NAS Enterprise Architecture

Business & Technology Roadmaps v8.0

BASELINE

February 2025

Business & Technology Roadmaps Overview

What are the Business & Technology Roadmaps?

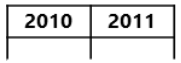
- The Business & Technology (B&T) Roadmaps are a collection of multi-year strategic roadmaps that depict enterprise-level changes to NAS internal operations, business processes, and functions that will lead to improved efficiencies, cost savings, and other benefits to the FAA. These NAS-focused improvements establish a life cycle approach that ensures the foundation of the NAS continues to modernize its technology and processes in support of future operational and technological improvements.
- The B&T Roadmaps are grouped by FAA Service and Capability and include the following elements that together show the evolution of the FAA Service:
  - **Current Business or Technology Environments (CBTEs)** describe the current state baseline of FAA service delivery
  - **B&T Improvements (BTIs)** are strategic or technological changes to the NAS intended to enhance FAA Service delivery through the realization of internal benefits (e.g. cost effectiveness)
  - **Current Business or Technology (CBTs)** are completed BTIs that show the capability solutions that are available and demonstrate evolution of the FAA service
  - **Support Activities (SAs)** are initiatives that inform the development or identification of new capabilities, policies, and procedures

Guidelines for Understanding the Roadmaps

- The Business & Technology Improvement (BTI) bars represent the date range for which an improvement is beginning implementation to when it is expected to be initially (e.g., at the first location) available to users. For BTIs that are expected to be made operationally available incrementally, the end date represents the first instance of the capability's operational availability. Expanded deployment of the capability beyond the first instance is captured on the Infrastructure Roadmaps.
- Each Business & Technology Roadmap diagram is segmented by Capabilities, which are depicted by alternating gray and white backgrounds as necessary.

Business & Technology Roadmaps Legend

Roadmap Shape Information



Timeline (calendar year)

Current Business & Technology Environment (CBTE) Arrow indicates sustainment

Current Business & Technology (CBT) Triangle indicates full operational availability

Date initial operational availability achieved

Business & Technology Improvement (BTI) Fill color indicates status

Business & Technology Improvements (BTIs) by Status

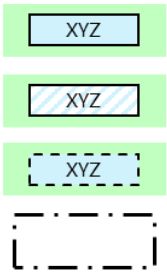
BTI with ***Initial Operational Availability*** status

BTI with ***Concept Exploration and Maturation*** status

BTI with ***Development*** status

BTI with ***Planned*** status

Support Activities (SAs)



Support Activity which is **primarily tracked on B&T Roadmaps**

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

Planned Support Activity

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

BASELINE

Business & Technology Roadmaps Overview

BTI Status Definitions

- BTI 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 BTI will remain IOA until all capability solutions are complete, and then the BTI will transition to a Current Business & Technology (CBT).

BTI Status	Definition
Planned	No funding – either internally or externally (e.g. NASA or other partner agency) – has been allocated. The BTI represents a potential future concept; initial development may have begun and this is used as a placeholder to assist in further refining of solution on interdependency relationships.
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 BTI 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). A BTI remains in IOA until all capability solutions have achieved operational use.
Current Business & Technology Environment (CBTE)	The current operational state of FAA service delivery to NAS users.
Current Business & Technology (CBT)	All capability solutions needed to fully deliver the BTI are complete.

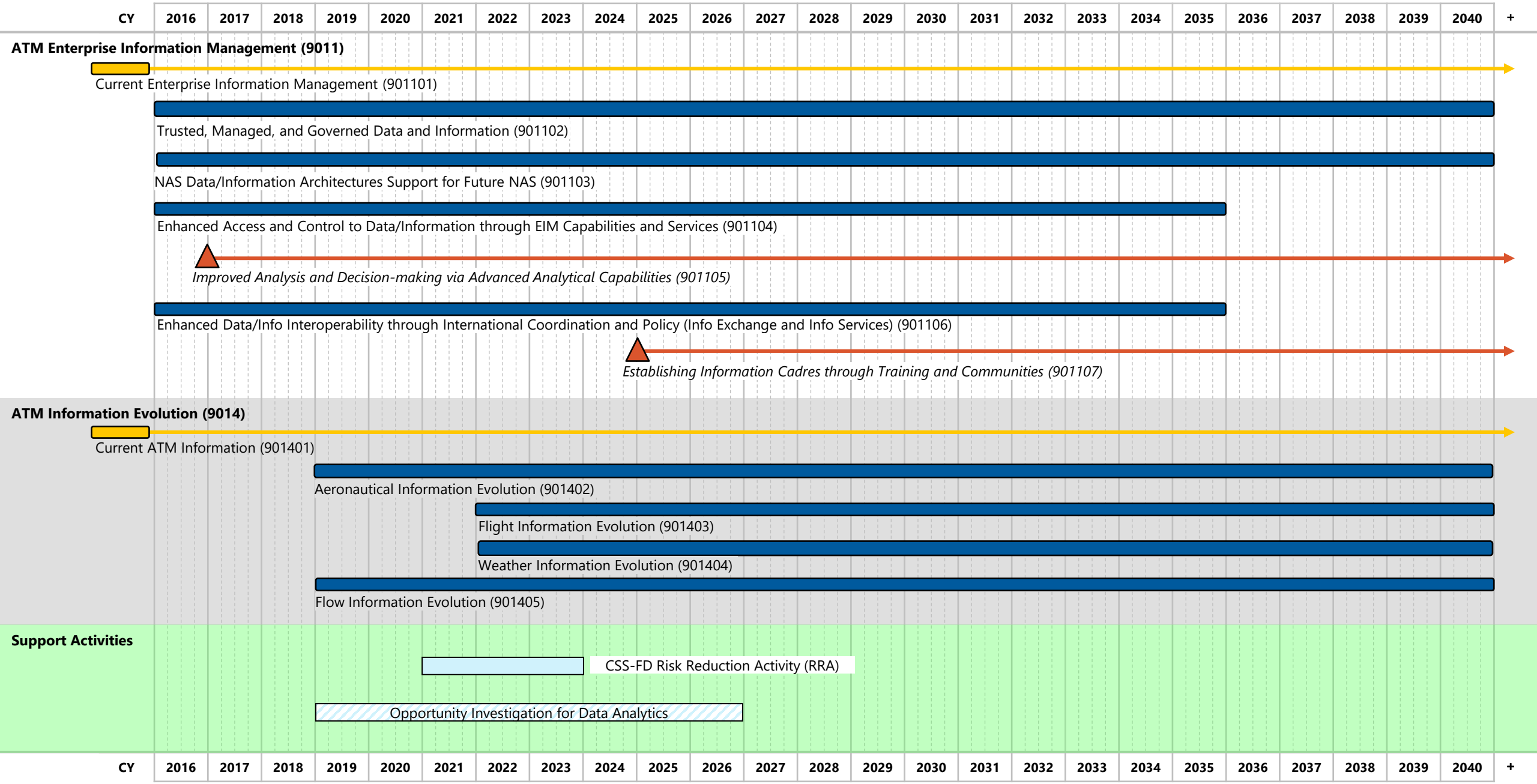
Service Group 9:
ATM Infrastructure Management

ATM Infrastructure Management encompasses capabilities required to enhance and promote sustainable maintenance and development of FAA ATM infrastructure required to support ATM Services. The FAA ATM Infrastructure is the set of telecommunications, radios, radars, hardware, software, and other electronics that supports the FAA's ability to meet its mission. Specifically, the ATM Infrastructure is comprised of the surveillance, communications, automation, navigation, weather and other support systems needed to provide air traffic management services that are safe and efficient.

Service 901:
FAA Data and Information Management

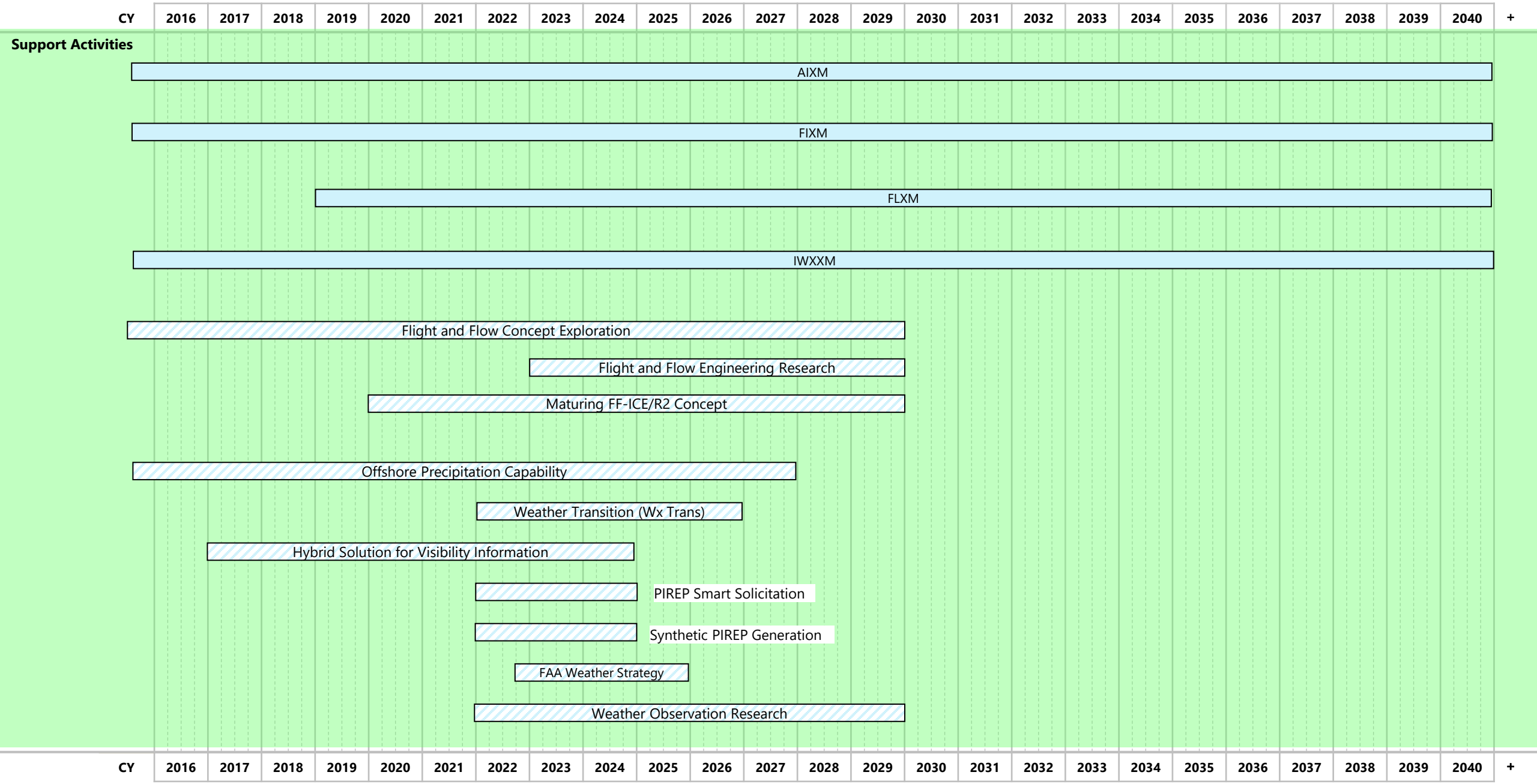
FAA Data and Information Management provides services to organize, disseminate, exchange, and govern data and information used in the safe and efficient provision data and information management services.

FAA Data and Information Management (1 of 2)



BASELINE

FAA Data and Information Management (2 of 2)

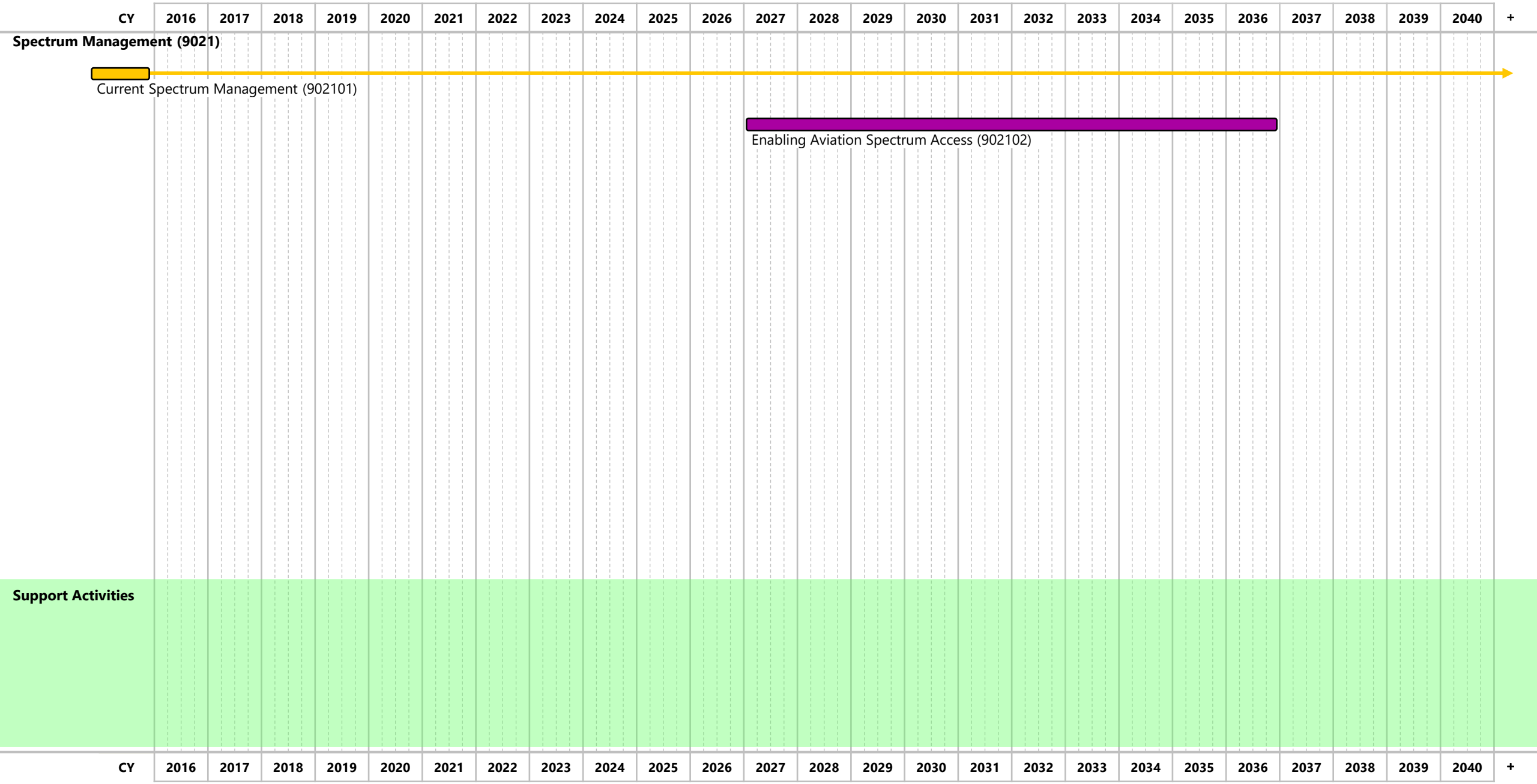


BASELINE

Service 902:
Spectrum Management

Spectrum Management secures, protects, and manages the radio spectrum for the FAA and the U.S. Aviation community. Through coordination and negotiation, it secures spectrum resources for aviation usage and establishes and issues policy and standards regarding frequency use. It assigns radio frequencies for ATM systems and conducts the engineering analysis and testing for new system requirements. It protects ATM systems by conducting Radio Frequency Interference investigations and coordinating with FCC and FBI to enforce the laws against unauthorized broadcast within the aviation protected radio frequencies. Spectrum Engineering Services protects the National Airspace System from any potential sources of interference from new wireless systems.

Spectrum Management (1 of 1)

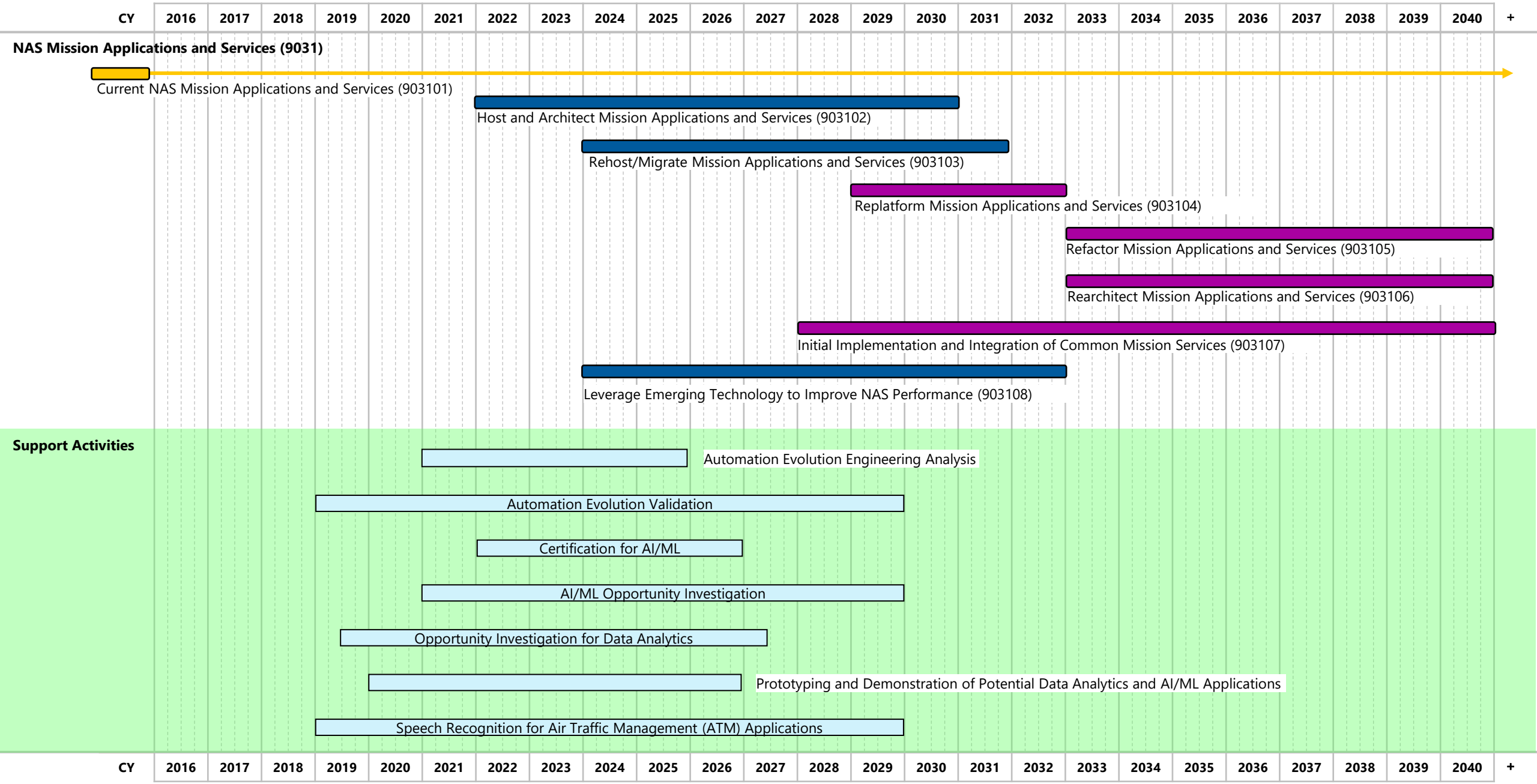


BASELINE

Service 903:
Automation Infrastructure

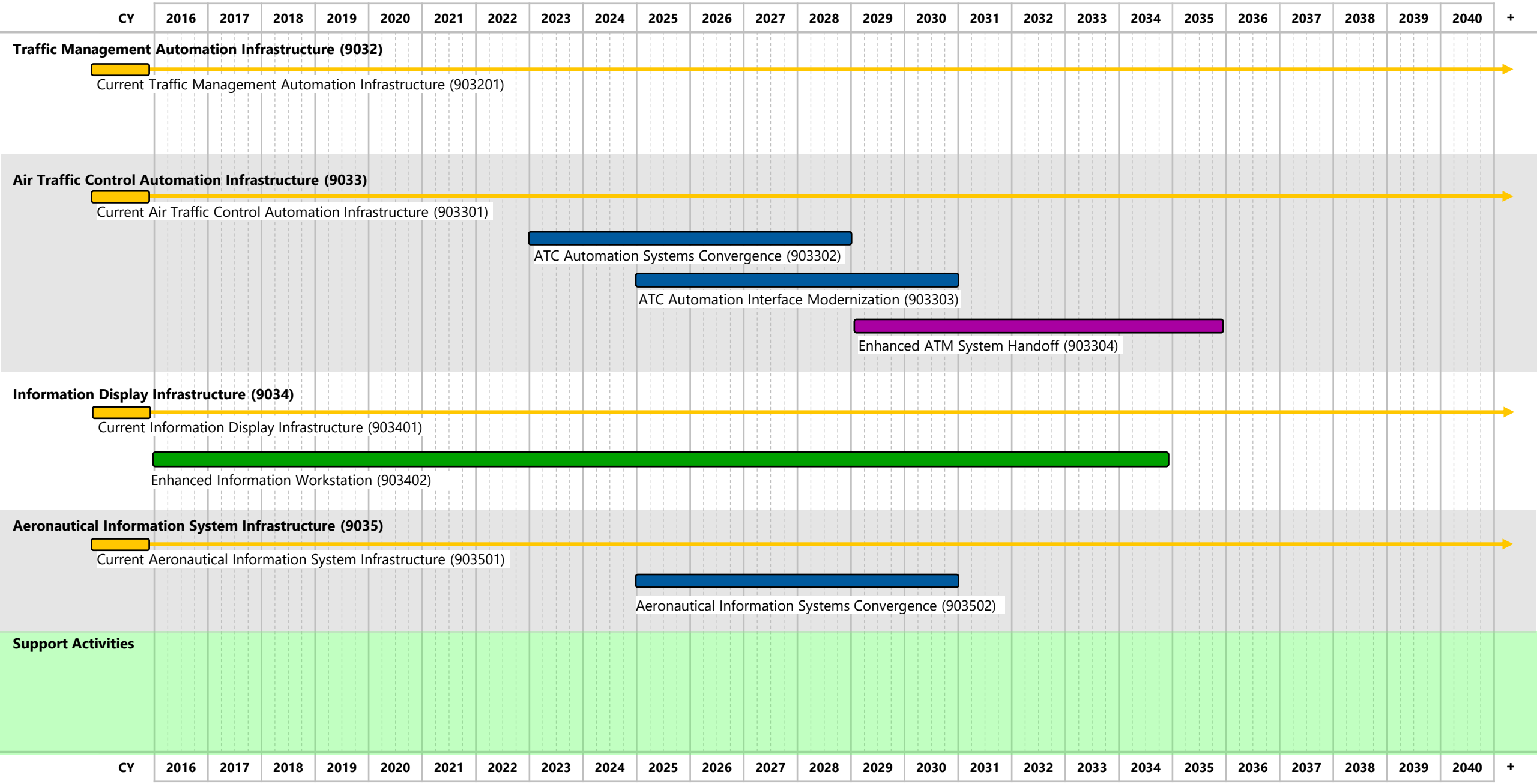
Automation Infrastructure provides critical hardware, software, networks, and services to enable decision support tools for air traffic services, including flight planning, air traffic control, and traffic management. This service includes on-premises infrastructure mechanisms as well as the transition of select systems to cloud-based infrastructure that uses a layered, service-based architecture and leverages common computing infrastructure to provide automation services.

Automation Infrastructure (1 of 2)



BASELINE

Automation Infrastructure (2 of 2)

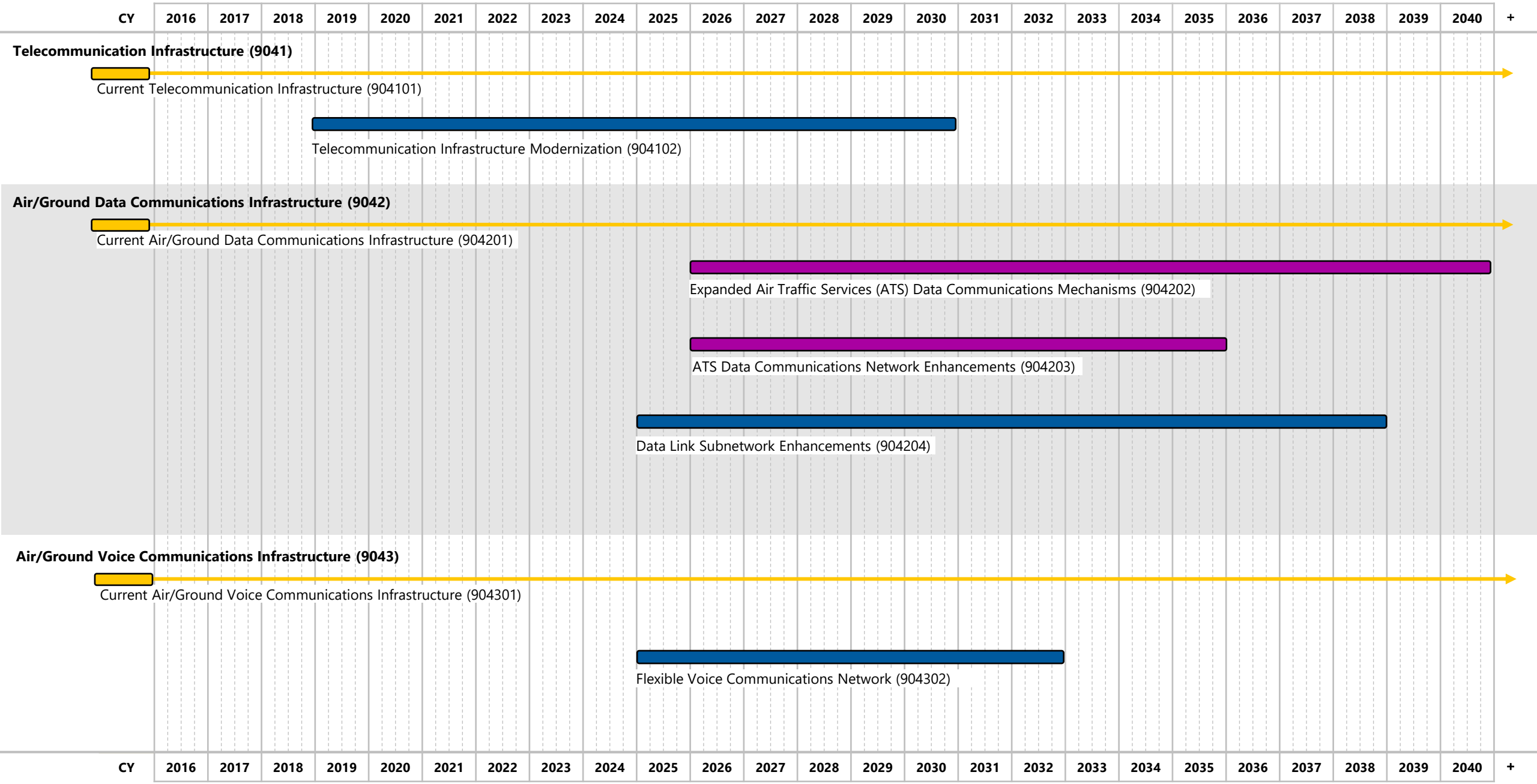


BASELINE

Service 904:
Communication Infrastructure

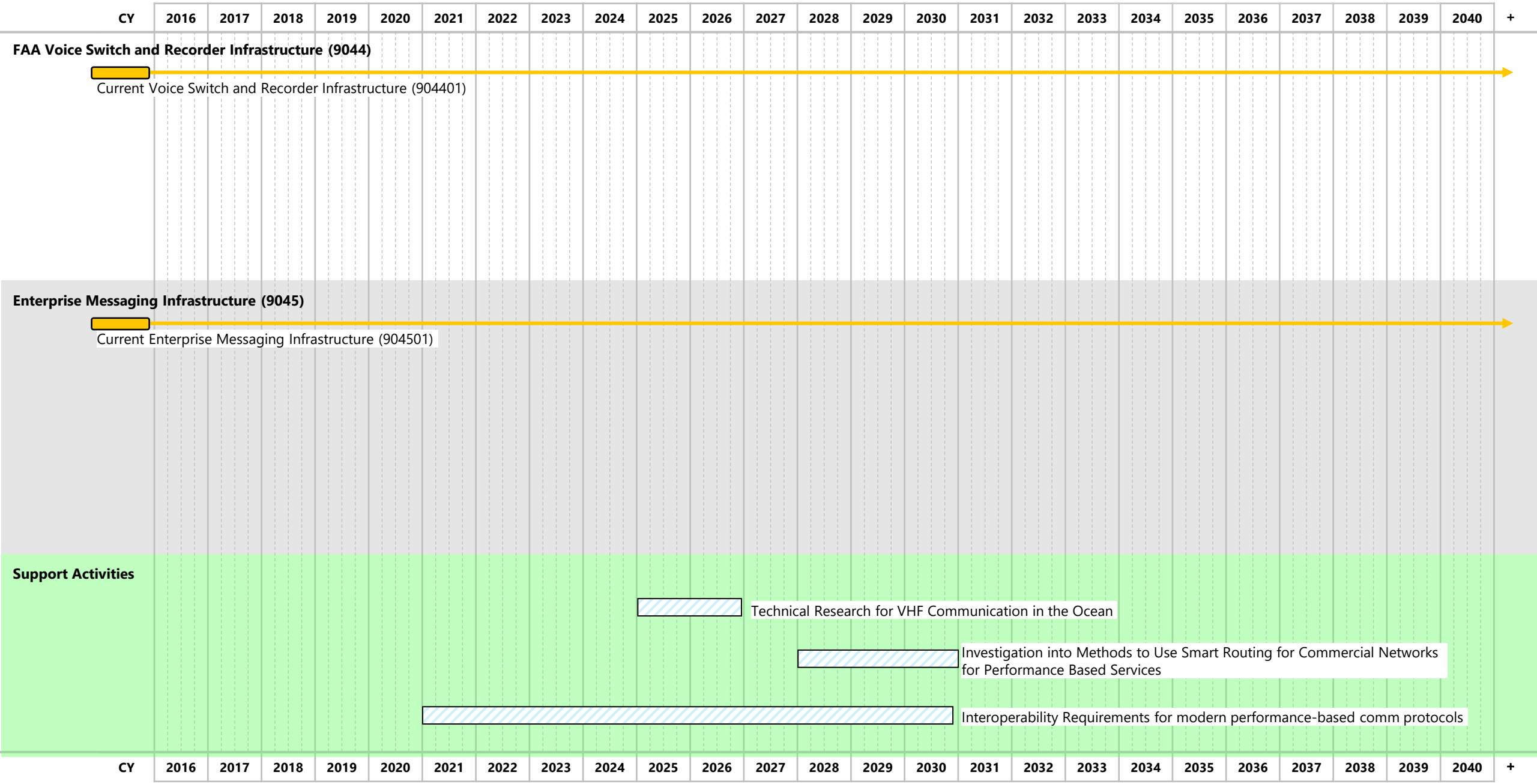
Communication Infrastructure provides transmission or recording infrastructure to enable voice and data communications within and external to the NAS.

Communication Infrastructure (1 of 2)



BASELINE

Communication Infrastructure (2 of 2)

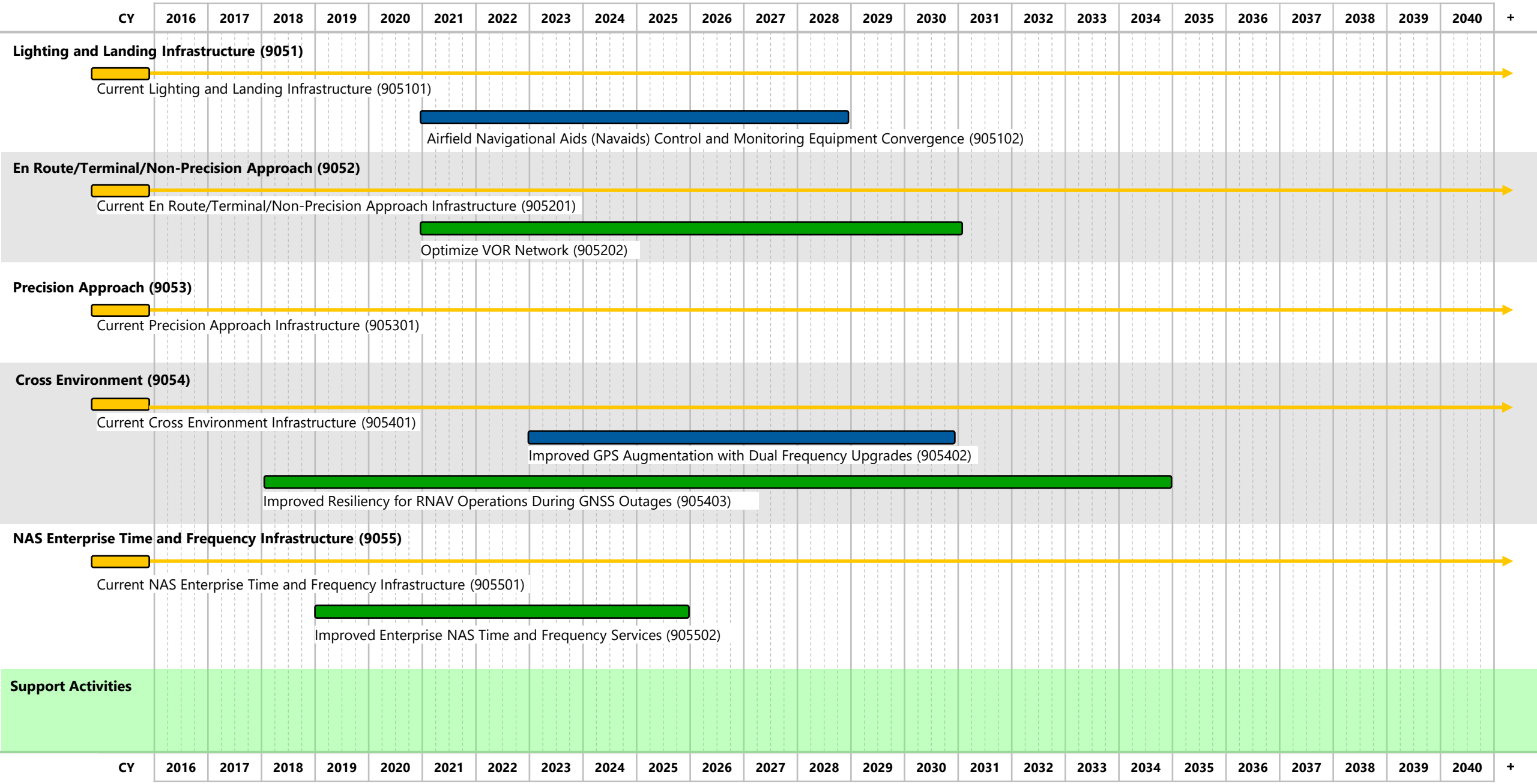


BASELINE

Service 905:
Navigation Infrastructure

Navigation Infrastructure provides the satellite- and ground-based navigational aid (NAVAID) infrastructure to support in both the en route and terminal environments. It includes the capability to support precision and non-precision approaches, as well as lighting and landing infrastructure to enable safe landings.

Navigation Infrastructure (1 of 1)

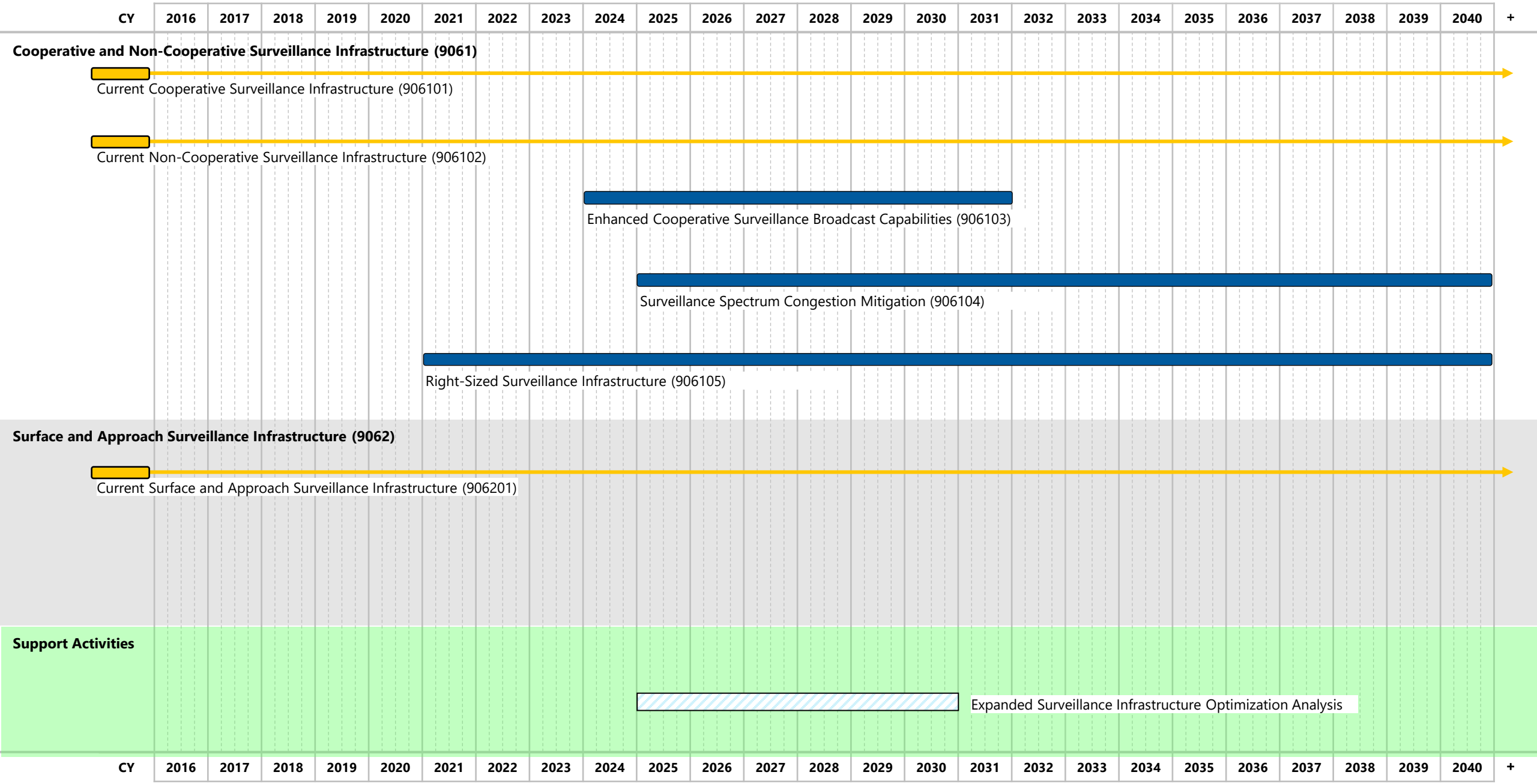


BASELINE

Service 906:
Surveillance Infrastructure

Surveillance Infrastructure provides the infrastructure necessary to determine aircraft position and to separate aircraft from other aircraft, airspace, terrain, surface vehicles, and other obstacles. The infrastructure includes both cooperative and non-cooperative surveillance, as well as surface and approach infrastructure.

Surveillance Infrastructure (1 of 1)

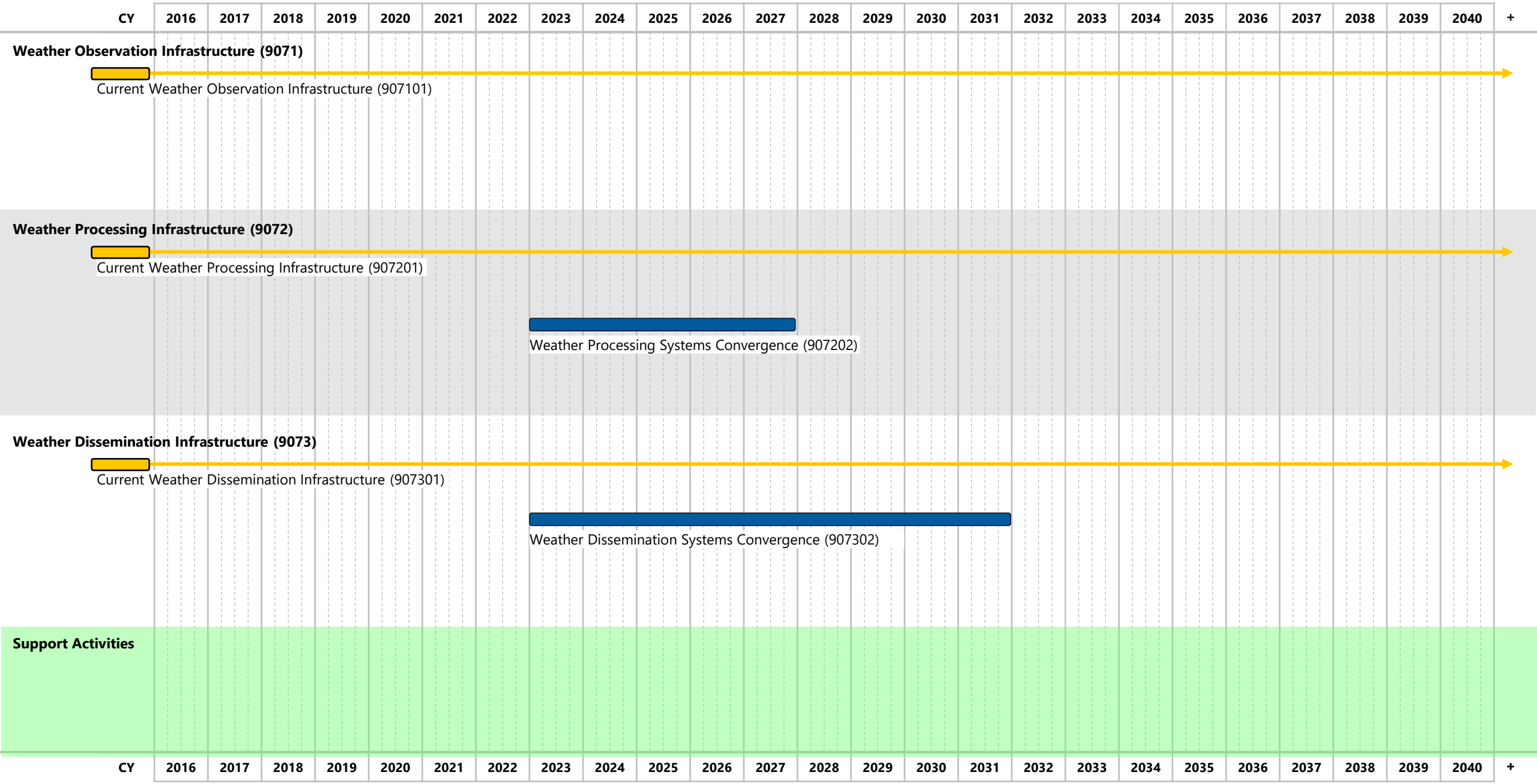


BASELINE

Service 907:
Weather Infrastructure

Weather Infrastructure provides the infrastructure required to observe, process, and distribute weather information for aviation use. FAA weather systems organize weather inputs from FAA and NWS observation systems for processing and dissemination to ATC display systems and users.

Weather Infrastructure (1 of 1)

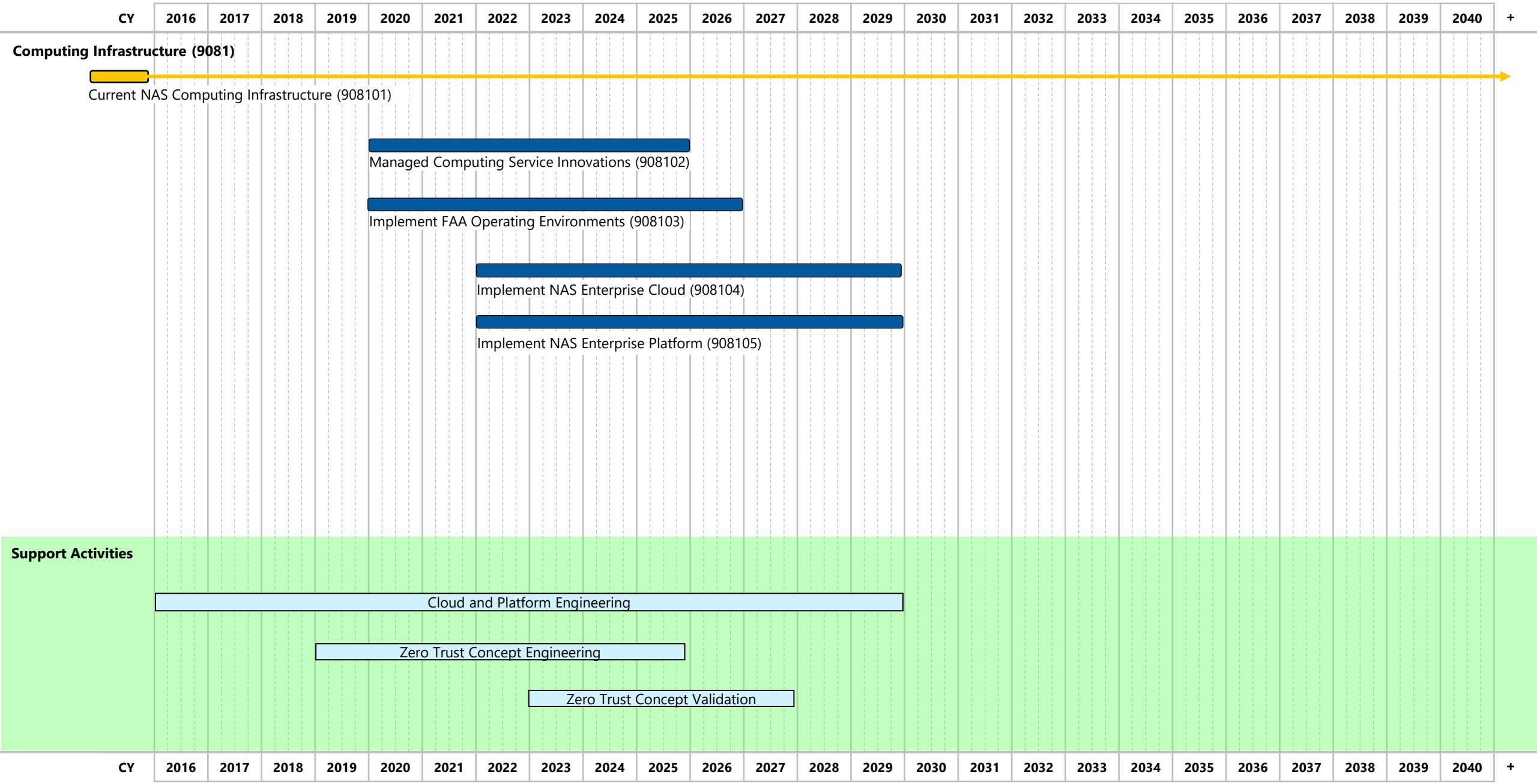


BASELINE

Service 908:
Computing Infrastructure

Computing infrastructure is a framework of physical and virtual resources that support the storage, processing, flow, and analysis of data. It includes computing power, networking, and storage, as well as an interface for users to access their physical or virtualized resources. This service includes the ability to implement a layered, service-based architecture that meet the needs of multiple programs and associated Air Traffic Management (ATM) systems.

Computing Infrastructure (1 of 1)



BASELINE