

ENTERPRISE TECHNOLOGY STRATEGY AND SERVICES (ETSS) ANNUAL REPORT 2021

State of Rhode Island, Department of Administration

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About

The Enterprise Technology Strategy and Services (ETSS) formally includes the Division of Information Technology (DoIT) and the Office of Library and Information Services (OLIS) (Figure 1). DoIT has been organized into major functional areas that help drive its strategic goals, improve agency service levels, and align functional responsibilities. OLIS is responsible for developing programs that support and advance library services in the state.

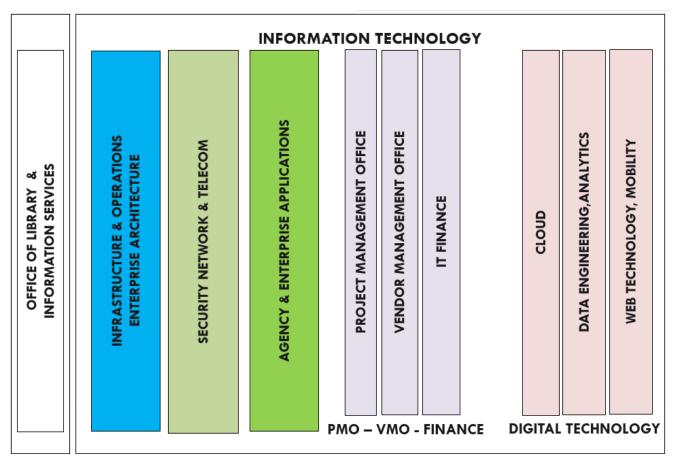


Figure 1: ETSS Organization

Under the leadership of Bijay Kumar, the State's Chief Information Officer (CIO) and Chief Digital Officer (CDO), ETSS successfully met the unique technology challenges of this past year with a continued focus on people, process, and technology. The energy of these efforts continues to manifest itself in continuous improvements to DoIT's organizational structure, IT processes and strategic assessments of State applications and technologies. The CIO/CDO continues to conduct ETSS all-hands meetings, quarterly leadership offsites and structured weekly/monthly meetings. This defined cadence enables the organization to maintain a shared structure and vision, improve team morale, and continue driving advancements.

ETSS is critical to the functions of State government. Core ETSS responsibilities include management of IT projects for the Executive Branch and the day-to-day technical support, software installations, information system security, and information system upgrades for State employees. ETSS is also responsible for ensuring secure, stable, and resilient infrastructure and technology. The ability to deliver on these functions has resulted in an increased appetite for technology advancement within the agencies.

The core functional areas (towers) within DoIT are Agencies and Enterprise Applications, Infrastructure and Operations, Security, IT Project Management, IT Vendor Management, and IT Finance. The Chief of IT Agencies and Enterprise Applications delivers upon strengthening IT centralization through active engagement with State agency leadership to digitalize State government operations. The Chief of IT Infrastructure and Operations provides a resilient IT infrastructure to host and deliver the suite of IT services and applications across the enterprise. The Chief of IT Security (CISO) works to ensure that all IT projects, vendors, infrastructure, systems, and operations are managed to the lowest level of risk possible. The IT Project Management Office (PMO) maintains a standardized reporting platform to track all IT projects to successful completion. The IT Vendor Management Office (VMO) is established to review and negotiate both existing and new contracts, resulting in millions of dollars of negotiated savings for the State. A Chief Financial Officer (CFO) for the Division actively monitors, tracks, and accounts for all expenses and works proactively with agency chief financial officers to provide enhanced financial transparency. Ensuring synergy across these core functional areas is the IT Governance process, which evaluates, prioritizes, and funds projects. This process has been streamlined and unified by the IT PMO. To ensure consistent execution of the governance process, close collaboration between the PMO, VMO and CFO is exercised.

With 197 employees, DoIT is tackling technology challenges with a relatively small workforce in comparison to most neighboring states. This is measured on both a per-capita basis and as a proportion of overall state IT workers, making it even more important to strive for sustainable, enterprise solutions. DoIT has had to adapt and deliver scalable technology solutions that meet the demand for modern direct services. These solutions enable State employees to better manage resident data, replace paper processes with digitized services, and communicate more effectively. DoIT is committed to incorporating lessons learned from prior projects and investing in the solutions that improve the lives of constituents.

The following table lists the agencies supported and assisted by DoIT. The "Agencies Supported by DoIT" column denotes agencies that have a DoIT Agency IT Manager (AIM) and technical staff that directly support their applications, systems, and employees. The "Agencies Assisted by DoIT" column denotes non-Executive Branch agencies (Secretary of State, Office of the Lieutenant Governor, etc.), independent Executive Branch agencies (Executive Office of Commerce) and independent agencies (Board of Elections, Ethics Commission) who use the State's technology infrastructure and occasionally receive direct IT support from DoIT staff.

AGENCIES SUPPORTED BY DOIT

- 1. Department of Administration
- Department of Behavioral Healthcare,
 Developmental Disabilities and Hospitals
- 3. Department of Business Regulation
- 4. Department of Children, Youth and Families
- 5. Department of Corrections
- 6. Department of Environmental Management
- 7. Department of Health
- 8. Department of Human Services
- 9. Department of Labor and Training
- 10. Department of Revenue
 - Division of Taxation/Revenue
 Analysis
 - Division of Municipal Finance
 - Division of Motor Vehicles
 - Central Collections Unit
- 11. Department of Transportation
- 12. Executive Office of Health & Human Services
- 13. Governor's Office
- 14. Office of Energy Resources

AGENCIES ASSISTED BY DOIT

- 1. HealthSource Rhode Island
- 2. Board of Elections
- 3. Coastal Resources Management Council
- 4. Commission on the Deaf and Hard of Hearing
- 5. Governor's Commission on Disabilities
- 6. Department of Revenue Lottery
- 7. Division of the Public Utility Commissioner
- 8. Ethics Commission
- 9. Executive Office of Commerce
- 10. Human Rights Commission
- 11. Office of the Lieutenant Governor
- 12. Office of the Child Advocate
- 13. Office of the Health Insurance Commissioner
- 14. Secretary of State
- 15. State Police
- 16. RI National Guard
- 17. RI Emergency Management

Table 1: Supported Agencies

Digital Government

Rapid technological advances have raised our constituents' expectations. They demand the same convenient, personalized experience from government that they receive when planning a trip or shopping online. Digital transformation refers to resident-driven strategic government transformation that requires cross-cutting organizational change as well as the implementation of digital technologies.

In the most recent biennial Digital States Survey produced by the Center for Digital Government, Rhode Island was named the *Most Improved State – rising from a C to a B+*. The Digital States Survey evaluates states' use of technology to improve service delivery, increase capacity, streamline operations, and reach policy goals. It assigns each state a grade based on quantifiable results. *Rhode Island also ranked #1 for Data Governance Transparency* by using mechanisms to ensure data quality (complete, consistent, and accurate) and privacy protection. https://www.govtech.com/cdg/digital-states/Digital-States-Survey-2020-Cloud-Is-More-Critical-Than-Ever.html

ETSS continues to engage in a wide range of resident-centered digital transformation efforts. The foundation of this process was defining digital themes for the State and focusing efforts across enterprise and agency initiatives around the themes.



Common Features:

Citizen Centered Services

Mobile Enablement

Accessibility Compliance

Agile / Devops

API Enablement

Multi Language Support

Personlization Options

KPIs & Metrics Enablement

Figure 2: Digital Themes

Information Technology Strategic Drivers

ETSS continues to track national trends and advances in private sector service delivery to inform its overall strategic drivers. Annually, the National Association of State Chief Information Officers (NASCIO) conducts a survey of every state technology leader in the nation to identify the top policy and technology issues facing state governments.

This survey captures the top 10 strategic drivers that help state CIOs measure their IT organization's maturity at the national level. The strategic drivers that were identified this year align with existing ETSS priorities and reflect the growing reliance on secure, constituent-focused digital transformation at the state level.

1. Digital & Web Services

Throughout 2021, the ETSS Web Services team continued to provide professional, courteous, innovative, and collaborative support to state agencies and their affiliates. The team's primary goal is to ensure the timely delivery of quality digital resources, which conform to ETSS policies, federal guidelines, and web design / development best practices.

The Web Services team supports State agencies as design, development, and content consultants for legacy (static) websites, the Enterprise Content Management System (eCMS), the Learning Management System (LMS), and proprietary applications such as Dreamweaver, Wufoo, Tableau, YouTube, and Google Analytics.

2021 Web Services Accomplishments

Most of the Web Services activities focused on the migration of State of Rhode Island government websites into the new eCMS platform. Specific site launches include the following:

Agency	Launched	Domain
Department of Human Services: Office of Healthy		
Aging	3/11/2021	https://oha.ri.gov
Executive Office of Health and Human Services	3/12/2021	https://eohhs.ri.gov
Department of Administration: Division of		
Information Technology	6/17/2021	https://doit.ri.gov
Executive Office of Health and Human Services		
(Hoarding Task Force)	6/17/2021	https://rihoardingtf.ri.gov
Department of Human Services	6/17/2021	https://dhs.ri.gov
Department of Human Services: Child Support		
Services	6/17/2021	https://ocss.ri.gov
Department of Human Services: Office of		
Rehabilitation Services	6/17/2021	https://ors.ri.gov

Department of Human Comitoes Office of		
Department of Human Services: Office of	6/47/0004	
Rehabilitation Services (ATAP)	6/17/2021	https://atap.ri.gov
Department of Human Services: Office of		
Rehabilitation Services (ATEL)	6/17/2021	https://atel.ri.gov
Executive Office of Commerce: Office of Housing		
and Community Development	6/17/2021	https://ohcd.ri.gov
Department of Behavioral Healthcare,		
Developmental Disabilities & Hospitals	6/24/2021	https://bhddh.ri.gov
Office of the Lieutenant Governor	6/24/2021	https://ltgov.ri.gov
Rhode Island Historical Preservation and Heritage		
Commission	6/24/2021	https://preservation.ri.gov
Department of Children, Youth and Families	7/29/2021	https://dcyf.ri.gov
EOHHS: My Options RI	8/10/2021	https://myoptions.ri.gov
Office of the Governor	8/12/2021	https://governor.ri.gov
Department of Revenue	10/7/2021	https://dor.ri.gov
Department of Revenue: Division of Motor		
Vehicles	10/7/2021	https://dmv.ri.gov
		https://municipalfinance.ri.go
Department of Revenue: Municipal Finance	10/7/2021	<u>v</u>
Department of Revenue: Municipal Finance Data		
Portal	10/7/2021	https://data.ri.gov
Department of Labor and Training	10/7/2021	https://dlt.ri.gov
Department of Labor and Training: Employee		
Misclassification Task Force	10/7/2021	www.misclassification.ri.gov
Department of Administration	10/21/2021	https://admin.ri.gov
Department of Attorney General	10/21/2021	https://riag.ri.gov
Department of Revenue: Division of Taxation	11/18/2021	https://tax.ri.gov

General Web Services Responsibilities and Support

In addition to the specific site launches listed above, the Web Services team continued to provide the following services across the State:

Website Design, Development, and Support

Design and develop modern, secure, and citizen-centered agency websites and microservices

Address Daily Service Tickets and Requests

- Web Services completes <u>an average of 108 service requests per month</u> that are received via ServiceNow, email, and phone
- Provide economical, efficient, and effective support and service to State agencies

Program / Application Support

• eCMS (Drupal / Acquia), ePath (LMS), Tableau, WuFoo, NeoGov, Adobe Creative Cloud Suite (Dreamweaver, Photoshop, etc.), Acrobat DC, Google Analytics

Consultation Services

 Web Design / Development, Graphic Design, Social Media, Accessibility Compliance, Digital Transformation, RFP support

Providing 24 / 7 Web Support for Critical Functions

• Offered to the Governor's Office, Lt. Governor's Office, DOA, and HR for critical, time-sensitive issues

Web Services Enterprise Initiatives

<u>Learning Management System (LMS)</u> - In 2021, the Web Services team continued to provide technical and data support for the statewide Learning Management Software (LMS). The LMS solution, managed by the Division of Human Resources, specializes in the administration, documentation, tracking, reporting, and delivery of educational courses and training programs. This service provides learning opportunities to over 11,000 State employees and potentially 2,000 external users.

<u>Selfscreening.ri.gov</u> - Throughout 2021, the Web Services team continued to provide support for the COVID-19 self-screening application for employees, vendors, and members of the public. The self-screening form generates an approval, denial, or tentative entry response for individuals attempting to gain access to a state facility.

Enterprise Content Management System (eCMS) - The Enterprise Content Management System (eCMS) project continues to remain on quality, on time, and on budget as indicated by the successful consolidation and launch of over 30 Executive Branch agency websites. Throughout the project lifecycle, the eCMS development team leveraged a detailed project plan that was flexible to accommodate the unique wants, needs, and concerns of each agency. The eCMS is an accessible, scalable, secure, and user-centered digital content and design platform that will not only consolidate all Executive Branch agency static websites but also empower State employees to provide quality digital services and content. Built upon Drupal 9 and hosted with Acquia Cloud Enterprise, the eCMS yields a wide range of benefits for both Site Administrators and the General Public. Examples include:

SITE VISITORS / FRONT END

- Consistent branding and theming
- Fully responsive (Readable on any device)
- Modern functionality
- Accessibility compliance (ADA / Section 508)
- Global Alert bars

SITE ADMINISTRATORS / BACK END

 Stable, secure, and scalable, cloudbased platform

- Dynamic forms
- Multilingual resources
- Secure and reliable HTTPS-enabled environment
- Rapid download times to promote digital equity throughout Rhode Island
- Rapidly deploy digital services
- · Convenient and intuitive interface

- Ensure content integrity via publishing workflows
- Wide range of ready-made tools for content authors
- Enforce Accessibility compliance (ADA / Section 508)
- Measure success through robust analytics

To ensure the sustainability of the platform, continuous training and communication is provided to agencies that are part of the eCMS franchise. In addition, detailed documentation is now available on the live service via https://documentation.ecms.ri.gov and through the State's Learning Management System (LMS).

NIC Rhode Island Partnership

<u>Content Management System</u> - Throughout the year, NIC RI continued to work with ETSS to transform and deploy state websites within the new Enterprise Content Management System (eCMS). Over 20 sites were deployed including high-visibility citizen sites for the Governor's Office, Division of Taxation, and Division Motor Vehicles. NIC RI resources also worked with the Web Services team to offer a series of ongoing sessions to train state agency personnel to use and deploy new sites in the system.

<u>Tyler Acquisition</u> - In February, Tyler Technologies announced it had reached an agreement with NIC's Board of Directors to acquire the company. The acquisition was approved by the Board of Directors of both public companies in April, officially establishing NIC RI as the new NIC Division of Tyler. This change provides NIC RI with a wealth of exciting new Tyler products that can be offered to the State under our existing contract – especially those targeted at municipalities. Tyler already has a substantial footprint within the Rhode Island Judiciary and many of our municipalities. In 2022, the NIC RI team looks forward to learning more about these products and sharing information about relevant solutions with DoIT leadership.

<u>Department of Environmental Management Modernization</u> - Early in the third quarter of 2021, NIC RI executed a scope of work with the Department of Environmental Management (DEM) to implement the NIC OneOutdoors product. Not only will this system offer a significant upgrade to the existing electronic hunting and fishing licensing system, but it will also fully replace the DEM's aging Boat Registration system and Marine Licensing backend systems. Through OneOutdoors, citizens will be able to purchase a fishing or hunting license and renew their boating registration through the same easy-to-use website. Additionally, the system allows users to opt into automatic renewal and email reminders and explore even more DEM products offered to Rhode Islanders looking to take advantage of our state's amazing natural resources.

<u>Payment Processing API</u> - For a number of years, NIC RI has offered partners the ability to integrate non-NIC applications with our Common Checkout Platform (CCP) and other financial systems. In 2021, this offering was leveraged for the first time by two state entities – the Department of State developing a custom application in-house, and the Department of Health implementing a new internal system developed by a third party. Our Payment Processing API allowed both groups to easily integrate online payments into their applications with minimal additional development. Both applications are scheduled to launch in January 2022 and will hopefully serve as inspiration for additional API deployments.

Additional New and Improved Services - In 2021, NIC RI partnered with 13 agency and municipal partners on new services and sizeable enhancements and partnered with many others for smaller enhancements and consultation. NIC RI continued its core business of designing, developing, and implementing custom services to exceed the unique needs of our partners. Examples included a new Department of Environmental Management Pollutant Discharge Elimination System (RIPDES) Annual Fee Payment service and a web service that facilitates businesses registering with Rhode Island for Streamlined Sales Tax (SST) purposes. The portal team also added to its catalog of services created within NIC's rapid application development platform, AppEngine. Along with onboarding new partners to existing services and new services, it leveraged a direct connection to state data, in turn demonstrating powerful new ways AppEngine can be used to address state needs.

Lastly, multiple instances of NIC RI's Sailpoint Over-the-Counter (OTC) system was implemented across numerous state and municipal locations. This out-of-the-box solution has allowed Rhode Island agencies to quickly digitize and modernize their offerings and continue to be pillars of our partnership with the state.

2021 NIC SERVICE DEPLOYMENTS

Project	Launch Date	Туре
DMV Plate Design Contest Submission Form	12/7	NEW
Exeter Library OTC	11/15	NEW
DLT Boiler Permit Application	10/5	NEW
Coastal Resources OTC	9/9	NEW

Exeter Transfer Station Permits	9/7	NEW
Little Compton OTC (Town Clerk, Public Safety, Treasury)	8/10	NEW
Lincoln Vital Records	8/3	NEW
DHS National Grid Opt-out Application	6/24	NEW
DEM RIPDES Payments	6/15	NEW
DEM OWTS Service Expansion	5/24	NEW
DMV License Renewal CDLIS (Miscellaneous) Fee	5/3	ENHANCEMENT
Exeter Dog Licensing	3/25	NEW
Bristol Dog Licensing	3/23	NEW
Election Results Online (March 2nd Special Election)	3/2	ENHANCEMENT
Little Compton Vital Records	2/5	NEW
SST Business Registrations	2/4	NEW
Judicial Nominating Commission (JNC) Vacancy Application	1/8	NEW
DOT OSOW ADL & Blanket Permit Renewals	1/7	ENHANCEMENT
Tax Annual Reconciliation & Permits	1/4	ENHANCEMENT
Ethics Filings Online 2021 Changes	1/1	ENHANCEMENT

Table 2: Deployed Services

2. Key Initiatives at Agencies

The Agency & Enterprise Applications (A&EA) tower of DoIT undertook significant strategic developments during 2021 with the goal of cementing our role as trusted advisors to business partners (Executive Branch agencies) and to build user-focused, scalable, and sustainable solutions on modern platforms and products. During 2021, the A&EA leadership team:

- 1. Continued to execute Technology Enablement in support of the State's response to the COVID-19 pandemic.
- Kicked off four of the State's largest enterprise application programs (Grants
 Management, Enterprise Resource Planning, MMIS modernization, and CCWIS
 modernization).
- 3. Launched a pilot of the new statewide standard application development maintenance and operations (app. dev. M&O) model.
- 4. Set a path to implement enterprise low-code/no-code platforms-as-a-service as the standard application modernization and implementation strategy statewide.
- 5. Completed an organizational restructuring to better align agency IT support to the ETSS strategy including the establishment of the Senior Agency IT Manager role and creation of strategic roadmaps for each Executive Branch agency.

These five accomplishments represent significant strides for the A&EA tower which will enable enhanced execution, strategy, and operation of IT across all Executive Branch agencies. However, the lion's share of progress made in 2021 is a result of the hard work executed within the agencies and workstreams listed below. The sections that follow detail the progress made across all A&EA workstreams and provide tangible outcomes for each. The A&EA leadership team is delighted at the successes achieved despite the challenges posed by the continuing pandemic, and it looks forward to continued execution.

DoIT undertook significant efforts in 2021 related to legacy modernization, improving several of the State's systems by transitioning them to new applications.

Department of Transportation

<u>e-Construction Headlight Software Enhancements</u> - Integrations between the on-prem Project Management Portal System (PMP) and the hosted Headlight System will be completed in 2022providing a seamless process for transferring data between PMP and Headlight.

The exchange of data eliminates the paper generated by manually executing daily activities in the field during inspections. Daily activities can be entered electronically once and interfaced to PMP daily. The process provides accurate, real-time entries, reducing data errors and missing records, and improved efficiencies in the construction process.

<u>Oracle Financial Management System (FMS) Upgrades and Enhancements</u> - Upgrades and enhancements were implemented to the current system. Application to release to R12.2.10 and its

database to 19.10. This upgrade provided is fully compliant with Oracle's recommendation/requirements through 2022

Implemented AME for Purchase Requisitions which eliminated the custom process for requisition approvals with Oracle's Approval Management Engine (AME). This change makes use of standard functions and eliminates the need to maintain custom solutions that require significant support and maintenance during Oracle's annual patching releases.

<u>Custom Application Enhancements and Upgrades</u> - The Department's Legacy Material Testing Applications were upgraded to a Microsoft .net framework. These upgrades were implemented throughout the year to improve processes and system efficiencies and were moved from client-based applications in MS Access to a web-based technology.

- Brick
- Emulsion
- Paint-Waterborne
- Paint-Epoxy
- Bridge Core
- Coating/Sealant

Two legacy VB6 applications were also upgraded to a supported .net framework.

- The Critical Request Application (application to track IT purchases)
- IT Equipment Tracker Application (application to track the department's PCs, laptops and other IT items requiring State tags)

Department of Environmental Management

Produce Safety Inspection - The Division of Agriculture is responsible for inspecting farms to ensure public health and safety by minimizing risk of foodborne illnesses associated with the consumption of raw produce. In 2020, the Department implemented a software system that allowed Division of Agriculture staff to efficiently create and maintain a comprehensive farm inventory and share this information with the FDA. In 2021, they expanded upon that system and added a workflow module to track the status of inspections or surveys until a farm is compliant and/or certified. They are also working on implementing an Online Exemption Module to allow farms to submit web forms to be exempt from inspections.

Coastal Resource Berthing and Land Lease Management System Modernization - The Division of Coastal Resources is responsible for managing the land leases in Galilee in Narragansett, as well as the berthing of all vessels in Galilee and Pier #9 in Newport. In 2021, they implemented a new coastal berthing management system that provides a comprehensive work platform to properly track payments and billing, store digital files of important documents, manage berthing positions, and

allow for on-site data entry and updates to all files. In 2021, they implemented a module that allows customers to view their accounts online, pay fees using a credit card or ACH, and enables Coastal Resources office staff to accept credit card payments from walk-in customers.

Enterprise Licensing System - The Office of Boating Registration and Licenses administers the State's boat registration and program as well as the issuance of licenses for commercial fishing, recreational fishing, and shell fishing. While the hunting and recreational fishing license systems are on a modern platform, the commercial fishing and boat registration systems remain on unsupported legacy systems. In September 2021, the Department launched a project that will transition all these systems to a modern enterprise system (OneOutdoors) that will meet its comprehensive licensing and wildlife management needs. The project scope and goals are as follows:

Deliver State of the Art Hunting and Fishing License Solution

Lottery awards - Auto-renewals - Multi-year licenses

- Migrate legacy data to secure, scalable, reliable, SaaS-specific data-repository
- Unify recreational hunt-fish sales with watercraft license registration
- Upgrade hunt-fish sales and accounting
- · Deliver more robust reporting
- Provide commercial marine integration
- Strengthen RI regulatory standards via configurable processes
- · A system that can grow with DEM

Onsite Wastewater Treatment Systems (OWTS) Records Online - The Office of Water Resources permits approximately 2,000 systems per year and maintains a permanent retention schedule from 1968 to present. These records are in high demand by the public and consultants. The Department worked with Rhode Island Interactive (RII) to streamline the service and significantly expand the number of OWTS records publicly available online. Prior to the expansion of this service, permit searches for records BEFORE 1990 and AFTER 1990, were two different services with search capability limitations. The new service combines the two disparate services into a single online service, improves search capability, and digitizes an additional 60,000 records. This service significantly improves customer service by allowing customers to search and view these files online.

Rhode Island Pollutant Discharge Elimination System (RIPDES) Online Payment System - The Office of Water Resources worked with Rhode Island Interactive (RII) to deliver a service that allows for an electronic payment option for RIPDES annual fees. The program currently oversees permit

compliance for 23 major discharges, approximately 50 minor discharges, and approximately 1,000 stormwater discharges. RIPDES permit fees are based on facility flow and the type of permit issued and range from \$100 to \$6,000 annually. Total funds collected annually are approximately \$150,000.

Modernization of DEM FoxPro & Agriculture Systems - In late 2021, the Department and DoIT launched a project to replace the existing MS Visual FoxPro system used by regulatory programs in the OWR and Informix systems used by the Division of Agriculture. The initial phase of this project secured executive alignment and funding. In early 2022, DoIT and the Department will release a request for proposals to identify products/platforms/firms to execute the implementation. As a part of this modernization project, the State is broadly seeking to expand its use of enterprise low-code, rapid application development platforms to meet business modernization and digitalization needs.

Department of Administration

Enterprise Resource Planning (ERP) RFP - In November 2021, the State released a request for proposals seeking a firm to serve as the systems integrator (SI) and provide SaaS (Software as a Service) ERP software for the implementation, support, and license of a SaaS ERP solution based on the 2019 issued "State of Rhode Island Enterprise Applications Strategic Plan" (http://www.doit.ri.gov/erp-strategic-plan/).

The ERP project will replace the State's legacy applications which were written over 30 years ago. This is one of the largest initiatives that the State has undertaken to modernize its enterprise applications. At a high level, the current procurement will identify a systems integrator that will:

- 1. Implement a SaaS Solution for HR, Payroll and Finance with one of the five SaaS ERP solutions listed below:
 - a) INFOR Cloud Suite, CGI Advantage, SAP Cloud, Oracle Fusion Cloud ERP, or WORKDAY
- 2. Provide interim post-implementation support until all modules go-live.
- 3. Provide ongoing support for five years post complete go-live.

The initial eight-year contract period will begin approximately on April 1, 2022, and is comprised of the four phases below:

1 – Global Design	Document "to be" business processes (through configuration and customization)	3 months
2 – HR/Payroll	Roll out HR / Payroll (with T&A)	15 months
3 – Finance	Rollout Finance with necessary Integration Services M&O support for HR / Payroll	18 months

4 – Steady State M&O&E Support	Production maintenance, operations, and enhancement of ERP solution	5 years
Optional M&O&E	•	2 x 2 years
Extension	vendor performance and the availability of funds	

The State expects to use this project to not only implement software, but also drive significant changes to State policy and/or business processes. The State expects that the chosen SI will help guide the State toward achieving its goals. Below are identified high-level goals by business process:

- Reduce the use of spreadsheets at department level to track personnel data, programs, projects, budgets, and other reporting needs
- Utilize electronic time entry, leave management, and automated review and approval process
- Improve business processes and implement decentralized data entry where possible
- Improve vendor management with self-service
- Utilize manager and employee self-service
- Use the system for reporting needs at the department and division level for human resources and financial functions
- Update the chart of accounts to allow for improved financial reporting and management based on Generally Accepted Accounting Principles (GAAP) or Governmental Accounting Standards Board (GASB) standards
- Improved reporting functionality to allow enhanced financial analysis and management
- Improved customer (internal, external) service with self-service capabilities (vendor, customer bill payments)
- Workforce mobility processes of transferring employees or potential employees from one location to another
- Mobile accessibility/functionality to allow user access to the system anywhere/anytime for up-to-the-minute information

Grants Management Systems - The State selected eCivis's Grants Management System (GMS) is a SaaS/COTS solution to support the entire grants lifecycle process, from grant initiation through renewal and closeout that includes improved customer relationship management for subrecipients. Throughout the grant lifecycle, the system will fully support contributors, reviewers, and approvers. Business process workflows will be automated to improve efficiency and promote transparency. The GMS project kicked off in August 2021 and is in the system implementation phase. Significant milestones in the areas of funding opportunities and "State as a Grantee" functionality have already been achieved. The project is on track for completion in fall 2022.

Primary users will be the Department of Administration, state agencies (program and financial staff), and external entities (applicants and managers of subawards).

In addition to serving as the workspace for state agencies to manage the external financial assistance received, the system will include a single portal which will be the only environment used by the State to advertise subaward funding opportunities, accept applications for funding, and manage subawards issued by State agencies. The system will be integrated with RIFANS and pass information, allowing for management, tracking, and reporting of grant activity at the level required by the awarding agencies. The system will pull payroll data from the State payroll system and link relevant data with grants. The integration with RIFANS and the State's payroll system (legacy COBOL) will most likely be achieved through file transfers and not API.

The graphic below depicts the high-level project objectives:



Legal Case Management System (LCMS) - The State completed the final phase of the Legal Case Management System (LCMS) launch for all Executive Branch legal teams on April 30, 2021. The cloud-based, enterprise-wide, mobile-friendly solution for attorneys and support staff allows for centralization of docketing and documents and organization of all legal matters across the various agencies — creating standardization, streamlined entry, and robust reporting. The case types within the system include public records requests, contracts, legislation, arbitration, and administrative appeals. The LCMS project included the conversion of existing legacy systems used by various

agencies, including the Department of Labor and Training and the Department of Environmental Management. LCMS has many beneficial workflow features, automated email reporting, and dashboards for executive counsel to view critical information, including attorney caseloads, and new and closed cases.

Executive Office of Health and Human Services

MES Planning Vendor Procurement - The Enterprise MES Planning Vendor Procurement initiates a seven-year strategic effort to secure new contracts to replace the legacy MMIS and related systems and services. As of early 2022, the Office is nearing the end of the procurement process to secure a planning vendor to assess existing functionality, set goals for each module, and guide the program's procurement direction. The vendor will construct APDs and RFPs in collaboration with program staff. APDs and RFPs may include but will not be limited to the following areas and MMIS modules: Independent Verification and Validation (IV&V), Third Party Liability (TPL), Claims & Finance, Provider Management, Care Management, and Data Management.

Community Resource Platform Procurement & Launch - In June 2021, the Office completed the procurement of a community referral platform and partnership with technology company Unite Us, which will help connect Rhode Islanders to the health and social service resources in their communities. Extending the Unite Us platform to Medicaid partners builds upon work that has been carried out by Rhode Island's Office of Veterans Services and Unite Us. The Medicaid Accountable Entity (AE) program requires providers to screen for unmet needs, such as housing and food insecurity, and encourages closer ties between health care providers and community-based organizations (CBOs) to address individuals' health-related social needs. The community referral platform from Unite Us will assist in systematically screening for members' health-related social needs, identifying appropriate resources in the community, referring members to those resources, and effectively coordinating service delivery and follow-up with CBOs. The system initiates referrals and enables the CBO to close the loop on each case file, informing the referring provider of the status or outcome of the referral. Leveraging a SaaS-based product, with an established network, the AEs were able to join the platform beginning in September, just three months following the procurement. To date, there are over 250 new users from AEs and managed care organizations. Additionally, the CBO network using the platform has expanded by 100 organizations for a total of 185.

<u>Quality Reporting System (QRS)</u> – The Office continues to work with a vendor, IMAT Solutions, to provide a centralized electronic clinical quality measurement reporting and feedback system to support quality measurement and reporting for Medicaid providers. There are four major

components to the solution: i) Data acquisition, ii) Data validation and normalization, iii) Quality measure reporting, and iv) Data dissemination. As of October 2021, 82 sites have launched their clinical quality reporting.

Since May 2021, the QRS has also been leveraged by Rhode Island Child and Adult Immunization Registry to send individuals' COVID-19 immunization records to their health plan providers, who are now able to add all child and adult immunization data. To help ensure the accuracy of aggregated clinical data for use in Healthcare Effectiveness Data and Information Set reporting and other quality programs, the National Committee of Quality Assurance (NCQA) has developed a Data Aggregator Validation (DAV) program. IMAT Solutions is working with the sites to achieve DAV Certification with the final report and validation from the NCQA planned for the first quarter of 2022.

SUD Measure-based Care Platform - Using Centers for Medicare and Medicaid Services (CMS) funds through the Provide Capacity Building Initiative grant, the Office is covering start-up and implementation fees for Mirah software to various substance use disorder (SUD) treatment agencies. Mirah is a measurement-based care Software-as-a-Service (SaaS) platform to enable behavioral health practices to better guide treatment and track data overtime for quality improvement. Most SUD treatment providers would not be able to afford the up-front costs for implementation of a new, leading software program. The ongoing maintenance and operation costs are manageable for the treatment providers through long-term sustainability plans with Medicaid. Six providers are engaged in the implementation process. Three are using the tool with 30 sites and over 400 clinical staff engaged in measuring client care. All six SUD treatment providers should be fully implemented by fall 2022.

Ecosystem Cloud Migration - In the first quarter of 2021, the Office completed the migration of the Ecosystem to the AWS Cloud. The Rhode Island Ecosystem is an analytic system that links data at the person and family level across state agencies to drive holistic improvements in well-being. The AWS Cloud infrastructure benefits from economies of scale, improves speed to execution, and provides the ability to quickly adapt to capacity needs. In partnership with Amazon Managed Services, security and privacy requirements are also enhanced. Since the initial migration, the Ecosystem team is now able to consider additional tools and architecture modifications that will continue to support data and analytic needs with agility.

<u>Person Centered Options Counseling (PCOC)</u> - During 2021, the Office led a cross-agency initiative to ensure Rhode Islanders have access to high-quality information and PCOC required to understand

their Long-Term Services & Support (LTSS) preferences and choices. The WellSky SaaS product was leveraged for its low-code configurable capabilities, which allowed the pilot to be executed in a few months. As a new cross-agency program, the pilot period allowed for stakeholder engagement, research into other states' approaches, and business process refinement. The pilot began in March 2021 and transitioned to a full launch in July 2021.

Department of Humans Services

Rhode Island Bridges (RIB) System - Federal Fiscal Year 2021 represented another positive step forward for the UHIP project and the RIBridges system. The system reached new levels of stability, with the incident backlog reaching a low of 69 tickets in June 2021, a 40-percent reduction from the prior year. The backlog of system defects also declined by 34 percent as the team successfully delivered 748 problem tickets into production, and 86 percent of the outstanding tickets are scheduled for upcoming releases. These positive trends highlight the predictability and reliability of the development and testing practices across the Software Development Life Cycle (SDLC) and the continued effectiveness of the UHIP governance framework.

One of the most significant milestones for the State was the facilitation of the competitive procurement process that resulted in the State selecting Deloitte Consulting LLP for a three-year maintenance, operations, and enhancement support contract for the RIBridges public benefits technology system.

Under this new contract, Deloitte will provide 12,600 additional hours of services and system enhancements over the initial three-year term, an estimated value of nearly \$4 million. In addition, the new contract results in significant cost savings to the State, retains key staff, and enhances contractor performance standards.

Another key accomplishment for the team was the highly successful upgrade of OPA (Oracle Policy Automation), the underlying business rules engine for RIBridges. This complex project took many months of planning and more than 12 months to implement. During that time, the team developed an XML comparator tool, which allowed the new version of the engine (v12) to run in parallel alongside production (v10) to flag any discrepancies without directly impacting the business or our customers. The team executed more than 3,500 test scenarios, validated more than 200,000 customer cases, and found minimal defects. After a successful pilot, the cutover to production took place ahead of schedule and was implemented seamlessly. The tremendous success of this project further highlights the stability of the system as well as the maturity and consistency of the project execution capabilities.

In addition to the OPA upgrade, the technical team also completed key upgrades to the IBM Security Access Manager (ISAM), the IBM Security Identity Manager (ISIM), Security Information and Event Management (SIEM) Capabilities and Tableau. A new "sandbox" environment was also created to allow the State to become more self-reliant in terms of data analytics and reporting.

Despite the increased attention on the OPA upgrade, major releases continued to be implemented on schedule and with high quality. In February 2021, several key enhancements were delivered in support of increasing enrollment of the RIte Share program by linking customers to existing employers. Specifically, improvements made to the employer search functionality have resulted in a 51-percent increase in successful searches performed on the customer portal and a 36-percent improvement rate on the worker portal.

Another exciting achievement was the successful launch of the HealthyRhode mobile application. Research indicates more than 96 percent of Rhode Island residents own a cell phone. As such, providing access to benefits information through mobile devices is becoming an important part of the customer service strategy. With this initial release, customers can check EBT balances, upload required documents, review benefits information, and update customer portal passwords. The application has been downloaded more than 500 times and has a rating of 5.0 in the Google Play Store and 4.9 in the Apple Store based on customer reviews.

In October 2021, the application was expanded to allow HealthSource RI customers to view invoices and make premium payments. As we strive to improve the overall customer experience, additional features will continue to be incorporated into the HealthyRhode app as prioritized by the Agencies.

In addition to the development of the application, the State secured an important grant from FNS, which is allowing the State to add SMS Text Messaging to RIBridges for the SNAP program. Initial messages being delivered in October 2021 include SNAP appointment reminders, outstanding verification documentation alerts, ABAWD timeclock alerts, recertification reminders, and returned mail alerts. SMS Text Messaging is another important innovation for UHIP as it furthers the commitment toward improving customer service responsiveness.

The State also collaborated with Deloitte in the redesign of the Medicaid Plan Selection process to improve the overall customer experience and bring transparency to important health insurance information. By creating detailed customer journey maps, specific enhancements were identified to improve the initial selection of an MCO by guiding customers more effectively through the end-to-end process.

The team also delivered other important Medicaid enhancements, including the ability to track Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) customers receiving Medicaid via the Department of Children, Youth and Families. This prevented households from being denied Medicaid benefits due to an individual in the household failing to provide verification for death and improved various areas in the end-to-end business process associated with SSI cases.

Throughout federal Fiscal Year 2021, the team continued to manage the ongoing mitigations in response to the pandemic. As business needs and policies changed, the team quickly assessed new requirements and implemented solutions to ensure customers retained access to benefits. Examples include the implementation of Pandemic-EBT (P-EBT) to eligible school-age children in SNAP and non-SNAP household engaged in distance learning; P-EBT for childcare (children under age 6 who live in a SNAP household); the pause on Medicaid terminations and renewal activities in accordance with CMS guidance; and the ACPT policy changes. In federal Fiscal Year 2022, the team will shift focus to planning and executing the pandemic recovery effort to ensure customers, providers, and other stakeholders receive critical information and guidance as mitigations are lifted.

Along with enhancing functionality, delivering the OPA upgrade, and managing pandemic mitigations, the team remained focused on the implementation of continuing process improvements. One of the key accomplishments delivered in September 2020 was Phase I of the Governance Refresh Initiative, which applied LEAN principles to the governance framework to eliminate redundancies and achieve efficiencies while maintaining the necessary oversight to effectively manage a project of this complexity.

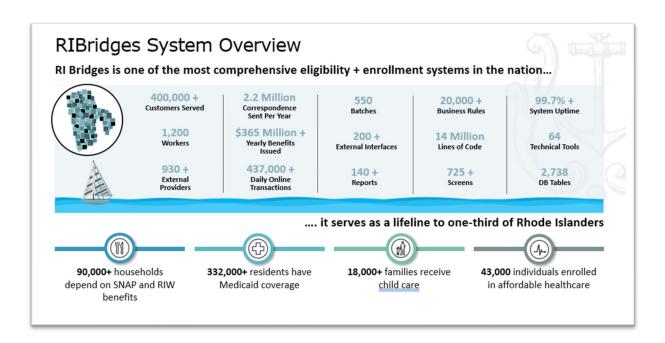
The formalization of the Center for Project Excellence (CPE) was also an important outcome of the Governance Refresh Initiative. The CPE will continue to play a key role as the team continues to deliver improvements across the program. The focus will be reducing the cost of ownership through automation and modifying the SLDC to improve incident response times. In addition, the implementation of the State UAT model will be a top priority.

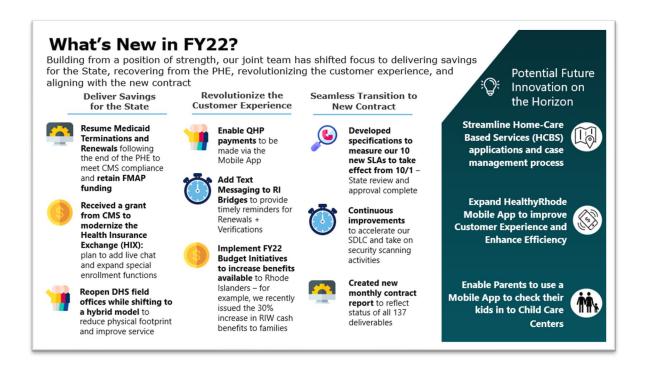
Looking forward, the State has four major application enhancement releases planned for federal Fiscal Year 2022, which will focus on delivering the following business outcomes:

- Implement BEERs Interface
- Implement New Policy Changes for RIW
- Address Medicaid Audit Findings
- Achieve CMS Compliance by Changing Frequency of Buy-In Reporting to Daily
- Complete Medicaid Plan Selection Roadmap
- Maintain LIHEAP Data between RIB and LIHEAP System
- Achieve Alignment across Part A/B for MPP

- Achieve FNS Compliance for SNAP ABAWD Consolidated Work Notice
- Implement HSBS Waiver Logic & Multiple Waivers
- Improve LTSS Processing
- Implement Process Improvements for Rite Share
- Continue COVID Mitigations and Implement Recovery Efforts
- Implement PTIG SMS Text Messaging
- Enhance the Child Care Portal

The graphics below outline critical business metrics related to RIB and provide an overview of recent system enhancements:





Veterans Home Electronic Med Administration Records (eMAR) - The Rhode Island Veterans Home has relied on a largely paper-based system to maintain its administrative and clinical documentation and processes. Although certain portions have been automated over the past several years (such as admissions, order entry, and pharmacy), additional enhancements are elevating the existing system to full EMR/EHR (electronic medical/health record) capability. Enhancements are replacing paperbased procedures to result in more accurate, easily managed administrative tasks. More importantly, the upgraded system will provide better, more secure patient care due to the elimination of manual processes. The first phase, which began in January 2021, was successfully completed in July 2021 with the automation of CNA Tracking, which is capability allowing CNAs to use touchscreen technology to document tasks and activities for assigned residents. Reports on these activities are automatically generated for review by nurses and administration. Other activities transitioned online include accident/incident reporting, use of automated forms, vital signs tracking, and document management. The next phase includes the implementation of eMAR (electronic medication administration record) that will enable real-time accuracy in medication administration, reduce or eliminate administrative tasks, and improve resident care. Nurses will be equipped with Computeron-Wheels carts with eMAR capability, allowing them portable access to the system throughout the various units.

<u>DHS National Grid Project</u> - A DHS match file process was successfully implemented with National Grid in July 2021. After outreach to give households an option to opt out, there were 12,446 accounts identified from the RIBridges system which were matched to National Grid accounts for the discount program. As of September 2021, the match process runs quarterly to identify new households eligible for the discount.

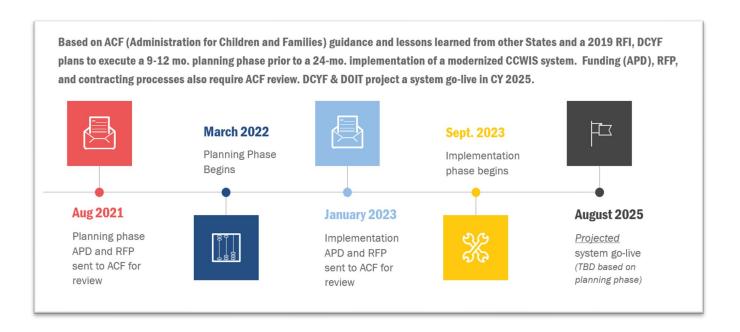
RI Veterans Home Nurse Scheduling - An automated scheduling and open shift notification system was implemented in early August 2021. The project, which began in early May, allows simultaneous notification to all staff when shifts become open. It also honors collective bargaining agreements accounting for seniority, overtime, and lock in orders.

<u>Child Care Consumer Website</u> - A new childcare consumer website was implemented in late April 2021 ensuring the public has access to up-to-date information on licensed childcare and early learning programs. A minimum viable product was the initial focus to ensure childcare information was available as families coped with changing circumstances due to COVID-19. Each program page includes BrightStars rating and other rating information as well as monitoring reports from DHS licensing inspections.

Real Estate Project - As a result of closing lobby-based services because of COVID-19, the Department transitioned to a remote model of customer service that leveraged a call center and an online customer portal, while still allowing customers the option of dropping off applications. Each of these access points is experiencing significant volumes, making it necessary to adjust the operating model to ensure reasonable wait times and high-quality service. DoIT continues to assist the Department in this effort, supporting technical enablement across their telecom, networking, software, and hardware. Through the end of 2021, the Department has supported the relocation of more than 225 staff and the enablement of telework for more than 350 staff. The Elmwood office in Providence is closed as of the end of November 2021, and the final office moves should be completed in February 2022.

Department of Children, Youth and Families

New Comprehensive Child Welfare Information Systems (CCWIS) - In early 2021, the DoIT/Department team completed gathering information on new Comprehensive Child Welfare Information Systems (CCWIS) from a Request for Information (RFI) issued in 2020. The team subsequently drafted a Planning Advance Planning Document (PAPD) and a Planning Vendor RFP for submission to the federal Administration for Children and Families. In October 2021, the State received approval of these documents with an acknowledgment that the federal government will fund 50 percent of the costs associated with the planning phase of replacing the RI Children's Information System (RICHIST). RICHIST is a 24-year-old case management system that has reached end of life and needs replacement. A new web-based CCWIS will enable the workforce greater access to case information while in the field and provide for more timely and efficient services to children and families. The graphic below depicts the high-level project timeline which is subject to update based on the planning phase.



Family First (Federal Level Requirement) Change to RICHIST - The implementation of federal Family First legislation required modifications to RICHIST. Both home-based services and congregate care placements required significant modifications to RICHIST functionality to meet the requirements of the law. Department staff modified RICHIST system to ensure that the State did not request reimbursement for ineligible services and would follow federal reimbursement rules during the next fiscal audit.

<u>Higher Education Grant System</u> - A new Higher Education Grant system was installed that automated a paper process through which former foster youth applied for state and federal grants to assist with college tuition. The system allows the Department and colleges and universities to allocate and track funds to ensure youth have access to them.

<u>Wave Cards for RI Public Transit Authority</u> - When the RI Public Transit Authority (RIPTA) transitioned from RIPTIKS to WAVE Cards, the Department of Children, Youth and Families had to modify RICHIST to support the request for and approval of these new cards. Functionality was also needed to maintain the RIPTA WAVE card numbers in RICHIST to reload the cards via the RIPTA web portal. Without this new functionality, the Department would not have been able to provide their clients with access to this necessary service.

Department of Behavioral Healthcare, Developmental Disabilities and Hospitals

<u>Anonymous Staff Reporting Hotline</u> - Eleanor Slater Hospital was directed by the Joint Commission to implement a solution for anonymous incident reporting by staff members. The implementation of the

web-based product, Lighthouse Hotline Reporting System, will provide employees a secure and anonymous method to report problems or issues by telephone, email, internet, or fax.

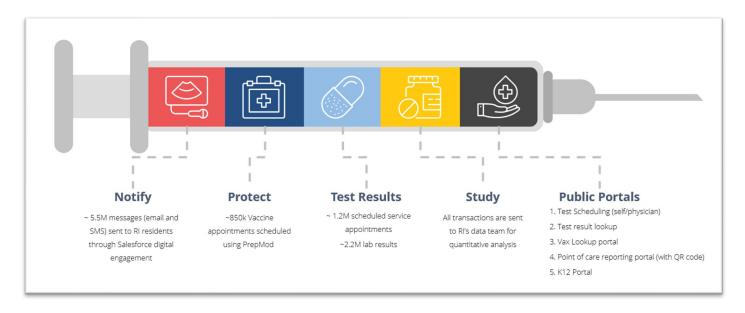
Case Management Implementation — The Department is implementing a SaaS Case Management platform to manage all workflow processes within the Division of Developmental Disabilities.

The therapy system implementation is an end-to-end web-based platform that can manage caseloads from the perspective of the State and community providers. In 2021, DoIT implemented major processes including: automated synchronization of individual demographic data, changed the service authorization from quarterly to annual, developed provider rate increase processes, and the behavioral plan module and claim module for the state-operated providers (RICLAS). These changes reduced errors, improved data quality, streamlined processes, and provided greater flexibility for individuals receiving services, provider agencies, and the Division of Developmental Disabilities. The project will be completed in June 2022.

<u>SharePoint Intranet Implementation</u> - The legacy Department Intranet was migrated to a new "MyBHDDH" SharePoint site. MyBHDDH contains thousands of documents and job-related content including policies, procedures, forms, surveys, training material, announcements, newsletters, links, reference databases, and more. MyBHDDH allows authorized users to manage their content and employees to access the site without using VPN.

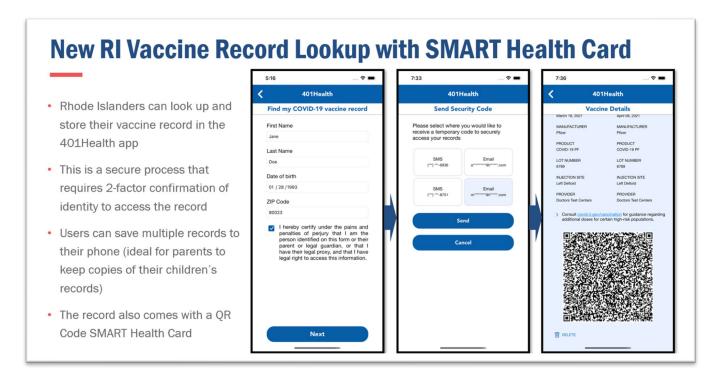
Department of Health

Rhode Island Covid System - DoIT has continued to develop and maintain this state-of-the-art COVID response system that manages the operational COVID data; provides public portals to schedule tests and vaccinations, retrieve test results and vaccination records; and manage vaccination sites. These systems are constantly evolving to meet the current needs in the COVID response. A number of community partner portals allow for K-12 test result entry, specialty case management needs, and more. The graphics below provide a high-level summary of the progress and outcomes achieved by the COVID response systems in 2021:





In December 2021, the Department of Health and DoIT launched an updated version of the pandemic response application under the re-braded "401 Health." Importantly, the application now includes SMART Health Card vaccine record lookup functionality as described below.





RIVERS - Vital Records Upgrade — The Department has nearly completed the upgrade to the vital records system (RIVERS), which includes upgrades to all current modules and the implementation of an electronic death registry. Prior to this implementation, Rhode Island was the last state in the country to not have an electronic death registry. This new system will enable more timely death reporting because physicians and funeral home staff will be able to enter records directly into the system rather than send records via courier. More timely death reporting is critical for reducing fraud, waste, and abuse across a variety of state and federal programs.

National Electronic Disease Surveillance System (NEDSS) - The Department of Health completed an upgrade to this system over summer 2021 to enable NEDSS to receive electronic case reports directly from health care providers' Electronic Health Records. Previously, these case reports were faxed or mailed to the Department of Health, and a variety of staff had to manually data enter information into NEDSS. RIDOH will work to implement electronic case reporting with all hospitals over the next one to two years.

<u>COVID Hospital Information Reporting System (HIRS)</u> - This system has been continually developed and maintained since the beginning of the pandemic. It provides a mechanism for hospitals to report a variety of COVID data to the Department, which then reports data to the federal government on behalf of the hospitals.

Department of Corrections

Probation and Parole Case Management - The Department had a longstanding commitment to improve its rudimentary Probation and Parole Tracking System (PPTS). The lack of tracking data in the PPTS is why probation and parole officers utilize a paper-based system. In late 2019, the Department/DoIT awarded a vendor to implement a system with the overall goal of streamlining and improving the ability to manage offenders, with a specific emphasis on the identification and treatment of moderate/high-risk supervisees consistent with evidence-based practices that reduce recidivism. In November 2021, the Department went live with the new Probation and Parole Case Management System (PPCMS), which is a remotely hosted cloud-based solution that is supported by a vendor. The new system has the functionality needed for evidence-based practices and provides probation and parole officers with real-time information for better supervision.

Department of Labor and Training

<u>Pandemic Response</u> - The Department of Labor and Training faced an unprecedented surge in claims in 2020 and 2021. The Department and DoIT team members have supported initiatives implemented, such as the PUA application, and implemented and supported system changes necessitated by state or federal mandate.

<u>Unemployment Insurance Online Plus (UI Online+)</u> - The Department, in conjunction with AWS Professional Services, developed a new AWS cloud-based front end Unemployment Insurance application. UI Online Plus includes initial application and weekly certification processing in the IVR/IWR and enhanced chatbot capability. The system provides an enhanced user interface and more flexible scalability to allow the Department to adjust capacity to meet changing demands. UI Online Plus integrates with the legacy AS400-based systems of record.

<u>BackToWork Virtual Career Center</u> - The Department, in partnership with RIPL and Google, developed a Virtual Career Center (VCC) that was completed in March 2021. Google developed the application, and RIPL worked with the Department Research Data Lake as the source of information for the Virtual Career Center.

<u>AWS Landing Zone Migration Projects</u> - The Department and DoIT worked with external partners to migrate DLT AWS applications to the State AWS Landing Zone, ensuring compliance with Enterprise Standards:

- BacktoWork RIPL survey application (migrated January 14, 2021)
- Interactive Voice Response (IVR)/Interactive Web Response (IWR) Certification System –
 (migrated July 7, 2021)
- Kendra Chatbot (Migrated July 1, 2021)
- UI Online Plus (Beta Deployed December 8, 2021)

<u>Data Lake</u> - The Department has established a Data Lake in the AWS AMS State Landing Zone consisting of data from legacy systems as well as other data from unemployment data sources. The longer-term goal is building capacity to develop improved reports and dashboards.

<u>AWS Connect Call Center</u> - The Department has expanded the Unemployment Insurance Call Center capabilities and capacity by moving to the AWS Connect Call Center platform.

<u>Procurements</u> - The Department and DoIT developed RFPs for new key vendors to support ongoing cloud application maintenance, operations, and enhancements, and for the replacement of the Department's electronic payment card vendor.

IT Governance – Pilot of A&EA Application Development M&O Model – The Department and DoIT have implemented an enhanced IT Governance model for the development, maintenance, operation, and enhancement of agency business applications. The Governance structure establishes communication and decision-making lines between agency stakeholders, DoIT, and vendors. A Steering Committee, which consists of agency leadership across business lines, ensures open lines of communication with the Director, legal, finance, and other agency leadership. Operations and prioritization for maintenance releases are governed through the IT Prioritization Committee and daily standups. Agency product owners within each unit help refine business requirements to ensure accurate delivery of IT needs. A high-level overview is as follows:

High Level Governance Overview

- 1. IT Steering Committee Monthly
 - Agenda: set & maintain strategic vision & business outcomes, manage escalations from IPC, RFP & contract
 - · Members: Business executives (Directors & their deputies), Agency IT Manager, Chief of Apps.
- 2. IT Prioritization Committee (IPC) Weekly
 - Agenda: (1) what did we just do (notable successes and issues)?, (2) what are we working on (status, risk & issue management)?, (3) what are
 we doing next? planning & prioritization (based on business outcomes) for future work, minor change management
 - . Members: Business team leads (below Director level), IT team leads, Agency IT Manager
 - . Key Principle: All IT system changes (except tech. support) must come through IPC
- 3. IT Team Structure/Cadence/Governance Daily
 - · Meetings: sprint planning, daily standup, sprint review, retrospectives
 - · Processes: go-live acceptance criteria, deployment planning (rollback), regression testing, production support plan

Processes for requesting, prioritizing, and tracking work are also enhanced in this refreshed governance model. DoIT is implementing tools, like JIRA integrated with Service Now, to establish and improve on process flows to increase transparency and accountability. The following are some additional work request tracking artifacts which have been generated in support of this new model:

What is a Work Item?

IPC meets weekly to prioritize work items for the technical teams. Some items (tech support, production issue) shouldn't wait for IPC and work begins immediately. Others (enhancement requests) go to IPC for business prioritization before work begins.

Туре	Definition	Examples	Process
Tech Support Request	Hardware/software issue or request; not related to a DLT functional application (e.g. AS400).	 I need to reset my laptop password. I cannot get into VPN. I need adobe to be installed on my laptop. 	Submit a ServiceNow Ticket <u>here</u> or through your existing process (email/phone).
Production Issue	Issue where one of the current DLT functional applications (e.g. UI AS400) is not behaving as expected or is giving an error.	I got an error on my AS400 screen. I can't find my report, can you reprint it? I cannot access the TDI application.	See next slide.
Enhancement Request	Request to change or modify (however slightly) one of the DLT functional applications (e.g. UI AS400) to improve operations, meet a new federal requirement, etc.	I need to change the date on the WOTC form. There is a new federal requirement for applying penalties to applications. I need to change the language on RESEA notice. I need a new statistical report.	See next slide.

Work Item Request Process

Production Issue Process:

- Creates ServiceNow Incident Ticket by emailing the <u>helpdesk</u> with the completed template (see slide) with the email subject "PRODUCTION ISSUE – {Description}".
 - If the issue is a P1 or P2, copy IPC Members distribution list.
- 2. DolT Team receives request and begins steps to resolve
- DoIT adds to IPC agenda for discussion on impact to existing priorities

Enhancement Request Process:

- 1. Assistant Director meets with DLT IPC member to build out request
- Assistant Director (or team) creates ServiceNow Incident Ticket by emailing the <u>helpdesk</u> with the completed template (see slide) and with the email subject "ENHANCEMENT REQUEST - {Description}".
 - . If the issue is a P1 or P2, copy IPC Members distribution list.
 - · Attach requirements document if available and necessary
- 3. DolT Team receives request and begins initial review/analysis (LOE)
- 4. DoIT adds to IPC priorities list (agenda) for prioritization at upcoming IPC
- IPC reviews request and schedules for upcoming release (based on DLT prioritization and DoIT capacity)
- 6. Work Item moves into development process

Work Item Severity Definitions - For Production Issues and Enhancement Requests (not tech support)

Priority	Definition	Examples
P1 - Critical	PROD: The production system is down, or mission critical functionality is inoperable. Users are unable to reasonably perform their normal functions. The situation is considered an emergency. ENHANCEMENT: System change (enhancement request) from executive leadership and with critical business impact and/or imminent deadline. All other priorities should be deferred in order to support this request.	Immediate legislative/policy change Critical audit finding Major Public perception UX issue Emergency operational change
P2 - High	PROD: The system is usable but severely limited. Significant impact to application functionality, data, or performance which is resulting in a high number of users being unable to perform their normal functions or is resulting in a high number of customer benefits being blocked/incorrect. There is no workaround or it is cumbersome to business operations. ENHANCEMENT: System change (enhancement request) with a high business impact and/or near-term deadline. This request should be next for prioritization; lower priority work may be deferred.	Near-term legislative/policy change High audit finding Public perception UX issue High impact operational change
P3 - Medium	PROD: Moderate impact to application functionality, data, or performance resulting in multiple users being impacted in their normal function or resulting in a high number of customer benefits being blocked/incorrect. A workaround for users exists. ENHANCEMENT: System change (enhancement request) with a moderate business impact and/or medium-term deadline. This request should be prioritized by IPC.	Medium-term legislative/policy change Moderate audit finding Public perception UX issue Moderate impact operational change
P4 - Low	PROD: Minor loss of application functionality resulting in limited or no impact to users being able to perform their normal function. A workaround is not required as a result of the limited impact. ENHANCEMENT: System change (enhancement request) with a moderate business impact and/or medium-term deadline. This request should be prioritized by IPC.	Minor Public perception UX issue Low impact operational change Typo with no material impact, display alignment issue

This enhanced Governance process is serving as the pilot for the new A&EA application development M&O model which will be rolled out to other agencies in the coming year.

Department of Business Regulation

<u>Blockchain Pilot</u> - The Department of Business Regulation, in conjunction with DoIT, will provide a limited pilot implementation of blockchain technology to become more efficient, transparent, accurate, secure, and business friendly. The pilot will allow a sample selection of Certified Public Accountants to apply for a digital CPA license via the pilot blockchain, perform a simple verification

check with the Division of Motor Vehicles to confirm the CPA's ID, and integrate with the Department's Cavu licensing platform. The entire digital process will be added to the CPA's Citizen Wallet.

<u>ePermitting</u> - The OpenGov electronic permitting system that began rolling out in 2016 concluded phase 3 in 2021, onboarding most municipalities and five state agencies. The Department of Transportation launched the physical alteration permit (PAPA) required for any work that impacts a state road, such as a new driveway or commercial development. The Department of Business Regulation Contractors Registration and Licensing Board Registration's new and improved search functionality went live with the assistance of DoIT's Application Support team. The Coastal Resources Management Council also launched the Beach Vehicle Permit and Trail passes online.

<u>Medical Marijuana Program</u> - The Office of Cannabis Regulation is in the final stage of selecting vendors that responded to an RFP for an online platform to support seed-to-sale, commercial licensing, patient/caregiver registration, and home grow tagging. The RFP can be awarded to multiple vendors that meet the evaluation criteria for each of the four platforms.

Department of Revenue – Division of Taxation

<u>STAARS Migration to Cloud – Division of Taxation</u> – This project migrates existing on-premises infrastructure to hosted solution maintained by RSI within the MS Azure Government Cloud. Existing infrastructure was implemented in 2013 and is now approaching end of life. To refresh the current system, this project will migrate the current on -premises STAARS infrastructure and supporting systems. RSI already supports other tax agencies in the cloud. Experiential gains and adherence to best practices will be realized.

MS Dynamics Power Apps Implementation of Portal – Division of Municipal Finance (DMF) - This project will modernize and streamline interaction between the municipalities and other entities, such as telecommunications companies, to interact with the Division of Municipal Finance. Enhancements include a portal for municipalities and other entities to share files, annual reports, and forms quickly and securely with the Division of Municipal Finance. As a part of this modernization project, the State is broadly seeking to expand its use of enterprise low-code, rapid application development platforms to meet business modernization and digitalization needs.

<u>DOR / Central Collections Unit (CCU) – MS Dynamics Power Apps</u> - This project is to modernize the Central Collections Unit that currently collects debts and is using software that does not provide proper case management, workflow, or reporting.

<u>DOR/Admin PowerBI Project</u> - This project will provide the Director of the Department of Revenue with a dashboard that will provide data on key performance indicators across all units in the agency. It will also provide the Director with current data and easier reporting during periods of revenue estimating for the Governor's Office. This project is under planning and expected to start in January 2022.

Department of Motor Vehicles

New DMV Online Services - The Division of Motor Vehicles' multi-year strategic plan identified 14 services that were not available online but accounted for 500,000-plus transactions in 2019. The new online services project was initiated in June 2020 to reduce on-site customer visits to branches and AAA locations, improve on-site wait times, and enable staff to process more credential transactions. In collaboration with the Division and RII, DoIT was instrumental in the resourcing and COVID funding request. The DoIT team actively manages the project and communications with RII, performs testing, and monitors the deployment of the services. Seven new services have been deployed through the end of 2020.

<u>DMV Reservation System</u> - The new, integrated RIMS reservation system was a collaborative project among the Division, DoIT, and Amazon Managed Services and launched on the State's Amazon Platform. The system was developed to replace a legacy vendor reservation system. The new system is configurable, built upon the RIMS platform to reduce support, and meets evolving business requirements. The system utilizes best of breed Amazon services, including Pinpoint, email, and text notifications, and improved reporting to monitor performance and customer transactions. The system has increased legitimate appointments, reduced transaction time, and reduced total cost of ownership. The system was successfully assessed by a third-party security firm.

AAA Training Room - The Division of Motor Vehicles frequently needs to provide comprehensive RIMS training to AAA, a critical business partner. The goal is to train new staff and improve the customer experience at AAA locations by reducing errors, questions, help tickets, audits, etc. The Division's training room was not large enough to safely train a group of users during the pandemic. AAA offered its large training room at its Cranston location. The DoIT and AAA teams collaborated to install 15 desktops on a new Internet connection to the RIMS training environment. A separate connection was required to reduce the impact to the RIMS production connection servicing AAA customers. The first training in the AAA location was held in June 2021.

<u>Free Wi-Fi at Remaining DMV Locations</u> – In August 2021, the Motor Vehicle Network completed the infrastructure installation and successfully launched free Internet access to customers at the

remaining DMV branch locations in Woonsocket, Middletown, and Wakefield. The goal was to provide customers free Wi-Fi to reduce the impact of wait times during REAL ID launch. An additional benefit is to allow a customer to perform online transactions immediately instead of waiting in line.

3. Collaboration Technologies

An existing line of effort that was expedited in response to COVID-19 remote work capabilities was the deployment of the Microsoft 365 collaboration suite of tools across State government. Leveraging this toolset to enable a more efficient, collaborative workforce proved crucial to the State's ability to execute its normal business functions, both on-premises and remotely. The adoption of these tools to their fullest potential was important to maximize the return on investment, while also improving the user experience and increasing productivity. To date, 686 Teams sites and 195 SharePoint sites have been created and deployed, as well as One Drive for Business, and Microsoft multi-factor authentication (MFA) across the enterprise. In addition, DoIT partnered with an external vendor to provide training on the toolset to licensed users on the enterprise network. Users have access to an online library with hundreds of training videos that empower employees to reap the full benefits of Microsoft 365.

4. Cybersecurity and Risk Management

Cybersecurity and IT risk management remain at the core of all IT operations across the enterprise. The "shared responsibility" model for the cybersecurity program continued in its maturation through inclusion of cybersecurity assessments in the RFP process, vendor evaluations and scoring, risk measurement of State employees, and increased awareness of cybersecurity control requirements by IT staff and agency partners. The continued maturation of the program has resulted in reduced risk and continued process improvements and technology investments to enforce IT cybersecurity policy.

Continuation of a "hybrid" work environment for State employees required a focus on securing access to State data and systems. Efforts this year included the deployment of a privileged access management solution, a data protection suite of technology, and continued hardening of the State's email protection platform to prevent incidents of fraud and malware. The remote workforce also drove the need for cloud-based remote device monitoring and management, which were deployed and enhanced.

The continued modernization of legacy applications also includes cybersecurity and risk assessments of proposed new applications and hosting environments for adherence to the State's

security policies that align with the NIST cybersecurity control frameworks. Through active IT governance throughout project execution, risk is measured and mitigated as it is identified, drastically reducing the overall risk to acceptable and manageable levels.

The information security awareness and training program continued to grow this year, with the successful completion of the training modules by over 74 percent of the general user population, and over 93 percent completion for users with privileged access. A monthly test "phishing" campaign is executed, with over 21,000 test emails correctly identified and reported by State employees. The continued success of this user-focused training program is critical to the overall success of the cybersecurity program.

DoIT continues its active participation and collaboration with members of the Joint Cyber Task Force (JCTF) to support the State Cybersecurity Strategy that was published in 2019. These efforts include education and training outreach to municipalities and groups across the state, as well as continued support to election security efforts with the Board of Elections and Office of the Secretary of State.

5. IT Service Management Program / Support Services

DoIT successfully launched a new self-service portal http://rhodeisland.service-now.com/sp.

An interactive virtual agent helps guide users submit incidents, search articles and features, and chat with a live service desk representative. Aside from reporting issues, the self-service portal now provides the user community access to knowledge articles with information associated to their specific requests.

The implementation of Knowledge Management (KM) enables the sharing of information in knowledge bases. These knowledge bases contain articles that provide users with information such as self-help, troubleshooting, and incident resolution. The self-service portal enables users to access a portal view of knowledge bases and articles. Knowledge Management supports processes for creating, categorizing, reviewing, and approving articles. Users can search and browse articles as well as provide feedback.

A remote support structure pilot within the Department of Human Services technical team has been piloted, allowing DoIT to identify efficiencies by separating incidents that can be resolved remotely versus those that need to be assigned to the on-site technical team. Based on the results of this pilot, DoIT will deploy a remote support offering to the agencies. This strategy allows expansion of service desk capabilities to include technical remote support and will drive a staff reorganization that is modeled to support the needs of a dynamic State workforce and modern technology.

ServiceNow's Performance Analytics has been implemented to establish and trend operational KPIs and metrics to ensure that these changes result in no or minimal disruption to the agencies.

6. Cloud Services

Throughout 2021, the Cloud Services team has positioned itself as the trusted advisor and partner for DolT's customer departments and divisions. Under the governing direction and guidance of the Cloud Center of Excellence, the Cloud Service team has operationalized a pipeline for customer engagement, guidance, architecture review, and architecture creation for net-new and re-factored applications, utilizing our Amazon Web Services landing zone. The IT governance process is driving IT inclusion in the early planning discussions at many agencies. This past year saw the completion of many major deployments within the landing zone. Agency interest in the cloud is growing as the platform of choice for many applications that are targeted for expected deployment in the first half of 2022. The State will continue its cloud journey with a "Cloud Smart" focus and strategy that will position all agencies supported by DolT to leverage the most efficient applications and service delivery methods. In addition to growing the cloud program featuring AWS, DolT will also focus on a critical modernization of the State data center to address end of life equipment and provide a modern on-premises footprint to host agency applications. This has positioned ETSS DolT as the trusted broker to all the agencies, putting the requested applications in the right platform that will best fit their needs, both now and in the future.

DoIT continues to leverage its cloud-based Identity Provider (IdP), Azure AD, to federate third-party cloud services. Applications like eContent Management System, Legal Case Management System, GitHub, Service Now, ITSM, and the AWS Managed Landing Zone have been federated with the source-of-authority IdP. This provides a consistent sign-in experience for customers and, more importantly, eliminates the need for customers to maintain multiple usernames and passwords, greatly reducing the risk associated with identity and access management for a growing applications portfolio.

Mobile Device/Enterprise Management is increasingly moving to DoIT's cloud service of Microsoft Intune while integrated with on-premises Microsoft System Center Configuration Manager (SCCM). This integration has allowed DoIT to support the rapid deployment workflow for laptops/desktops and reduced operational complexity by integrating directly with the device vendor to realize order-to-deployment refined workflow, reducing operational overhead for device deployment and management. DoIT will continue to move primary endpoint management services to

Intune to reduce operational and security risks and complexity, and to support an increasingly mobile workforce.

7. Hosted Infrastructure and On-Premises Services

The Enterprise Operations Center is the State's premier hosted data center and holds a desirable Tier II designation. DoIT continues to heavily leverage this investment for most Executive Branch production system workloads. It serves as the backbone of the private cloud infrastructure. In 2021, the ETSS infrastructure and operations team embarked on a massive mission to replace the many aging and end of life hardware and software components for the centralized on-premises virtual infrastructure and centralized enterprise storage and backup platforms.

Replacing and upgrading over 200 individual server hosts, enterprise-class IP networking and storage area networking components, this private cloud architecture enables the virtualization platform leveraged by all critical Executive Branch Tier 1 enterprise and agency applications to be more resilient and modern, and achieves the performance required of today's agency business needs. The benefits of this model of on-premises operations include reducing risk by providing high availability and disaster avoidance, increased reliability, scalability, and reduced time-to-market for systems and services. With a completely re-architected backup platform, the State will also be leveraging hybrid external cloud services for long-term retention to increase availability and reduce cost over time. With this new hyper-converged virtual infrastructure in place, the enterprise and agency teams will have a modern, secure, and scalable platform for all workloads not optimized for, or that would not be able to leverage the benefits of, the state-of-the-art cloud services offerings mentioned above.

DoIT supported and unsupported entities (e.g., University of Rhode Island, Community College of Rhode Island, Turnpike and Bridge Authority, Department of Education, State Police, Office of the Secretary of State, Office of the General Treasurer) now leverage the ETSS Enterprise Operations Center (EOC) for their systems as a co-location or fail-over site.

8. Data & Analytics

As the appetite for data analytics continues to grow for agencies/business units, ETSS is expanding its capabilities. To further cement the role of centralized IT in enterprise data analytics, DoIT and DOA are launching a pilot to establish a data analytics system based on Snowflake. Data from different systems, including financials and budget, will be uploaded to provide greater insight and trends.

In the first quarter of 2021, the data and analytics team focused on providing cloud architecture guidance to the newly migrated EOHHS Ecosystem database application to the State's AWS Landing Zone. The team successfully completed the data quality and reports testing to certify and plan for go-live. The application was certified and went live in a scalable mode by end of the second quarter of 2021. The team also provided guidance and data analytics support to agencies.

During the third and fourth quarters, the team also focused on the preliminary research to establish a State enterprise data lake. The goal is to implement a scalable, cost-effective data platform that will be easy to maintain and can handle the demand (ad-+-hoc and planned) from various agencies as well as address the sharing of data with agencies and vendors abiding by proper governance and compliance stipulated by the CISO office and the State's mandated requirements.

9. Networking and Telecommunications

Over the past year, DoIT has made great strides in modernizing the State's core network and telecommunications infrastructure. These efforts include the upgrade and replacement of core network architecture components to provide for greater capacity and security in the accessibility to both cloud and on-premises based State applications and services. Modernization of the State network continued with a complete review and change of core routing protocols to provide for scalability and more resilient connectivity across the enterprise network.

DoIT executed an RFP to procure and replace aging network distribution switches across the enterprise. These new switches provide capabilities and capacity at the user level to deliver modern services as well as increased network accessibility. Working closely with our contracted internet service providers, DoIT improved network service delivery to remote agency locations through the continued deployment of secure cellular-based network devices, realizing reduced costs and improved levels of service for agency partners.

In 2021, a major telephone and call center infrastructure upgrade was executed that targeted legacy PBX, CENTREX, and PRI components of the telephone infrastructure. This upgrade not only transformed the back-end infrastructure to a more resilient, scalable, and modern system infrastructure, but also will realize long-term cost savings and positions the State for the deployment of more modern telephone and call center capabilities.

The deployment of FirstNet devices began this year to authorized State employees. This network and connected devices provide dedicated cellular and data services to first responders and key decision makers within State government during times of crisis and cellular network saturation.

This capability enhances State government operations by providing ready and resilient communications for execution of time sensitive decisions.

10. Mail Operations

All U.S. mail received from the Enterprise Messaging Center, the Computer Center, State entities, and some municipalities are processed by the Enterprise Mail Facility. It is barcode sorted and sent to the USPS below the cost (all on average) of a regular piece of first-class mail. Proper mail piece design by the mailroom decreases postal operation costs to the State. In 2021, savings totaled \$827,353.38. A barcode sorter enables application of all postal discounts afforded to a large mailer. On average, 1,650,000 pieces of mail per month are processed at this facility.

Enterprise Messaging Center couriers support State agencies by delivering interdepartmental correspondence and processing outgoing U.S. mail. Couriers internally distribute approximately 2,000 mail items daily, including incoming USPS mail for One Capitol Hill. This activity presents cost savings to the State by forgoing the normal mailing of these packages, which on average would cost \$1 each. DoIT has put in place a holistic disaster recovery process for Mail Operations that corrected previous shortcomings. This new process allows for the complete remote enablement of mail operations if the existing facility were destroyed or deemed inaccessible. This was tested and was proved functional in 2021, providing a complete print-to-mail solution.

11. Enterprise IT Governance

IT Governance across the enterprise and agencies continued to improve over the past year. A defined IT project governance has been established and has driven the successful oversight and completion of application, infrastructure, and security projects of varying scope and budget. The integration of a defined security governance framework has enabled a more strategic approach toward the implementation of a cybersecurity defense in-depth architecture. The enterprise policy library that aligns with the selected NIST Cyber Security Framework was published for access by external vendors and partners to drive understanding and compliance with documented policy, procedures, and operational guidelines. The Audit Working Group consisting of representatives from Executive Branch agencies continues to meet regularly to identify and mitigate audit findings across the enterprise and agencies.

An approved IT project approval policy was implemented, which defines the governance process for all IT projects. This includes the Advisory Board, the Architecture Review Board, the

Project Review Board, and the IT Governance Council. All have clearly defined guidelines and requirements, including tracking and reporting of projects and project metrics.

12. Project and Portfolio Management

Since its establishment, the Project Management Office (PMO) works to continuously improve the IT governance processes, track all IT projects, and complete weekly status reports for each active project. As a result of the pandemic, the PMO developed and operates a LEAN governance process to deliver technology in an expedited manner. The PMO tracked 31 projects to completion in 2021; this does not reflect agency-level projects that do not require PMO level project management. A breakdown on completed projects by agency can be found below in Figure 4.



Figure 4: Completed Projects

An evaluation of the PMOs current methodology, process, and tools was conducted. The PMO developed a digital project pipeline and review input process. All projects are captured once they enter the pipeline and updated through project approval. Once approved, projects are classified as small, medium, large, or critical projects. Based on the classification, all projects that are large/critical must complete all required documentation to ensure the success of project delivery. In addition, the PMO SharePoint site was redesigned to provide clear direction on project governance, project monitoring, and project tools. The charters for all project governance boards were reviewed and updated. The Project Review Board and formal governance process serve to review and prioritize IT projects from across Executive Branch agencies. The purpose of these reviews is to ensure IT projects comply with standards and policies, are initiated with proper IT staff assigned, and are driving strategic enterprise goals. The PMO is currently tracking 41 active projects, of which nine

are for DoIT, with the remaining 32 projects spread across 11 agencies, as identified in Figure 5 below. A full list of active projects by name can be found in Appendix A.

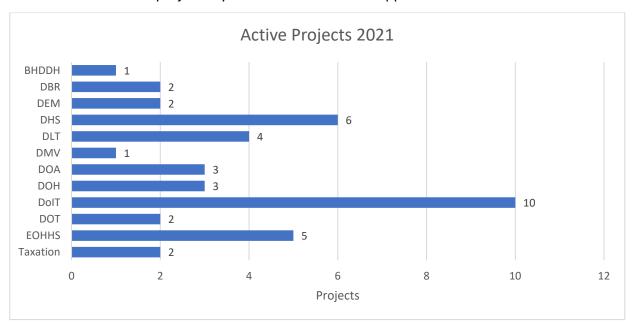


Figure 5: Active Projects

13. Vendor Management

The IT Vendor Management Office (VMO) was established to enable efficient and effective procurement of IT third-party products and services. The IT VMO proactively partners across IT functional areas and, as needed, with State agencies in the procurement of IT services, hardware, software, and contractor staffing.

As defined in its charter, VMO continues on the following goals:

- 1. **Delivery Excellence:** Prioritize, demand, and deliver IT Sourcing Initiatives (RFP/Contracts/Amendments)
- 2. **Vendor Governance:** Classify Vendors and Manage Vendors (including handling key escalations) through periodic Vendor reviews
- 3. **Stakeholder Satisfaction:** Partner with IT and Agency to manage stakeholder sourcing demands
- 4. **Continuous Improvement:** Improve contract delivery to award through innovative sourcing options using various purchasing and NASPO contracting vehicles.

VMO prioritizes IT sourcing demands and delivers RFP and contract services. As part of continuous improvement, VMO relies on its purchasing and sourcing processes, updating agreement templates and best practices. Operational vendor management allows the VMO to engage and understand IT projects, enhance solution marketplace, and deliver contracts in a timelier manner.

VMO successfully delivered contracts both for Business as Usual (BAU) projects and numerous COVID-19 projects. IT sourcing demand for third-party procurements remained high, with several applications such as DLT Unemployment Claims, Cloud Procurement, DEM Modernization, DHS M&O, DOH Tech Enablement, Enterprise Network, Security, and infrastructure [HCI and DR] modernization initiatives. In addition, this year VMO supported several vendor audits for software license usage.

Sourcing Initiatives

Department of Labor and Training

- AWS Proserve contract negotiation and extension through December 2021; savings
 \$1.3M
- AWS M&O & development RFP; savings \$1M
- Voice Foundry M&O contract renewal
- Mainframe legacy systems support contract negotiations and award
- Electronic Card Replacement RFP; deliver RFP and contract negotiation

Department of Administration

- ERP Saas Implementation & Support RFP
- ERP Advisory Support contract award

Department of Business Regulation

Block Chain POC RFP

Department of Environmental Management

 DEM OneOutdoors licensing system modernization

Department of Children, Youth and Families

RICHST renewal to NTT

- ERP evaluation, product selection, contracting and negotiation
- ePermitting
- eCMS content management renewal
- NeoGov Renewal
- Cannabis RFP
- DEM FoxPro and Agri modernization RFP
- RICHST Modernization planning vendor RFP

Department of Health

- COVID-19 Tech Enablement CRUSH COVID
- COVID-19 Tech Enablement CONTACT TRACING

- COVID-19 Prep Mod renewal amendment
- COVID-19 SF licensing renewal
- Procurements of various SW tools to support COVID processes

EOHHS / Department of Human Services

- UHIP RFP: Award 3-year contract to Deloitte for application M&O
- RIBridges IV&V Extension with CSG
- RICHST M&O renewal through NTT

Contractor Staffing

- Provide ongoing staffing services across IT
- 50 IT staffing contracts onboarded including conversions of COVID resources to KS

- RICHST modernization planning vendor RFI/RFP; deliver RFI and RFP
- MMIS renewal with DXC / Gainwell
- MMIS Planning Vendor RFP awarded
- Manage ongoing and annual contractor renewals and rate negotiations
- A process for fast-track KS hire was implemented to ensure faster hire in 4-5 weeks

Managing Third Party Software Audit

As part of risk mitigation, VMO manages the IT vendors performing audits on the State by partnering with legal and relevant IT stakeholders to ensure the audit is planned with an agreed-upon approach, conducted as per NDA, and reported accurately for license asset reconciliation. Audits conducted:

- QUEST
- SSA
- CISCO
- McAfee

- Adobe
- MF COBOL
- IBM

<u>Infrastructure, Security, Network & Telecom Services</u>

- HCI expansion negotiation
- MS Office 365 and SQL Enterprise renewal
- AWS AMS Carahsoft Managed Services
- MPA RFPs 308, 299, 227, 367, 188
 as RFP
- DR RFP for disaster recovery
- Participation ITS-75 [State of MA MPA for EOC SW and HW Services]
- Deloitte UHIP renewals
- Several AMC such as mail room, IBM Guardium, VMWare, Proofpoint and others

- Secure Works renewal
- Privileged Access Management RFP
- Office 365
- Data Protection & Encryption RFP
- Telephone Upgrade & Call Center MPA RFPs
- Proof Point RFP
- Ernst & Young Cybersecurity
 Assessment.
- Total of 845 annual Infrastructure, Security, Network & Telecom renewals

The following graph depicts the monthly metrics on various contract artifacts such as PRAF, renewals, agreements, amendments, NDAs, audits managed for compliance with vendors.

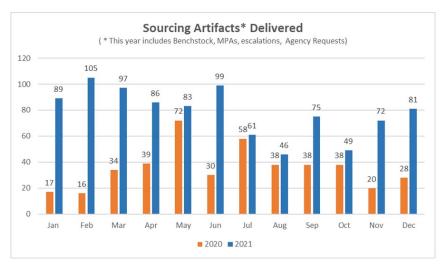


Figure 6: VMO Executed Contracts

Cost Savings and Avoidance Achieved

<u>Third Party Cost Savings and Avoidance</u> - VMO continues to maintain and document the ongoing commercial negotiations across its categories – Labor, Hardware, Software, and Services. Cost avoidance includes additional value-added services negotiated either additional scope or labor hours or new tool investments.

Year** [Jan - Dec]	Cost Savings	Cost avoidance	Total Savings
2018	\$5,413,965	\$6,500,000	\$11,913,965
2019	\$2,067,535	\$672,534	\$2,740,069
2020	\$6,668,692	\$1,477,870.52	\$8,146,562.72
2021	\$5,912,826.77	\$854,849.52	\$6,767,676.29
TOTAL	\$16,555,286.77	\$9,459,343.52	\$26,014,630.29

VMO continues to focus on optimizing contract delivery through IT Tower demand management and identifying ways to reduce the contracting cycle time using repeatable contract/terms and templates through active partnership with DOA Legal and the Division of Purchases.

14. Budget Cost Control and Fiscal Management

DoIT continues to operate within the Internal Service Fund that was established in Fiscal Year 2018. Under ETSS, there are three separate Internal Service Funds: Mailroom, Telecommunications, and DoIT. The Internal Service Fund allows DoIT to purchase technology infrastructure centrally and provides a mechanism for paying recurring costs often associated with IT systems. Enabled by the Internal Service Fund, multiyear plans can be documented and executed in partnership. Expenditures

directly impact agency budgets. Fiscal Year 2022 is expected to have a total IT spend of approximately \$227 million.

Having a fully operational finance function within DoIT has enabled better control over the roughly \$44 million DoIT Internal Service Fund budget. The breakdown of the DoIT budget is depicted below.

Total DoIT FY 2021 Budget	\$ 44,022,943
Allocated to:	
RI FANS	\$ 1,732,645
Director's Office	\$ 2,258,600
Infrastructure & Operations	\$ 26,782,223
App/Dev (DMV/DOR/DBR/DLT)	\$ 2,457,521
App/Dev (DOA/DEM/DOC/DOT)	\$ 5,480,552
App/Dev (DOH/BHDDH/DCYF/DHS)	\$ 4,004,422
Project Management Office	\$ 1,306,980

Table 3: 2021 Budget

Along with comprehensive chargebacks of IT costs, DoIT finance has enabled proactive budgeting and escalation of potential issues.

15. IT Funding

RI.gov Portal Transactions - RI.gov is the official web portal for the State of Rhode Island. Within the portal, residents can perform online transactions, such as renewing licenses and paying taxes. The portal is managed by NIC Rhode Island (formerly Rhode Island Interactive). In 2021, the RI.gov portal processed 2,133,557 transactions and collected \$120,007,333 in statutory funds on behalf of the State entities served. \$116,393,786 was remitted to the State to finance agency operations. The difference funded NIC Rhode Island's maintenance and development of the portal.

2021 Rl.gov Portal Transactions			
Agency / Department	Transactions	Gross Revenue	Remitted to State
Division of Motor Vehicles	840,536	\$36,688,953.98	\$35,514,110.50
Division of Information Technology	9	\$369,710.11	\$0.00
Division of Taxation	451,812	\$13,853,775.12	\$13,393,942.22
Dept. of Environmental Management	90,131	\$7,520,789.89	\$7,192,729.92
Secretary of State	109,022	\$5,727,159.46	\$5,430,886.55
Dept. of Human Services	32,681	\$7,138,173.26	\$6,934,292.97
Dept. of Business Regulation	32,847	\$6,083,011.01	\$5,900,512.31

Dept. of Transportation	12,738	\$3,070,818.50	\$2,935,310.00
City of Pawtucket	27,909	\$13,681,373.45	\$13,534,489.97
eCMS	1,287	\$81,860.60	\$0.00
Office of the Attorney General	48,252	\$1,044,463.40	\$1,000,420.00
Dept. of Labor and Training	7,467	\$1,042,759.12	\$999,282.00
Town of Bristol	5,888	\$3,186,918.60	\$3,158,275.47
Dept. of Health	64,634	\$8,222,826.32	\$8,204,302.31
Kent County Water Authority	5,425	\$395,030.07	\$381,072.58
Univ. of Rhode Island	1,480	\$435,576.90	\$422,915.00
Dept. of Administration	383,269	\$161,506.51	\$140,701.41
Dept. of Education	3,260	\$514,906.00	\$504,000.00
City of Newport	1,387	\$54,826.00	\$43,951.00
Division of Public Utilities and Carriers	0	\$9,147.57	\$0.00
Dept. of Children, Youth and Families	5,342	\$61,433.00	\$53,420.00
Central Collections Unit	559	\$168,656.40	\$165,438.92
Town of Cumberland	1,043	\$31,925.95	\$29,627.70
Town of Westerly	791	\$27,921.60	\$25,759.05
Ethics Commission	3,919	\$1,959.50	\$0.00
Office of the General Treasurer	656	\$10,361,936.20	\$10,361,936.20
Town of Exeter	373	\$27,667.97	\$26,693.26
Town of Burrillville	250	\$4,491.53	\$3,863.53
City of East Providence	129	\$4,235.00	\$3,640.00
Town of Narragansett	226	\$9,446.93	\$8,904.50
Town of Little Compton	93	\$18,044.38	\$17,562.85

Town of Richmond	117	\$3,673.70	\$3,486.96
Town of Hopkinton	18	\$2,109.14	\$2,047.88
Lt. Governor	7	\$246.00	\$211.00
TOTALS	2,133,557	120,007,333	116,393,786

PLEASE NOTE: December numbers estimated based on same period 2020. For more information, please contact Thomas Viall, President, NIC RI, LLC.

Table 4: Portal Transactions

<u>Information Technology Investment Fund</u> - The Information Technology Investment Fund (ITIF) was established in 2013 under R.I. Gen. Laws Section 42-11-2.5 for the purpose of acquiring information technology improvements and services that were not previously budgeted for in the capital plan and could have a significant positive impact on the operations of an agency or across the enterprise. The ITIF approved projects in 2021 for enterprise-wide initiatives totaled \$71.5 million. Two of the projects – the Enterprise Resource Planning (ERP) and RI Child Welfare Information System (RICHIST) Replacement – accounted for \$67 million and were approved via the Fiscal Year 2022 Enacted Budget out of separate funding that is tracked and maintained in the fund. Enterprise projects approved from the Information Technology Governance Council total \$4.5 million.

Historically, ITIF has helped to advance the IT needs of the State. However, as the demand for modernization in government increases at an accelerated rate, it is critical to collaborate with the General Assembly to think more creatively about how to fund necessary upgrades and replacements and improve the IT talent pool, processes, and technology in the State.

Active Projects Approved in Prior Years			
Approved Project	Approved Projects in 2016/2017		
Department	Project Title	Budget Approved (Multiple Years)	
DOH	Active Directory Consolidation	\$520,200	
DHS	DHS Terminal Server Project: Remote Desktop	\$15,265	
DOR	Reservation System Upgrade	\$282,571	
DBR/DOA-DoIT	State E-Permitting Initiative (Phase I & II)	\$1,520,000	
DOA-DoIT	Office 365 Migration	\$4,090,580	
DOA-DoIT	Telecom Support Technicians (MPA-230)	\$95,760	
DOA-OMB	Integrated Budget Development System	\$2,500,000	
BHDDH	DDD Case Management System	\$487,500	

DLT	OnBase Imaging System Upgrade	\$850,000
EOHHS	Unified Health Infrastructure Project (UHIP)	\$6,623,232
DEM	FoxPro to PLOVER Migration	\$333,400
DOA-DCAMM	Capital Asset Management and Information System	\$417,343
DOA-OMB	Grants Management System	\$1,860,884
DHS-VA	State Veterans Coordinated Care Network	\$300,000
DOA-OER	Utility Bill Analysis and Management Platform	\$300,000
DOC	Probation and Parole Case Management System	\$750,000
DOA-DoIT	Enterprise VMware Upgrade	\$250,000
DOA-DoIT	Enterprise SharePoint Design and Maintenance Solution	\$150,000
DOA-DoIT	Enterprise Service Desk Application Replacement	\$110,000
Board of Elections	Update Electronic Reporting Tracking System (ERTS)	\$350,000
RIC Campus Police	Campus Police Dispatch Console	\$72,359
DOR-DMV	DMV Woonsocket Relocation Project	\$62,500
DOA-DoIT	Mainframe Replacement Project	\$160,000
RIDE	Tableau Reporting Data System	\$221,000
DOR-DMV	DMV RIMS System	\$4,400,000
DOA-HR	Learning Management System	\$241,500
DOR-DMV	DoIT Strategic Plan	\$200,000
Secretary of State	E-Poll Books	\$2,017,960
DOA-Purchasing	E-Procurement	\$1,310,740
DOR-Taxation	Integrated Tax System Customer Portal / Support	\$1,700,000
DOR-Taxation	Integrated Tax System Reporting & Cashiering Enhancements	\$1,600,000
DOA-OMB	Legislative Bill Tracker	\$18,000
(Approved in 2016/2017)	Subtotal	\$33,810,794

Approved Projects in 2018			
Department	Project Title	Budget Approved (Multiple years)	
BHDDH	Long Term Care System – Project Manager only approved	\$150,000	
DOC	Electronic Medical Record System	\$576,903	
RI Commerce	Business Path Website	\$39,000	
EOHHS	UHIP System M&O Advisory Services	\$469,600	
DOH	Childhood Lead Poisoning	\$511,600	
EOHHS/UHIP	Augmented Testing Capacity	\$102,800	
DMV	RIMS/REAL ID	\$2,256,312	
DOH	Vital Records	\$522,000	
CCRI/RIC	Integrated Guided Pathway	\$697,500	

(Approved in 2018) Subtotal		\$6,658,190
DEM	Berthing Management Database	\$78,000
DOA/Purchasing	eProcurement/Civic Initiatives	\$751,250
DCYF	Child Welfare Information System Modernization	\$303,225
DEM	Expansion of Digital Records	\$300,000

Approved Projects in 2019		
Department	Project Title	Budget Approved (Multiple Years)
DOA	Strategic Plan	\$550,000
DOA	eProcurement	\$150,000
EOHHS	Data Ecosystem	\$277,277
DMV	License Plate Reissuance Programming	\$343,000
DOR	Tax Maintenance	\$2,914,768
OVA	RI Serves Coordinated Care Network	\$153,000
RI Commerce	RI Business Path Website	\$6,000
DOA	Windows 10 Contractor Support	\$270,000
DOA	Enterprise Security	\$1,530,000
DHS	UHIP	\$500,000
DCYF	Field Staff Laptops	\$173,380
DOA	eContent Management System (eCMS)	\$812,000
(Approved in 2019) Subtotal \$7,679,425		

Approved Projects in 2020			
Department	Project Title	Budget Approved (Multiple Years)	
DOA/DoIT	Hyper Converged Infrastructure	\$3,300,000	
DOA/DoIT	Network Switch Replacement	\$1,800,000	
(Approved in 2020) Subtotal \$5,100,000			

Approved Projects in 2021			
Department	Project litle	Budget Approved (Multiple Years)	
DOA	eProcurement	\$ 691,000	
DOA	Enterprise Resource Planning (ERP)	\$50,000,000	
ID(CYE	RI Child Welfare Information System (RICHIST) Replacement	\$17,000,000	
DOA/DoIT	Hyper Converged Infrastructure	\$ 1,817,266	
DEM	DEM Modernization	\$ 2,000,000	
(Approved in 2021) Su	btotal	\$71,562,266 *	

16. Office of Library and Information Services

The Office of Library and Information Services (OLIS) is responsible for developing and implementing a statewide plan for library development, interlibrary cooperation, and resource sharing to serve the library and information needs of residents. OLIS has the statutory authority and responsibility to administer state and federal funding to develop programs that support and advance library services statewide and to coordinate services and administer programs for public, academic, school and special libraries. Its mission is to strengthen, connect, and empower libraries to advance knowledge, connect communities and enrich the lives of all Rhode Islanders.

OLIS directly serves the public through the Talking Books Library for the Blind and Print Disabled, the Statewide Reference Resource Center (AskRI), and online directories to Rhode Island libraries. It administers the Library of Rhode Island, a network of over 175 libraries which make their resources and services available to all member libraries and their patrons.

Throughout 2021, OLIS continued to meet its statutory requirements to coordinate and support library services statewide in addition to supporting library response to and recovery from the pandemic. With OLIS support and guidance, all public libraries were fully open and offering all services in compliance with the Minimum Standards for RI Public Libraries by the summer of 2021. Delivery service was fully operational at the start of the year and statewide programs such as the Summer Reading Program were offered both in person and through virtual channels. OLIS' robust program of professional development for library staff and statewide meetings continued through virtual channels, allowing for greater participation.

The award in April of a \$2,230,333 American Rescue Plan Act (ARPA) grant to OLIS for pandemic recovery has required OLIS to devote significant resources to grant-making activities. As of December 2021, OLIS has awarded over \$1.6 million of its ARPA allotment, with awards to over 80 libraries and library-serving organizations. In 2021, OLIS completed its transition of grant application, tracking, and reporting to fully digital processes developed by agency staff, which enabled libraries to apply, request payment, and submit grant reports online and for OLIS to process and administer grants more efficiently. In 2021, OLIS processed over 150 federally-funded grants (\$2.1 million) and 76 state-funded grants (\$9.6 million).

Ongoing Projects

American Rescue Plan Act (ARPA) Grants - OLIS received a \$2,230,333 ARPA grant from the federal Institute of Museum and Library Services. OLIS awarded over \$550,000 to public libraries in formula grants to support the purchase of technology to replace outdated computers in libraries, to support learning and virtual programming, and to support library operations; grants were made to all libraries in every city and town. Over \$350,000 was awarded via competitive grants to public and school libraries to support learning, library services to underserved communities, and collection and resource development. Nearly \$700,000 has been awarded for statewide programs to support digital literacy, adult education, and educational resources on AskRI.org, including an online tutoring service and workforce skills development. Other statewide programs have supported student internships and diversity scholarships for students at the URI Graduate School of Library and Information Studies. Library of Rhode Island (LORI) Grants - OLIS awarded over \$430,000 to 12 libraries and four libraryserving organizations to support innovative projects around the state through a competitive grant program funded with federal Library Services and Technology Act funds from the Institute of Museum and Library Services. Awards were made to public, academic, and special libraries, library consortia, and the RI Center for the Book to fund digitization, community outreach, and public programming at libraries.

Continuing Education - In 2021, OLIS offered 127 programs attended by 1,412 library staff, which exceeds pre-pandemic attendance as library staff continue to turn to OLIS for professional development needs. Ongoing professional development opportunities for librarians include special interest groups for different topics in librarianship, training on equity, diversity and inclusion, pandemic recovery, and general library topics. OLIS added the online Library Learning Center, a learning management system that includes content developed by state library agencies nationwide along with locally produced content to provide asynchronous and on-demand learning opportunities.

Data and statistics - OLIS annually collects public library data on library funding, services and resource-sharing. Additional data was collected in 2021 on pandemic impact and services.

Equity, diversion and inclusion (EDI) - OLIS partnered with the RI Library Association to continue a collaborative program of training for library staff on EDI topics that launched in January 2021. OLIS provided an ARPA grant to the association to fund 6 scholarships at URI's Graduate School of Library and Information Studies for students in demographics underrepresented in the library field.

Summer reading program - OLIS awarded non-competitive grants to 44 libraries to support summer reading and learning programs. A total of \$36,000 in grants were awarded using federal Library

Services and Technology Act funding. Grants supported programming and educational supplies at libraries across the state to support summer reading programming. Over 9,364 children participated in the 2020 Summer Reading Program, a 25-percent increase from 2020 but still one-third below pre-pandemic levels. About 24,000 children, teens and adults attended in-person educational programs at libraries, a more than 300-percent increase from 2020 and nearly double pre-pandemic levels. Additionally, over 9,000 children, teens, and adults attended virtual programs offered by libraries.

Operations

State aid to libraries – operating - In FY 2021, \$8.6 million in operating grants were awarded to municipalities to support public library service in accordance with state statutes and regulations.

State aid to libraries – capital - In FY 2021, \$2.7 million was distributed to reimburse 14 library construction projects. Jamestown and Narragansett have filed applications for construction reimbursement funding; projects are expected to begin in 2022.

Statewide Reference Resource Center (AskRI) - \$700,000 was awarded to the Providence Public
Library to provide support for online electronic resources for all Rhode Islanders. In 2021, OLIS used
ARPA funds to support a number of additional databases on AskRI, including Tutor.com, an online
tutoring service for K-12 students, Job & Career Accelerator for jobseekers, and continued its
subscriptions for Udemy, which supports the development of workforce skills, especially in
information technology, and Flipster, which is a source of online magazines for children and adults.

Library of Rhode Island (LORI) delivery - 176 libraries participated in the network to facilitate sharing
of the over 10 million items available in Rhode Island's public, academic, school, and special libraries.

Network participation remains 15 percent below pre-pandemic levels due to non-participation by
school libraries which continue to experience staffing issues and delays in the implementation of an
interlibrary loan module for the catalog provided by the school library consortium. Delivery volume at
the end of 2021 was around 80 percent of pre-pandemic levels.

<u>Talking Books Library</u> - Over 1,400 Rhode Islanders who are blind or visually impaired borrowed or downloaded over 50,000 items from the collection and received support and service from OLIS. Annual circulation remains about 10 percent below pre-pandemic levels, as is membership. The Library's primary membership includes Rhode Islanders over 65 who have been disproportionately affected by the pandemic. While outreach efforts are ongoing to senior centers and nursing homes, new enrollment remains substantially below pre-pandemic levels (34 percent).

APPENDIX A

Active ETSS Projects (as of 12/28/2021)

Project Name	Agency	Status	
Initiation Phase			
New Mainframe (Merge DLT and EOC)	DOA	On Track	
RISHL LIMS Replacement	RIDOH	On Track	
OHA APS Case Management	DHS	On Track	
MMIS Cloud Migration to Gainwell AWS LZ	EOHHS	On Track	
Planning Phase			
One Outdoors	DEM	On Track	
Execution & Control Phase			
BHDDH Case Management Phase 2	BHDDH	On Track	
eProcurement	DOA	Off Track	
Grants Management System	DOA	On Track	
eCMS	DOA	On Track	
Database Encryption	DOA	On Track	
Privileged Access Management	DOA	On Track	
HCI	DOA	At Risk	
End-of-Life Operating Systems	DOA	On Track	
Telephone and Call Center System's Upgrade Project	DOA	On Track	
Network Redundancy and Resiliency	DOA	On Track	
ServiceNow Portal Communications Plan	DOA	On Track	
One Drive Migrations	DOA	On Track	
I5 to i9 Server Migrations	DOA	On Track	
Blockchain Pilot	DBR	At Risk	
Cannabis Program Solutions and Services RFP	DBR	On Track	
CCWIS Planning Vendor	DCYF	On Track	
Electronic Document Management (OWTS Phase II)	DEM	On Track	
Vital Records System	RIDOH	On Track	
My License Office (MLO) Upgrade	RIDOH	At Risk	

eMAR (Electronic Med Administration Record)	DHS	On Track
Child Care Inspection Monitoring System	DHS	On Track
eBT Processing RFP	DHS	On Track
ORS – IT/MIS Replacement	DHS	On Track
OnBase Imaging System Upgrade	DLT	On Track
Electronic Payment Cards Vendor Transition RFP	DLT	On Track
Unemployment Insurance Phase 2	DLT	On Track
Hope and Skipper Chatbot	DLT	On Track
KnowledgeLake Cloud Application Migration	DMV	At Risk
e-Construction Phase II (Headlight Software)	DOT	On Track
Primavera Unifier	DOT	On Track
SUD Measure-based Care SaaS Platform	EOHHS	On Track
Early Childhood Data System Alignment & Integration	EOHHS	On Track
Community Referral Platform (CRP)	EOHHS	On Track
MES Planning Vendor Procurement	EOHHS	On Track
MS Dynamics	TAX	On Track
Technology Upgrade STAARS migration to the cloud	TAX	On Track