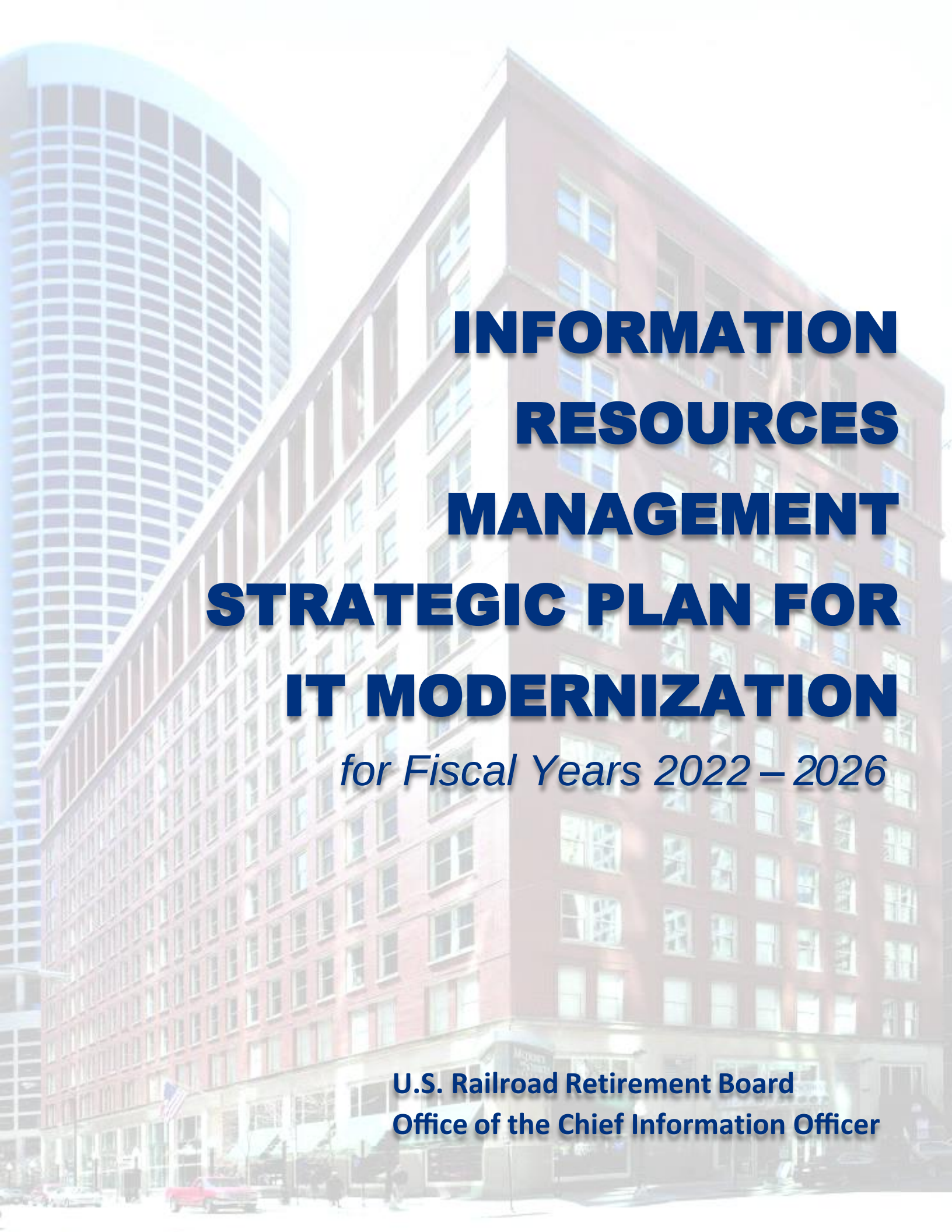

INFORMATION RESOURCES MANAGEMENT STRATEGIC PLAN FOR IT MODERNIZATION

for Fiscal Years 2022 – 2026

U.S. Railroad Retirement Board
Office of the Chief Information Officer

Stabilize | Modernize | Perform

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1 Message from the CIO

It is my privilege to present the US Railroad Retirement Board Information Resources Management Strategic Plan for Information Technology Modernization for Fiscal Years 2022 – 2026. The plan reflects our strategy using a three-phased approach to modernize numerous legacy systems, applications, and databases. This multi-year modernization effort is the agency's primary strategic priority and is focused on the immediate need to improve the experience of our annuitants and applicants from the US rail industry. Our modernization will greatly improve our efficiency and effectiveness as we carry out our mission with timely and accurate benefits administration.

The opportunity to modernize also enables the agency to become and remain nimble in a time of ever-changing requirements and unprecedented pace of technological advancement. Our modernization will use emerging technologies that apply to our mission and empower our annuitants and applicants to perform online self-services, allowing our workforce to focus their expertise on more complex customer requests.

In planning and implementing this strategic plan, we will work closely with our external customer base, consisting of rail employees and employers, as well as our internal customer representatives and claims examiners to ensure our technology solutions meet their needs. Opportunities abound for significant improvements across the mission and mission-support aspects of the agency. We look forward to collaborating with our leadership, our customers, and our colleagues to use technology in strategic ways always toward continuous improvement.

Finally, I offer my gratitude to the team of Information Technology professionals who will lead and contribute to the successful implementation of this strategic plan. It is my honor to work among them and together we will position and enable the agency's mission success for years to come.

Respectfully,

Terryne F. Murphy
Chief Information Officer
US Railroad Retirement Board

2 Executive Summary

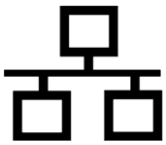
This strategic plan presents the goals and objectives of the RRB Information Technology (IT) Modernization Program. These goals and objectives align to the RRB's focus on the enablement of a mobile and distributed RRB workforce, to improve the customer experience and to secure and optimize information technology operations. We will review this plan annually to ensure the validity and sustainability of its key elements via feedback and performance management.

Our enterprise strategy for modernization is a three phased approach – Stabilize | Modernize | Perform. Currently, we are completing final projects in the Stabilize phase and are positioned to initiate the Modernize phase, focusing on the improvement of the customer experience by modernizing legacy mainframe applications in Fiscal Year 2023 (FY 2023). Our modernization efforts are focused in the following key areas:

Modernize legacy applications and systems

Data Optimization and Business Rules

Cybersecurity



Infrastructure/Cloud Optimization

As a medium-sized, independent agency, we have sought the use of shared services where appropriate and focused our modernization on legacy systems unique to our mission of benefits administration for the rail industry. Included in the opportunities to use shared services are the cyber services from Cybersecurity & Infrastructure Security Agency (CISA) and the Department of Justice, as well as identity-proofing, telecommunications, and network services from the General Services Administration.

Legacy Applications and Systems

We use over 200 legacy applications written in dated programming languages which must be modernized. To enable modernization, we must re-establish our institutional knowledgebase in the technology applications and components which enable our ability to administer benefits to the rail labor community. We must improve our ability to exchange medical information with providers and use required documentation effectively and efficiently. We must refine our core business processes and automate where appropriate. Additionally, we intend to provide multiple online self-services for our customers to improve their experience interacting with the RRB.

Data Optimization and Business Rules

Currently, our business rules are embedded within multiple legacy applications and disparate databases. We seek to extract these business rules, consolidate them, and create a business rules engine that supports all modernized applications. This will simplify modification efforts for benefit applications and procedures when legislation changes occur. A unified data model will better enable the RRB to be responsive to the rail community throughout the multiple services we provide.

Cybersecurity

We have partnered with CISA as consumers of several cybersecurity services provided through the Continuous Diagnostic Monitoring Program (CDM). We are currently investigating the Department of Justice's Cyber Security Assessment and Management (CSAM) tools to automate and enable continuous monitoring and governance of our cybersecurity program. We intend to utilize Security Operations Center as a Service (SOCaaS) to increase our suite of existing capabilities. Implementation of our zero-trust strategy, aligned to the federal Zero-Trust Architecture (ZTA) strategy, is underway. We are already making use of new cloud-based tools and services acquired during the modernization of our infrastructure and implementation of cloud environments. By embedding security in everything we do, we will continue to expand our zero-trust capabilities and our cybersecurity portfolio as we continue our IT modernization.

Infrastructure/Cloud Optimization

Since establishing our presence in several cloud environments during the Stabilize Phase of our IT Modernization Program, we will optimize our operations through consolidation of our infrastructure within the new cloud environments. As we look to modernize component systems of our enterprise such as the imaging system, we are always looking for more opportunities to consolidate and integrate related functions that improve our customer's experience. Additionally, we will find other opportunities to modernize and confirm our compliance with several Federal guidelines such as National Archives and Records Administration (NARA) standards and National Institute of Standards and Technology (NIST). To further improve users' experience in our IT service delivery and incident handling, we will model our operations according to the industry-standard IT support framework Information Technology Infrastructure Library (ITIL).

3 Mission and Vision

The RRB's Strategic Plan for FY2022 – FY2026 provides guidance for enterprise-wide strategic priorities aligned with the agency's mission and vision. This document describes in detail the RRB's IT Modernization Priority.

Mission	Vision	Priorities
Secure, accurate, and timely benefits administration in accordance with all enacted legislation.	Customer-focused innovation to provide expanded, fiscally responsible, quality online and web-based services.	1. IT Modernization 2. Customer Service 3. Trust Fund Stewardship

Over the next several years, we commit to the following four Strategic Goals, which are derived from and aligned with the RRB's Mission, Vision, and Priorities:

Improve the User Experience

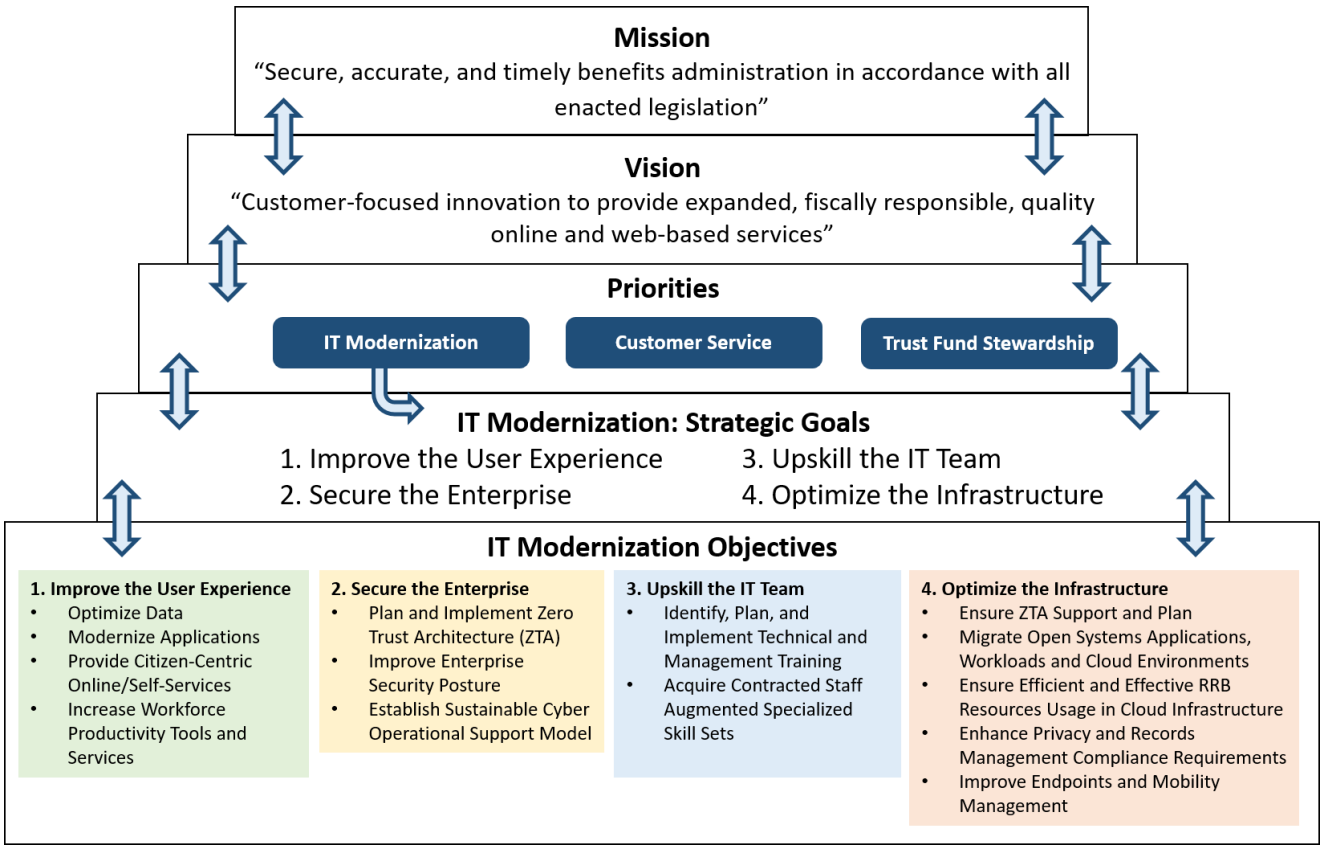
Secure the Enterprise

Upskill IT Team

Optimize the Infrastructure

These goals are aligned so that they map back to and meet agency Priorities, Vision, and Mission. Figure 1 illustrates this alignment.

Figure 1



To illustrate the mapping of RRB IT projects to each of the IT Modernization Strategic Goals, the **IT Modernization Program Roadmap** is included in Appendix 5.1, which list the projects in each of RRB's IT domains (Applications, Data, Cyber, Infrastructure, and Compliance) for fiscal years 2022 - 2026. The **Focus Areas Alignment to Strategic Objectives** chart in Appendix 5.2 maps how each IT domain has overarching focus areas that contribute to the strategic goals (marked by a "✓"), therefore aligning with the IT Modernization Program. The following paragraphs describe each goal and their value.

User Experience

The RRB provides services for over 675,000 citizens which include railroad employees, retirees, and their families and more than 700 rail employers. Even though the RRB offers a limited number of online services thru our MyRRB.gov portal, we must increase our online self-services for our citizens. It is imperative that improvements in technology and our strategy for modernization are always citizen-centric and put our citizens first. Each strategy within this plan has a direct link back to improving the user experience when engaging with RRB for business-to-business or customer-to-business interactions.

Enterprise Security

Improving the safety and security of our public services, while adhering to Executive Orders for cybersecurity and implementing the Federal Zero Trust Architecture (ZTA) Strategy are key ingredients for maintaining the trust of our citizens. We plan to strengthen our cyber security posture by extending the zero trust architecture to our cloud services and enhance our visibility of threat activity and risk. Modernizing our enterprise security means expanding RRB systems and applications in our secure and reliable cloud environments, which further extends the power of our strategy. Therefore, we will focus our cybersecurity efforts on security controls for all projects, tasks, and activities of the IT Modernization program.

IT Team Upskill

Multi-year modernization programs may incur significant risks as a result of technical and organizational changes. RRB's technical staff must acquire the necessary knowledge and skills to turn modernization efforts into realized outcomes. We will provide adequate training to prepare them for the future. We intend to upscale essential skills/competencies through knowledge transfers and the identification, implementation, and training of key roles. We will also augment staff with roles that fill core-competency gaps by alternative staffing methods (e.g., Federal Not-to-Exceed hires, Service contracts).

Infrastructure Optimization

Our recent infrastructure improvements have reduced the RRB's mainframe footprint, migrated resources to cloud environments and utilized Software as a Service (SaaS) opportunities. The RRB will continue to optimize these investments and ensure effective management of our infrastructure while maintaining high availability for mission critical systems. Optimizing the infrastructure also enables the RRB to ensure compliance with privacy and records management standards and guidelines.

4 Goals and Objectives

The following outlines the objectives of each strategic goal.

Goal 1: Improve the User Experience

Strategic Objective 1.1 Optimize Data

Strategic Objective 1.2 Modernize Applications

Strategic Objective 1.3 Provide Citizen-Centric Online/Self Services

Strategic Objective 1.4 Increase Workforce Productivity Tools and Services

Goal 2: Secure the Enterprise

Strategic Objective 2.1 Plan and Implement the Federal Zero Trust Architecture (ZTA)

Strategic Objective 2.2 Improve Enterprise Security Posture

Strategic Objective 2.3 Establish Sustainable Cybersecurity Operational Support Model

Goal 3: Upskill the IT Team

Strategic Objective 3.1 Identify, Plan, and Implement Technical and Management Training

Strategic Objective 3.2 Acquire Contracted Staff Augmented Specialized Skill Sets

Goal 4: Optimize the Infrastructure

Strategic Objective 4.1 Ensure ZTA Support and Plan

Strategic Objective 4.2 Migrate Open Systems Applications, Workloads and Cloud Environments

Strategic Objective 4.3 Ensure Efficient and Effective RRB Resources Usage in Cloud Infrastructure

Strategic Objective 4.4 Enhance Privacy and Records Management Compliance Requirements

Strategic Objective 4.5 Improve Endpoints and Mobility Management

We are committed to deliver improved user experiences to our citizens, which includes external railroad employees, retirees, employers, and internal mission support staff. Improving the user experience focuses on the modernization and optimization of agency data, legacy applications, and implementation of numerous citizen-centric online self-services.

Objective 1.1: Optimize Data

Accomplish data optimization by building modern database systems to consolidate and restructure legacy data. Consolidating data allows for seamless flow through our benefits processing systems and reduces errors by streamlining data storage. Restructuring databases transitions disparate databases into manageable and logical data structures.

Objective 1.2: Modernize Applications

Design and develop cloud-based customer applications to replace/retire outdated applications that do not meet user defined business needs. We envision that application modernization will focus primarily on high volume transaction applications. It is our intention to group together inter-related legacy applications that support specific functions of our core business processes. Modernizing some business processes will require streamlining while others will need consolidating, but in time, all agency operations will gain efficiency and effectiveness to support the RRB mission and customer needs.

Objective 1.3: Provide Citizen-Centric Online/Self Services

During previous IT modernization projects with a credible consulting firm and an inter-agency partnership, RRB user research was performed and identified capabilities that RRB citizens would like to experience and receive the most benefit. These findings have informed us that our citizens would benefit from mobile, self-service apps on the MyRRB.gov portal to apply for their RRB benefits. We envision improving the experience of our users by ease of use for new applications, creating additional services, and modernizing legacy applications which will yield the mission-focused objectives we desire for our modernization efforts.

Objective 1.4: Increase Workforce Productivity Tools and Services

Implement new tools and services for RRB's workforce that empowers them to be more productive. By providing intuitive, easy-to-use interfaces and streamlined access to data, we will expand our mission support capabilities. Looking toward the future, the RRB will continue adopting new and expanded IT solutions and services which are tightly aligned with our new enterprise cloud environments (i.e. Microsoft 365 and Azure, Amazon Web Services, IBM zCloud).

Goal 2

Secure the Enterprise

The RRB seeks to continuously improve its overall security posture as measured annually in the Federal Information Security Modernization Act (FISMA) auditing process. In the past few years, the RRB has made great strides in improving its security posture across all domains. This strategic goal highlights the RRB's commitment to continuous improvements to secure the enterprise and mitigate risks within our environment. Accordingly, the RRB Plan for Modernization will specifically focus on several areas of the Risk Management Framework, including, but not limited to:

1. continuous monitoring,
2. configuration and asset management,
3. incident response, and
4. awareness training.

Objective 2.1: Plan and Implement Zero Trust Architecture (ZTA)

Plan and implement the Federal Zero Trust Architecture (ZTA) and plan, in accordance with M-22-09, Moving the Government toward Zero Trust Cybersecurity Principles, dated January 26, 2022. With an identity-centric zero-trust approach, the RRB will ensure least privilege access by verifying who or what is requesting access, context of the request, risk to the accessed environment, and just-in-time or just enough privilege elevation.

Objective 2.2: Improve Enterprise Security Posture

Improve the RRB Enterprise security posture as demonstrated by consistent achievement of Level 3 (Consistently Implemented) and/or Level 4 (Managed and Measurable) FISMA metrics across all domains identified in the Risk Management Framework. The RRB plans to assess the effectiveness of information security programs on a maturity model spectrum, in which the foundational levels ensure the agency develop sound policies and procedures.

Objective 2.3: Establish Sustainable Cyber Operational Support Model

Establish a sustainable cybersecurity operational support model that will ensure strong security in RRB's modernized environment. The RRB will perform in-depth joint targeting and cybersecurity planning processes, gather information, and develop detailed Operational Plans and Orders supporting requirements. We will conduct strategic and operational-level planning across the full range of operations for integrated information and cyberspace operations.

RRB will pursue higher levels of essential skills and competencies for the IT workforce. RRB intends to "upscale" essential skills and competencies via three strategies:

1. Knowledge transfer.
2. Implementation of specific key roles.
3. Training and adoption.

We want to augment existing IT staff with Federal NTE employees, perform knowledge transfer activities (i.e. Role Based Learning Plan), and partner with vendors to provide training and expertise.

Objective 3.1: Identify, Plan, and Implement Technical and Management Training

Identify, plan, and implement appropriate technical and management training to RRB staff that will enable our team to meet our modernization goals. This will occur through the establishment of technical and management training for new tools and methodologies to be used during modernization and for better management of IT projects. The training needs assessment process (organizational, task & individual) will identify any gaps in the current training initiatives and technical/management skill sets. These gaps will be analyzed, prioritized, and utilized as the agency's training objectives.

Objective 3.2: Acquire Contracted Staff Augmented Specialized Skill Sets

Acquire specialized skill sets needed to augment agency technical and management staff, through contracts and align them to appropriate technical and management functions. This will ensure sufficient resources and skill sets to achieve our modernization goals. Through staff augmentation service providers, the RRB can hire highly specialized staff for short-term projects and scale our team up or down based on their needs. Additional benefits of staff augmentation include reduced cost of recruitment, lower development costs, increased productivity, and rapidly deploying services for our rail community.

Goal 4

We have made significant strides in modernizing our enterprise infrastructure during the Stabilize Phase. As we go thru the Modernize Phase, we seek to optimize these cloud environments to realize efficiencies and opportunities to enhance our service delivery offerings. This ensures the agency can accomplish its mission given a myriad of diverse circumstances. We must manage these systems and ensure compliance with privacy and records management standards and guidelines. We have identified four objectives towards this goal.

Objective 4.1: Ensure ZTA Support and Plan

Ensure infrastructure support of the zero trust architecture (ZTA) that will enable end-to-end protection of the agency's systems and data. The RRB plans to enhance our set of cybersecurity paradigms from static, network-based perimeters to focus on users, assets, and resources. ZTA lightens the burdens of managing an ever-growing suite of applications needed by users.

Objective 4.2: Migrate Open Systems Applications, Workloads, and Cloud Environments

Migrate open system applications and workloads to the cloud, which will allow the agency to more effectively manage resources, implement better cost control, and increase security and compliance. This will ensure that we use the latest cutting-edge application platforms to develop RRB business applications.

Objective 4.3: Ensure Efficient and Effective RRB Resources Usage in Cloud Infrastructure

Optimize cloud infrastructure will ensure efficient and effective use of RRB resources. Improved capacity management can help identify which workloads to migrate to the cloud. Workloads with fast-changing capacities are ideal candidates for the cloud, where resource allocations can be easily scaled up and down. The RRB plans to implement several initiatives within the IT Modernization Program to manage resource usage, and to use modern technologies to maximize resource capacity and availability while maintaining minimum cost.

Objective 4.4: Enhance Privacy and Records Management Compliance Requirements

Enhance and optimize cloud compliance of privacy and records management requirements. Through the implementation of key IT Modernization projects, the RRB continues to embed a security mindset by establishing robust and effective privacy program. We will continue to evaluate our privacy controls, practices, and systems to ensure continued effectiveness in responding to privacy and compliance issues.

Objective 4.5: Improve Endpoints and Mobility Management

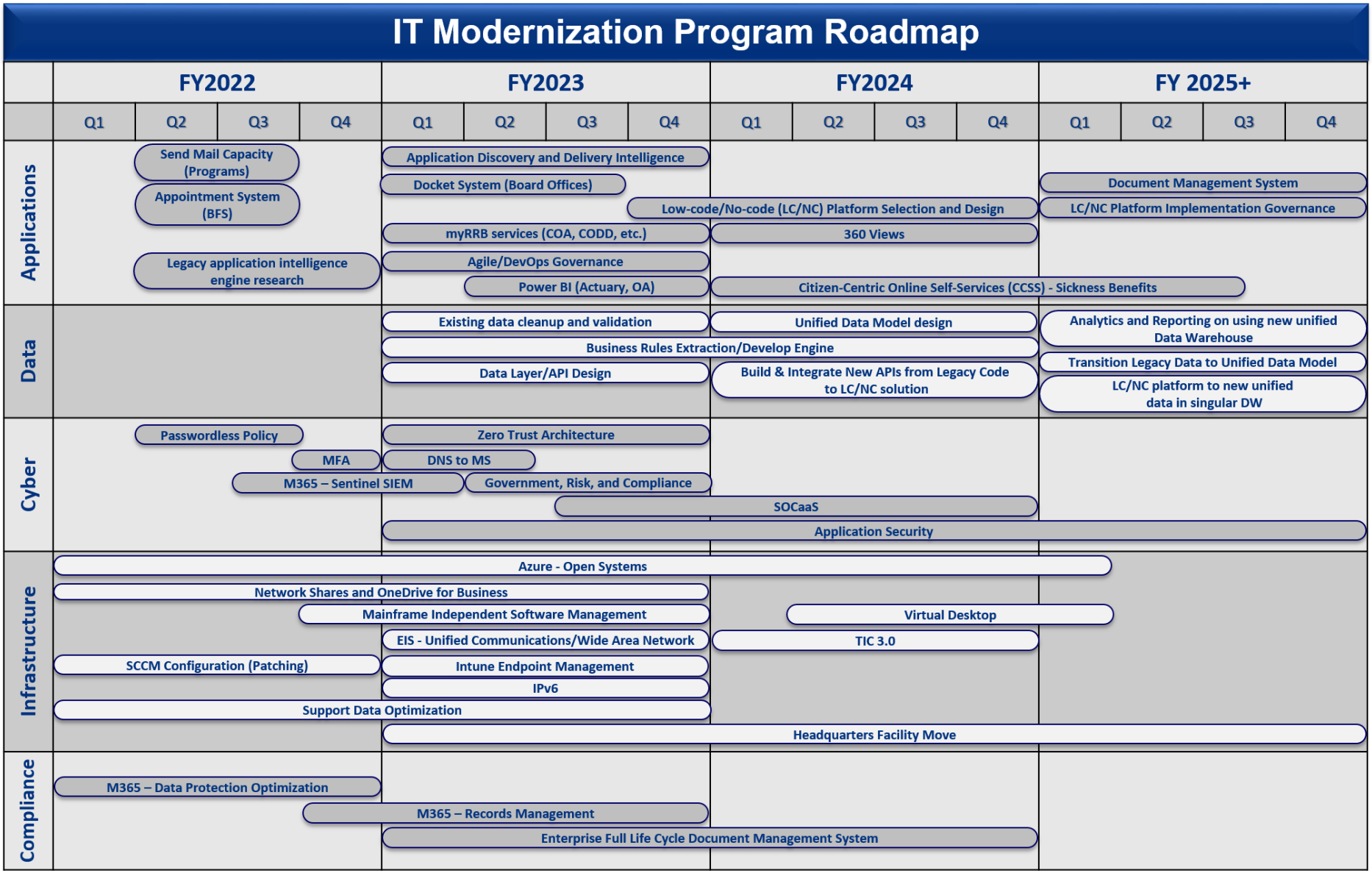
Endpoints & Mobility Management simplifies device management and configuration, helps initiate enrollment requests, distribute applications, and documents, which all enables greater user collaboration. The RRB plans to launch several initiatives aimed at improving endpoint and mobility management.

5 Conclusion

As outlined in our Strategic Plan, the focus of our current and near future projects reaffirms our commitment to improve overall mission support to the RRB and the rail community. Improving services for our citizens, enabling a mobile workforce, and securing the enterprise are critical outcomes that will continue to move the Agency forward in the years to come. As we embark on this multi-year effort, we want to acknowledge and thank RRB Head of Agency and Senior Leadership for their continued support.

6 Appendix

6.1 High-Level IT Modernization Roadmap



6.2 Detailed Focus Areas Alignment to Strategic Objectives

Focus Areas Alignment to Strategic Objectives

Strategy Goals	Strategic Objectives	Fiscal Years 2022 – 2026 Focus Areas for: Applications | Data | Cyber | Infrastructure | Compliance								
		Zero Trust Architecture (ZTA) Implementation	Security Operations Center as a Service (SOCaaS)	External Mission-Side: Online/Self-Services	Internal Mission-Side: Tools and Services	Unified Data Model	Open Systems Azure Migrations	PMO Governance Improvement	Software Development Platform	Document Management and Information Sharing
1. Improve the User Experience	1.1 Optimize Data			✓		✓				✓
	1.2 Modernize Applications	✓		✓	✓	✓			✓	
	1.3 Provide Citizen-Centric Online/Self Services			✓	✓				✓	
	1.4 Increase Workforce Productivity Tools and Services	✓		✓	✓	✓	✓		✓	✓
2. Secure the Enterprise	2.1 Plan and Implement the Federal Zero Trust Architecture (ZTA)	✓	✓							
	2.2 Improve Enterprise Security Posture	✓	✓				✓			
	2.3 Establish Sustainable Cybersecurity Operational Support Model		✓				✓		✓	
3. Upskill the IT Team	3.1 Identify, Plan, and Implement Technical and Management Training	✓		✓	✓	✓		✓		
	3.2 Acquire Contracted Staff Augmented Specialized Skill Sets		✓	✓	✓	✓		✓	✓	
4. Optimize the Infrastructure	4.1 Ensure ZTA Support and Plan	✓	✓	✓	✓				✓	✓
	4.2 Migrate Open Systems Applications, Workloads and Cloud Environments		✓	✓	✓		✓			✓
	4.3 Ensure Efficient and Effective RRB Resources Usage in Cloud Infrastructure		✓				✓		✓	
	4.4 Enhance Privacy and Records Management Compliance Requirements			✓	✓	✓				✓
	4.5 Improve Endpoints and Mobility Management		✓							

6.3 Acronyms

API	Application Programming Interface
BFS	Bureau of Fiscal Services
COA	Change of Address
CODD	Change of Direct Deposit
DW	Data Warehouse
EIS - UC	Enterprise Infrastructure Solutions – Unified Communications
EIS-WAN	Enterprise Infrastructure Solutions - Wireless Area Network
GRC	Governance, Risks, and Compliance
IPv6	Internet Protocol version 6
LC/NC	Low Code / No Code
M365	Microsoft 365
MFA	Multi-Factor Authentication
OA	Office of Administration
SCCM	System Center Configuration Manager
TIC 3.0	Trusted Internet Connection 3.0
ZTA	Zero Trust Architecture