions are complete, and then the OI will transition to a Current Operation (CO).

OI Status	Definition
Planned	No funding – either internally or externally (e.g. NASA or other partner agency) – has been allocated. The OI represents a potential future concept.
Concept Exploration & Maturation	Work is underway and funded to define the concept, develop acquisition artifacts, mitigate risks, and determine the options for the implementation strategy. Solutions under development to deliver this operational change are currently in either concept and requirement definition or investment analysis up until a final investment decision is achieved (or a comparable agreement on the scope/implementation).
Development	The most mature solutions to deliver the operational change are under development. There may be additional solutions needed to fully deliver this OI which are less mature.
Initial Operational Availability	At least one of the capability solutions needed to deliver the operational change has been achieved or approved for use at an initial site. IOA occurs after demonstration of initial operational capability at the key test site(s). An OI remains in IOA until all capability solutions have achieved operational use.
Current Operational Environment (COE)	The current operational state of FAA service delivery to NAS users.
Current Operation (CO)	All capability solutions needed to fully deliver the OI are complete.

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Service Group 6: Certification

Certification Services is responsible for developing regulations; certification, continued operational safety, production approval and airworthiness of aircraft; in addition to certification of pilots, mechanics, and others in safety-related positions; certification of all operational and maintenance enterprises in domestic civil aviation, certification and safety oversight of U.S. commercial airlines and air operators; and oversight for civil flight operations. Certification services also includes the risk-based decision making framework, tools, and processes used to improve aviation safety overall.

Service 601:
Risk-Based Decision Making

Risk-based Decision Making Services build on safety management principles to proactively address emerging safety risk by using consistent, data-informed approaches to make smarter, system-level, risk based decisions.

Risk-Based Decision Making (1 of 1)

| CY | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | + |

Data

Automated Safety Information Sharing and Analysis (601104)

Predictive Analysis and Safety Information Sharing (601105)

Modeling

Integrated Safety Analysis and Modeling (601202)

Hazards

Support Activities

Automate Discovery of Precursors

| CY | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | + |

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Appendix A – Completed Operational Improvements

What is this Appendix?

- This appendix to the National Airspace System (NAS) Enterprise Architecture (EA) Service Roadmaps depicts the list of OIs that were completed and are no longer included on the current Service Roadmaps.

Guidelines for Understanding the Appendix

- When an OI becomes operationally available in the NAS, it transitions to a CO. After it transitions to operations, COs are removed from the Service Roadmaps to streamline the diagrams to focus on future improvements to NAS service delivery. This appendix also includes OIs that were completed but did not transition to operational use.

- This appendix is organized by FAA Services and provides the CO number, title, and date of operational availability.
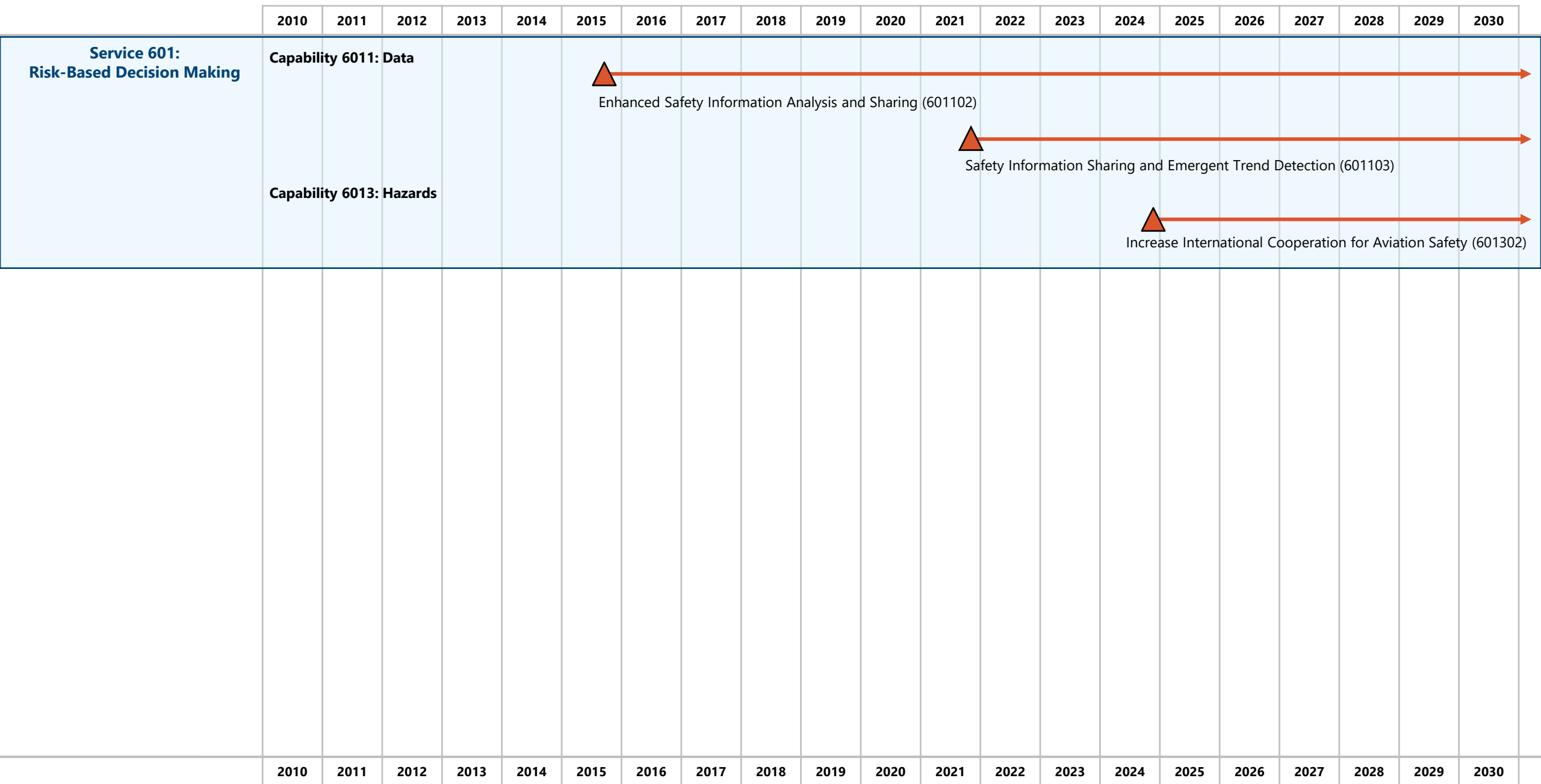
Legend

Roadmap Shape Information

Current Operation (CO)
Triangle indicates full operational availability

OI that was completed but did not transition to operational use

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Completed OIs (1 of 1)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030

Service 601:
Risk-Based Decision Making

Capability 6011: Data

Enhanced Safety Information Analysis and Sharing (601102)

Safety Information Sharing and Emergent Trend Detection (601103)

Capability 6013: Hazards

Increase International Cooperation for Aviation Safety (601302)

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